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INNOVATIVE FINANCIAL MECHANISMS: POTENTIALS IN THE ARAB REGION

Note by the Executive Secretary

1. Innovative financial mechanisms are supplementary and do not replace the financial mechanisms established under the provisions of Article 21 of the Convention. In the strategy for resource mobilization of the Convention, the Conference of the Parties decided to explore new and innovative financial mechanisms at all levels with a view to increasing funding to support the three objectives of the Convention, including:

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

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

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

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

- 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.

- 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.

2. This note provides basic background information on innovative financial mechanisms to assist with the consideration of their potentials to mobilize resources for the Arab region. Participants of the Workshop are invited to:

(i) Share their experiences, examples, and case studies in developing and applying innovative financial mechanisms;

(ii) Identify innovative financial mechanisms that have the highest potentials in generating financial resources for the Arab region;

(iii) Define practical action for the next ten years to explore innovative financial mechanisms, in particular with respect to private sector resources and investment.

A. Payment for ecosystem services

3. Payment for ecosystems services refers to transfer of resources from beneficiaries of ecosystem services to ensure that ecosystem use changes will not be made or will be made in their interest. One of the first, perhaps still largest, such local transactions was in New York where authorities opted to invest $1-1.5 billion in natural capital to restore the polluted Catskill Watershed for the ecosystem service of water purification in order to meet the national standards of quality of drinking water, which contrasted dramatically with the estimated $6-8 billion cost of constructing a water filtration plant plus the $300 million annual running costs. The largest national payment for ecosystem services is in China where the central government announced, in 2000, a $43 billion Grains for Green program, offering farmers grain in exchange for not clearing forested slopes for farming. The largest global payment for ecosystem services so far is the International Climate and Forests Initiative announced by Norway at the 2007 Bali Conference, which provided $500 million towards the creation and implementation of national-based, REDD activities in Tanzania.

Conceptualizing payment for ecosystem services

4. Ecosystem services are the benefits people obtain from ecosystems – dynamic complexes of plant, animal and micro-organism communities and their nonliving environment interacting as functional units. Some definitions of ecosystem services include ecosystem goods. The primary purpose of payment for ecosystem services is to enable ecosystem use changes to be made in a way that ecosystem services can be maintained or enhanced for their beneficiaries who make such payments. Payment for ecosystem services can be a preventive measure requiring that no ecosystem use changes should be made. In most cases, payment for ecosystem services is designed to encourage a particular path of ecosystem use changes.

5. Some options of ecosystem use changes can have more impacts on ecosystem services than others, depending on local circumstances. Indications of vicious ecosystem use changes can be characterized as follows:

- Changes in local land/water use and cover, often resulting in habitat change, loss and degradation
- Species introduction or removal, with particular concern over invasive alien species and introduced pathogens
- Technology adaptation and use, leading to overexploitation or over-harvest
- External inputs (e.g., fertilizer use, pest control, and irrigation)
- Climate change

6. Payment for ecosystem services seeks to avoid these vicious ecosystem use changes and minimize their impacts on biodiversity and ecosystem services. But effective payment for ecosystem services must address demographic, economic, sociopolitical, technological and even cultural and religious causes of these ecosystem use changes. For instance, rapid growth of human population or market demands can lead to overexploitation assisted by new technology.

7. Tradability of ecosystem services requires that sustainers and beneficiaries of ecosystem services are not the same, or at least that beneficiaries must go beyond the scope of sustainers. In many cases, sustainers of ecosystem services also own the land or water that hosts those ecosystem services. Different ecosystem services encompass different characters of tradability (Table 1). Some ecosystem services are

more important at the global level than at the local and national levels, for instance, climate services, while other ecosystem services can be better traded at the local level.

8. 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. Payment for forest-related ecosystem services has been increasingly popular at the national and international levels, with compensation payments made to land and forest owners in exchange for multiyear contracts for reforestation, sustainable forest management and forest protection as well as climate services. Agri-environmental payments to compensate farmers for forgoing more intensive and more profitable farming practices are mostly found in Europe and North America, and relatively few PES programmes have targeted farmers and agricultural lands in developing countries.

9. Most cases of payment for ecosystem services start with one services that are valued most highly and needed urgently by major beneficiaries, though the perceived values and urgency of needs may evolve over time and across countries. For instance, the European Community developed price-based incentives as part of agricultural policy to improve environmental quality and biodiversity. Schemes for pollination services and for benign agricultural practices to protect water, soil and biodiversity have been in place for several decades in the United States.

10. With increasing recognition of other ecosystem services, a new trend has emerged that involves bundling several ecosystem services, mostly by packaging climate services and biodiversity objectives. In the case of Costa Rica, where Pago por Servicios Ambientales was established in 1997, ecosystem services included most in payment schemes so far include: carbon sequestration in biomass or soils; provision of habitat for endangered species; protection of landscapes; various hydrological functions related to the quality, quantity, or timing of freshwater flows from upstream areas to downstream users.

Table 1 Tradability of ecosystem services

Type of ecosystem services	**Local tradability**	**National and regional tradability**	**Global tradability**
Climate services (climate regulation)	Low	Medium	High
Water services (fresh water, water regulation, purification and waste treatment, water cycling)	High	High	Medium
Health services (disease and pest regulation, air quality maintenance)	Medium	High	Medium
Agricultural services (Pollination, photosynthesis, primary production, nutrient cycling, erosion control, soil formation)	High	High	Medium
Disaster prevention services (Natural hazard regulation)	Medium	High	High

Cultural services (Spiritual and religious values, cultural diversity, social relations, and cultural heritage values)	NA	NA	NA
Knowledge services (knowledge systems, educational values, inspiration)	Medium	High	High
Tourism services (Aesthetic values, sense of place, recreation and ecotourism, cultural heritage values)	High	High	High

Market approach to payment for ecosystem services

11. So far, payment for ecosystem services has been driven and dominated by beneficiaries of ecosystem services and their intermediaries, in particular at the regional and global levels. A level playing field for both beneficiaries and sustainers of ecosystem services as well as between beneficiaries has rarely been examined. The heavy reliance on government coffers for payment for ecosystem services will be self-destructive for this new instrument, in particular considering the current fiscal environments in many countries. The scaling-up and sustainability of payment for ecosystem services call for a more mixed approach that can build on the modern market system.

Enabling environments

12. Payment for ecosystem services has been largely developed on the premise that ecosystem beneficiaries should pay ecosystem service sustainers for the services received. In practice, ecosystem beneficiaries may strive to continue to benefit from free biodiversity and ecosystem services, or find alternative ways to avoid paying the full costs of ecosystem services. National political determination of the entitlements and responsibilities of ecosystem beneficiaries and sustainers is a crucial enabling condition for up-scaling the application of payment for ecosystem services. National legislation and regulations are also important for not awarding illegal squatters, avoiding perverse reward claims and demographic 'magnet' effects. There can also be equity implications if any change needs to be made to the distribution of rights and responsibilities over biodiversity and ecosystem services.

13. Most transactions on payment for ecosystem services may be governed by existing national rules and institutions, including mechanisms to enforce contracts. Additional national organizations and services may be needed to support monitoring, verification and implementation of relevant rules and conflict resolution. National organizations can be critical in supporting certification schemes when international payment is involved.

14. In the case of public sector payment for ecosystem services, appropriate attention should be paid to those policies with adverse consequences on biodiversity and 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.

15. Payment for ecosystem services would not likely occur under the following situations:

- Ecosystem uses are sustainable in nature and thus do not constitute a material threat to the interest of beneficiaries of ecosystem services. Such ecosystem services are mostly found in traditional communities which are guided by their traditional knowledge and not yet subject to the invasion

of modern technologies. The question is whether these beneficiaries should continue to be free riders morally and financially.

- Ecosystem use changes are nationally and internationally subsidized in a way that the interest of beneficiaries of ecosystem services is adequately covered. In this case, beneficiaries of ecosystem services pay taxes and charges or even voluntary contributions to Governments or third parties, instead of ecosystem service sustainers. For instance, national and international funds are provided to establishment and maintenance of protected areas that provide desired ecosystem services.
- Net benefits of ecosystem use changes are substantial and not within the range of financial options of the beneficiaries of ecosystem services. For instance, mining of non-living natural resources can not be easily financially counterbalanced by beneficiaries of ecosystem services.
- Beneficiaries of ecosystem services have cheaper alternatives among comparable ecosystem services, even at the expense of quality. In this case, national quality standard of ecosystem goods and services may force beneficiaries to reconsider their options.
- Beneficiaries of ecosystem services have nationally or internationally subsidized cheaper alternatives among comparable ecosystem services. For instance, subsidies are provided to water treatment equipment, rather than to conservation of ecosystem services in the upstream.

16. 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 helps sustain biodiversity and ecosystem services. Other poor households may also benefit, for example from increased productivity of the soils they cultivate or improved quality of the water they drink. However, the distribution of benefits depends on who sustains the ecosystem services, and in some cases, payments may also have adverse impacts on poverty and food security, for example if they reduce demand for agricultural employment, increase food prices or exclude the poor from previously common access land areas. Equity should be a main issue to address in designing payment for ecosystem services.

Market creation and support

17. The current high transaction costs observed in a number of payment for ecosystem services can be partly attributed to the infancy nature of this instrument, but, if the transaction costs do not go down over time, will not be conducive to further development of payment for ecosystem services. One preliminary assessment suggests that transaction costs in forest carbon projects absorb more than 50 percent (and in some cases more than 90 percent) of the value of total payments made, while the forest stewards receives only the residual. More competitive solution, such as a market-oriented approach, needs to be found in order to bring down the high transaction costs.

18. Market approach to payment for ecosystem services calls for developing markets for ecosystem services. This involves establishing market infrastructure, setting rules and norms for market participants, regulating pricing systems, providing information support and advisory services, market training, and even financial support.

19. Payment for ecosystem services may be a local, regional or national contractual arrangement without undertaking to secure international support for its positive impact on biodiversity objectives. While benefiting from free-riding on such arrangements, global biodiversity benefits may not be adequately considered, secured and sustained, in particular when there are trade-offs among alternative development strategies. 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.

B. Biodiversity offsets (by Kerry ten Kate)

Basic concept

20. Biodiversity offsets are measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse biodiversity impacts arising from project development[1] after appropriate prevention and mitigation measures have been taken. The goal of biodiversity offsets is to achieve no net loss and preferably a net gain of biodiversity on the ground with respect to species composition, habitat structure, ecosystem function and people's use and cultural values associated with biodiversity[2]. Conservation banking (including habitat banking and species banking) and the use of biodiversity credits are one means of implementing biodiversity offsets.

21. Biodiversity offsets can achieve more and better conservation outcomes than typically result from project planning. They are also a tool for companies to manage biodiversity risk and opportunity, and for society to mainstream considerations of biodiversity into economic decision-making, through governments' planning processes, licenses and permits and financial institutions' lending and investment decisions. As biodiversity offsets involve working with land managers to address underlying causes of biodiversity loss, they offer indigenous peoples and local communities an opportunity to be involved in project planning, and to establish offset activities that contribute to sustainable livelihoods. Properly planned at the landscape scale, biodiversity offsets can contribute to regional conservation and land-use planning, and to the priorities set out in national biodiversity strategies and action plans.

22. Taken together, these advantages mean that biodiversity offsets offer a potential new and additional source of funding for biodiversity conservation and sustainable use activities. In this model, public and private sector developers bear the costs of the conservation actions needed to offset their impacts, and this investment in conservation may be considered additional to national budgets to support protected area networks and other *in situ* biodiversity activities.

23. 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. Biodiversity offsets only succeed where there is adequate capacity to design and implement them, and adequate monitoring, evaluation and enforcement. In addition, it is important that national policy on biodiversity offsets results in additional investment in conservation, and that governments do not simply reduce public sector commitments to conservation finance, transferring the costs of national conservation priorities to the private sector.

24. Following four years of work and an analysis of the basis for biodiversity offsets in national and regional policies around the world, BBOP has agreed ten fundamental principles that define biodiversity offsets (Box 1), and these can be summarised briefly as follows. 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; recognise 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 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. Biodiversity offsets that follow these principles should achieve the best outcomes for biodiversity and manage the risks associated with using this tool.

1 While biodiversity offsets are defined here in terms of specific development projects (such as a road or a mine), they could also be used to compensate for the broader effects of programs and plans.

2 BBOP, 2009.

Box 1. Principles on Biodiversity Offsets developed and supported by BBOP

Biodiversity offsets are measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse biodiversity impacts arising from project development[3] after appropriate prevention and mitigation measures have been taken. The goal of biodiversity offsets is to achieve no net loss and preferably a net gain of biodiversity on the ground with respect to species composition, habitat structure, ecosystem function and people's use and cultural values associated with biodiversity.

These principles establish a framework for designing and implementing biodiversity offsets and verifying their success. Biodiversity offsets should be designed to comply with all relevant national and international law, and planned and implemented in accordance with the Convention on Biological Diversity and its ecosystem approach, as articulated in National Biodiversity Strategies and Action Plans.

1. **No net loss:** A biodiversity offset should be designed and implemented to achieve in situ, measurable conservation outcomes that can reasonably be expected to result in no net loss and preferably a net gain of biodiversity.

2. **Additional conservation outcomes:** A biodiversity offset should achieve conservation outcomes above and beyond results that would have occurred if the offset had not taken place. Offset design and implementation should avoid displacing activities harmful to biodiversity to other locations.

3. **Adherence to the mitigation hierarchy:** A biodiversity offset is a commitment to compensate for significant residual adverse impacts on biodiversity identified after appropriate avoidance, minimization and on-site rehabilitation measures have been taken according to the mitigation hierarchy.

4. **Limits to what can be offset:** There are situations where residual impacts cannot be fully compensated for by a biodiversity offset because of the irreplaceability or vulnerability of the biodiversity affected.

5. **Landscape context:** A biodiversity offset should be designed and implemented in a landscape context to achieve the expected measurable conservation outcomes taking into account available information on the full range of biological, social and cultural values of biodiversity and supporting an ecosystem approach.

6. **Stakeholder participation:** In areas affected by the project and by the biodiversity offset, the effective participation of stakeholders should be ensured in decision-making about biodiversity offsets, including their evaluation, selection, design, implementation and monitoring.

7. **Equity:** A biodiversity offset should be designed and implemented in an equitable manner, which means the sharing among stakeholders of the rights and responsibilities, risks and rewards associated with a project and offset in a fair and balanced way, respecting legal and customary arrangements. Special consideration should be given to respecting both internationally and nationally recognised rights of indigenous peoples and local communities.

8. **Long-term outcomes:** The design and implementation of a biodiversity offset should be based on an adaptive management approach, incorporating monitoring and evaluation, with the objective of securing outcomes that last at least as long as the project's impacts and preferably in perpetuity.

3 While biodiversity offsets are defined here in terms of specific development projects (such as a road or a mine), they could also be used to compensate for the broader effects of programs and plans.

9. **Transparency:** The design and implementation of a biodiversity offset, and communication of its results to the public, should be undertaken in a transparent and timely manner.

10. **Science and traditional knowledge:** The design and implementation of a biodiversity offset should be a documented process informed by sound science, including an appropriate consideration of traditional knowledge.

25. Essentially, there are two categories of response to projects' impacts on biodiversity:

(a) ***Biodiversity offsets***, which meet the definition and adhere to the principles above; and

(b) ***Compensatory conservation***, which involves some investment in biodiversity conservation as a result of a project, but does not satisfy these requirements. For instance, the compensation may only partially offset the impact, involve some net loss, conserve a different kind of biodiversity to that affected in a manner that doesn't meet the 'like for like or better' approach to ecological equivalence, or not be secured for the long term.

26. Similarly, there are broadly two kinds of biodiversity offsets or compensatory conservation:

(a) ***Regulatory biodiversity offsets or compensation***, which are required by law; and

(b) ***Voluntary biodiversity offsets or compensation***, which a developer undertakes in circumstances where there is no legal requirement to do so, because it perceives a business advantage (such as license to operate, reputational benefits, competitive advantage, market share, etc).

27. Biodiversity is infinitely variable. Given the philosophy of '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, biodiversity offsets are essentially a local and bioregional tool. Biodiversity offsets are generally required and planned within the same bioregion as the area impacted, to contribute to conservation of essentially the same biodiversity components and with a strong emphasis on ensuring local communities' needs are met. This means that biodiversity offsets are uniquely tailored to local circumstances and cannot be traded internationally, unlike carbon, where there is a single, global metric and unit (i.e. tonnes of carbon dioxide equivalent). Some countries establish conservation banking and designate a set of biodiversity credits as a means of defining offset requirements. These generally define the 'service area' within which credits can be purchased and traded, within a watershed or local bioregion and vegetation class.

Status of application and replication

28. Over 30 countries or states have enacted laws or introduced policies that specifically require biodiversity offsets or compensatory conservation for particular sets of impacts (for instance, on wetlands, on certain nationally listed species, or on biodiversity in its entirety)[4]. In addition, biodiversity offsets or compensatory conservation are sometimes included in the conditions for project approval as a result of dialogue between the proponent of a project and the permitting authority, typically following an environmental impact assessment process. There is also a small but growing incidence of companies undertaking biodiversity offsets voluntarily.

29. Historically, the nature and scale of biodiversity offsets or compensatory conservation were calculated based on simple metrics such as area, the financial investment involved in the investment project, on some formula that identifies a subset of biodiversity values (timber value on the land, for

4 These countries include the USA, Australia, the European Union, Brazil and South Africa.

instance), or simply negotiated as a financial package that the developer was prepared to invest, irrespective of whether the amount was adequate to cover the costs of sufficient offsetting activities. However, 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'. Recent metrics generally represent a combination of area and quality or condition of biodiversity. Some assess particular functions of biodiversity and others look at species viability assessments. Well over 100 assessment methods and different metrics exist worldwide.

30. By 2010, biodiversity offsets have attracted considerable interest and support, and this continues to grow. There are 5 main drivers for the broader uptake of biodiversity offsets:

- More governments introducing or exploring policy on biodiversity offsets;
- More companies undertaking biodiversity offsets voluntarily for business reasons;
- More banks and investors requiring biodiversity offsets as a condition for access to credit or investment;
- More NGOs and civil society groups encouraging developers to undertake biodiversity offsets; and
- BBOP, a group of all these stakeholders and more, 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.

31. Under Decision IX/26 of the Conference of the Parties to the Convention on Biological Diversity, the Executive Secretary of the Convention, 'in collaboration with relevant organizations and initiatives, such as the Business and Biodiversity Offsets Programme (BBOP), is to compile and/or make available: (a) case studies; (b) methodologies; tools and guidelines on biodiversity offsets; and (c) relevant national and regional policy frameworks'. Furthermore, Decision IX/11 establishes a 'Strategy For Resource Mobilization In Support Of The Achievement Of The Convention's Three Objectives For The Period 2008-2015', and this invites Parties and relevant organisations 'To consider biodiversity offset mechanisms where relevant and appropriate while ensuring that they are not used to undermine unique components of biodiversity'. Decision IX/18 on Protected Areas invites Parties to 'explore the potential of biodiversity offsets as a financing mechanism'.

32. Similarly, a resolution at the most recent Conference of the Parties to the Ramsar Convention on Wetlands 'encouraged decision makers, especially business leaders, to develop and adopt policies, strategies and operational approaches according to existing national and international guidelines and standards for ecosystem management, including wetlands, which avoid, remedy or as a last option 'offset' adverse impacts on wetland ecosystems, including considering the potential benefits that could be derived from the Business and Biodiversity Offsets Program (BBOP)'[5].

33. The BBOP Advisory Committee members represent groups in society (government, business, intergovernmental organisations, financial institutions, civil society) with diverse perspectives on environment and development from many different countries. Responding to the COP9 Decision and other requests for work of this kind, the BBOP partners worked hard to reach agreement on fundamental

5 See Resolution X.12: Principles for partnerships between the Ramsar Convention and the business sector. http://www.ramsar.org/res/key_res_x_12_e.pdf.

issues relating to biodiversity offsets, and to develop practical guidelines for offset design and implementation. Chief among this group's products is the set of ten basic principles agreed and supported by BBOP members and increasingly adopted and used by other companies, governments and civil society as a sound basis for ensuring high quality biodiversity offsets. In addition, BBOP completed a methodology toolkit in May 2009 which includes three core handbooks on offset design and implementation; resource papers on how biodiversity offsets relate to impact assessment and stakeholder participation; and case studies of the BBOP pilot projects and non-BBOP offset experiences; and other supporting material (such as a glossary of technical terms). All of this material is available on the website: http://bbop.forest-trends.org/guidelines and included in a CD-Rom affixed to an Overview publication.

34. BBOP, with collaboration from the CBD, hopes to involve more companies, governments, financial institutions and civil society organisations in order to bring more perspectives and practical suggestions to the work on biodiversity offsets; to help foster broader consensus in society on how to achieve no net loss and a net gain of biodiversity; and to scale up the adoption of emerging best practice. From July 2009 – July 2012, the following priority work is underway:

- **National level interventions** – providing technical support and policy advice on biodiversity offsets, landscape-level and regional planning to governments, through general reports and specific advice.

- **Aggregated offsets and banks** – working with government, multiple developers in given regions, and other stakeholders to combine offsets and plan them at the ecoregional and landscape scales, including, where appropriate, the use of conservation banks and the trading of biodiversity credits at national or local levels.

- **A broader portfolio of biodiversity offset experiences** – demonstrating through BBOP pilot projects and others' experiences how biodiversity offsets could work in a broad range of countries and industry sectors.

- **Better guidelines** – improving the BBOP guidelines on how to design and implement biodiversity offsets, based on broader geographic and sectoral experience of BBOP members and others.

- **Training and capacity building** – training a cadre of professionals worldwide to support companies and governments in the design and implementation of biodiversity offsets and associated regulation and policy.

- **Communications** – providing a global forum to make the case that development projects result in no net loss of biodiversity by following the mitigation hierarchy and applying biodiversity offsets, and to share and disseminate collective learning and experience with biodiversity offsets, including market-based and community-oriented approaches.

- **Verification and auditing protocols** – developing agreed protocols for verification and auditing of biodiversity offsets. This will provide a foundation for the development by BBOP of internationally agreed and certifiable standards for biodiversity offsets: a goal for 2015.

Key issues

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

- **Context:** How to establish whether and when a biodiversity offset is appropriate?

- **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?

- **Landscape level planning:** How to plan and site biodiversity offsets to contribute to landscape level planning and national biodiversity strategies and action plans? Bioregional planning that supports conservation priorities such as biodiversity corridors can help.

- **Implementation models:** What are the best mechanisms for ensuring the long term success of biodiversity offsets, including definition of roles, responsibilities, legal, institutional and financial arrangements, monitoring and evaluation, adaptive management (including adaptation to climate change), and enforcement? What mixture of approaches (case by case offsets, aggregated offsets, conservation banks, conservation credits) is most suitable in a particular context?

- **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

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

- **Voluntary:** Maintaining the existing national policy framework, in the hope that developers will undertake further biodiversity offsets on a voluntary basis.

- **Incentives:** Introducing fiscal and other economic incentives to reward and encourage developers which undertake biodiversity offsets.

- **Guidance:** Offering guidance to supplement any existing policy that requires biodiversity offsets, so the requirements are clearer to developers.

- **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.

- **SEA:** Undertaking strategic environmental assessments that integrate requirements for 'no net loss' or a 'net positive impact' on biodiversity.

- **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.

37. 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 regional and global level

38. 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:** Presently, little is known outside individual countries about their policies, methodologies and experiences of biodiversity offsets. 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:** While each country will have its unique approach to regulating and using biodiversity offsets, there are many issues in common between countries. For instance, most countries developing policy or companies designing voluntary offsets face the 'key issues' identified above. 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.

C. Environmental fiscal reforms

Basic concept

39. The concept of environmental fiscal reforms has been used in two situations: fiscal reform of the environmental sector and environmental reform of fiscal policies. Fiscal reform of the environmental sector seeks to enhance the capacity to mobilize revenues for environmental purposes, and increase the allocative efficiency and effectiveness of available environmental funds by improving environmental management practices and conserving resources. Environmental reform of fiscal policies aims to neutralize environmental impacts of governmental interventions, from revenue generation to public expenditure. The two terms are not mutually exclusive, and often refer to the same range of fiscal instruments, such as environmentally related taxes or subsidy reform.

40. From the pure perspectives of fiscal policy-making, environmental fiscal reforms need to raise additional revenues to national coffers or reduce public expenditures for the environment without compromising national development and environmental goals. The popular subjects under environmental fiscal reforms often are taxes on natural resource use, and use charges or fees. Environmental fiscal reforms for biodiversity and associated ecosystem services, however, needs to go beyond the scope of the prevailing discussions and seek to transform national fiscal systems to support biodiversity objectives. For instance, reducing tax assessment or providing full tax exemption can encourage activities to promote biodiversity objectives, and increasing budgetary allocations can be critical in securing the national benefits of biodiversity and associated ecosystem services.

Status of application and replication

41. Environmentally related fiscal instruments have been increasingly used in developed countries, but to a lesser extent, in developing countries. There are success stories and also lessons learned.

42. 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. In Cameroon, forestry taxes raised US$50 million in 2002. A 2001 estimate indicated that in Cambodia up to US$100 million is lost each year from uncollected forest taxes (only US$13 million is actually collected). In Peninsular Malaysia, auctions generated up to US$16,000 per hectare and bonus bids of up to five times forest legislated fees.

43. Fisheries provide food, employment, export income and tax revenue. About 75 per cent of the world's fishing stocks are fully fished, over-fished, depleted or recovering slowly from depletion. Distant water fleets and domestic commercial fishers, equipped with advanced fish harvesting technology, are behind the over-fishing of stocks, which is often assisted by direct and indirect government subsidies. In Namibia, fisheries contributed about US$220 million to GDP in 2000 and were valued at US$354 million in 2001. 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.

44. Environmental fiscal reform for water services has several objectives, including preserving the water resources, improving water service quality and service efficiency, and easing strains on the public budget. Full cost recovery water pricing policy is one option. Another consideration is on the removal of water subsidies. In developing countries like India and Egypt, subsides on water utility delivery tariffs have been estimated at US$4,000 and US$713 million per annum. In terms of drinking water, subsides in a selection of 26 developing countries are conservatively estimated at about US$8 billion per year.

45. 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. The Ecogift Program in Canada provides tax benefits to owners of ecologically sensitive land, if they donate it fully or partially to recipients who manage it sustainably, e.g., for habitat conservation. Tax exemptions provide strong incentives for sustainable behaviour, but certain tax exemption measures are relatively unimportant for the individual or corporate taxpayer. In addition, when conservation organizations pursue commercial activities, taxes are reduced only partially or within certain limits.

46. Most countries have increased public expenditures on biodiversity and associated ecosystem services in the past decades. These include biodiversity expenditure of the general environmental expenditure (i.e. budget for ministry of the environment, ecology and natural resources or its equivalent), regular budgetary lines for special biodiversity or its related agencies or institutions, such as wildlife service/commission/national parks/nature reserves, or national herbarium and botanical gardens, expenditure on national environmental funds or biodiversity funds, budgets allocated to conservation non-governmental organizations, biodiversity expenditures in the budgets of other ministries (agriculture, forestry, energy, transport etc.), biodiversity expenditures for line departments at regional/provincial and local levels. In many cases, such expenditure can merely support staff payroll, and has fluctuated substantially over years. National budgetary procedures often are not conducive to increasing allocations to biodiversity partly due to the lack of reflecting the values of biodiversity and associated ecosystem services in national accounts.

47. 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, and thus provides an important reward to greener companies and motivating eco-innovation and market creation for green products and services. Through green public procurement, governments assume the role of 'launching customer', creating economies of scale, helping companies move up the learning curve, and putting innovative green products in the market, and creating "green-collar jobs". Japan, China, New Zealand, Korea, the US and several EU countries have policies in place that stimulate green public procurement.

48. 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. The states then implemented various ecological indicators for the redistribution of state value-added tax income to municipalities. In Paraná, Brazil, conservation units increased by 165% by 2000, and municipalities with larger shares of protected areas considerably benefited from increased revenues. The new fiscal transfer scheme in Portugal includes ecological fiscal transfers and rewards municipalities for designated Natura 2000 sites and other protected areas within their territories.

Key issues

49. Environmental fiscal reforms have three-folded objectives: fiscal objectives (revenue generation and expense reduction), development objectives (addressing environmental problems that affect the poor, and improved access to environmental infrastructure as well as resourcing for pro-poor investments), and environmental objectives (incentives for sustainable natural resource management and financing for environmental agencies and investments. Those objectives can be achieved together, but there are cases when prioritization and sequential consideration, even trade-off of these objectives can be necessary.

50. Environmental fiscal reform typically involves four 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.

51. Environmental fiscal reforms can benefit from analyses quantifying the expected fiscal, environmental and social benefits relative to the impacts of existing policies and their beneficiaries, and identifying potential winners and losers from the reform process, the extent of the gains and losses, and

possible compensation measures. A win-win reform should have net positive fiscal, environmental and social impact.

52. Public and political acceptance of environmental fiscal reforms is largely influenced by public and political awareness based on accurate information. Public awareness campaigns are necessary, using easy-to-understand materials and through broad based consultation with affected stakeholders.

53. Environmental fiscal reforms may be introduced in a phased manner, considering that adaptation to these reforms can be a lengthy and difficult process. The introduction of proposed reforms should be preceded by some form of public announcement, preferably well in advance to give affected people the time to effectively prepare and adapt to the proposed changes. Some assistance or compensation for undesirable distributional impacts can be helpful in smoothing the transition period.

54. Monitoring and evaluation are necessary to ensure the appropriate implementation of environmental fiscal reform and assess the effective and efficiency of the reform measures in meeting its stated objectives, which can provide feedback to reinforce or improve the introduced reform measures. In 2002, the Government of Cambodia cancelled two forest concessions for poor performance – the first time such a step had been taken.

55. Taxes to capture the rent from the exploitation of natural resources (forests and fisheries) 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. But higher taxes can also lower profit margins, and encourage forms to reduce costs, including the funds otherwise available for more sustainable harvesting practices. Ideal taxes should be set at an appropriate level that can raise the profile and attention paid to sound forest management in order to sustain future revenues, reduce illegal unsustainable activities, and generate revenue to strengthen environmental monitoring and enforcement.

56. Theoretically speaking, user charges or fees are compulsory payment to recover the cost of providing specific services. The proceeds of charges will remain with the service providers, not end up in the government's general budget.

57. Subsidy reform has gained currency in at least the analytical circle. In Indonesia, overuse of pesticides wiped out the natural enemies of the brown rice planthopper and led to the emergence of a bug that ruined some US$1.5 billion worth of rice. The Indonesian Government cancelled the pesticide subsidies in 1986 and instead created a national programme of integrated pest management at about US$5 million a year. Since then, pesticide applications each season plunged to half of previous levels, and rice production grew by three million tonnes over the subsequent four years. The Government pocketed US$100 million in former annual pesticide subsidy payments.

58. There are different approaches to using the revenues that governments raise through environmental fiscal reform, but these approaches can have different impacts. Finance ministries tend to retain the revenue and add it to other government revenue streams within the general budget. In this case, environmental fiscal reform may be perceived as nothing more than a tax increase, thus making it more difficult to gain public support. Environmental agencies typically favour the option to earmark revenues from environmentally related taxes for environmental investments. But earmarking implies a strict link between revenue and spending, and does not allow necessary flexibilities in national budgetary decision making. Other approaches include compensating for the distributive impact of the revenue measure or supporting ecological tax reform. The distribution of revenues between different levels of government can be a potential source of conflict. In Papua New Guinea and Indonesia, for instance, debates over mineral and forest revenues have led to much conflict between central and state governments.

59. Medium-term expenditure frameworks and medium-term expenditure reviews provide important opportunities to address issues closely related to environmental fiscal reforms, including tax collection and pricing reform.

60. Environmentally related taxes and similar price reforms are not always the most effective way for governments to raise revenue, nor are they necessarily the best approach to protecting the environment.

61. 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

62. 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 System of Economic Environmental Accounting has begun to cover land, water, environmental expenditures and social issues in monetary and physical terms. Governments can explore their own system of accounting that integrates biodiversity and associated ecosystem services, and pilot the application of the new international system of economic environmental accounting.

63. 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.

64. Environmental fiscal reform may require a review of national biodiversity governance in order to optimize national expenditure on biodiversity and associated ecosystem services. There are different models of national biodiversity governance around the world, some are very successful and others require major adjustments.

65. The revenue potential of taxing the rent from biodiversity and associated ecosystem services needs not be exaggerated analytically. National efforts can instead be focused on optimizing the existing tax measures, particularly tax exemption measures, in order to encourage undertakings that are consistent with and promote biodiversity objectives.

66. The consideration of biodiversity and associated ecosystem services has offered effective solutions to fiscal subsidies in several cases. National governments can explore the potential of such innovative approaches to easing the strains on public expenditures, including by tackling those subsidies that have clearly outlived their purpose, are not targeted towards their stated objectives, or do not reach their objectives in a cost-effective manner.

67. Reforming intergovernmental fiscal transfer schemes by integrating the consideration of biodiversity and associated ecosystem services can be implemented without the need for further analytical work. The consideration of biodiversity objectives can help steer intergovernmental fiscal transfers from central governments towards the poor areas and the poorer people, thus contributing to the achievement of national economic, social and development goals.

Policy options at the regional and global level

68. International donors have been instrumental in contributing to the improvement of public expenditure management, engaging developing countries in environmental fiscal reforms, providing technical assistance and supporting poverty reduction strategies.

69. 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.

70. 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 – a key are of political resistance, and developing the capacity of governmental agencies to monitor, enforce and evaluate fiscal reform measures.

71. 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. Setting up national goals can be the first step for committing to green public procurement. Transparency, clarity and harmonization of basic approaches can all increase the attractiveness of green public procurement.

D. Market for green products (by Joshua Bishop)

72. Markets mechanisms that reflect the values of biodiversity are well established for some goods and services and have been growing steadily over the last decade6. 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.

73. 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

74. 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.

75. 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)7.

76. 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

6 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

7 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.

products were available in 42 countries, derived from annual catches of nearly 4 million tonnes8. The quantity and value of such products continues to grow. Their retail value was expected to reach US$ 1.4 billion in 2009.

77. 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 land9. By the end of 2007, a further 1.5 million hectares had been certified10. The vast majority of organic products are consumed in Europe or North America.

78. 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 GDP11. 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.

79. 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

80. 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.

81. 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.

82. 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-users12.

83. 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.

84. 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.

85. 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 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

8 http://www.msc.org/documents/msc-brochures/MSC-FisheriesCommitments-Aug09-WEB.pdf

9 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.

10 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

11 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

12 Forest Industries Intelligence Limited, 2009, cited in UNECE/FAO 2009 (*op cit).*

86. The following could be considered:

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

- 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 targets13 or the creation of eco-investment funds to support companies that are certified and/or have shown innovative ways of creating sustainable business models.

- 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.

- 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 regional and global level

87. The following could be considered:

- 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.

- 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.

- 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.

E. Innovative financing for development

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

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

Status of application

13 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/*)

90. 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.

91. 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.

92. 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 ecosystem services

93. 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.

94. 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.

95. 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.

96. 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.

97. 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.

98. 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.

99. 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.

F. Climate funds (by Katia Karousakis)

100. 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.

101. 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

102. 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.

103. 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.

104. 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[14], 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.

105. 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

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implementation phase. Examples include the Noel Kempff Climate Action Project, and REDD activities in the Ulu Masen Ecosystem in Aceh, Indonesia.

Key issues

106. 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.

107. 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 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.

108. 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 benefits and synergies.

109. 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.

110. 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

111. 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.

112. 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.

113. 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).
