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INNOVATIVE FINANCIAL
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Bonn, 27-29 January 2010

ISSUE DOCUMENT

The issue document provides a short summary of issues and a series of questions to guide the discussion for the CBD expert workshop Bonn, 27-29 January 2010. This workshop is in response to decision CBD COP IX/11 goal 4, to explore innovative financial mechanisms.

CBD Strategy for Resource Mobilization

Goal 4: Explore new and innovative financial mechanisms at all levels with a view to increasing funding to support the three objectives of the Convention

4.1. To promote, where applicable, schemes for payment for ecosystem services, consistent and in harmony with the Convention and other relevant international obligations.

4.2. To consider biodiversity offset mechanisms where relevant and appropriate while ensuring that they are not used to undermine unique components of biodiversity.

4.3. To explore opportunities presented by environmental fiscal reforms including innovative taxation models and fiscal incentives for achieving the three objectives of the Convention.

4.4. To explore opportunities presented by promising innovative financial mechanisms such as markets for green products, business-biodiversity partnerships and new forms of charity.

4.5. To integrate biological diversity and its associated ecosystem services in the development of new and innovative sources of international development finance, taking into account conservation costs.

4.6 To encourage the Parties to United Nations Framework Convention on Climate Change and its Kyoto Protocol to take into account biodiversity when developing any funding mechanisms for climate change.

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Introduction

1. We are in a decisive year for global biodiversity and for our life on earth. It is getting obvious that the 2010 target will be clearly missed and we continue to face a dramatic decline of our life's foundation. With the continued annual loss of 13 Million Hectares of Forests, 80% of the global fish stocks overfished or fished to its biological limits and the future dramatic effects of climate change on biodiversity (only to mention some examples) human society is driving towards an ecological crisis. The understanding is growing that this ecological crisis will inevitably drive us to a global economic crisis. We are depleting our natural capital and acting against all logics of a sustained economy. It is high time for a clear turnaround; business as usual is not an option. The Convention on Biological Diversity (CBD) is intensively working on an ambitious strategy for the time after 2010. At COP 10 in Nagoya parties will have to take ambitious decisions to commence an ecological and economic recovery.

2. One of the most crucial impediments for enhanced action for the conservation and sustainable use of biodiversity is the lack of sufficient financial resources on a national and on a global scale. This has been acknowledged at many conferences and meetings on UN level in the past years. Without a considerable increase in global funding the needed turnaround will not be achievable. It is evident that the needed increase will only be possible in a joint mobilization of various resources, from national to international and from public and private sources. This mobilization should be guided by the principle of common but differentiated responsibilities, the "polluter pays" principle and on the basis of equity.

3. At CBD COP 9 in Bonn parties adopted a strategy for resource mobilization with the aim of improving the availability of financial resources at all levels (CBD COP IX/11). A core element of this strategy is the consideration and possible implementation of innovative financing mechanisms with the potential of mobilizing a substantial scale of resources (Goal 4). COP 9 requested the Executive Secretary to prepare - with the input of international expertise - a document with policy options on innovative mechanisms and to forward this document to the Ad Hoc Working Group on Review of Implementation (WGRI). Based on this information WGRI should identify a series of options and policy recommendations for consideration by CBD COP 10. The strategy for resource mobilization identifies six areas for potential innovative mechanisms at all levels (national and international):

- payment for ecosystem services
- biodiversity offset mechanisms
- environmental fiscal reforms and taxation models
- markets for green products, business-biodiversity partnerships, new forms of charity
- new and innovative sources of international development finance
- synergies with funding mechanisms for climate change

Purpose

4. The purpose of the workshop is to bring together experts from all regions of the world in order to support the Executive Secretary in proposing policy options for innovative mechanism for the consideration of parties at WGRI/COP 10.

5. Yet innovation is a vague term and often is used in an evasive manner. Many mechanisms have been proposed and discarded; others have been under international discussion since many years but never have been taken up by policy makers. Some proposals face institutional or regulatory impediments other lack the needed political will.

6. The workshop offers the immense chance to analyse the various mechanism which are under discussion (or even to propose new ones) and to come up with a set of mechanisms that might have the potential to be taken up by parties and to be implemented.

7. The following document gives a short overview on the areas described in goal 4 of the strategy for resource mobilization and highlights some potential innovative mechanisms. It is not meant to be exhaustive. Other mechanisms might exist which deserve consideration.

8. Participants to the workshop are encouraged to carefully read the document before the workshop with the following questions in mind:

- Which of the described mechanisms have the potential to be taken up by the parties to the CBD and to be implemented in future?
- Are there mechanisms missing which deserve consideration by the workshop?
- Which of the mechanisms would have the potential to mobilize considerable resources in particular on international/global level?
- If a mechanism is having the potential for political uptake, what would be needed to achieve real implementation?

9. The expected outcome of the workshop should be a focused list of concrete mechanisms which the experts believe worthwhile to be discussed by the parties to the CBD and which are having potential for implementation in the future.

1. Payment Schemes for Ecosystem Services

10. Payments for ecosystem services are understood as a voluntary arrangement in which one or more agents (“providers”) of an ecosystem service will receive agreed compensation from one or more beneficiaries (“buyers”) of ecosystem services, on the condition of sustaining the provision of the ecosystem services. Such payments can be an important source of financing biodiversity and ecosystem services. But it can be more complicated than an ordinary business transaction due to several factors:

(i) Sustaining ecosystem services often involves a multiplicity of agents/providers. To define these agents/providers and ensure fair and equitable sharing of resultant monetary and other benefits among them can be a daunting task.

(ii) Defining beneficiaries/payers of ecosystem services can also be difficult. Beneficiaries can have the tendency of being free-riders, considering that they may not have to pay for such services in the past, and fair sharing of burden among beneficiaries is also an issue.

(iii) Sound methodologies for determining the level of payment have been applied in many but not all cases. Those could be further developed and/or fine-tuned.

(iv) Monitoring and enforcement of contractual obligations is often difficult.

Status of application and replication

11. Examples of payment for ecosystem services around the world can be characterized by different types of payment, different types or even bundling of ecosystem services, different categories of public or private payers, and different sizes. Payment programmes range from highly competitive exchanges to public-sector programmes with strong equity objectives.

12. Payment for water-related ecosystem services mainly occurs at the regional/sub-regional level. Many classic examples of arranging payment for water-related ecosystem services, mainly for water purification and waste treatment, are available.

13. Because forests provide a range of environmental services such as carbon sequestration, hydrological services, provision of scenic beauty and biodiversity conservation payments for forest-related ecosystem services has been popular.

14. There are also payment for agriculture-related ecosystem services and for other ecosystem services, such as those derived from pollination, and regulation of disease, pest and natural hazard. Agri-environmental payments to compensate farmers for forgoing more intensive and more profitable farming practices are mostly found in Europe and North America.

Key issues

15. Current practice of payment for ecosystem services arrangement involves four main steps: identifying what should be paid for, who should be paid, how much should be paid and what payment mechanism(s) should be used. Solid scientific understanding of the biophysical relationships between human actions and their environmental consequences, as well as the socio-economic motives and constraints facing agents and beneficiaries of environmental services, has played an important role in initiating these payment schemes. Wider application of payments for ecosystem services would be facilitated by agreed methodologies for such identification under the four steps.

16. Payment for ecosystem services may be applied to promote conservation on both private lands and public lands. The clarity of land tenure has been a precondition for instituting payment for ecosystem services. However, where land rights are not clear the introduction of PES schemes can have strong negative impacts on rural livelihoods. This also applies to settings where governance structures are inappropriate.

17. In many examples, payment for ecosystem services has been brokered by intermediaries such as major international organizations, or non-governmental organizations. This brokerage role is particularly relevant when remote external beneficiaries become involved. It is also a delicate task to seek that implementing processes are in tune with local contexts.

18. Economic valuation of biodiversity and associated ecosystem services provides the useful starting point for initiating payment for ecosystem services programmes, but ‘the right price’ for a payment deal is set in the range from estimated maintenance costs to expected opportunity costs of ecosystem agents. The actual deal is determined through negotiations between ecosystem beneficiaries and agents, sometimes even determined by ecosystem beneficiaries and rewards may vary from direct payments to in-kind compensation, and may be made at individual and community levels.

19. Transaction costs may be high. They include the cost of attracting potential buyers or finding potential providers of ecosystem services, of working with project partners (e.g. negotiations with project participants and capacity-building) and of ensuring that parties fulfil their obligations (e.g. contract development and enforcement, legal and insurance costs, and monitoring of ecosystem services).

20. Conservation effectiveness of payment for ecosystem services can be adversely affected by many factors, such as: non-compliance with contractual conditions; poor selection of ecosystem agents; spatial pressure spill-overs; and adverse self-selection in which less contributing agents elect to participate more.

21. Payments for ecosystem services are not primarily a poverty reduction tool, but the poor are likely to be affected and implications for them must be considered. Payments can increase the incomes of the poor who help sustain biodiversity and associated ecosystem services. Equity should be a main issue to address in designing payment for ecosystem services.

22. Effective monitoring, evaluation and enforcement are critical to ensure delivery of the intended services and their measurement. Payments must be clearly linked to service provision and may be withdrawn if agreed management practices associated with the services are not followed vigorously.

Policy options at the national level

23. The diverse interests and dispersed nature of the agents or providers of ecosystem services often have adverse implications for their negotiation power, transaction costs and credibility for fulfilling their contractual obligations. Options for institutional arrangements need to be explored that incorporate agents or providers into one operational legal entity at the ecosystem level. This concept of "collective contracting" has been introduced in Costa Rica and Mexico to facilitate the participation of poorer small farmers.

24. National legislation and political support is required to ensure clarification of (customary) land rights. This refers to rights and responsibilities to private and to collective landholders. It also requires clear rules for public territory and the services it provides. There can be strong equity implications if (unnoticed) change is made to the distribution of rights and responsibilities over biodiversity and associated ecosystem services.

25. Additional national organizations and services may be needed to support monitoring, verification and implementation of relevant rules. National organizations are critical in supporting certification schemes when international payment is involved.

26. Attention should be paid to those policies with adverse consequences on biodiversity and associated ecosystem services, in particular with regard to environmentally harmful subsidies. Without the prior or simultaneous removal or reform of harmful existing policies, payment for ecosystem services may add to incoherent and wasteful policy packages.

Policy options at the international level

27. There could be a global facility to enable international donors to achieve best values for money in payment for ecosystem services. Such a facility could establish an international register of potential ecosystem services so that international donors would be able to make best informed choices from all available ecosystem services.

28. There could also be an auction facility in which agents (providers) of ecosystem services would be able to market the values of ecosystem services. Interested donors could bid for those ecosystem services that are considered most valuable to them. The lifeweb is developing useful experiences.

29. Successful payment for ecosystem services needs to provide adequate assurance to both payers and agents of these ecosystem services. Independent organizations or companies may be accredited internationally to undertake monitoring and verification functions. Such monitoring and verification should have common standards and agreed methodologies and protocols.

30. Adequate international funding must be made available, to influence the design of payment for ecosystem services and transform the arrangement to support long-term biodiversity objectives. In the case that the available level of payment is not sufficient to cover start-up or operating costs at local or national levels, international funding will play a critical catalytic role in ensuring payment for ecosystem services.

31. Payment for ecosystem services has been explored and tested in many countries, and some international organizations have attempted to compile and synthesize these experiences. Standard prototypes and models can be developed to capture these experiences and knowledge.

32. Capacity building and awareness raising should be part of the international efforts to promote wider application of payment for ecosystem services.

33. The international mechanisms to trade or rather compensate CO2 emissions are an example of international payments for ecosystem services. The question arises whether other biodiversity related ecosystem services could profit from comparable international mechanisms.

2. Biodiversity Offset Mechanisms[1]

34. Biodiversity offsets are measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse biodiversity impacts arising from project development after appropriate prevention and mitigation measures have been taken. The goal of biodiversity offsets is to achieve no net loss. Conservation banking (including habitat banking and species banking) and the use of biodiversity credits are one means of implementing biodiversity offsets.

35. Biodiversity offsets offer a potential new and additional source of funding for biodiversity conservation and sustainable use activities. However, biodiversity offsets should be treated with great caution: they should not be misused to allow inappropriate projects to proceed, and are only appropriate in some circumstances, where the mitigation hierarchy has been followed and the residual impacts are capable of being offset.

36. Biodiversity offsets that follow a set of principles (from BBOP) should achieve the best outcomes. Successful biodiversity offsets are: designed and implemented to achieve no net loss or a net gain of biodiversity; will achieve additional conservation outcomes; adhere to the mitigation hierarchy; recognize limits to what can be offset; are planned in a landscape context; involve stakeholders effectively in design and implementation; are designed and implemented in an

[1] Initial version of this chapter was prepared by Kerry ten Kate

equitable manner; are planned to secure outcomes that last at least as long as the project's impacts and preferably in perpetuity; are undertaken and communicated transparently; and document the appropriate use of sound science and traditional knowledge.

37. Biodiversity is highly variable across regions and biomes, and many components of biodiversity are unique. Hence, any effort to move offsets beyond the local and bioregional level, needs to be governed by basic principles such as 'like for like or better', the goal of 'no net loss' and the necessity for equity and respect for the rights of indigenous peoples and local communities.

Status of application and replication

38. Over 30 countries or states have enacted laws or introduced policies that specifically require biodiversity offsets or compensatory conservation for particular sets of impacts. There is also a small but growing incidence of companies undertaking biodiversity offsets voluntarily.

39. The last 10-15 years have seen a growing interest in better metrics that endeavour to assess the nature, amount and quality of biodiversity lost as a result of the project and gained through the offset and to ensure properly quantified approaches to 'no net loss'.

40. The CBD has called for further exploring offsets. Business and Biodiversity Offsets Programme (BBOP), a group of stakeholders, which has been set up specifically to develop, share and encourage the use of best practice on biodiversity offsets and conservation banks, including principles, guidelines and methodologies, standards and case studies. In addition, BBOP completed a methodology toolkit in May 2009 which includes three core handbooks on offset design and implementation.

Key issues

41. Key issues that deserve discussion on biodiversity offsets include the following:

- **Mitigation hierarchy and thresholds:** How to establish the thresholds for which impacts on biodiversity are capable of being offset, and how far to pursue other steps in the mitigation hierarchy (avoid, minimise and restore) prior to offsetting the residual impact?
- **Policy:** What kind of policy framework is best suited to require or encourage developers to undertake biodiversity offsets? What policies and methodologies can be used to manage the risk of failure of biodiversity offsets, and how should this risk be shared between developers and other members of society?
- **'Metrics' or 'currencies':** How best to quantify loss and gain of biodiversity, as a basis to determine 'no net loss' or a 'net positive impact'? Workable metrics that can assess ecological function and process, and quantify loss and gain of biological communities, assemblages and ecosystems as well as species will be valuable. Metrics that take into consideration socioeconomic and cultural aspects of biodiversity are also important.
- **'Like for like' and 'trading up':** What are the 'exchange rules' that establish the basis for ensuring offsets apply the 'like for like or better' approach, and 'trading up', in which the offset conserves biodiversity that is of a different kind from that affected by the project, if it is a higher conservation priority?
- **Standard:** Development of an international standard on biodiversity offsets.
- **Multiple benefits:** Integrating biodiversity offsets with measures to manage impacts on carbon, water, particular ecosystem services and broader socioeconomic issues.

- **Capacity building:** Training representatives from government, companies, banks and civil society who will be involved in biodiversity offsets.

Policy options at the national level

42. A number of options exist for policy at the national level, including:

- **Incentives:** Introducing fiscal and other economic incentives to reward and encourage developers which undertake biodiversity offsets.
- **Regulation:** Introducing regulatory requirements for biodiversity offsets. These could be: (a) specific requirements for biodiversity offsets; or (b) enabling or facilitating measures, such as policies that encourage regulators to include biodiversity offsets on a case-by-case basis as part of environmental impact assessments and planning permissions.
- **Banking/credits:** Establishing a system of biodiversity credits or other measures to set up a market-based approach to implementing biodiversity offsets through conservation banking and trading. A market-based approach requires careful consideration of the different potential roles of government, including regulator, broker, provider and seller of credits, etc.
- **Financial institutions:** Encouraging national and development banks, as well as commercial banks headquartered in their countries, to make an appropriate use of biodiversity offsets, for instance as part of applying the mitigation hierarchy as espoused in Performance Standard 6 of the International Finance Corporation, as adopted by banks espousing the Equator Principles.

43. A first step for governments is often an analysis of existing policy (e.g. EIA, conservation law including protected area legislation, planning regulations, sectoral policies, fiscal policies, liability regimes, land tenure, indigenous peoples' rights) to explore the extent to which these serve to require, facilitate or even present a barrier to undertaking high quality biodiversity offsets.

Policy options at the international level

44. Similarly, there are a number of options for policy at the international level, including:

- **Regional:** Undertaking any of the options above at the regional level (e.g. EU Habitats and Liability Directives).
- **Exchange of experience:** As an increasing number of countries are starting work to develop biodiversity offset policy, it would be beneficial for them to be able to learn from the experience of others. A clearing house function to share this experience would be valuable.
- **Capacity building:** Currently, there is a lack of capacity on the part of government, business, finance and civil society to address these issues and work together to develop accepted policy. An international training programme (that might be run regionally) could be helpful.

3. Environmental Fiscal Reforms

45. Ecological fiscal reform refers to a range of taxation and pricing measures which can raise fiscal revenues while furthering environmental goals. The basic idea consists in setting incentives for resource use while providing financial resources for both ecologically and socially motivated goals. Increasing budgetary allocations can be critical in securing the national benefits of biodiversity and associated ecosystem services. The popular subjects under environmental fiscal reforms often are taxes on natural resource use, and use charges or fees. Pursued is in particular a "budget-neutral" environmental fiscal reform, i.e. increasing taxes on environmental resource use and reducing distortionary taxes, e.g., on labour and thereby reducing unemployment

(the 'double-dividend'). Reforming subsidies can also alleviate environmental harmful effects and/or free up public funds.

Status of application and replication

46. Environmentally related fiscal instruments have been increasingly used in developed countries, but to a lesser extent, in developing countries. Taxes on energy resources are by far the most important environmentally related taxes to date. Mineral oil taxes, resource taxes related to oil and coal extraction, etc.

47. Several ways have been used to tap commercial-scale forest products, for instance, stumpage taxes levied on timber harvested or on timber exported, taxes on corporate profits or income taxes, charges per hectare of concession, auctions of timber concessions combined with deposit-refunding systems, as well as state participation in the industry. Estimates suggest that Governments collect between 10 and 30 percent of the potential rents from forests in selected forest-rich countries.

48. Fisheries provide food, employment, export income and tax revenue. Between 1993 and 1999, Mauritania received 15 per cent of total government revenue from European Community fishing fleets, Sao Tome 13 per cent and Guinea Bissau 30 percent. From 1993 to 2003, the South Pacific countries received total payments of US$18 million a year – US$14 million from the US Government and US$4 million from the US Tuna Fishing Industry.

49. Biodiversity-related tax exemptions have been increasingly adopted around the world, such as income tax deductions, land tax exemptions, value added tax exemptions, custom duty exemption, tax exemptions on international cooperation, charitable organizations and foundations. In the Netherlands, savers and investors are exempt from a capital gains tax, if they invest in green projects or capital funds.

50. Government purchase can play a significant role in fostering sustainable markets. The total EU market for government supplies exceeds 1.500 billion euro or 16 percent of EU Gross National Product. Green Public Procurement encourages the purchasing of products and services by public authorities with strict environmental criteria.

51. Transfer of resources from national to state and further on to local governments is a major item in public finance, but intergovernmental fiscal transfers have rarely considered ecological indicators. If intergovernmental fiscal transfers consider biodiversity and ecosystem related indicators for allocating taxes to lower governmental levels, local public decision-makers will learn to take care of nature as part of taking care of their tax basis. Several states in Brazil introduced "conservation units", a protected area-based indicator, for the redistribution of value-added tax from state level to municipalities starting in 1992.

Key issues

52. Environmental fiscal reform typically involves five stages: agenda setting stage of defining problems, policy development stage of defining the options, policy advocacy stage of building support, decision-making and implementation stage, and monitoring and evaluation stage. It is vital that key issues are recognized and the interests of relevant stakeholders are considered at each stage of a reform process.

53. Public and political acceptance of environmental fiscal reforms is largely influenced by public and political awareness based on accurate information.

54. Environmental fiscal reforms may be introduced in a phased manner, considering that adaptation to these reforms can be a lengthy and difficult process. Some assistance or compensation for undesirable distributional impacts can be helpful in smoothing the transition period.

55. Monitoring and evaluation are necessary to ensure the appropriate implementation of environmental fiscal reform and assess the effectiveness and efficiency of the reform measures in meeting its stated objectives.

56. Taxes to capture the rent from the exploitation of natural resources (forests and fisheries, oil, coal and gas) have been a valuable source of revenues in many developing countries. Such a tax can make extraction less profitable, at least relative to pre-tax level, and thus may reduce the incentive to enter the industry.

57. Environmental fiscal reform must consider its impact on other development goals, including poverty reduction goals. Reform of subsidies can have a negative effect on the poor, and user charges may be spilled over the poor. Design of environmental fiscal reforms should consider how to avoid or minimize undesirable distributional impacts.

Policy options at the national level

58. Full national accounting for the benefits and costs of biodiversity and associated ecosystem services offers a useful tool to raise awareness and establish analytical basis for advancing environmental fiscal reform. The System of Standard National Accounts currently does not measure natural capital, but a UN System of Integrated Environmental and Economic Accounting has begun to cover land, water, environmental expenditures and social issues in monetary and physical terms.

59. The consideration of biodiversity and associated ecosystem services needs to be part of formal budgetary procedures at the national level. The biodiversity objectives can be best achieved through a full integration with national strategies and policies on poverty reduction, employment and exports. Medium-term expenditure frameworks are one of the tools that can be used to facilitate the consideration of biodiversity objectives.

60. Reforming intergovernmental fiscal transfer schemes by integrating relevant indicators of biodiversity and associated ecosystem services can be implemented in many countries with comparably little effort. Inclusion of protected area-related indicators involves low transaction cost due to the fact that area is already a widely used indicator for the distribution of intergovernmental fiscal transfers. Ecological fiscal transfers may come in the form of general purpose transfers, to be used in any way the recipient wishes, or in the form of ear-marked specific-purpose transfers. .

Policy options at the international level

61. Robust information on environmental fiscal reform is vital for challenging adverse perceptions and overcoming resistance from vested interests. International organizations and research institutions are often positioned to develop the evidence basis for such reform, and such research needs to continue to be supported financially. Information on the success or failure of environmental fiscal reform in specific contexts in other countries can help.

62. International financial and technical support can be important for enhancing the capacity of developing countries to undertake necessary analysis of any proposed reform, and identify win-win options, helping to finance the transition costs of such reform.

63. International policy commitments, for instance the recent pledge by the G-20 to phase out inefficient fossil fuel subsidies in the medium term, by 2020, would be useful to provide political momentum and added credibility, and could be replicated by commitments addressing subsidies harmful to biodiversity, and the environmental fiscal reform agenda more generally.

64. The potential for up-scaling green public procurement, based on lessons learned, can be enormous. But this needs to be supported, for instance, by the development of certified markets in other countries as well as other measures. Transparency, clarity and harmonization of basic approaches can all increase the attractiveness of green public procurement.

4. Markets for Green Products[2]

65. Markets mechanisms that reflect the values of biodiversity are well established for some goods and services and have been growing steadily over the last decade3. This trend reflects the increasing awareness of many consumers and producers that conventional production and consumption practices threaten the long-term viability of ecosystems and biodiversity. Market niches are available for "green" products and services that can reliably distinguish themselves from their competitors by demonstrating conservation credentials.

66. For most business sectors and companies, biodiversity conservation is still seen as a liability rather than a profit centre. The main drivers of private investment in biodiversity come from legal requirements, charitable impulses and informal pressure from shareholders, local communities and NGOs. The business case for such investment is more often expressed in terms of protecting firms' market share or minimising risk to reputation.

Status of application

67. Since the mid-1990s, several non-profit organisations have been established to assess the sustainability of selected commodities and services against emerging standards on green production. These programmes are increasingly formalised through independent certification and assurance mechanisms, with both NGOs and private firms competing to offer verification and audit services.

68. Between 2001 and 2005, global coverage of certified forests expanded by about 50 million hectares per year, mainly due to a rapid increase in certified forest area in North America. By 2009, 325.2 million hectares worldwide had been certified under various schemes (8.3% of total forest area)4.

69. Of all the fisheries market labels, the Marine Stewardship Council (www.msc.org) is by far the most widely recognised, with the largest geographic coverage. By 2009, over 2,300 MSC-labelled products were available in 42 countries, derived from annual catches of nearly 4 million

[2] Initial version of this chapter was prepared by Joshua Bishop

[3] For example, for forest products see: http://www.unece.org/timber/docs/fpama/2006/fpamr2006.pdf and for fisheries see: www.msc/org/aboutus/10

[4] UNECE/FAO 2009 Forest Products Annual Market Review: 2008-09, Geneva Timber and Forest Study, United Nations Economic Commission for Europe/Food and Agriculture Organisation, New York and Geneva.

tonnes5. The quantity and value of such products continues to grow. Their retail value was expected to reach US$ 1.4 billion in 2009.

70. Organic agriculture is by far the largest type of certified agriculture, generating 30.8 billion EUR in revenues in 2006. At the end of that year, nearly 31 million hectares of land were certified organic, constituting around 0.7% of all agricultural land6. By the end of 2007, a further 1.5 million hectares had been certified7. The vast majority of organic products are consumed in Europe or North America.

71. In the USA in 2006, private spending on wildlife-related recreational activities (e.g. hunting, fishing and observing wildlife) amounted to US$ 122 billion or just under 1% of GDP8. The key to growth of green tourism is maintenance of natural areas in good condition, which implies reinvestment of some tourism revenues in conserving such areas.

72. Cosmetics, personal care products and remedies based on natural ingredients form part of the expanding trade in biodiversity products, although no formal certification schemes are in place. A study by Organic Monitor puts the global market in natural cosmetics at US$ 7 billion in 2008.

Key issues

73. Despite impressive recent growth, the overall market share of certified products remains low. For example, MSC-certified seafood products still account for just 7% of the FAO's total recorded global capture fisheries production, while forest certification, in place since 1993, still only covers 8.3% of the world's production forests.

74. The expansion of certified biodiversity-friendly products and services is hampered by the cost and complexity of implementation, reflected in relatively low levels of certified production in most developing countries.

75. A more fundamental barrier to the expansion of voluntary green markets is limited consumer willingness to pay (WTP). A study focusing on eight EU Member States found a low level of awareness and WTP for certified products amongst end-users9.

76. Many certification systems do not make their relationship to biodiversity explicit. Organic farming labels, for example, have been reported to be generally beneficial but the certification does not set out to ensure biodiversity.

77. Certification systems are based on the assumption that adopting certain specified production and processing practices will have positive biodiversity benefits, regardless of a producer's location in the landscape/watershed.

78. New regulations can sometimes limit market opportunities for natural products. For example, a potential barrier to growth in natural cosmetics comes from tighter legislation in the

[5] http://www.msc.org/documents/msc-brochures/MSC-FisheriesCommitments-Aug09-WEB.pdf
[6] Willer, H.; Yussefi-Menzler, M. and Sorensen, N. (eds) (2008) The World of Organic Agriculture. Statistics and Emerging Trends 2008, IFOAM Bonn, Germany, FiBL, Frick, ITC, Geneva, Switzerland.
[7] Figures from the new World of Organic Agriculture: Statistics and Emerging Trends 2008. cited on their website: http://www.ifoam.org/press/press/2008/Global_Organic_Agriculture_Continued_Growth.php
[8] US Fish & Wildlife Service. (2007) 2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation: National Overview, URL: http://wsfrprograms.fws.gov/Subpages/NationalSurvey/nat_survey2006_final.pdf, last accessed on 10 November 2009
[9] Forest Industries Intelligence Limited, 2009, cited in UNECE/FAO 2009 (*op cit).*

US and the EU (REACH) on the safety of chemicals in cosmetics as well as the EU novel food regulation.

Policy options at the national level

79. Include broader landscape considerations in certification processes to ensure that business works to improve overall regional biodiversity.

80. Create more "supply push" and "market pull" for green products and services through increased consumer awareness and supply-chain management by large buyers (including through "green public procurement" policies). This could be done through e.g. networks setting targets[10] or the creation of eco-investment funds to support companies that are certified and/or have shown innovative ways of creating sustainable business models.

81. Invest directly or indirectly in companies that market green products, particularly from High Conservation Value areas. This could include technical assistance to help develop more profitable businesses and ensure sustainable management practices and access to markets.

82. Make better use of traditional knowledge of plant (and animal) species to develop new products that could reduce the costs of complying with chemical safety legislation and make global markets work better for the poor by helping to provide non-timber forest products and other products suitable for BioTrade.

Policy options at the international level

83. Review and strengthen the biodiversity element of existing and new voluntary certification systems to ensure they monitor biodiversity use and impacts systematically and consistently. Implementation methods currently in place require streamlining as customers (and sometimes user industries) are often unclear what a particular label means.

84. Support the adoption of voluntary certification standards in developing countries, particularly in regions where they are currently non-existent or embryonic and help small-to-medium sized businesses for whom the initial investment of certification is prohibitive.

85. Explore options in bilateral and multilateral trade agreements to develop standards for preferential treatment of products based on more sustainable production and processing methods (PPMs), supported by third-party certification.

5. Biodiversity in new sources of international development finance

86. The exploration for new and innovative sources of international development finance gained momentum after Governments committed to increasing international assistance under the Monterrey Consensus.

87. The common feature of current proposals on new and innovative sources of international development finance is that, if implemented, they have the potential of generating billions of dollars annually, which are perceived to be additional to the currently available contributions. It is not clear whether national governments and other donors would reduce their contributions as a

[10] e.g. through the Global Forest and Trade Network (GFTN), brokered by WWF, consuming and producing companies sign up to the network and report annually to the WWF on progress against individually agreed targets in return for use of its logo for PR purposes (*www.gftn.panda.org/about_gftn/)*

result of increased availability of international development finance from new and innovative sources.

Status of application

88. Several proposals on new and innovative sources of international development finances have been piloted and already yielded positive results, including International Airline Solidarity Contributions, International Financial Facility, Advance Market Commitment, and Debt2Health. These mechanisms have raised about $2.5 billion in additional funding since 2006. All the proceeds from these new and innovative sources have been channelled into health-related initiatives – but they offer entry points for biodiversity.

89. The international airline solidarity contributions are estimated to generate 220 million euros annually worldwide and have enabled France to generate an extra 160 million euros in conventional aid so far. The concept has gained increasing popularity in Latin America and Africa. The International Finance Facility for Immunization, based on the International Financial Facility proposal, has been developed on the basis of the donor pledges of close to 4 billion euros over 20 years to fund immunization programmes in developing countries.

90. Other attractive concepts remain in the different stages of exploration. Currency transaction tax is estimated to generate revenues in the range of $24-$300 billion per year. Carbon taxes have the potential to raise revenue up to $75 billion each year. An annual issue of special drawing rights, at an upper limit of 10 per cent of combined quotas, would yield SDR 20 billion and, with developed countries donating their share, would yield about $25-$30 billion additional development finance. The concept of innovations now extends to such diverse forms as remittances, global lottery and global premium bond, thematic global trust funds, public guarantees and insurance mechanisms, cooperative international fiscal mechanisms, equity investments, growth-indexed bonds, counter-cyclical loans, distribution systems for global environmental services, microfinance and mesofinance, and so on.

Key issues for biodiversity and associated ecosystem services

91. Proposals demonstrate the tendency of establishing a separate stream of revenues for global purposes, which are mostly targeted at the global common goods, but the collection and distribution of global revenues are still in the stage of early design. There is no overall framework and principles to guide the design and implementation of these new and innovative sources of international development finance.

92. Biodiversity objectives have not benefited from this emerging trend in new and innovative sources of international development finance, nor have contributed to their development. The ideas behind the innovations in international development finance, however, provide useful leads in exploring new and innovative sources of international development finance for biodiversity objectives.

93. All the new and innovative schemes share the same feature of providing a new stream of global revenues to support global biodiversity objectives and sustainable development. This feature brings challenges to the existing global institutions.

94. The concept of International Finance Facility can be easily applied for global biodiversity objectives, if developed countries Parties can make longer term pledges to fulfill their obligations under Article 20 of the Convention. Similar to the International Finance Facility for Immunization, the International Finance Facility for Biodiversity will issue bonds in the

international financial market, based on legally binding 10-to-20-year donor commitments. The bonds are issued regularly on the basis of the scheme drawn up when the pledges are signed and bought on financial markets. The flows of funds are predictable and stable and can be used directly for biodiversity objectives.

95. Advance Market Commitment can be instrumental in nurturing sustainable production patterns in biodiversity-sensitive ecosystems. Under the Advance Market Commitment, government donors commit money, through contractual partnerships with green corporations, to guarantee the price of green products once they have been developed, thus creating a viable future market. Advance Market Commitment can also be explored for promoting the use of traditional knowledge of indigenous peoples and local communities.

96. The basic idea behind the Debt2Health swap is not new to the biodiversity community, but can still be innovative under various international initiatives on debt cancellation and relief. In total, debt for nature swaps helped to generate over US$ 1 billion for biodiversity objectives in the past two decades. A global inventory of the existing experience would help to prepare the biodiversity community to offer a sustainable solution to global debt problems.

97. International airline solidarity contributions can be implemented straightforwardly for biodiversity objectives, but this attractiveness of ease may be undermined by competing demands from other development goals.

Options at the international level

98. Institutional arrangements and organisational support are required at international level to advance the inclusion of biodiversity in new sources of development finance. There is a range of potential tasks for such a body to take care of, for instance:

(i) Facilitating advance market commitment partnerships;
(iii) Promoting and assisting with debt-for-nature swaps;
(iv) Administering an international tax/assessment/contribution on open sea fisheries;
(v) Managing an international offsetting scheme for sustainable development beyond national jurisdiction;
(vi) Developing an international green remittance initiative for global biodiversity objectives; and
(vii) Conducting further analytic studies on new and innovative sources of international development finances.

6. Biodiversity in Funding Mechanisms for Climate Change[11]

99. Carbon storage and sequestration is one of the ecosystem services provided by biodiversity (such as forests) and there are several opportunities where synergies can be harnessed to maximise ecosystem service co-benefits, as well as to bundle or layer financing for biodiversity into existing or new sources of finance for climate change mitigation and adaptation. If designed properly, this can help to achieve multiple ecosystem benefits at potentially low total economic cost.

[11] Initial version of this chapter was prepared by Katia Karousaki

100. Climate change and biodiversity are intricately linked whereby climate change will have significant impacts on biological diversity (e.g., shifting the distributional location of some ecosystems as well as altering their composition, including via impacts on invasive species) and thus also the value and services that ecosystems provide. Well-functioning biodiversity and associated ecosystems also have positive impacts on their ability to provide adaptive functions for climate change.

Status of application and replication

101. Multilateral initiatives providing funding for innovative approaches in this area and from which insights can be derived include the World Bank BioCarbon Fund and the Forest Carbon Partnership Facility (FCPF), and the UN-REDD programme. The new Sustainable Forest Management (SFM) strategy for GEF-5 also aims to achieve multiple global environmental benefits, such as the protection of habitats and other forest ecosystem services, mitigation of climate change and protection of international waters.

102. REDD (Reducing Emissions from Deforestation and Degradation) is a financing mechanism proposed under the UNFCCC. The 2007 Bali Action Plan recognises that actions to support REDD "can promote co-benefits and may contribute to achieving the aims and objectives of other relevant international conventions and agreements", e.g. CBD. Recently REDD-plus has been introduced which also includes the enhancement of carbon stocks, e.g. the reforestation of degraded land.

103. The Copenhagen Accord refers to scaled up, new and additional funding to enable and support enhanced action on mitigation, including substantial finance to REDD-plus[12], adaptation, capacity-building, technology development and transfer. The commitment is to provide resources approaching USD 30 billion for the period 2010-2012 (fast-track), and a goal of mobilizing jointly USD 100 billion dollars a year by 2020 to address the needs of developing countries.

104. The number of REDD demonstration (i.e., pilot) activities - intended as a means to obtain practical experience and generate lessons learned to feed into any post-2012 REDD mechanism - continue to grow, many of which are taking biodiversity considerations into account in the design and implementation phase. Examples include the Noel Kempff Climate Action Project, and REDD activities in the Ulu Masen Ecosystem in Aceh, Indonesia.

Key issues

105. Targeting multiple ecosystem services to achieve cost-effective outcomes, which in turn enable greater environmental benefits to be achieved, requires spatially explicit cost-benefit analysis. This involves (i) identifying areas with high ecosystem service benefits (e.g. carbon and biodiversity); (ii) identifying areas with high risk of ecosystem service loss; (iii) evaluating opportunity costs; and (iv) designing and implementing appropriate policies and incentives to capture and market the benefits in locations where benefits are the highest.

106. Identifying areas with high carbon and biodiversity benefits requires tools to assess their location and spatial correlation. The UNEP-WCMC has developed a carbon and biodiversity demonstration atlas, which includes regional and national maps for six tropical countries. The

[12] Reducing Emissions from Deforestation and Degradation in developing countries and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks

biodiversity benefits are based on 6 indicators for biodiversity. These types of spatial benefit maps could be enhanced with information on the economic values of biodiversity benefits.

107. CBD parties have agreed to establish representative networks of protected areas. Such networks are a key instrument for both climate mitigation and adaptation and should be integraed into REDD strategies. As a core step in the establishment of representative networks parties decided to undertake ecological gap analysis. The linking of such mapping with carbon and climate data could significantly increase multiple befeits and synergies.

108. REDD-Plus funds need to be directed in a more pro-poor fashion, as opportunities to support projects that pay communities for maintaining ecosystem services and diversifying livelihoods.

109. For the implementation of REDD-Plus and ecosystem-based adaptation in a manner that takes into account benefits for biodiversity, ecosystem services and poverty reduction appropriate governance structures are needed at international to local policy levels. This concerns in particular the avoidance of perverse incentives (e.g. avoid the replacement of natural forests with plantations), the equitable access of forest-dependent and indigenous people to forests (securing land tenure) and mechanisms for rewarding local communities for sustainable forest management through the equitable sharing of benefits from REDD and other financing mechanisms.

Policy options at the national level

110. Within the REDD-Plus context, developing countries can establish legislations and institutions that empower three-tiers of beneficiaries to receive compensation and ensure stringent MRV of projects. These three-tiers would be the national government, state government and local communities that would receive forest carbon payments. National Strategy and Action Plans for Forest Carbon (FC-NSAPs), set up adjunct to the Nationally Appropriate Mitigation Actions (NAMAs), would provide the co-benefits oriented guidelines for project developers to design REDD-Plus projects that deliver biodiversity and livelihood benefits in addition to carbon. These FC-NSAPs would also create a green portfolio of projects that recognize ‘Premium’ valued projects and provide incentives for the private sector to invest in them for the added layer of compensation.

111. In developed countries, national legislation that allows for a certain portion of offsets to be met by carbon projects would provide incentives for corporations to invest in REDD-Plus. The Waxman-Markey Bill of the United States that creates market based incentives for private sector investments in forest carbon could provide insights.

112. Each country can take action by investing in ecosystems as support for adaptation. In many cases, these approaches will be found to be more cost-effective than technological solutions using built infrastructure (TEEB Climate Issues Update 2009). There are several existing climate change funds under the UNFCCC process that focus on adaptation such as the Special Climate Change Fund (SCCF), the Least Developed Countries Fund (LDCF) and the Adaptation Fund (AF).

Policy options at the international level

113. The second Ad Hoc Technical Expert Group (AHTEG) on climate change and biodiversity, convened by the CBD, has contributed to a better understanding of the linkages between biodiversity and climate change mitigation and adaptation. At the international level, a technical expert group on Promoting REDD-plus Biodiversity Co-benefits could also be created

to establish best-practice guidelines and principles, including indicators for biodiversity. Such a group could in effect develop a "how-to" toolkit for developing countries that are implementing REDD activities at the national, regional and/or local level.

114. Standards and criteria that explicitly include biodiversity and ecosystem services in the implementation of climate change mitigation and adaptation activities should be geared to various policy levels and could engage the private sector more comprehensively. With regards to REDD-plus, several voluntary initiatives have already been established to capture premiums for 'green standard' REDD credits (i.e. REDD activities that provide additional biodiversity benefits) in the voluntary carbon market (e.g. the Climate, Community and Biodiversity Alliance (CCBA)).

115. Along these lines, the biodiversity community could work with climate change policy-makers to identify where REDD-plus climate change finance is flowing, and where biodiversity co-benefits are being delivered. Biodiversity finance could then be re-channelled and targeted to geographical areas with high biodiversity - low carbon benefits, thus maximising environmentally cost-effective outcomes. This re-emphasizes the need for greater MRV of biodiversity financing.

116. Little attention has been paid to possible synergies between biodiversity and climate change *adaptation* finance. Investments in ecological infrastructure, especially improvements in agricultural productivity, fresh - water supply, and natural hazard management should be included in projects that can be funded from a climate adaptation fund.

117. At the institutional level, there may be a need for stronger collaboration between the CBD and the UNFCCC to foster exchange of information and technical expertise. Though a Joint Liaison Group (JLG) between the secretariats of the UNFCCC, the UNCBD, as well as the UN Convention to Combat Desertification (UNCCB) does exist, greater co-operation at various levels is required.
