BIODIVERSITY
AND DEVELOPMENT
MAINSTREAMING

A State of Knowledge Review:
DISCUSSION PAPER

This Review is an output of the project *NBSAPs 2.0: Mainstreaming Biodiversity and Development* - a three-year (2012-15) project to build resilient and effective national biodiversity strategies and action plans (NBSAPs) that influence development decisions and improve outcomes for biodiversity and poverty. The project is implemented by the International Institute for Environment and Development (IIED) and the UNEP World Conservation Monitoring Centre (UNEP-WCMC) in collaboration with the CBD Secretariat, UNEP, UNDP and the Poverty Environment Initiative (PEI). Working with four African countries – Botswana, Namibia, Seychelles and Uganda – the project is encouraging leadership in biodiversity mainstreaming and highlighting the experience of these four focal countries to influence a whole new generation of NBSAPs.

NBSAPs 2.0 is funded through the UK Government's Darwin Initiative, which assists countries that are rich in biodiversity but poor in financial resources implement their commitments under the international biodiversity conventions. It is also part funded by UKaid from the UK Government, however the views expressed do not necessarily reflect the views of the UK Government.

All the project outputs including mainstreaming tools and guidelines can be found at the project website**: http://povertyandconservation.info/en/pages/pclg-nbsaps.**

For more information please contact **Dilys Roe (dilys.roe@iied.org)**

Please send us your feedback:

A revised version of this review is due to be published in late 2014 and we would very much appreciate your feedback on this discussion paper. We are especially keen to identify more practical experience of mainstreaming biodiversity and development on the ground, and analysis of what works (and what doesn't). Please send feedback and details of any additional resources you would like to see included to:

Dilys Roe, IIED   dilys.roe@iied.org
Abisha Mapendembe, UNEP-WCMC   abisha.mapendembe@unep-wcmc.org

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LIST OF ABBREVIATIONS AND ACRONYMS

BACP	Biodiversity and Agricultural Commodities Programme
BMPs	Better Management Practices
CAMPFIRE	Communal Areas Management Programme for Indigenous Resources
CBD	Convention on Biological Diversity
CBNRM	Community-Based Natural Resources Management
CCBA	Climate, Community and Biodiversity Alliance
CCBS	Climate, Community and Biodiversity Standard
CFM	Community Forest Management
CITES	Convention on International Trade in Endangered Species of Fauna and Flora
CMS	Convention on Migratory Species
CoP	Conference of Parties
DAC	Development Assistance Committee
EIA	Environmental Impact Assessment
ESMF	Environmental and Social Management Framework
EU	European Union
FAO	Food and Agricultural Organisation of the United Nations
FFI	Fauna and Flora International
FSC	Forest Stewardship Council
GAD	Gender and Development
GEF	Global Environment Facility
HCV	High Conservation Value
ICMM	International Council on Minerals and Mining
IDDP	Integrated Drylands Development Programme
IFC	International Finance Corporation
IIED	International Institute for Environment and Development
IPBES	Intergovernmental Platform on Business and Ecosystem Services
ITTO	International Tropical Timber Organisation
IUCN	International Union for Conservation of Nature
KBA	Key Biodiversity Area
LAPA	Local Adaptation Programmes of Action
LMMAs	Locally Managed Marine protected Areas
MA	Millennium Ecosystem Assessment
MDGs	Millennium Development Goals
MPAs	Marine Protected Areas
MSC	Marine Stewardship Council
NAPA	National Adaptation Programmes of Action
NAPs	National Action Programmes

LIST OF ABBREVIATIONS AND ACRONYMS

NBSAPs	National Biodiversity Strategies and Actions Plans
NDP	National Development Plan
NGO	Non-Governmental Organisation
NSBA	National Spatial Biodiversity Assessment
NTFPs	Non Timber Forest Products
NVI	Natural Value Initiative
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
PEI	Poverty Environment Initiative
PES	Payment for Ecosystem Services
PRSP	Poverty Reduction Strategy Paper
REDD+	Reducing Emissions from Deforestation and Forest Degradation
RSB	Roundtable on Sustainable Biofuels
RSPO	Roundtable on Sustainable Palm Oil
SA	Strategic Assessment
SANBI	South African National Biodiversity Institute
SDG	Sustainable Development Goal
SEA	Strategic Environmental Assessment
SESA	Strategic Environmental and Social Assessment
SFM	Sustainable Forest Management
SIDA	Swedish International Development Cooperation Agency
SPWA	Strategic Programme for West Africa
TEEB	The Economics of Ecosystems and Biodiversity
TNC	The Nature Conservancy
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNCLOS	UN Convention on the Law of the Sea
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNEP-WCMC	United Nations Environment Programme World Conservation Monitoring Centre
UNESCO	United Nations Educational Scientific and Cultural Organisation
WAVES	Wealth Accounting and the Valuation of Ecosystem Services
WCED	World Commission on Environment and Development
WCS	World Conservation Strategy
WID	Women in Development
WRI	World Resources Institute
WWF	World Wide Fund for Nature
ZSL	Zoological Society of London

GLOSSARY OF KEY TERMS

Biodiversity	The variability among living organisms from all sources, including, 'inter alia', terrestrial, marine, and other aquatic ecosystems, and the ecological complexes of which they are part: this includes diversity within species, between species and of ecosystems.
Biodiversity-development mainstreaming	The integration of biodiversity concerns into defined sectors and development goals, through a variety of approaches and mechanisms, so as to achieve sustainable biodiversity and development outcomes
Drivers of mainstreaming	A *"driver"* of mainstreaming acts as a catalyst for change. Drivers could include people who act as advocates, laws, funding sources initiatives or projects. Drivers may also be formal or informal, and act directly or indirectly.
Downstream outcomes	Changes in behaviours or implementation on the ground.
Entry points	An entry point is a policy, plan, programme or priority sector that can be targeted for mainstreaming.
Poverty-environment mainstreaming	Integrating poverty environment linkages into national development planning processes and their outputs, such as Poverty Reduction Strategy Papers (PRSPs) and Millennium Development Goal (MDG) strategies.
Upstream outcomes	A change in a key policy issue relating to a mainstreaming goal, such as a policy, decision, plan or budget.
Valuation tools	Tools used to illustrate the benefits of biodiversity conservation and better analyse the economic impacts of biodiversity.

EXECUTIVE SUMMARY

This report presents a review of the current state of knowledge on biodiversity and development mainstreaming globally. The report is intended to support biodiversity - development mainstreaming efforts by synthesising experience to date and highlighting lessons learned that can help make a strong business case for integrating biodiversity in policy, planning and budgetary processes. It will be of use to policy-makers and stakeholders interested in or working on biodiversity and development mainstreaming.

The information in this report is largely based on a review of existing literature and inputs from experts on biodiversity –development mainstreaming. It is published as a Discussion Paper and is intended to stimulate feedback alerting us to further practical examples of biodiversity and development mainstreaming, and further analyses of experience of mainstreaming other sectors into development that can enhance this existing review. A revised version of the review will be published in 2014.

The review is produced at a time when Parties to the Convention on Biological Diversity (CBD) Parties are in the process of revising their National Biodiversity Strategies and Actions Plans (NBSAPs) – a potentially valuable window of opportunity for promoting mainstreaming and emphasising clear opportunities that biodiversity can provide for poverty reduction and development. It is also produced at a time when the international community is thinking about Sustainable Development Goals (SDGs) and the degree to which these might reflect biodiversity-development linkages.

In this context, several points deserve to be highlighted:

- *The definition of mainstreaming or biodiversity mainstreaming is evolving, and there are numerous definitions*

Our review showed that there are several definitions of mainstreaming or biodiversity mainstreaming. Most of the definitions highlight three key characteristics of mainstreaming: that it is a deliberate process, that there are multiple routes and/or outputs that can be targeted (e.g. policies, plans and legislation) and that mainstreaming should take place across multiple levels of government as well as across central government. We define biodiversity-development mainstreaming as *"the integration of biodiversity concerns into defined sectors and development goals, through a variety of approaches and mechanisms, so as to achieve sustainable biodiversity and development outcomes"*. This definition stresses dual positive biodiversity – development outcomes as the ultimate objective of the mainstreaming process.

- *The integration of biodiversity conservation and development/poverty alleviation is not a new endeavour*

Mainstreaming biodiversity and development can be traced back to high profile initiatives, programmes and publications such as the 1972 United Nations Conference on the Human Environment held in Stockholm, the World Conservation Strategy (WCS) (1980), the 1992 Earth Summit (United Nations Conference on Environment and Development), Integrated Conservation and Development Projects (ICDPs), and recently the Millennium Development

Goals (MDGs), the Millennium Ecosystem Assessment, Poverty Reduction Strategy Papers (PRSPs), the Economics of Ecosystems and Biodiversity (TEEB) and the United Nations Development Programme–United Nations Environment Programme Poverty–Environment Initiative (UNDP-UNEP PEI) and many other related initiatives.

▪ *There are a number of approaches to biodiversity mainstreaming*

These range from mainstreaming of biodiversity into economic or production sectors (e.g. agriculture, forestry, fisheries and extractive industries) to mainstreaming into cross-sectoral policies and strategies and mainstreaming into spatial planning. The ultimate objective of mainstreaming should not just be about pushing biodiversity into sectors and processes, but it should also be about actively seeking dual, positive biodiversity and development outcomes.

▪ *Numerous drivers of biodiversity mainstreaming exist*

These are mainly mandates and strategies of Multilateral Environment Agreements (MEAs) (such as the CBD), as well as those of major international organisations and initiatives. Other drivers of mainstreaming include international sustainable development norms and strategies, market-based mechanisms (e.g. standards and certification schemes in trade). New tools are also emerging, such as full cost accounting and payments for ecosystem services which could act as drivers of change.

▪ *Mainstreaming experiences from other sectors provide valuable lessons for biodiversity mainstreaming*

It is worth noting that biodiversity is not the only issue to be mainstreamed into development. Issues as diverse as gender, drylands, climate change, health and environment have been mainstreamed into development and reveal some interesting experiences that can inform biodiversity mainstreaming. In particular it is clear that leadership, reciprocity, effective communication, local ownership and building on existing plans and processes are important principles to adopt.

▪ *Environmental mainstreaming reveals some major constraints that will also apply to biodiversity mainstreaming*

Experience from environmental mainstreaming highlights a number of key constraints – not least the prevailing development paradigm, which treats environment as an institutional and economic 'externality'; the lack of data, information, skills and institutional capacity to work on environment-development links; the lack of successful models; and the lack of political will for change. In addition, for most developing countries mainstreaming both responds to and is challenged by, competition with many other policy priorities in the face of limited resources.

▪ *Biodiversity-development mainstreaming has already resulted in some improved policy provisions but there is less evidence of effective implementation.*

Mainstreaming of biodiversity as a deliberate effort is a relatively recent initiative but there is already some

evidence of some changes in policy rhetoric – for example in national Poverty Reduction Strategy Papers (PRSPs). Nevertheless, there is limited documentation of really effective approaches implementation of policy rhetoric on the ground, or any analysis of lessons learned from those approaches, beyond a few case studies. Community-based natural resources management in Southern Africa provides one such example of biodiversity mainstreaming in national development policy that results in real change on the ground.

While minor intellectual battles on biodiversity-poverty links might have been won the long-standing war for implementation to bring about real change on the ground for biodiversity and poverty alleviation is far from over. To date progress in biodiversity mainstreaming tends to be confined to upstream outcomes in many developing countries: biodiversity is included in some development policy documents, and conversely poverty alleviation is recognised in biodiversity policy and plans. However downstream progress on the ground is thin, as development continues to drive further degradation of ecosystems and loss of biodiversity – and conversely poor people are not benefiting adequately from the services they provide in biodiversity protection.

Nonetheless, there is now a variety of topical and often high-profile initiatives which themselves will depend upon a proper internalisation of biodiversity-poverty issues for their success. Examples include the The Economic of Ecosystems and Biodiversity (TEEB) initiative, the Wealth Accounting and Valuation of Ecosystem Services (WAVES) partnerships, the global appetite for a Green Economy and the post-2015 and Sustainable Development Goals (SDGs) agendas.

Further work is now required on monitoring and evaluation, and indicators of mainstreaming success. Indicators would be helpful in assessing the progress of mainstreaming and assessment of what mainstreaming is able to deliver in policy implementation in terms of dual positive biodiversity – development outcomes. Further work is also required on the organisational arrangements associated with biodiversity mainstreaming. Such knowledge could help to shed light on some of the reasons for inadequate implementation of biodiversity mainstreaming to date.

Key resources

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Practitioners.* United Nations Development Programme and United Nations Environment Programme,
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Arising from Ecosystem Change.* World Resources Institute, Washington D.C., USA.

1. Introduction: biodiversity, development and poverty alleviation - the need for mainstreaming

Biodiversity conservation, human development and poverty alleviation are important societal goals demanding increasing international attention. At first glance they may appear to be separate policy realms with little connection. On closer inspection, the international policy frameworks that guide action to achieve these goals recognise clear links between their objectives:

- The preamble of the Convention on Biological Diversity (CBD) acknowledges that *"economic and social development and poverty eradication are the first and overriding priorities of developing countries"*. In 2002 the Conference of Parties (CoP) to the CBD agreed a Strategic Plan which included a target to *"achieve by 2010 a significant reduction of the current rate of biodiversity loss… as a contribution to poverty alleviation and to the benefit of all life on Earth"* (CBD, 2002). The new Strategic Plan for Biodiversity 2011-2020 has a mission to halt the loss of biodiversity thereby contributing to human well-being, and poverty eradication (CBD, 2010a).

- The seventh of the eight Millennium Development Goals (MDGs) is to *"ensure environmental sustainability"* which originally included a sub-target to *"reverse loss of environmental resources"* with biodiversity-related indicators (protected area coverage, forest land). The CBD *"2010 Biodiversity Target"* was included as a new target within MDG7 following the 2006 UN General Assembly (UN, 2006) with additional biodiversity indicators (UN, 2008).

- Beyond the CBD, at the UN World Summit in 2005, the secretariats of the five major biodiversity conventions

(the CBD, Convention on Migratory Species (CMS), Convention on International Trade in Endangered Species of Fauna and Flora (CITES), Ramsar Convention on Wetlands and UNESCO World Heritage Convention) issued a joint statement emphasising the important role that biodiversity plays in the achievement of the MDGs *"Biodiversity can indeed help alleviate hunger and poverty, can promote good human health, and be the basis for ensuring freedom and equity for all"* (Biodiversity Liaison Group, 2005).

- As we approach 2015, discussions around new Sustainable Development Goals have included recognition of the importance of the sustainable use of biodiversity and ecosystems for sustainable and equitable development (UNDP, 2012a).

Biodiversity contributes to human development and poverty alleviation in a variety of ways (Box 1). Biodiversity is often freely available and acts as a form of natural capital – particularly important for individuals and households with little financial or physical capital. Although the specific benefits vary from context to context and household to household, biodiversity can variously act as (Roe *et al.*, 2011):

- An emergency lifeline – a measure of last resort, for example in times of failed harvests. The term *"famine food"* accurately captures the role that biodiversity can play in this context.

- A social safety net – a *"natural health service"* providing food, medicines, clean water and so on. It also acts as a natural insurance policy or risk

management strategy - extending options when crops fail or when fisheries are depleted. The safety net role of biodiversity is of particular significance in the context of climate change, helping to build both ecological and social resilience.

▪ A stepping stone out of poverty – a source of income generation and jobs through trade, tourism, food production for example.

Conserving biodiversity and reducing poverty are thus intrinsically linked and demand an integrated approach – but are all too often treated as separate policy realms and sometimes even as competitors. As a result, there can be trade-offs between biodiversity conservation and poverty reduction. For example, exploitation of biodiversity can generate wealth for some, but can also increase the vulnerability of the poor and reduce their options for development. Equally, ill-planned conservation measures can act as a poverty trap - for example if elites ultimately control and benefit from the resource, or if poor people are denied access to a resource due to strict conservation measures. To manage these trade-offs biodiversity conservation and poverty reduction must

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Box 1: Different contributions of biodiversity to poverty alleviation

Biodiversity underpins the delivery of a range of ecosystem services - clean water, soil fertility and stabilisation, pollination services, pollution management – on which we are all dependent, but the poor more so because of their inability to purchase technological substitutes (water filters, chemical fertilisers etc.) (MA, 2005). The study of The Economics of Ecosystems and Biodiversity (TEEB) highlights the disproportionate contribution biodiversity makes to poor people, estimated that in India, for example biodiversity and ecosystem services make up 57% of the *"GDP of the Poor"* (TEEB, 2008).

Biodiversity *"has key roles at all levels of the ecosystem services hierarchy"* (Mace et al., 2012), and therefore makes a range of contributions to human wellbeing. It regulates underlying processes such as nutrient cycling, can itself be a final ecosystem service, such as a crop species, and it can be a good for consumption, such as a charismatic species visited by tourists (Mace et al., 2012). The World Bank estimates that forest products provide roughly 20% of poor rural families' *"income"* – of which half is cash and half is in the form of subsistence goods (Vedeld et al., 2004).

Biodiversity provides the poor with a form of cost effective and readily accessible insurance against risk, particularly food security risks, risks from environmental hazards, and health risks (Vira and Kontoleon, 2013). The evidence suggests that, as the poor have few alternative sources for protecting themselves, they have a higher dependency on biodiversity for dealing with risk. As such, harvesting wild biodiversity provides a safety net whereby the benefits provided by forest resources stop rural dwellers from becoming poorer and provide cash income at critical times of the year, particularly during times of low agricultural production (Angelsen and Wunder, 2003; Ros-Tonen and Wiersum, 2005).

be tackled together by integrating relevant concerns into the decisions and institutions that drive policy, rules, plans, investment and action for both— a process referred to as **biodiversity mainstreaming**.

The CBD, among others, has long emphasised the need for integrating, or 'mainstreaming', biodiversity into national and local development and poverty reduction strategies and this priority is highlighted in the Strategic Plan for Biodiversity 2011-2020 (Box 2). In practice, however, the mechanics of biodiversity and development mainstreaming are complex, and achieving successful outcomes has been challenging. Furthermore, biodiversity issues are often competing

with other development priorities that have greater political influence (Bass, Roe & Smith, 2010).

This review is intended to support biodiversity-development mainstreaming efforts by synthesising experience to date and highlighting lessons learned that can help make the case for biodiversity in policy and planning processes. It is produced at a time when Parties to the CBD are in the process of revising their National Biodiversity Strategies and Actions Plans (NBSAPs) – a potentially valuable window of opportunity for promoting mainstreaming and emphasising the opportunities that biodiversity can provide for development. This is also a time when the

Box 2: The CBD mandate for biodiversity-development mainstreaming

According to Article 6b of the Convention, Parties have an obligation to:

"Integrate, as far as possible and as appropriate, the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies."

The *"ecosystem approach"* adopted by the CBD in 2000 is also relevant to mainstreaming, highlighting the *"need to understand the ecosystem in an economic context"* (Principle 4).

The Strategic Plan for Biodiversity 2011-2020 includes a Strategic Goal to *"Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society."* Including:

Target 2: By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.

An Expert Group on Biodiversity for Poverty Eradication and Development was established at the 10th Conference of Parties (CoP10) to further promote biodiversity-development mainstreaming. CoP 11 took note of the Dehradun Recommendations produced by the Expert Group at its first meeting and mandated the Group to continue to develop a CBD "Road Map" for biodiversity mainstreaming and capacity development.

international community is thinking about Sustainable Development Goals and the degree to which these might reflect biodiversity-development linkages. The process of setting UN goals to promote environmentally sustainable development post-2015 provides a very strong opportunity for mainstreaming biodiversity and development, as well as including measures to track and monitor actions and status of biodiversity and development in order to determine whether mainstreaming is making a real difference on the ground.

The rest of this introductory section explores what is meant by biodiversity-development mainstreaming in the context of this review and elsewhere. Section 2 briefly describes the evolution of biodiversity-development mainstreaming including key lessons learned from other sectors such as environment mainstreaming, climate mainstreaming and gender mainstreaming. Section 3 reviews the *"state of knowledge"* or current practice in biodiversity mainstreaming drawing on case studies from different countries using different approaches. It highlights different emphases of mainstreaming – into production sectors, into development and poverty reduction policies and strategies; and into development assistance policy. Section 4 very briefly highlights different tools that have been - or have the potential to be – used at different stages of the mainstreaming process. The report concludes by highlighting the enduring challenges to effective mainstreaming, and the opportunities for addressing these and achieving integration of biodiversity and development agendas.

2. Defining biodiversity mainstreaming and biodiversity-development mainstreaming

There is no single definition of either mainstreaming or biodiversity mainstreaming. According to Dalal-Clayton and Bass (2009) mainstreaming can be thought of as inclusion or integrating a set of actions that have traditionally been seen as marginal issues into broader development policy. This resonates with the CBD definition of biodiversity mainstreaming: the integration of the conservation and sustainable use of biodiversity in cross-sectoral plans such as poverty reduction, sustainable development, climate change adaptation/mitigation, trade and international cooperation, as well as in sector-specific plans such as agriculture, fisheries, forestry, mining, energy, tourism, transport

and others. The CBD identifies three broad approaches: mainstreaming of biodiversity into economic sectors; mainstreaming into cross-sectoral policies and strategies; and mainstreaming into spatial planning (CBD, 2008).

Participants at a GEF workshop in 2004 agreed that the objective of mainstreaming biodiversity is: *"to internalize the goals of biodiversity conservation and the sustainable use of biological resources into economic sectors and development models, policies and programmes, and therefore into all human behaviour"* (Petersen and Huntley, 2005). Similarly one element

Table 1: **Upstream and downstream outcomes of biodiversity mainstreaming**

UPSTREAM	**Governance outcomes**	e.g. improved consideration of stakeholder's and right-holders' concerns (particularly those who are directly dependent on biodiversity)
	Policy and political outcomes	e.g. High-level sector, fiscal, development and social policies, constitutions and statements of national vision, include biodiversity considerations, and vice versa
	Plan outcomes	e.g. Inclusion of biodiversity-poverty linkages in development and poverty reduction strategies and in biodiversity strategies
	Budget and accounting outcomes	e.g. evidence of public-private sector resource mobilisation, inclusion of development-biodiversity linkages in national public and sector budgets; inclusion of ecosystem services in national accounting systems
	Institutional and capacity outcomes	e.g. strengthened capacity within biodiversity-related institutions to understand development and economic processes and interact in a constructive manner; valuation of the economic importance of biodiversity and ecosystem services in the economic outcomes undertaken and utilised in decision-making
	Investment and economic outcomes	e.g. improved domestic resource mobilization for poverty-biodiversity investments or recognition of potential trade-offs in sector investments such as mining
	Behavioural outcomes	e.g. key patterns and processes of production, consumption and waste treatment in sectors and localities are informed by biodiversity and poverty considerations
DOWNSTREAM	**Pro-poor biodiversity management outcomes**	e.g. pro-poor management of ecosystem services, such as medicinal, cosmetic or edible plants; healthcare, wild foods, soil fertility; traditional breeds and crop varieties; water purification; cultural or religious benefits from biodiversity realised
	Ultimate (biodiversity and developmental) impacts of these outcomes	e.g. improved productivity and sustainability of use of biodiversity assets on which the poor depend; protection and management of targeted species populations

Source: IIED and UNEP-WCMC (2012)

of the UNDP Biodiversity and Ecosystems Global Framework 2012 – 2020, (UNDP, 2012a) is focused on mainstreaming biodiversity into development planning. Its overall strategic objective involves *"Integrating biodiversity and ecosystem management into development planning and production sector activities to safeguard biodiversity and maintain ecosystem services that sustain human wellbeing".*

We recognise, however, the importance of *reciprocity* in mainstreaming. Hence, just as it is important to integrate biodiversity into development policy and plans so biodiversity policy should reflect development concerns. Hence the CBD sees the new generation of NBSAPs as a vehicle for mainstreaming – pushing biodiversity into development but also reflecting development concerns – and has developed a set of capacity building modules for the process of mainstreaming biodiversity into sectoral and cross-sectoral strategies, plans and programme during the NBSAP revision process. This recognition that reciprocity is important is also implicit in the approach of the United Nations Development Programme–United Nations Environment Program (UNDP-UNEP) Poverty Environment Initiative (PEI) which focuses not just on the environment but on poverty-environment linkages and describes mainstreaming as *"The iterative process of integrating poverty-environment linkages into policymaking, budgeting and implementation processes at national, sector and subnational levels"* (UNDP-UNEP PEI, 2009).

Reflecting this approach, and for the purposes of this review we focus on biodiversity-development mainstreaming (rather than biodiversity mainstreaming)

and propose a working definition which emphasises dual biodiversity-development outcomes: *"the integration of biodiversity concerns into defined sectors and development goals, through a variety of approaches and mechanisms, so as to achieve sustainable biodiversity and development outcomes."* This definition was agreed at a meeting of the *"African Leadership Group"* held in Botswana in November 2012 and described in the meeting output – the Maun Statement on Biodiversity-Development Mainstreaming (African Leadership Group, 2012).

The type of biodiversity-development outcomes that are likely to arise will depend on the focus of the mainstreaming that is carried out and may range from *"upstream"* effects, meaning that they influence a policy, plans, budget or policy decision, to 'downstream' effects which influence behaviour and deliver environmental progress *"on-the ground"* (Dalal-Clayton and Bass, 2009). Some examples are summarised in Table 1.

3. The evolution of biodiversity–development mainstreaming

Seeking to integrate biodiversity conservation and development/poverty alleviation is not a new or even a recent endeavour. Its roots lie in efforts to develop holistic strategies that link environmental issues and development – first articulated at the international level at the United Nations Conference on the Human Environment held in Stockholm in 1972. Subsequently, the World Conservation Strategy (WCS) (IUCN *et al.*, 1980) was the first influential document to bridge the conservation-development divide (Robinson, 1993). The WCS emphasized the potential links between conservation and development and proposed that the two were not necessarily mutually exclusive. Hence, the WCS coined the term sustainable development as a process in which conservation and development were mutually interdependent (Robinson, 1993).

Meanwhile, biodiversity loss was becoming an increasingly important international issue and IUCN and UNEP drafted the CBD which opened for signature at the United Nations Conference on Environment and Development (UNCED) in June 1992 (Glowka *et al.*, 1994). While the CBD laid the foundation for mainstreaming, with an emphasis on biodiversity conservation and development right from the start, this was complemented by Agenda 21, another of the major outputs of UNCED. Agenda 21 includes a specific recommendation that *"Governments at the appropriate level, with the cooperation of the relevant United Nations bodies and regional, intergovernmental and non-governmental organizations, the private sector and financial institutions, and taking into consideration indigenous people and their communities, as well as social and economic factors, should …. Integrate strategies for the conservation of biological diversity and the sustainable*

use of biological resources into national development strategies and/or plans" (UN, 1992). One of the first guides on biodiversity mainstreaming was produced at this time - 'Mainstreaming Biodiversity in Development: A World Bank Assistance Strategy for Implementing the Convention on Biological Diversity' (World Bank, 1995) which focused on helping countries to design and implement biodiversity-friendly sector policies and programmes.

A variety of national strategies for integrating conservation and development were developed in the 1990s under various names including national conservation strategies, national sustainable development strategies and tropical forest action plans. However, at the end of the 1990s, poverty reduction became the priority focus of development assistance policy leading many to claim that biodiversity had fallen off the development agenda (e.g. Sanderson and Redford, 2003; Sanderson, 2005). Although the International Development Targets (OECD, 2006), and later the MDGs, included a goal on environmental sustainability, and within that targets on biodiversity conservation, the first generation of Poverty Reduction Strategy Papers (PRSPs) – which were the national level manifestation of the poverty focus – were weak on environmental issues in general and made very little reference to biodiversity (Bojo and Reddy, 2003). The mainstreaming emphasis thus shifted from developing holistic approaches to environment and development to prioritising marginal issues within a mainstream agenda.

As global poverty reduction became the mainstream development policy so biodiversity became a marginal

issue in need of special attention, an externality in a world of economics, markets and institutions rather than an integral part of development itself. At the same time, it could be argued that poverty and development have been considered as marginal issues within a mainstream conservation agenda. Despite the conceptual strides made in the 1980s and early 1990s in linking conservation and local benefits, especially with regard to protected areas, in the late 1990s there was wide-scale critique by conservation scientists of such integrated approaches (e.g. Kramer *et al.*, 1997; Brandon *et al.*, 1998; Oates, 1999; Terborgh, 1999). There remains an on-going debate about the links between biodiversity conservation and poverty alleviation and whose role it should be to address each (Roe *et al.*, 2012). The first generation of national biodiversity strategies and actions plans (NBSAPs) developed by Parties to the CBD had the potential to act as a bridge between conservation and development concerns, but a review in 2002 found that they *"have not paid enough attention to linkages with economic policies and plans, and have suffered from a lack of integration with other national institutions and planning mechanisms…"* (Swiderska, 2002).

Within the CBD, calls to mainstream biodiversity and development became much stronger following the development community focus on poverty, Whereas previously the CBD had focussed on mainstreaming into *"sectoral or cross-sectoral plans, programmes, and policies"* (Article 6(b), in 2004, CoP 7 called for mainstreaming biodiversity into poverty reduction strategies (Decision VII/2) and mainstreaming protected areas into development strategies (VII/28) (CBD 2004a; CBD 2004b). At each subsequent CoP mainstreaming

and MDG integration are re-emphasised culminating with the Aichi Targets at CoP10 in 2010 and the stated aspiration that NBSAPs should be used as *"effective instruments for the integration of biodiversity targets into national development and poverty reduction policies and strategies…"* (Decision X2). Beyond the CBD, the biodiversity strategy for the third GEF replenishment (2002-2006) first introduced the concept of biodiversity mainstreaming *"in the wider economic development context"* (GEF, 2009) while the UNDP developed its own mainstreaming policy in 2004 (ASEM, 2007). Most recently, the Rio +20 conference held in 2012 introduced the concept of Sustainable Development Goals (SDGs), which may lend greater impetus to mainstreaming efforts – in both developed as well as developing countries. The outcome document - The Future We Want - not only emphasises the importance of mainstreaming biodiversity *"into relevant programmes and policies at all levels"* but also the integration of the three dimensions of sustainable development across all sectors.

In addition to international sustainable development norms and strategies, market-based mechanisms can also encourage biodiversity-development mainstreaming. Standards and certification such as the Roundtable on Sustainable Palm Oil (RSPO) and the Roundtable on Sustainable Biofuels (RSB) offer producers a premium for the product assuming certain biodiversity and livelihoods criteria are met. A good example of a standard that specifically seeks to link biodiversity and livelihood issues is the Climate, Community and Biodiversity Standard (CCBS) developed by the Climate, Community and Biodiversity Alliance (CCBA) - a partnership of international NGOs and research institutes (Box 3).

Private companies are increasingly recognising that not mainstreaming biodiversity is a potential risk for them. There is increasing evidence that environmental (including biodiversity) and related issues affect long-term shareholder value, and that in some cases those effects may be acute. An increasing number of institutional investors are becoming interested in approaches to asset management that explicitly include environmental (including biodiversity-related) criteria where they are or may become relevant to investment performance (F & C Asset Management, 2004). The Natural Value Initiative[1] builds on this interest and works with the finance sector to evaluate the investment risks and opportunities posed by companies' dependence and impact on biodiversity and ecosystem services in different sectors.

Box 3: Biodiversity criteria in the CCBS

The first edition of the CCBS was launched in 2005 and a revised version was produced in 2008. The standard includes fourteen required criteria and three optional *"Gold Level"* criteria. There are three biodiversity criteria and one Gold Level criterion including (http://www.climate-standards.org/):

Net biodiversity positive impacts: The project must generate net positive impacts on biodiversity; the project should maintain or enhance any High Conservation Values; Invasive species populations must not increase; Projects may not use genetically modified organisms (GMOs) to generate GHG emissions reductions or removals.

Offsite biodiversity impacts: The project proponents must evaluate and mitigate likely negative impacts on biodiversity outside the project zone resulting from project activities.

Biodiversity impact monitoring: The project proponents must have an initial monitoring plan which must identify the types of measurements, the sampling method, and the frequency of measurement.

Exceptional biodiversity benefits: This Gold Level criterion identifies projects that conserve biodiversity at sites within the Key Biodiversity Area (KBA) framework of vulnerability and irreplaceability.

Source: CCBA (2012)

Box 4: Some unexpected negative consequences of gender mainstreaming in South Africa

"Through mainstreaming, we basically made gender invisible because everyone pretended they were doing it all the time with very little actual commitment to it because there wasn't money put into it … you can't do much if you don't have money."

"Gender mainstreaming comes along and indirectly confronts power issues, doesn't even talk about power relations. It's only talking about gender and not looking at all the other power inequalities. So perhaps that's one of the reasons why it doesn't resonate with people in organisations."

Source: Mannell (2012)

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[1] http://www.naturalvalueinitiative.org/

4. Learning from experience – mainstreaming other issues into development

Biodiversity is not the only issue to be mainstreamed into development. **Gender**, for example, is an issue with a long history of mainstreaming. The Women in Development (WID) approach emerged in the 1970s, later evolving in the Gender and Development (GAD) approach. In 1995 gender mainstreaming was formally adopted at the Fourth United Nations World Conference on Women in Beijing in 1995 as a key issue for all areas of work of the United Nations including poverty reduction and development. Despite the many successes, there are still many barriers to women achieving greater participation and accountability in global and national governance, and some argue that in order to be truly transformative, rather than just focus on integration, gender mainstreaming now also needs to become agenda-setting, also focussing explicitly on women's rights (Sweetman, 2012). As recently as February 2013 Ghana's Minister of Gender, Children and Social Protection announced a *"transformational blueprint to promote gender mainstreaming in national development processes"*.[2]

Nevertheless, a recent evaluation of 20 years of experience in gender mainstreaming (Risby and Todd, 2011) concluded that "gender equality is not yet integrated into the mainstream operations and organisational culture of development organisations". A recent review of gender practitioners from 26 NGOs in South Africa showed that gender mainstreaming had actually had a negative effect (Box 4). After the end of apartheid, many experts on gender and women's rights were merged into different government offices, leaving the women's movement disempowered and fragmented. The review also highlighted the problems associated with inadequate financing, failure to acknowledge power relations and the overly technocratic nature of mainstreaming activities - all of which could be of equal concern in biodiversity-development mainstreaming. Sweetman (2012) argues that in order for organisations to effectively monitor the institutional impact of gender mainstreaming activities, *"gender budgeting"* should be carried out, used to assess the impact of policy commitments in achieving greater gender equality.

Environment was the next big issue to be subject to mainstreaming. Described by Dalal-Clayton and Bass (2009 as *"a major practical component of sustainable development"*, environmental mainstreaming arose, as discussed above, largely in response to the failure of the poverty focus of development policy to take environmental issues adequately into account. To date, environmental mainstreaming has largely focussed on integrating environment and development at the national level within developing countries. MDG7, calls for the "*integration of the principles of sustainable development into country policies and programmes*" while the Paris Declaration on Aid Effectiveness (OECD, 2005) talks of "*building country-based systems for integrating environment and development*". The subsequent Accra Agenda for Action (OECD, 2008) commits developing countries and donors to "*ensure that their respective development policies and programmes are designed and implemented in ways consistent with their agreed international commitments on gender equality, human rights disability and environmental sustainability*". Many multi-lateral and bilateral development agencies have developed environmental mainstreaming policies or programmes in response.

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[2] http://www.namnewsnetwork.org/v3/read.php?id=MjIwMzk2

One of the most well-known environmental mainstreaming programmes is the UNDP-UNEP Poverty Environment Initiative (UNDP-UNEP PEI) which was launched in 2005 and supports country-led efforts to mainstream poverty-environment linkages into national development planning. A wealth of technical guidance has been produced through the initiative including primers on specific issues (e.g. local development planning, economics, climate change adaptation) as well as an overall handbook (UNDP-UNEP PEI, 2009). Key lessons from PEI's experience include (UNDP-UNEP PEI, 2013):

1. Framing the environment as an economic asset and linking poverty and environment is useful to influence economic growth policy objectives.

2. The Ministry of Planning is by far a more effective host institution to promote mainstreaming activities than the Ministry of Environment.

3. Mainstreaming tools can strengthen the capacity of key ministries and their partners, stimulate debate with stakeholders such as parliamentarians and civil society for input into policy process.

4. Making mainstreaming part of everyday practice is a long, and at times, incremental, process which requires support at different layers of institutional capacity and development planning processes. At the individual level, identification of and investments in champions and on-the-job training tied to a specific process or analysis has been found to work well. At the organizational level, strengthening existing systems for planning, budgeting and policy analysis are key elements.

5. Long term capacity development is often required when new or complementary procedures are introduced.

6. Improving access to information and monitoring progress towards national development plans is vital.

This experience in environmental mainstreaming reveals some important lessons for biodiversity mainstreaming. Perhaps amongst the most useful is to recognise the serious constraints including, notably, the prevailing development paradigm, which treats environment as an institutional and economic 'externality'; the lack of data, information, skills and institutional capacity to work on environment-development links; the lack of successful models; and the lack of political will for change. With such constraints, it is critical to identify 'entry points' which offer a better chance of tackling these constraints and getting biodiversity on the development agenda, and people with the vision, incentives and resources to act. These may be at national, sectoral or decentralised levels.

The 'entry points' are often key points in mainstream policy and planning cycles, particularly those concerning safeguards, prioritization and investment choices –but it's not all about getting biodiversity into the PRSP and poverty into the NBSAP as these plans are often not the drivers of change. As the PEI experience revealed, some of the more effective 'drivers' may be from within the mainstream itself - for example finance and planning ministries where these are concerned about critical prioritisation questions of budget and policy (Figure 1). In the process, this can lead to stronger programmatic and budgetary collaboration between the ministry responsible for the environment and the ministry of planning and/or finance responsible for coordinating national development

plans (e.g. PRSP/economic development plans) and national budgets to support their implementation (UNDP, 2012b). Dalal-Clayton and Bass (2009) summarise the key drivers of mainstreaming in Box 5.

While the general push for environment mainstreaming continues there has also been increasing efforts to tackle **specific environmental challenges**. In 2002 the Development Assistance Committee (DAC) of the OECD produced guidance on *"Integrating the Rio Conventions into Development Assistance"* (OECD, 2002).. The DAC guidelines note the mainstreaming potential of the various national action plans that are intended to address climate change, desertification and biodiversity and which are *"by nature cross-sectoral and must be consistent with (and, whenever possible, reinforce) priority national development objectives. Accordingly, it is essential that decision-makers integrate the Conventions into "mainstream" development policy and planning processes."*

Of the three global environmental issues addressed in the Rio Conventions, **drylands** has the longest history of mainstreaming. Drylands mainstreaming, defined by UNDP as *"a systematic practice and culture to integrate*

drylands issues in all decision-making processes, policies, laws and regulations, institutions, technologies, standards, planning frameworks and programmes, budgeting processes and ensuring that they continue to be part of the agenda in subsequent decision making processes, implementation, monitoring, evaluation and learning" has been on-going since 2001 when UNDP established the Integrated Drylands Development Programme (IDDP). A major component of this initiative on mainstreaming of drylands issues into national development frameworks is being implemented in 17 countries in Sub-Saharan Africa and the Arab States. The initiative seeks to link the priorities identified in National Action Programmes (NAPs) to Combat Desertification into national development and planning frameworks. The initiative has recently included a specific focus on mainstreaming drought risk management into development planning and programming at different levels (UNDP, 2011a). A recent review of drylands mainstreaming highlighted that in many cases dryland issues had been subsumed into broader environmental issues rather than being given any particular emphasis. As with climate mainstreaming there has also been a big gap at the implementation stage – particularly in terms of budgetary allocations and actual
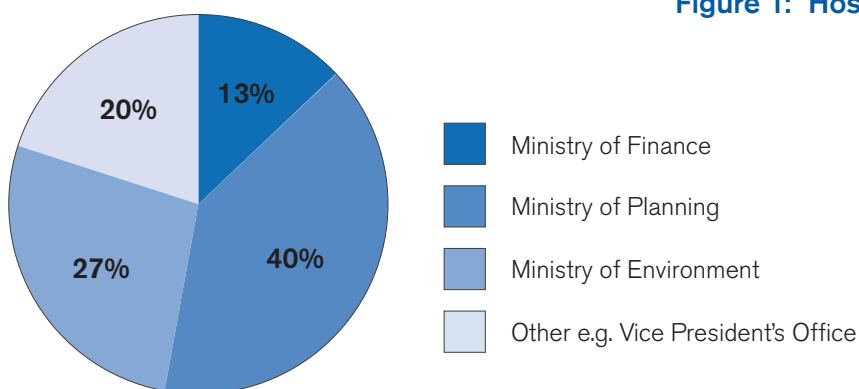

Figure 1: Host institutions of PEI in 15 countries
Source: UNDP (2012b)

- Ministry of Finance
- Ministry of Planning
- Ministry of Environment
- Other e.g. Vice President's Office

implementation on the ground, coordination of national, sub-national and sectoral planning processes; and bringing about real institutional and cultural change.

Climate change is, not surprisingly, the issue that has received the most attention in recent years. At the country level, National Adaptation Programmes of Action (NAPAs), are specifically intended to mainstream climate change adaptation into development policy (Huq *et al.* 2003) although have been noted as a very top-down approach to mainstreaming climate change. Newly emerging Local Adaptation Programmes of Action (LAPAs) have tried to provide more downstream outcomes (Box 6).

The DAC produced guidelines in 2009 on integrating climate change adaptation into development assistance with an emphasis on strengthening partner countries' capacity to identify and prioritise adaptation responses (OECD, 2009). A recent review by the PEI, however (UNDP-UNEP PEI, 2011) highlights how efforts to mainstream climate change adaptation into national development planning are still at a relatively early stage in many countries. UNDP-UNEP PEI identifies three levels of intervention for successful mainstreaming of climate change adaptation:

1. Making development efforts consciously aimed at reducing vulnerability thus strengthening the base for

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Box 5: Key drivers for mainstreaming

Major drivers

1. Increasing stakeholder awareness & demands
2. National legislation & regulations
3. Values of progressive organisations
4. Donor conditions and initiatives

Moderately important drivers

1. International commitments
2. Major environmental events and disasters (e.g. floods)
3. Company/business plans & objectives, regulations / requirements
4. Risk management
5. Traditional cultural reasons

Other drivers include: Visible 'real' issues; link between development/poverty reduction and environment; requirements of clients; EU accession and approximation process; membership of international business groups (that embrace biodiversity mainstreaming.); desire to address rising poverty and inequality; need to protect ecosystems and stem environmental degradation.

Source: Dalal-Clayton and Bass (2009)

adaptation and increasing the overall resilience of the country and population.

2. Ensuring that climate change is considered in the decision-making of relevant government agencies so that (mainstream) policy measures catering to climate change are developed.

3. Targeting specific adaptation issues that the first two levels have not yet tackled; but identifies enduring implementation challenges associated with information and indicators, financing and budgeting, institutional and capacity needs at national, sub-national and sector levels.

The lessons learned from different mainstreaming experiences described above highlight the very context-specific nature of mainstreaming. Depending on the issue, the timing and relative distribution of power and authority within government agencies, choices about how to proceed with mainstreaming are best made following a good, in-depth, in-country assessment of current drivers and obstacles. As a result, approaches will differ. Nevertheless, the different experiences of mainstreaming described above are remarkably similar, and a number of key lessons have been learned to date including:

- Leadership is critical both in the form of mainstreaming "champions" who can push the process forward and maintain momentum, and political will and awareness at high levels. National or local champions within and outside government who are able to work together need to be identified and supported. Mainstreaming leaders need commitment, seniority, and technical and political skills.

- Reciprocal mainstreaming – or integration – of environment and development issues is much more effective than a one-way environmental 'push'.

- Effective communication is vital in terms of raising awareness about the importance of mainstreaming and in ensuring that a wide range of voices are heard. Making the case for mainstreaming requires presenting information in different forms depending on the target audience (valuation has had a great deal of success in getting politicians to sit up and listen).

- Mainstreaming needs be locally owned not externally driven – although external support may needed to support capacity development and to cover the transaction costs of a participatory process.

Box 6: Bottom-up mainstreaming of climate change adaptation in Nepal

Nepal developed its NAPA later than many other countries and has piloted a more bottom-up approach through the development of Local Adaptation Programmes of Action (LAPAs), which mainstream climate change adaptation at the sub-national level. This process seeks to use local knowledge and geographical specificity, allowing community members to understand the changing uncertain future climatic conditions and engage effectively in the process of developing adaptation priorities, informing sectoral programmes and leading to an integrated approach between sectors.

Source: Karki and Regmi (2010).

- Mainstreaming needs to build on existing planning and policy making processes rather than attempting to develop anything new or additional. Timing is therefore key, to ensure mainstreaming efforts do not miss key milestones or deadlines in these processes.

- Decisions concerning the integration of environment and development should be taken at the lowest possible level of public authority closest to the population concerned. Top down and bottom up processes need to be balanced.

- Mainstreaming tools and approaches need to respond to the specific country context and issue(s) of concern - there is no blueprint approach.

- Mainstreaming is an iterative process not necessarily a set of sequential steps. Flexibility and adaptive management is therefore essential.

- Mainstreaming is time consuming and financially demanding. It requires a long time horizon in terms of monitoring of results and budget allocations.

- Mainstreaming needs to become part of the way of doing things – not something that specialists have to coordinate.

- Mainstreaming needs to recognise who holds power and therefore who needs to be engaged - Ministries of Finance, or Finance and Planning are particularly important in this regard.

- There will be times when trade-offs between development and environment cannot be avoided.

5. Experience to date in biodiversity mainstreaming

Mainstreaming biodiversity into production sectors

Most of the efforts in biodiversity mainstreaming to date have been focused on specific production sectors. Natural resource sectors including agriculture and forestry are the mainstay of the national development strategies of many developing countries. Integrating biodiversity concerns into these sectors is thus critical for ensuring linked biodiversity – development outcomes. Economically important sectors all tend to have their own planning processes which provide important entry points for biodiversity mainstreaming (CBD, 2011).

In particular, mainstreaming into production sectors has been a strategic priority for the GEF and its implementing agencies since the 3rd replenishment with the objective of *"integrating biodiversity conservation in agriculture, forestry, fisheries, tourism, and other production systems and sectors to secure national and global environmental benefits."* (Castro, 2004). As a result of this, GEF has also created regional strategies for mainstreaming biodiversity in production sectors, as shown in Box 7 below.

A review of the literature identifies a wide range of sectors where biodiversity mainstreaming has been attempted including agriculture, forestry, fisheries, oil and gas. In South Africa, for example, a national level programme coordinated by the South African National Biodiversity Institute (SANBI) addresses a wide range of sectors and illustrates the wide variety of tools and tactics that can be employed in the mainstreaming process (Box 8).

The CBD has produced a series of *"Good Practice Guides"* for integrating biodiversity and poverty reduction in a number of development sectors. These include tools, policy considerations and capacity building needs that should be taken into account. The guides cover tourism, forestry, pastoralism, water, and health (CBD *et al.*, 2009a and 2009b; CBD 2010a and CBD 2010b; Bridgewater *et al.*, 2012) as well as the links between biodiversity and human well-being (CBD 2010c) and ecosystems goods and services in development planning (CBD 2010b).

As well as sectoral guidelines developed by the CBD and other organisations – as discussed below – the international finance institutions who fund development projects have their own internal performance standards and safeguards – including for assessing and mitigating biodiversity risks – that developers are expected to address and form a useful first step in mainstreaming biodiversity. The World Bank, for example, requires a

Box 7: Mainstreaming in production sectors in West Africa

The GEF Strategic Programme for West Africa (SPWA) is a regional programme that takes account of the trans-boundary nature of ecosystem management initiatives and the need to scale up biodiversity conservation initiatives. One of its objectives is to mainstream biodiversity in production landscapes and sectors, focussing on improving the national policy and legislative frameworks to support mainstreaming.

Source: GEF (2013)

Box 8: Mainstreaming biodiversity into production sectors in South Africa

SANBI's Grasslands Programme aims integrate biodiversity objectives into the major production sectors operating on South Africa's grasslands biome, namely agriculture, forestry, urban development and coal mining. In addition, the programme is working to strengthen the enabling environment for mainstreaming biodiversity into these sectors. Activities include:

In the agriculture sector:

Providing strategic input into agricultural laws and policies

- Securing land for biodiversity conservation through biodiversity stewardship
- Developing guidelines and tools for agricultural land-use planning and decision making
- Piloting market-based mechanisms for environmentally friendly red meat production

In the forestry sector:

- Securing unplanted forestry-owned land for biodiversity conservation through biodiversity stewardship
- Developing sector-specific land use planning and decision-support tools
- Strengthening the capacity of small growers to implement sustainable forestry management
- Supporting the development of a national standard for Forest Stewardship Council (FSC) certification

In the mining sector

- Piloting biodiversity stewardship with mining companies
- Developing tools and guidelines including on biodiversity offsets
- Making biodiversity information widely available to government agencies and mining companies in the assessment and decision-making processes for the prospecting or mining of coal

Source: SANBI (2012)

Strategic Environmental and Social Assessment (SESA) of their investments. SESA has two components: the Strategic Assessment (SA) and the Environmental and Social Management Framework (ESMF). The SA aims to improve the design of a project by identifying key social and environmental issues and an assessment of legal, policy, regulatory, institutional and capacity gaps to address these issues. The ESMF provides a framework for assessing environmental and social risks of specific project activities and developing and monitoring appropriate strategies to manage and mitigate any negative impacts. It is linked to the World Bank's safeguard policies including on natural habitats, forests and Indigenous Peoples. Similarly the International Finance Corporation (IFC) has a set of performance standards on environmental and social sustainability including one on biodiversity conservation (Performance Standard 6) which is intended to help projects *"avoid,*

minimize, and where residual impacts remain, to compensate/offset for risks and impacts," (IFC, 2012).

Private companies too are increasingly measuring their own performance – recognising lack of attention to biodiversity issues as a material risk. A biodiversity *"benchmark"* developed by Insight Investors and Fauna and Flora International has provided a useful tool to help companies mainstream biodiversity into their day to day operations and develop best practice guidance (Foxall, Grigg and Ten Kate, 2005).

- **Agriculture**

Conversion of land for agriculture is one of the main drivers of biodiversity loss and not surprisingly was one of the first priorities for sectoral mainstreaming. The World Bank first highlighted the need to mainstream biodiversity in the agriculture sector in the late 1990s (Pagiola *et al.* 1998) and suggested specific actions that can reduce the impact of agriculture on biodiversity. These include: preserving wildlife corridors between pockets of remaining habitat; limiting land use in areas adjacent to natural habitats to uses such as agroforestry which are able to minimize collateral effects and enhance the preservation of ecological functionality; and restoring vegetation by replanting native flora or by allowing the areas to reseed themselves. It also highlighted opportunities for reclaiming agricultural lands that have been contaminated due to alkalinity and salinity through regenerative agricultural practices. The World Bank report suggested that country sector planners need to be able to address four questions in their agricultural sector plans:

1. How do agricultural development activities in the sector or subsector affect biodiversity?

2. How can the sustainable use of biodiversity enhance agricultural development?

3. How can government policies and programs be adjusted to reduce biodiversity loss?

4. What are the costs of such adjustments?

Since then, a number of different approaches to biodiversity mainstreaming have been explored – by the international financial institutions and others - including modifying the practice of agriculture to reduce its negative impacts on biodiversity (an approach now captured under the umbrella term *"ecoagriculture"* (McNeely and Schell, 2003)); conserving genetic diversity - particularly of traditional varieties and crop wild relatives (Box 9); and conserving biodiversity within commodity crop plantations (Box 10).

- **Forestry**

Tropical forests have the greatest biodiversity of any terrestrial ecosystems on earth, and yet they are declining through deforestation. Within the forestry sector, as in agriculture, mainstreaming efforts have taken a variety of different forms. Common approaches include maintaining areas of high biodiversity forest within plantations, promoting community-based sustainable forest management, and working with the private sector to improve the management of timber concessions and plantations. Overall, biodiversity mainstreaming experience in the forest sector is intertwined with a long history of practice in sustainable forest management (SFM) and community forest management (CFM) - both of which have been promoted since the late 1980s – although there is some dispute

as to the degree to which either of these practices specifically targets linked biodiversity and development outcomes.

As early as 1993 the International Tropical Timber Organisation (ITTO) produced its 'Guidelines for the Conservation of Biological Diversity in Tropical Production Forests' which can be considered as an early example of

sectoral mainstreaming guidelines. The guidelines state that *"timber production should be carried out in such a way as to maintain biodiversity, or to minimize its loss"* (ITTO, 1993) with recommendations on establishment of protected areas, capacity development and improved silvicultural systems. The Forest Stewardship Council – the first forest certification scheme – similarly requires the identification of High Conservation Values (HCV) forest areas and the adoption

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Box 9: Mainstreaming agro-biodiversity in Laos

In Lao PDR, for example, UNDP is supporting a project to mainstream conservation of agricultural biodiversity into agricultural policy, plans and programmes. Agricultural intensification including the development of monoculture plantations, use of improved varieties and drainage of wetlands is having a major impact on crop, wildlife and livestock diversity. The project is intended to work with a variety of stakeholders including farmers, agribusinesses, government agencies and donors in order to *"make biodiversity a key consideration in day to day decision making"* (UNDP, 2011b). The project recognises the lack of incentives, capacity and enabling policy to mainstream biodiversity and is intended to work at two levels: 1) policy reform and 2) institutional strengthening; farmer capacity development through field schools and other outreach activities.

Source: UNDP (2011b)

Box 10: BACP efforts to mainstream biodiversity in cocoa plantations

The Biodiversity and Agricultural Commodities Programme (BACP) of the International Finance Corporation is intended to mainstream the use of Better Management Practices (BMPs) that decrease the impact of agricultural commodity production (specifically palm oil, soy and cocoa) on biodiversity. BACP works in Brazil, Indonesia, Malaysia, Papua New Guinea, Ghana, Liberia, Cameroon, Gabon and Côte d'Ivoire, which are major producers and exporters of these commodities. In Ghana, cocoa production is a major economic activity and land use in the Guinean Forests of the West Africa biodiversity hotspot. The BACP project seeks to mainstream biodiversity at three levels: the market level, the national level, and the local level. At the market level, it works with cocoa traders to support farmer's efforts to adopt sustainable practices and increase their understanding of the relationship between biodiversity conservation and productivity. At the national level, it promotes certification models that provide incentives for biodiversity-friendly agroforestry systems. At the local level, it supports farmers to adopt best practices that enhance the ecological integrity of farms and connect forest fragment in the landscape while at the same time improving farm productivity.

Source: IFC (2013)

of the precautionary principle in the management of these areas. A 'High Conservation Value Forest Identification Toolkit' (Jennings *et al.*, 2003) has been developed to provide more detailed guidance on the identification and management of these areas. Schulte-Herbruggen and Davies (2006) point out that there have been only preliminary and circumstantial assessments made of the impact of timber certification schemes on wildlife conservation in tropical forests noting that *"many timber certification schemes do not include clear and specific indicators to encourage improved management of wildlife."* A review of SFM south East Asia (Dennis *et al.*, 2008) did, however, note progress, especially in the application of certification programs, the planning and management of HCV forests, the regulation and control of hunting, and silvicultural management. Box 11 provides an example of a typical mainstreaming project in a plantation forest.

Recognising the critical role of the private sector in the forestry sector, many conservation agencies have established programmes of work to improve attention to biodiversity issues within timber concessions and plantations (Box 12). Improved wildlife management in timber production forests has also been the subject of international policy debate – the Yaoundé Declaration on African Forest Law Enforcement and Governance, for example, includes a commitment to *"monitor, exchange information and sustainably manage wildlife resources…"*

Addressing biodiversity issues within community forestry (Box 13) is clearly of significant importance especially since the majority of the world's forests are owned or managed by local communities (White and Martin, 2002). There is an assumption that community forestry is inherently good for biodiversity, but this is by no means guaranteed. A study in Nepal for example found that biodiversity conservation was a low priority and that there was some evidence of a decline in biodiversity in some community- managed forest (Acharya, 2003) while a recent systematic review of the CFM literature found that while the evidence supported

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Box 11: Mainstreaming biodiversity in plantation forests in Argentina

The GEF Biodiversity Conservation in Productive Forestry Landscapes Project of Argentina aimed to promote the mainstreaming of biodiversity conservation into plantation forestry practices and create productive options that are economically and ecologically viable. The project aimed to show that plantation forests do not compromise biodiversity if managed well and that they provide multiple values which include critical ecosystem services such as watershed protection and carbon sequestration.

To address the need to integrate biodiversity conservation into plantation development, the project's components aimed to: strengthen institutional capacities at the federal and provincial levels of government; develop and disseminate biodiversity-responsible plantation practices and technology transfer; support the adoption of biodiversity-responsible plantation practices; aid the Secretariat of Agriculture, Livestock, Fisheries and Food (SAGPyA) to undertake activities designed to identify and test biodiversity-responsible land use practices in high priority areas; and aid project implementation, monitoring and evaluation.

Source: World Bank (2007)

Box 12: The ZSL Wildlife Wood Project

The Zoological Society of London established its *"Wildlife Wood Project"* in 2007, working with progressive timber companies in Ghana and Cameroon to support the delivery of on-the-ground improvements. They work with timber companies to help develop and implement comprehensive wildlife management plans for their concessions; assist in the identification, managing and monitoring of High Conservation Value (HCV) areas with a particular focus on priority flagship species; the great apes and forest elephant and undertake research to improve understanding of the direct and indirect impacts of logging on biodiversity in timber concessions and guide improved management.

Source: ZSL (2011)

Box 13: The Mexican model for community forest management

More than 80% of forest areas in Mexico are community owned. In many areas, community management has replaced earlier logging contracts and concessions. Although success has been variable, it generally has led to more sustainable management than earlier approaches. Among the 2,400 community forest enterprises features that the successful cases have in common include: strong community organization; a culture of managing resources; equitable sharing of benefits and responsibilities. As of 2008, 25 communities were managing some 500,000 hectares which were certified by the Forest Stewardship Council (FSC).

Source: CBD (2008)

an improvement in forest condition under CFM this did not automatically translate into a benefit for biodiversity conservation (Bowler *et al.*, 2010).

▪ **Fisheries**

Fisheries are widely recognised as a major pressure on marine biodiversity. Fisheries are also incredibly important to development, supporting the livelihoods of as many as 140 million people (FAO 2005- 2013). As in the forestry sector, biodiversity mainstreaming efforts are intertwined with processes to promote sustainable fisheries management and community-based fisheries management. The FAO has led international efforts in integrating biodiversity into fisheries management including the 1995 'FAO Code of Conduct for

Responsible Fisheries' which stresses the need for the adoption of ecosystem approaches to fisheries management. The Ecosystem Approach to Fisheries was adopted by the FAO in 2002 as the appropriate approach to implement the Code of Conduct as well as the UN Convention on the Law of the Sea (UNCLOS, 1982) and the technical guidelines produced by the CBD on how to implement this approach. However FAO notes that despite some positive international commitments *" in most if not all countries much progress in ecosystem research and institutional development is still needed before the implications of the approach are fully understood and credible management strategies are adopted and effectively implemented."* (FAO, 2003)

Certification too has proved to be of limited effectiveness in mainstreaming biodiversity. A review by Ward (2008) found that the 'dolphin-safe' Eco label had played a role in reducing dolphin mortality in tuna fisheries, but had not aided population recovery, while the Marine Stewardship Council (MSC) label had major limitations in programme design and a lack of robust linkages between the certification standard and biodiversity conservation outcomes. Again in parallel to forestry, however, conservation agencies are increasingly engaging with the private sector to help develop approaches to fisheries that support livelihoods and biodiversity. In Indonesia, for example, The Nature Conservancy (TNC) is partnering with P.T. Bali Seafood International, an industry pioneer, to explore alternative certification schemes that will meet the demands of consumers while sustaining local livelihoods and protecting biodiversity (Udelhoven et al., 2012).

There does appear to be consensus that Marine Protected Areas (MPAs) and no-take zones are an effective mechanism for managing fishery resources and conserving biodiversity. One approach to biodiversity-development mainstreaming has therefore been to take this approach and link it with livelihood benefits through locally managed marine protected areas (LMMAs) (Box 14).

▪ **Extractive industries**

There is a significant overlap between the world's areas of high biodiversity, oil and gas deposits and mineral reserves (Grigg, 2005, Box 15). Many of these reserves are in developing countries, where extractive industries make a significant contribution to national development plans. One quarter of active mines and exploration sites overlap with or are within a ten kilometre radius of protected areas categorized as I-IV under the IUCN system (Miranda et al., 2003). Grigg (2005) highlights a wide variety of sectoral initiatives and company–NGO (non-governmental organisation) partnerships that have enabled companies to gain a better understanding of their impacts on biologically sensitive sites and how to manage them, but notes enduring barriers to biodiversity mainstreaming – particularly the lack of quantified, financially convincing business cases for managing biodiversity impact. A follow up study by the National Value Initiative (Grigg et al., 2011) highlights significant improvements including biodiversity policy commitments, risk assessments and standards. In particular the authors note that more companies are committing to causing 'no net loss' of biodiversity – although the benefits of such a commitment have not yet been quantified.

Box 14: Locally managed marine protected areas in Madagascar

In Madagascar, marine scientists worked with the local community at Andavadoaka to implement a sustainable harvesting regime for octopus. Combining modern scientific monitoring with traditional ecological knowledge, the regime involved seasonal harvesting bans and the establishment of marine protected areas including no-take zones. The project has resulted in reduction in harvesting of juveniles and hence increases in both the number and size of the octopus caught. The project is now being scaled-up through the development of a marine protected area network spanning twelve neighbouring communities. In addition to managing the marine protected area, the community is working to expand eco-tourism activities to generate additional income sources.

Source: CBD (2008)

The international financial institutions are a key source of funding for extractive industry initiatives in developing countries, and the performance standards and safeguards they employ often form the basis of biodiversity mainstreaming efforts but are not without their limitations (Box 16). In 2013, the International Council on Minerals and Mining (ICMM) together with IPIECA – the global oil and gas industry association for environmental and social

Box 15: Mainstreaming biodiversity into Uzbekistan`s oil-and-gas sector policies and operations

Uzbekistan's steppes are the one of the last remaining examples of the globally threatened dry temperate grassland biomes. However, the laying of gas and oil pipelines, exploratory drilling and related activities (access roads etc.) have result in habitat fragmentation and severe declines in populations of Saiga antelopes and endangered bird of prey. A UNDP –GEF project is addressing this issue by: i) developing an enabling policy, legislative, and institutional environment for mainstreaming biodiversity conservation considerations in the oil-and-gas sector, and ii) develop and test practical tools for mainstreaming at the site level.

To date a multi-stakeholder working group has been established to support the implementation and review of the project, environmental laws have been analysed and proposals for amendments prepared (including *"avoid-reduce-remedy-offset"* principles for integrating the principles of biodiversity conservation in oil and gas sector); and an analysis has been undertaken of the current status of Environmental Impact Assessment (EIA) methodologies.

Source: UNDP (2010)

Box 16: Lack of attention to due diligence undermines biodiversity-development mainstreaming in Peru

Development banks are a good source of finance for mainstreaming projects biodiversity into the oil and gas sectors. However for these projects to succeed, due diligence procedures need to be carried out at an early stage. In Peru, the Camisea project, a major gas development project in the Amazonian region is potentially worth billions of dollars in export earnings but is located in one of the world's most ecologically and socially fragile areas. The Cordillera mountain range falls within one of the Conservation International-defined biodiversity hotspots, while the lower Urubamba is located in the WWF-defined South-western Amazon Moist Forests Eco region. Camisea is also home to at least four different indigenous groups.

In 2003, the Inter-American Development Bank approved a project loan of $35 million and included a set of environmental and social conditions that the project developers had to meet. However, despite these safeguards, due diligence was not carried out at an early stage of the project, and the project design did not properly take into account biodiversity and social risks. Problems that have been reported include fish stock declines, deforestation, pollution and disease and death among the indigenous population due to exposure to influenza and whooping cough.

Sources: Carter *et al.* (2006)

issues - and the Equator Principles Association launched a new initiative to develop and share good practices and practical tools to apply the new IFC performance standard 6 on biodiversity conservation (ICMM, 2013). Time will tell the extent to which this has been successful in mainstreaming biodiversity and development issues within their operations.

Mainstreaming biodiversity into development and poverty reduction policy

National poverty reduction and/or development strategies have been a key target for mainstreaming efforts since the early 2000s. When the Poverty Environment Initiative was comprised of two separate programmes both the UNDP and UNEP components focussed on assisting governments to mainstream poverty-environment linkages into their development planning processes – especially Poverty Reduction Strategy Papers (PRSPs). PRSPs were also the focus of calls by the CBD for more attention to biodiversity mainstreaming from 2004 onwards. There has,

however, been limited focussed effort on mainstreaming biodiversity into national development plans such as PRSPs, compared to broader environmental issues in general. The Tanzanian case is a well- known example of successful environmental mainstreaming (Box 17).

A recent review of national development strategies (predominantly PRSPs but including other development plans listed by the World Bank as the equivalent of PRSPs) (Roe, 2010) explored the degree to which biodiversity-poverty links have been recognised and revealed just over 25% show a relatively high level of recognition of the importance of biodiversity; (just under 25% have a low level of recognition and 50% fall in between). Just under half of the PRSPs reviewed have a relatively narrow interpretation of biodiversity – the focus being on wildlife, forests or protected areas – but some interpret biodiversity in a broader sense noting the importance of genetic resources (e.g. Dominica) and agricultural biodiversity (e.g. Bangladesh, Nepal, Vietnam) and others recognise the link between biodiversity

Box 17: Mainstreaming environment into Tanzania's MKUKUTA

The National Strategy for Growth and Reduction of Poverty 2005-2010 (Mkakati wa Kukuza Uchumi naKupunguza Umaskini Tanzania – MKUKUTA) was the successor to Tanzania's PRSP of 2000. Responding to what is described by Assey et al. (2007) as *"a depressing picture – of degradation of the environment; disconnects between environment-dependent stakeholders and those who set policy; debilitated environmental authorities; and depleted environmental budget"* the MKUKUTA included 16 out of 96 development targets related to environment.

In 2010, the PEI supported the development of the new MKUKUTA (2011-2015) and the review of the MKUKUTA monitoring system with an emphasis on linking environmental sustainability and climate change adaptation to growth and poverty reduction. As a result, MKUKUTA II includes 3 out of 5 goals on environmental sustainability in its growth and poverty reduction priorities. The proposed MKUKUTA monitoring framework also includes 73 indicators of which 15 are related to poverty and environment.

Sources: UNDP – UNEP PEI (2010) and Assey *et al.* (2007).

and ecosystem services (e.g. Cambodia, Lao, Liberia, Uganda, Zambia).

The role of biodiversity in contributing to poverty alleviation appears to be well recognized – the majority of PRSPs addressing this. At one end of the scale is recognition of the dependence of the poor on biodiversity and the role it plays in supporting subsistence livelihoods. At the other end of the scale is recognition of the role that biodiversity can play in contributing to national level GDP and foreign exchange earnings. Bolivia, for example, notes: *"Preliminary studies indicate that within a period of approximately 15 years the contribution of biodiversity could come to represent an increase of about 10 per cent in GDP, if activities are developed in ethnic and ecotourism, mitigation of climate change and biodiversity services relating to biotechnology, ecological products, and others."* Biodiversity-based tourism is particularly significant. In Uganda: *"Wildlife based tourism has an annual economic value of $163 million, employing around 70,000 people directly."* In between the two extremes of meeting local level subsistence needs and contributing to national GDP earnings is widespread recognition of the potential of biodiversity to contribute to local economic development – particularly through community forestry,

community wildlife management, community tourism and so on. A number of countries highlight in-depth awareness of the conditions necessary to generate meaningful benefits through these approaches. (Table 2),

Beyond PRSPs, there are some great examples of where biodiversity has been truly mainstreamed into development planning at a national level. Namibia is one such example where community-based natural resources management (CBNRM) is a major component of the country's rural development strategy owing to the extensive wildlife resources on communal land and the subsequent tourist attraction of these areas (Box 18).

The CBD aspiration is that the second generation of NBSAPs will act as the primary vehicle for integrating biodiversity issues into national poverty reduction and development planning. A review of first generation strategies (Prip *et al*, 2010) revealed a huge variation in the attention given to development issues. Only a few NBSAPs made explicit reference to poverty reduction, this reference not necessarily correlating with the degree to which biodiversity had been incorporated into the PRSP or development policies. The degree of elaboration also varied considerably, from very general statements

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Box 18: Mainstreaming in practice – CBNRM in Namibia

Following its independence from South Africa, forward-looking legislation in Namibia in 1996 provided for rights over wildlife and tourism to be devolved to communities through the institutional arrangement of a *"conservancy"* – a geographically defined area of communal land with a defined membership of local residents. In 1996 four conservancies were established and by 2012 this had grown to 75, covering a land of around 150,000 km2. By 2011 the conservancies were generating over US$4 million in cash income and had generated over 700 jobs in hunting and tourism. CBNRM is now firmly entrenched in the country's National Development Plan and also recognised within other national strategies including the National Poverty Action Reduction Programme.

Source: Jones (2012)

Table 2: Recognition of biodiversity-poverty reduction linkages in national economic development plans

Country	Excerpt from national economic development plan/PRSP
Bangladesh	Increasing access to natural resources for rural poor is an essential element of the process of reducing poverty in the rural areas. Rents from public commons, if captured by the poor, can help them initiate a process of capital accumulation that can help to pull them out of poverty and integrate them into the mainstream economy.
Bolivia	Community participation will be promoted in the planning, management and administration of protected areas, with the assumption that their management must be approached as a joint undertaking of the State and civil society... Efforts will be developed to link the management of protected areas to indigenous and peasant views on the management of territory and natural resources.
Kenya	To strengthen the linkages with the rest of the economy and make tourism pro-poor, efforts will be made to: foster community-based and eco-tourism; strengthen community–based wildlife conservation, adopt an appropriate compensation policy and take measured to reduce human-wildlife conflicts; provide guidance, access to credit, and incentives to small and medium enterprises...
Lao PDR	Improving the management of natural resources by means of increased participation and protection through: ▪ Strengthening participation, especially by the poor, in the preparation and implementation of national and local plans, policies and strategies; ▪ Jointly managing environmental services and resources with the poor through strengthening community management of environmental resources; ▪ Protecting access to the critical resources, which the poor already have (e.g. entitlements to land, water, trees, pastures and fishing grounds); ▪ Expanding the natural asset base of the poor (e.g. community forest rights); ▪ Reducing subsidies for environmental services that benefit the less-poor;
Liberia	The Government will undertake community-based natural resource management reforms...It will establish practical mechanisms to enable communities to become directly involved in forest management and to participate in the equitable sharing of benefits stemming from commercial logging...It will make special efforts to create new opportunities for women in the forestry sector.
Rwanda	Special attention will be paid to sustainable land tenure security through the planning and management of land registration and rational land use, soil and water conservation, reforestation, preservation of biological diversity and adaptation and mitigation against the impact of climate change.
Sri Lanka	Local communities will be encouraged to establish buffer communities on the outskirts of the national parks. Restrictions on visitor access to the parks will be eased and the private sector will be encouraged to invest in eco-tourism facilities. Local community organizations established in the park buffer zones will be provided a share of any eco-tourism earnings and will be trained and empowered to assist in wildlife preservation activity.
Tanzania	Sustainable use of natural resources through community-based natural resource management and enhanced district level planning will be pursued. Village titling and issuance of Certificate of Village Land will assist communities secure tenure over natural resources and encourage participatory forestry and wildlife management.

to thorough analysis to detailed actions. The review authors note that older NBSAPs give least attention to development and poverty, with some improvements evident in the 'second generation' NBSAPs. *"Some countries such as Burkina Faso and Laos give full consideration to mainstreaming in the NBSAP, but do not include similar consideration in the PRSP. Conversely, some other countries, for example Zambia, Cote d'Ivoire and Bangladesh, give a strong emphasis to biodiversity-related issues in their PRSP, but only limited consideration of poverty issues in their NBSAP. References to the PRSP in the NBSAP and vice versa very rarely appear."* (Prip *et al.*, 2010). Indonesia is another example where integration appears to be happening effectively (Box 19).

Getting policy prescriptions into the national biodiversity strategy or national development plan is not the end of the story, however. Often policies and plans remain as dry documents on a shelf that have little bearing on practice on the ground. In Uganda, for example, the national PEI team undertook a review of the contribution of wildlife to economic growth as a contribution to the national development planning process (Kaggwa *et al.*, 2009). The report highlighted the continued dependence of millions of Ugandans on natural resources but noted the high level of natural resource degradation. The report also demonstrated the importance of wildlife in Uganda's

tourism sector, which had overtaken coffee as Uganda's leading foreign exchange earner. While the National Development Plan recognised the important of wildlife to Uganda's economic growth, there is no significant strategy to tackle wildlife declines. Furthermore, the wildlife subsector is not identified as one of the key areas for investment by the Uganda Investment Authority. A recent review (Lwanga, 2012) recommends that specific interventions targeting wildlife declined be included in the next revision of the NDP. The extent to which the new NBSAP can help drive this process remains to be seen.

In general, greater efforts are needed to monitor the extent to which policies and plans get translated into concrete outcomes such as those described in Table 1 above. Tools such as the biodiversity diagnostic - described in the next section – can help assess the current status of biodiversity mainstreaming and its transition from policy to practice, and subsequently provide a framework for monitoring ongoing progress. The translation of the Aichi Targets into national targets will also help to monitor progress on biodiversity mainstreaming in the future and will need to be integrated into national monitoring and evaluation systems and become a routine part of the data that national statistical offices collect for reporting progress towards achieving economic development targets.

Box 19: Mainstreaming in Indonesia's biodiversity strategy and action plan

Indonesia's NBSAP was reflected in the country's medium-term national development planning process (2004 – 2009). This integration was aided by Indonesia's National Development Planning Agency (BAPPENAS) which led the preparation of the NBSAP through a participatory process with the involvement of several governmental and nongovernmental organisations. Regular evaluation of the implementation of the NBSAP is also coordinated with the national development planning process.

Source: CBD (2008)

The CBD identifies **sub-national** strategies, plans and programs as *"a particularly important entry-point for mainstreaming"* as decisions being made at this level are more likely to be downstream outcomes and direct impacts on ecosystems, subnational governments being closer to implementation on the ground (CBD, 2011). In many cases, spatial or regional land use planning has been used as an effective tool for mainstreaming at the sub-national level (Box 20), In South Africa, for example, recognizing that limited human and financial resources would not permit the conservation of the whole national territory, South Africa has conducted a National Spatial Biodiversity Assessment (NSBA) in order to identify conservation priorities and inform land-use policy and decision-making at national, provincial, and municipal levels (Cadman *et al.* 2010).

Mainstreaming biodiversity into development assistance policy

International development policy has changed significantly over the last two decades, both in its focus and in its primary choice of delivery mechanism. In the late 1980s and early 1990s, following production of the Brundtland Report (WCED, 1987) and the 1992 UN Conference on Environment and Development the focus was sustainable development and a key delivery mechanism was projects implemented through intermediaries including NGOs. In the late 1990s the focus switched to poverty reduction and the preferred delivery mechanism switched to direct budget support.

These changes have had significant implications both for the priority afforded to biodiversity and for the ability of conservation agencies to access development assistance

Box 20: Ecological-economic zoning in the Brazilian state of Acre

Ecological-Economic Zoning (ZEE) is a land-use planning process used in Brazil in order to conserve the environment while guaranteeing sustainable economic development, and an improvement in the population's well-being. The State of Acre created its Ecological-Economic Zoning Program in 1999. The first ZEE phase was notable for its inclusion of diverse societal groups, and for addressing issues that have frequently been marginalized from ZEE programmes in other parts of the country such as agro-forestry potential, biodiversity and ecological services, traditional populations' territories, socio-environmental conflicts, and potential of non-timber forest products. As a result of the ZEE process a new land zooming programme was introduced together with guidelines for state investments in the development of sustainable forestry industry, community and private sector forestry management projects, and sustainable agriculture and livestock initiatives.

The second phase of Acre's EEZ Programme began in 2000 and has produced a Territorial Management Map - a legal document establishing land use zones, and obligatory rules and sustainable management criteria in the state, the zoning of 50% of the state's territory as protected and sustainable use areas, and the initiation of several environmental and sustainable development programmes.

Source: SEMA (2006)

funding (Roe & Elliott, 2004; Lapham and Livermore, 2004) The concept of sustainable development provided an entry point for international conservation NGOs to engage with the international development agenda (Corson, 2010). However, increasingly, and in response to the 2005 Paris Declaration on Aid Effectiveness (OECD, 2005) which emphasises i) developing country ownership of the aid agenda, and ii) harmonised donor alignment behind that domestic agenda, direct budget support has replaced project funding as the main aid delivery mechanism. As a result, over the past decade, donor agencies have become increasingly reluctant to provide direct support to NGOs or to fund conservation efforts unless they make a tangible contribution to poverty reduction –giving rise to the claim that biodiversity has 'fallen off' the development agenda.

The OECD Development Assistance Committee (DAC) is the formal forum for aid coordination amongst the major donor countries and has produced various guidance documents on integrating environmental issues into development assistance, as discussed in previous sections. Most recently, The DAC Policy Statement on Integrating Biodiversity and Associated Ecosystem Services into Development Co-operation (2010) outlines 30 key actions that international donors can employ to help halt the loss of biodiversity and associated ecosystems including:

1. by supporting country partners

2. by bringing change within the donor agencies

3. by encouraging OECD governments to adopt pro-biodiversity policies

4. by engaging in global-level dialogues to raise the profile of biodiversity in development policies.

The DAC Development Cooperation Report 2012 highlights evidence of impacts of the DAC's policy guidance on integrating environment and development amongst member countries. It notes the most visible progress is in the introduction of environmental impact assessment (EIA) and strategic environmental assessment (SEA) of their development programmes. It also highlights integrating climate change into development assistance as another area of progress but warns that "*too much focus on climate change risks neglecting other important environmental challenges*." This is consistent with the findings of a review of development assistance agency policy on biodiversity (Roe, 2010) which found that that biodiversity had declined on the agenda of some international development assistance agencies since the 1990s. The Swedish International Development Cooperation Agency (Sida), for example, previously had a policy paper on biodiversity (Sida, 2000) where none exists now as did the UK Department for International Development (DFID, 2001). This decline can be correlated in some instances with an increasing emphasis on climate change. For example, in 2009 the Swiss Development and Cooperation (SDC) website identified 'Environment' as one of ten priority themes, with biodiversity, climate change and desertification the key issues under that theme. The environment theme has now changed to 'Climate and Environment' and biodiversity is not mentioned.

In 2009 the CBD convened an expert meeting with development assistance agencies (CBD 2009c) at which participants highlighted a number of key challenges to biodiversity mainstreaming, including:

1. Insufficient evidence (case studies and success stories) on the advantages of mainstreaming biodiversity to reach development goals;

2. Difficulties in the in the formulation of development outcomes incorporating biodiversity in programmes;

3. Results-based management is complex since biodiversity benefits are dispersed in space and time while development projects are often funded for a short period of time and decisions at the national level are often based on short term returns;

4. Difficulties to raise awareness and to ensure engagement from the private sector;

5. Lack of effective measurement of financial flows for biodiversity;

6. Lack of systematic utilisation of economic valuation tools - both at the national and at the donor agencies levels;

7. Finding biodiversity champions within ministries associated to development sectors or in ministries of finance and planning to make the case for biodiversity's critical input into their sectors;

8. Current trends of general budget support may lie in the way of biodiversity mainstreaming since it becomes more difficult to dedicate aid to environmental sustainability – in comparison, aid for investment projects tends to decrease and associated mainstreaming tools such as EIA or SEA do not find appropriate application grounds.

One indicator of the degree to which biodiversity has been mainstreamed into development assistance policy is the budg*et al*located to biodiversity. The OECD DAC collects data on aid expenditure of its members and this has been the source of a number of analyses of biodiversity related aid flows (e.g. Lapham and Livermore, 2003; CBD, 2007; OECD 2008). Recognised by the CBD as a benchmark for understanding resource mobilisation, the 'Creditor Reporting System' (CRS) uses the 'Rio Markers' and is the only commonly agreed approach to track aid commitments by donor agencies related to the three Rio Conventions. Although some authors have commented that the data can be difficult to interpret due to the non-standardised way by which different agencies code their financial transactions (Lapham and Livermore 2003; Miller *et al.*, 2013).

A new portal – Aid Data – has recently been developed to allow greater access to DAC data. Drawing on this, Miller *et al.* (2012) in their assessment of official donor assistance for biodiversity from 1980-2008 have shown that although donor commitments increased at the beginning of the 1990s, that commitments made in 1992 in Rio have not been met and allocations declined up to 2008. However some increases have been seen in recent years, as shown in Figure 2. Here biodiversity-related aid is defined as *"activities that promote at least one of the three objectives of the Convention: the conservation of biodiversity, sustainable use of its components (ecosystems, species or genetic resources), or fair and equitable sharing of the benefits of the utilisation of genetic resources"* (OECD, 2012c). The principal (or primary) policy objectives are those which can be identified as being fundamental in the design of the activity (and would not have been undertaken if

a biodiversity objective did not exist), the significant (or secondary) policy objectives are those which, although important, biodiversity is not one of the principal reasons for undertaking the activity. Therefore the increase in significant biodiversity objectives show there has been some progress in mainstreaming biodiversity into development assistance, although these figures could significantly increase as biodiversity is further integrated into development objectives.

Kok *et al.* (2010) highlight the fact that although efforts are underway by the CBD to use the poverty reduction and development benefits provided by ecosystem goods and services, as a way to mainstream biodiversity issues into development objectives, these efforts need to be

further strengthened and replicated on a larger level. In order to continue mainstreaming biodiversity and related ecosystem services into development assistance, awareness of donor countries about the importance of ecosystem goods and services for poverty reduction needs to be raised, increasing attention to coherence providing a good opportunity for this. Mainstreaming tools such as SEA (discussed in the next section) should be systematically applied, trade-offs in critical areas such as agriculture and infra-structure need to be better defined and the resulting resource management reforms need to address issues of marginalisation faced by poor resource-dependent rural communities.
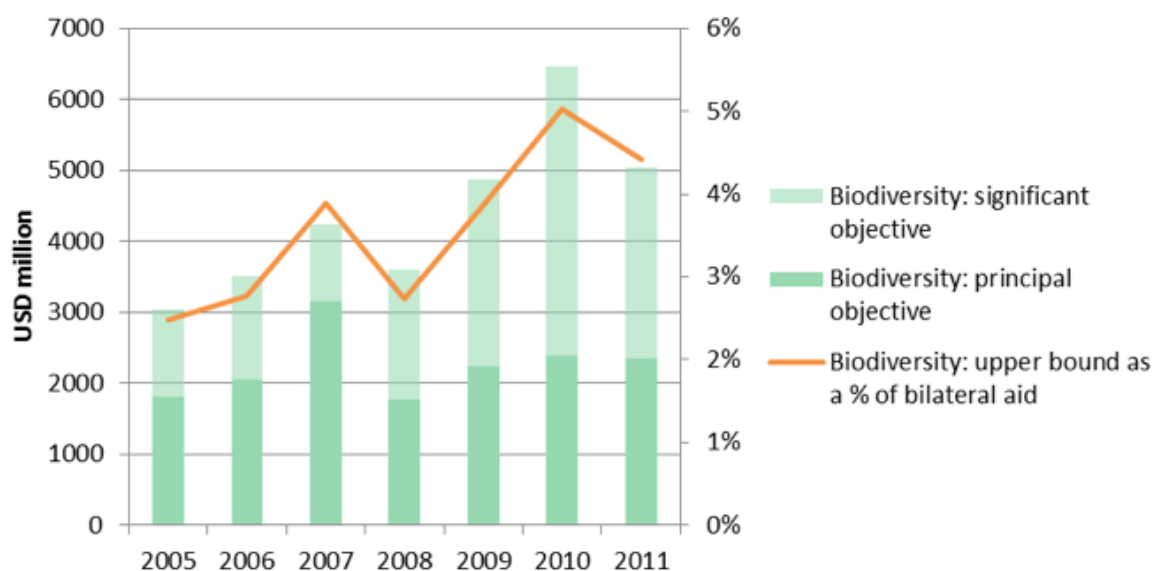

Figure 2: Biodiversity related ODA 2005-2011

Source: OECD personal communication, March 2013.

6. Tools for biodiversity mainstreaming

It is important to stress that on the whole effective mainstreaming will not be achieved through following an exact 'recipe' as it needs to be designed to affect change within a highly specific set of actors and institutional contexts, and will need to specify the most appropriate entry points and drivers in order to achieve this. It will also need to employ a diversity of tools - depending on the specific context. The Poverty Environment Initiative, for example, includes within its toolkit a wide variety from communications strategies to public expenditure reviews (Table 3).

Many of the tools and approaches available are focussed on broad environmental mainstreaming but adaptable to biodiversity. Others have been specifically developed

for biodiversity mainstreaming. This section briefly reviews a number of key tools. The list is by no means comprehensive, but highlights those that emerged most frequently during our review of the literature.

Guidelines

As highlighted in the previous sections, there exists a wide variety of policy statements and broad guidelines for mainstreaming. Examples include those produced by the DAC on integrating environmental issues into development assistance; those produced by the CBD on the ecosystem approach and on the NBSAP revision process, and those produced by the PEI included the practitioners handbook (UNDP-UNEP PEI, 2009) which is due to be revised and updated. Most recently, and

Table 3: The UNDP-UNEP PEI toolkit

PEI APPLIED TOOLS	TOOL MAIN APPLICATION AREA
• Communication Strategies	• Awareness raising
• Climate Public Expenditure and Institutional Reviews	• Advocate for fiscal reform
• Economic Analysis of sustainable and unsustainable use of natural resources	• Making the economic case
• Environmental (and Social) Impact Assessment	• Inform policy making – environment
• Household Surveys (social protection and household assets)	• Inform policy making – poverty
• Integrated Ecosystem Assessments	• Inform country programme development
• Institutional Capacity Assessments	• Inform policy making and implementation
• Monitoring and evaluation of P-E linked indicators in national M&E systems	• Making the case – wider audience
• Public Environment Expenditure Reviews	• Advocate for fiscal reform
• Strategic Environmental and Social Assessments	• Inform integrated policy and planning processes
• Valuation of Ecosystem Services	

specific to biodiversity, the African Leadership Group on biodiversity mainstreaming produced some basic guidance following its first meeting in Maun in November 2012 as summarised below.

1. **Problem exploration and definition by stakeholders:** The mainstreaming process starts with identifying and defining the specific biodiversity – development problems that need to be addressed (e.g. unsustainable Non Timber Forest Products (NTFPs) harvesting; local hostility to protected areas; degradation of traditional subsistence crop varieties). The problem needs to be discussed with a wide range of stakeholders to understand the specific issues that mainstreaming needs to address (e.g. protected area policy, NTFP regulations etc.).

2. **Identify elements of biodiversity to be mainstreamed:** This depends on the problems identified which might concern particular species, populations, habitats, ecosystems and ecosystem services, or genetic diversity.

3. **Identify defined sectors and development goals into which biodiversity concerns are to be mainstreamed:** This depends on the problem identified. It may require targeting a sector such as agriculture, forestry, and/or a development policy such as poverty reduction, food security and climate change adaptation.

4. **Identify desired biodiversity and development outcomes of mainstreaming:** Mainstreaming outcomes range from revised policies, plans, budgets or other decisions to behavioural, institutional, capacity

and biodiversity management. Specific examples include; harmonised land use planning, increased tourism investment and elimination of particular behaviour threatening to biodiversity.

5. **Shape a strategy for communication:** Effective communication is essential to bringing about the changes in behaviour, policy and practice that are required for biodiversity mainstreaming. Communication is essential throughout the mainstreaming process; during problem articulation, stakeholder engagement, business case development among others. Effective communication requires identifying who needs to change, what behaviours needs to change, and what methods and instruments best bring about that change.

6. **Identify and engage stakeholders who might support or undermine progress towards the desired outcomes and understand their sources of influence:** This involves initial discussions about associated institutional, governance, and capacity changes required to achieve desired outcomes and therefore who should be engaged. This can be done through stakeholder analysis and power mapping – a variety of tools are available.

7. **Identify enabling factors for mainstreaming:** Existing factors that need to be worked with – e.g. political will, leadership, media, public perception and awareness of values, inter-sectoral coordination, lobbying by interest groups, good governance, stakeholder participation and availability of funding among others. Where there is an absence of some of these, this should inform the choice of mechanisms at step 8.

8. **Identify and select a variety of approaches and mechanisms to achieve the mainstreamed biodiversity and development outcomes:**
Various approaches may be needed to mainstream biodiversity and development. Some of these are tools to make a business case (e.g. valuation and strategic environmental assessments (SEAs)). Others are tools to enable the necessary reforms (e.g. policy and legal reforms). Others can bring about the required reforms (e.g. education, partnerships, spatial planning and land use planning and economic incentives such as payment for ecosystem services (PES) schemes and revenue-sharing mechanisms).

9. **Develop a "business case" that persuades the stakeholders who need convincing:** A business case needs to be as specific as possible and to give evidence of direct benefits from strategies that combine biodiversity and development (i.e. revenue, jobs and products). A good business case is key to influencing 'powerful but difficult to convince' stakeholders. Useful tools to make the case depend on the audience that needs to be convinced. For example, valuation can be used to generate evidence for Economists; and, SEA and Environmental Impact Assessment (EIA) can be used for policy makers and planners. Then build on the enabling opportunities identified above such as political will, availability of adequate funds, cross-departmental dialogue processes and among others.

10. **Develop a monitoring and evaluation (M & E) system for biodiversity mainstreaming:** A proper M & E system needs to be in place to guide the mainstreaming process and assess its success. M

& E should focus on the approach, enabling factors and outcomes. The lessons learnt through the M& E process can help fuel a process of continuous improvement and provide valuable experience to share with others.

Mainstreaming diagnostics

One of the prerequisites for successful mainstreaming is to understand where progress has already been made and where the key obstacles and challenges lie. IIED and UNEP-WCMC have developed a rapid diagnostic tool[3] to address this issue, helping policy makers — and other stakeholders — understand the extent to which biodiversity and development objectives are already integrated at the national level and the obstacles and constraints that need to be overcome to promote further, and more effective, integration. The Tool sets out a framework of issues and questions that can be used to:

- Understand what progress has been made to mainstream biodiversity to date;

- Map and analyse the mainstreaming approaches that have been adopted;

- Assess how institutional structures and procedures support or inhibit biodiversity mainstreaming;

- Examine performance — internally (within the institution) and 'on-the-ground' (in terms of outcomes and impacts); and

- Identify areas for change and improvement.

[3] http://povertyandconservation.info/sites/default/files/Mainstreaming%20DiagnosticsTool_1.pdf

Environmental impact assessment and strategic environmental assessment

The DAC suggests that environmental impact assessment is arguably the starting point for integrating environmental considerations into development co-operation. The DAC Good Practices for Environmental Impact Assessment of Development Projects box was issued in 1992 (OECD, 1992) to ensure that development projects kept negative environmental or social impacts to a minimum. Eventually, however, it became clear that assessing environmental impacts at the project level was not sufficient and that similar assessments also needed to be carried out for policies, plans and programmes at regional and national levels.

This led to the development of the DAC guidance on strategic environmental assessment (OECD, 2006), a tool that has now been taken up by an increasing number of developing and developed countries. SEA is a tool to assess the environmental, and often social, implications of development policies, plans and programmes (OECD, 2012b). The process of conducting an SEA can highlight trade-offs between environment/biodiversity and development objectives but can also facilitate dialogue and consensus-building around those trade-offs.

Many countries have passed laws requiring EIAs and/or SEAs for new developments (Box 21). Likewise many donors have incorporated SEA requirements into their development assistance procedures and/or into specific Country Assistance Strategies/Plans (Box 22). The CBD has also produced guidance to specifically incorporate biodiversity in to SEA processes (CBD, 2006). In addition, the Akwé: Kon Voluntary Guidelines were prepared to ensure that projects and programmes

with a potential impact on indigenous and local communities undergo an appropriate impact assessment process.

Ecosystem services framework

This approach uses the Millennium Assessment's ecosystem services framework to help policymakers identify how their decisions depend on, and impact biodiversity, and to understand, analyse and maximize both biodiversity and human-wellbeing benefits in their decisions. The Ecosystem Services approach is designed to be incorporated into existing decision-making processes and to be used by decision makers at all levels of governance and in different sectors. The DAC has produced an advisory note on ecosystem services to supplement its Good Practice Guidance on strategic environmental assessment (SEA) (OECD, 2012b) The World Resources Institute has also produced publications on the ecosystem services approach including *"Ecosystem Services: A Guide for Decision Makers"* (WRI, 2008) , and *"Guidelines for Identifying Business Risks and Opportunities Arising from Ecosystem Change"* (WRI, 2012). The Natural Value Initiative (NVI) has developed an Ecosystem Services Benchmark tool to enable institutional investors to better understand the risks and opportunities associated with the impacts and dependencies of the companies in which they invest in relation to biodiversity and ecosystem services (Grigg *et al.*, 2009).

As a follow-up to the Millennium Ecosystem Assessment (MA 2005) UNEP and the PEI have supported integrated ecosystem and human well-being assessments in Guatemala and Thailand (2010-2012). Both applied the methodology outlined in the manual for practitioners

'Ecosystems and Human Well-Being' (Ash, 2010) with particular emphasis on local stakeholder participation and linkages with sub-national and national develop planning offices. While the results to date have been patchy, in Thailand *"the programme has had an impact at increasing local communities' awareness of, and capacity to advocate on pro-poor natural resource and environmental planning issues at the local level within pilot Tambons"* (UNDP-UNEP PEI, 2012). For instance, the pilot assessment in Samut Songkram Province has led to integrated assessment findings and recommendations being included in the next provincial development strategy (2014-2018).

Box 21: SEA as part of the poverty reduction strategy implementation process in Benin

Benin's second Poverty Reduction Strategy (Stratégie de Croissance pour la Réduction de la Pauvreté - SCRP) places the environment among five thematic pillars that it is hoped will enable Benin's transformation into an emerging economy by the year 2011. A particularly important aspect of this SCRP, from a biodiversity perspective, is the decision to use Strategic Environmental Assessment (SEA) to integrate environmental considerations into all relevant plans, programmes and projects emanating from the SCRP. The 'greening' of Benin's SCRP took place in two phases. The first consisted of the creation of nine thematic working groups covering all major areas of action under the SCRP in order to ensure the participation of relevant stakeholders. One of these groups was on the environment and it had the responsibility of reviewing the thematic reports prepared by each of the other eight groups to ensure that environmental concerns were adequately integrated into each. The result of this phase was the identification and prioritization of the environmental issues and challenges at hand.

The second phase consisted of: an analysis of the coherence of the environmental priorities with the National Development Plan and with existing environmental policies such as the National Environmental Management Program (PNGE); the elaboration of various development scenarios with an environmental analysis done for each; the integration of environmental action points into each of the thematic pillars of the SCRP; and the development of environmental monitoring indicators.

Among the preliminary results of 'greening' Benin's SCRP are:
- A diagnosis of the environmental situation of Benin
- The identification of environmental priorities of the SCRP
- An increase in the environmental credibility of the SCRP
- Greater coherence between existing environmental policy and the SCRP
- Integration of environmental measures into the five strategic pillars of the SCRP
- A notable increase in the provisional budget for environmental protection from 2.5 in 2007 to 9.1 million CFA Francs in 2009.

Source: UNDP-UNEP PEI (2011)

Box 22: SEA in Swedish development cooperation's country strategy for Vietnam

In 2002 the Swedish international development agency (SIDA) needed to prepare a new strategy for its engagement in Viet Nam (for the period 2004-08). The Vietnamese Comprehensive Poverty Reduction and Growth Strategy served as a starting point and strategic priorities were identified through analytical work and dialogue with the Vietnamese government and other stakeholders. In line with Sida's policy, an SEA was carried out to ensure the integration of environment into the Country Strategy. The SEA process also helped stakeholders to gain a deeper understanding of how the environment is intrinsically linked to other critical development issues.

Source: OECD (2006b).

Box 23: Valuation of pollination services rendered to agricultural landscapes

The pollination service supplied to agriculture by wild bees is a locally important ecosystem service. Based on ecological experiments in Costa Rica, Ricketts et al. (2004) estimated the value of this service at around US$ 395 per hectare of forest per year, or 7% of farm income. This value is of the same order of magnitude as those of cattle and sugar cane production, the major competing land uses in the area – without taking into account the other important services provided by forests such as carbon sequestration.

Source: TEEB for National and International Policymakers (2009)

Economic tools

- **Valuation**

Over the last decade a range of economic and (non-economic) valuation methods has been developed or refined to quantify the value of biodiversity. The increasing reliability of economic valuation tools in particular has led governments and other stakeholders to apply them more frequently and to give increasing weight in decision-making to the estimates derived from using these tools. Valuation tools can be particularly useful in: making the case for biodiversity mainstreaming, One of the most recent and widely known initiatives to value biodiversity is the initiative on The Economics of Ecosystems and Biodiversity (TEEB)[4] which has produced a wide range of products aimed at different stakeholder groups including local and national government, policy makers and business (Box 23).

The choice of valuation tools depends on which biodiversity values are thought to be most relevant in a particular context and which need to be emphasised in order to make a case for biodiversity to different stakeholders. Different valuation tools may be combined or used in parallel to assess different biodiversity values, and the use of non-economic valuation tools can be helpful, particularly when certain biodiversity values are difficult to measure accurately using economic tools. Economic valuation, does appear however to have been particularly important in winning the attention of politicians and of policy makers in 'mainstream' government departments such as finance and planning (Box 24).

[4] http://www.teebweb.org

▪ **Public environmental expenditure reviews**

A Public Environmental Expenditure Review (PEER) examines government resource allocations within and among sectors, and/or at national and subnational levels of government, and assesses whether these allocations match environmental policy priorities. PEERs establish a baseline against which expenditure can be assessed over time through repeated expenditure reviews, and contribute to make the case of the benefits and added value of expenditure in the environment sector. As such they can be used to assess the degree to which biodiversity objectives have been mainstreamed into national development plans and policies, can highlight mismatches between stated priorities and spending levels, and sometimes lead to increases in environmental budgets. In Madagascar, for example, a PEER highlighted both a financing gap for the protected area system and the system's 50% dependence on aid. It also revealed how the protected area system could become a net source of government revenue through ecotourism fees

(Markandya *et al.*, 2006). PEERs usually involve the following 10 steps (IIED, 2008):

1. Scope the purpose of the PEER

2. Survey the data available

3. Compile an environmental expenditure review database

4. Understand where environmental expenditures are made

5. Understand where the sources of environmental funds are coming from

6. Assess the distribution of sources and expenditure

7. Compare actual expenditures against declared policy priorities, or against stakeholder preferences

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Box 24: Economic valuation generates high level political support for wetland restoration in Rwanda

Economic valuation of the Rugezi wetland in Rwanda was instrumental in changing policy-makers attitudes to the environment. One of the significant findings of the study was that there had been a 167% rise in the per capita cost of electricity due to reduced water levels in the lakes and the hydropower reservoirs downstream from the Rugezi wetland. The degradation of the Rugezi wetland had significantly reduced the water flows, and thus electricity production was severely affected. The economic analysis pointed to the fact that Rwanda was spending $65 000 every day to cover the cost of diesel generators to meet the demand for electricity.

This evidence attracted attention from the highest political level, resulting in a political commitment to restore the Rugezi wetland. A large scale programme was put in place to resettle farmers and introduce more sustainable farming techniques and other income generating activities. Within four years of the valuation study the wetland had been restored and water levels were back to original levels.

Source: UNDP-UNEP PEI (2010)

8. Probe relevance, efficiency and effectiveness issues

9. Suggest ways to better meet priorities

10. Policy-level discussion and decisions

Participants at the 2009 CBD expert meeting on development assistance suggested that public expenditure reviews were a good place to factor in biodiversity and related ecosystem expenditures.

Drawing from the PEER process, UNDP-UNEP PEI, UNDP and the Overseas Development Institute (ODI) have piloted Climate Public Expenditure and Institutional Reviews (CPEIRs) which focus on investigating climate adaptation and mitigation related expenditure across budgets – between recurrent and capital development spending, institutional frameworks related to climate financing including between central and sub-national levels, and the results from climate related expenditure against pro-poor and environmental sustainability development objectives (UNDP & ODI 2012).

The CPEIR in Bangladesh revealed that the vast majority of climate funding is embedded within multi-dimensional programmes across numerous government departments. Taken together, Bangladesh currently spends US$1 billion a year, equivalent to 6 – 7% of its annual budget, on climate change adaptation. This represents nearly a fifth of World Bank's recent estimation for expenditure needs by 2050 a year already, three-quarters of which comes directly from the government. The Ministry of Finance is developing a sophisticated climate change accounting system ('Climate Change Fiscal Framework')

that goes beyond physical capital investment to cover social protection as a result of climate change. Lastly, the government has introduced a climate budget code, with indicators, in the 2013 budget so that it can track spending on a more continuous basis across all government departments and draw a much clearer picture of how local authorities are grappling with the practical dimensions of protecting communities and livelihoods (UNDP-UNEP PEI, 2013).

Building on from this work, UNDP GEF is exploring how the PEER tool can inform the development of a methodology for reviewing expenditures and identifying cost of financing under the CBD between public sector funds and external donor/private funds.

7. Next steps for biodiversity-development mainstreaming

Many challenges remain for poverty and biodiversity mainstreaming. The first challenge is the continuing low profile of the biodiversity issues that concern poor groups and poor countries. However, there is now a variety of topical and often high-profile initiatives which themselves will depend upon a proper internalisation of biodiversity-poverty issues for their success. These could act as better entry points and drivers for poverty and biodiversity issues in mainstream politics and economics than any special biodiversity-poverty initiative. Prominent are:

- *"Green economy" initiatives* such as the new UN partnership for Action on a Green Economy (PAGE) which will work in at least 30 countries, the Global Green Growth Institute, and the Green Economy Coalition. Developing countries are beginning to assert that most international green economy initiatives have overemphasised greenhouse gas abatement as opposed to biodiversity, and activities by large corporations as opposed to poor groups and SMMEs. The time is right to influence these initiatives.

- **Initiatives to change the way that development and economic activity is accounted for.** These are also gaining in prominence and are open to effective ways of incorporating biodiversity-poverty indicators. The World Bank's Wealth Accounting and Valuation of Ecosystem Services (WAVES) is both at the cutting edge of practice, and aims to help developing countries. The 50-50 Campaign aims to get 50 countries and 50 companies to account for natural capital. The fact that the United Nations has adopted a new UN System of Environmental-Economic

Accounting (UN-SEEA) for countries to follow is also a good mainstream opportunity to explore how to account for biodiversity's role in development.

- **Business initiatives on inclusion and biodiversity.** Rio+20 clarified how leading businesses cannot always wait for government, but wish to take the initiative in working with 'the bottom billion' as producers and consumers. They also wish to develop supply chains across which sustainability and inclusion are driving values. In circumstances where business is calling the shots, initiatives such as the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) are important targets for poverty and biodiversity mainstreaming. In 2013, the World Economic Forum's conference called for an unprecedented $14 trillion investment to ensure long term sustainable growth; defining the standards for pro-biodiversity, pro-poor 'quality investment' might be a useful entry point.

- **The post-2015 and Sustainable Development Goals (SDGs) agendas.** Just as the Millennium Development Goals offered a small entry point for biodiversity among a set of global goals for poverty elimination (within MDG7), the post-2015 successor to the MDGs will offer a good opportunity to address whether the inclusion of biodiversity at target level within MDG7 was adequate in theory and in impact. Moreover, the prospect of universal SDGs – another process applying to all countries rich and poor– offers a further opportunity to shape a set of goals that are fully informed of biodiversity's global and local public good characteristics. The country consultation

processes for these two UN processes, and their respective working groups, at present face the risk that biodiversity will compete poorly for attention with a host of other issues. For example, in December 2012 a record of UN member state responses concerning priority areas identifies biodiversity as only the 17th priority – with food security and agriculture, water and sanitation, energy, education and poverty alleviation being the top five (UN, 2012). For future SDGs not to conflict with efforts made to maintain biodiversity, it will be important that the linkages between these issues and biodiversity are further emphasised and taken into account. Vehicles such as the Poverty Environment Partnership offer potentials to make the case.

The second challenge is that, while minor intellectual battles on biodiversity-poverty links might have been won in some isolated fields, the long-standing war for implementation to bring about real change on the ground for biodiversity and poverty alleviation is far from over. To date, progress in biodiversity mainstreaming tends to be confined to upstream outcomes in many developing countries: biodiversity is included in some development policy documents, and conversely poverty alleviation is recognised in biodiversity policy and plans. However downstream progress on the ground is thin, as development continues to drive further degradation of ecosystems and loss of biodiversity – and conversely poor people are not benefiting adequately from the services they provide in biodiversity protection. Opportunities for producing downstream outcomes are likely to come from new collaborations between governments, the private sector and civil society:

- **REDD+ is one such opportunity.** Attention to both biodiversity and poverty reduction aspects of schemes that tend otherwise to aimed at carbon and international financial transfers would likely improve their viability.

- **Landscape management for food production alongside ecosystem service provision** is another kind of field-level operational opportunity. An example is Grow Africa, a partnership platform that supports the Comprehensive African Agricultural Development Programme (CAADP), which seeks to accelerate investments in African agriculture through the development of agricultural growth corridors, one of the front-running projects being the Southern Agricultural Growth Corridor of Tanzania (SAGCOT).

As we have noted elsewhere in this review, biodiversity mainstreaming is unlikely to be a one-off affair. It will need to progressively overcome a set of barriers in values, attitudes, knowledge, policy, procedures and behaviour. And it will need to respond to changing conditions, events and opportunities. Thus neither is it achieved overnight or by one initiative. It is perhaps best seen as active engagement in the political economy of environment and development, rather than a technical task.

Although there will always be a need for some kind of mainstreaming effort to deal with changing conditions and needs, a basis of international and national consensus can overcome most of the enduring barriers we face, and indeed is now critical. This is why the project partners to NBSAPs 2.0 believe a major push on

biodiversity mainstreaming now will offer real rewards in the future. The kinds of international interactions suggested in these conclusions, and a properly mainstreamed and coherent NBSAP and national development plan, will be timely investments.

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Please send us your feedback!

A revised version of this review is due to be published in late 2014 and we would very much appreciate your feedback on this discussion paper. Please send feedback and details of any additional resources you would like to see included to:

Dilys Roe, IIED   **dilys.roe@iied.org**

Abisha Mapendembe, UNEP-WCMC   **abisha.mapendembe@unep-wcmc.org**

NBSAPs 2.0 Outputs

The first output of the NBSAPs 2.0 project was a *Biodiversity Mainstreaming Diagnostic Tool* which was launched at the 11th Conference of Parties to the CBD (COP11) and is available via the website **http://povertyandconservation.info/en/ pages/pclg-nbsaps.** Following the publication of this *State of Knowledge Review* the project will also produce a set of *Biodiversity and Development Mainstreaming Guidelines.* In each case, the project has and will release products in draft form through the project partners and the Poverty and Conservation Learning Group in order to get feedback from a wide audience of potential users. The products are also being road-tested through the countries participating in the project.

The *NBSAPs 2.0: Mainstreaming Biodiversity and Development* project is coordinated by IIED and UNEP-WCMC and funded by the UK Darwin Initiative and UKaid. The project is intended to support the revision of National Biodiversity Strategies and Action Plans (NBSAPs) as called for at the 10th Conference of the Parties to the Convention on Biological Diversity in 2010.

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Project implementers

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Project partners

Convention on Biological Diversity

UNEP   UNDP
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