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SYNTHESIS REPORT ON INFORMATION RECEIVED FROM PARTIES, OTHER GOVERNMENTS AND ORGANIZATIONS ON NON-MONETARY POSITIVE INCENTIVE MEASURES AND ON THE APPLICATION OF METHODOLOGIES FOR THE ASSESSMENT OF VALUES OF BIODIVERSITY AND ITS FUNCTIONS

Note by the Executive Secretary

I. INTRODUCTION

1. In paragraph 8 of its decision VII/18, on incentive measures, the Conference of the Parties invited Parties, Governments and international organizations to submit case-studies, best practices and other information on the use of non-monetary positive incentive measures for the conservation and sustainable use of biodiversity as an initial step in the ongoing examination of incentive measures, including traditional laws and practices which generate positive incentives, and on the application of methodologies for the assessment of values of biodiversity and its functions, to the Executive Secretary; and, in paragraph 9, requested the Executive Secretary to prepare a synthesis report thereon for consideration by the Subsidiary Body on Scientific, Technical and Technological Advice at a meeting prior to the eighth meeting of the Conference of the Parties.

2. Further to this decision, the Executive Secretary communicated this invitation to Parties, Governments and relevant international organizations by sending notifications 038-2004 and 051-2004 in May and June 2004. Reminders were sent by notifications 076-2004 and 077-2004 in September 2004.

3. The present note provides an overview and synthesis of the information received by the Executive Secretary pursuant to this invitation. The complete submissions can be retrieved from the Convention webpages, at www.biodiv.org (please click on “programmes and issues” then on “economics, trade and incentive measures” and on “recent submissions – post COP7”).

4. It should be noted that those elements of the submissions that pertain to the removal or mitigation of perverse incentives were already summarized in a synthesis report prepared for the consideration by

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the Subsidiary Body on Scientific, Technical and Technological Advice at its tenth meeting (UNEP/CBD/SBSTTA/10/INF/8).

II. INFORMATION ON THE USE OF NON-MONETARY POSITIVE INCENTIVE MEASURES

A. Information received from Parties

1. Australia

5. Australia submitted a document that provides an extensive overview of the range of incentive measures implemented in Australia for the conservation and sustainable use of biodiversity, on federal and state levels. The document explains that incentives offered by the Australian Government include: grants and funding, tax concessions, the National Market-based Instruments Pilots Programme, Conservation Agreements, the Maintaining Australia's Biodiversity Hotspots Programme, the National Reserve System, and Hands on for Habitat Awards. In addition, the State and Territory (provincial) Governments in Australia independently participate in many different kinds of incentive schemes of benefit to biodiversity.

6. The document provided detailed information on three Australian programmes: (i) the Landcare programme; (ii) incentives for biodiversity conservation in regional planning; and (iii) the national market-based instruments pilots programme.

The landcare programme in Australia

7. The Australian Landcare programme was the first major incentive scheme created for better natural resource and land management. Landcare encourages communities (involved through the voluntary Landcare movement) to improve natural resource management practices. These groups normally receive matching Australian Government support with in-kind support. Support is also provided for a variety of national-level projects, including some matched by in-kind/cash support**,** for assisting capacity building, exchange of information within a government-community-industry partnership and awareness raising in the broader community.

8. According to the document, Landcare has been highly effective in mobilising voluntary effort, increasing awareness of natural resource management issues, generating and transferring knowledge among participants on sustainable farming and natural resource management practices, and in building skills, capacity and social cohesion

Incentives for Biodiversity conservation in regional planning

9. The submission explains that the Australian Government has put current priority on the improvement of biodiversity conservation though regional natural resource management planning processes. According to the document, taking a landscape or regional approach enables decision-makers to better integrate biodiversity conservation with a range of other factors. Regional planning can be effective for protecting natural systems and habitats, rehabilitating degraded landscapes, and managing threats and threatened species. A mix of motivational, financial and regulatory incentive mechanisms has been found to deliver the best results.

10. Under this section, Australia provided brief summaries of 16 case-studies, completed in 2003, that demonstrate ‘best practice’ examples of integrated natural resource management that is focused on biodiversity. According to the document, a fundamental criterion for their success appears to have been a sense of local ownership and control of project design and work on the ground. They use both

non-monetary (e.g., cultural appropriateness) and monetary (e.g., devolved grant) mechanisms to achieve their objectives.

National market-based instruments pilots programme: information on trading mechanisms and auctions

11. The submission explains that market-based instruments (MBIs) are a promising new addition to the existing suite of natural resource management tools. They use trading mechanisms, auctions and price signals to change behaviour and, rather than prescribing behaviour or technology use, give more flexibility in the sustainable use and management of the natural resources of Australia. The National MBI Pilots Program was initiated to further explore and increase Australia's capacity to use MBIs to deliver natural resource outcomes. Under a first round, eleven pilots from across Australia have investigated the potential for MBIs to encourage better land and water management and reduce salinity in agriculture. More detailed decriptiond are provided on three of the pilot projects:

Auction for Landscape Recovery: an incentive mechanism for the conservation of biodiversity

12. The Auction for Landscape Recovery is a conservation auction pilot project operating in the Avon River Basin in the northeast wheat belt of Western Australia. This market-based instrument approach has featured the use of a conservation auction, a biodiversity conservation mechanism utilized for the first time in highly biodiverse and salinising landscapes in Australia. Over two rounds of funding, private landholders have been able to submit tenders proposing management activities that protect and enhance biodiversity on their land. For each tender, trained field staff carried out a standard site assessment. The tender itself detailed the management action proposals targeting particular threats to remnant vegetation, as well as a sealed bid disclosing the cost for which the landholder was willing to undertake this work. Because it is a price-discriminatory auction (landholders are paid what they request, even if it means that some are paid less for doing the same on-ground work as others), it is possible to achieve cost-savings for the funding body, or equivalently, achieve greater outcomes within a fixed budget when compared to a straight devolved grants scheme.

Establishing East-west landscape linkage in the Southern Desert Uplands

13. The East-West landscape linkage in the Southern Desert Uplands is a conservation auction pilot project operating in Queensland, Australia. The focus of the project is to provide landholders with an opportunity to tender for financial incentives to manage some areas (linkage zones) more conservatively. The most cost-effective areas for management are selected through a tender mechanism. The tender process works by landholders submitting sealed cost bids to deliver a linkage area across their properties. The location of these first round bid areas are displayed for all bid participants to view and then participants are asked to re-submit a new bid area with a new cost. This second round allows landholders to link their areas to those on adjacent properties. The linkage of areas across properties providing the best biodiversity benefits wins the auction. Individual contracts with each property are drawn up between the regional body and each property owner in the winning landscape linkage. The contracts are for five years with annual payments on the maintenance or achievement of annual biomass/pasture outcomes at the end of each dry season.

Catchment care – Developing an auction process for biodiversity and water quality gains

14. The Catchment Care auction system aims to improve the cost-effectiveness of funds for on-ground works and provides a systematic and transparent means of selecting bids that propose high priority natural resource management actions in high value sites. It is designed to enable the ranking and selection of bids based on the environmental risk of the proposed sites, the reduction in threats achieved by proposed landholder actions, the area addressed by landholder actions, and the amount of funding sought for the actions. The tenders that offer the most cost effective environmental benefits are selected for funding.

15. Catchment Care is a tendering process that uses a risk analysis framework as a basis for scoring, evaluating, ranking and selecting tenders for Catchment Care funds. The risk of a site to environmental

degradation is based upon two elements – the *environmental value* of the site and the *threats* to that value. Risk can be used to prioritize environmental actions, as sites at high risk should be highest priority for restoration and protection. In the Catchment Care framework, landholder *actions* (environmental restoration and protection works proposed by the landholder) are able to reduce the threat acting upon a site, and hence reduce the risk.

Biodiversity stewardship payments -- The Bush Tender Trial in Australia

16. In an earlier submission, Australia had also provided information on the Bush Tender Trial, another programme that involves the use of auction mechanisms for the allocation of payments within voluntary programmes. This programme is described in documents UNEP/CBD/SBSTTA/10/INF/8, page 2, as well as UNEP/CBD/SBSTTA/11/INF/11, box 4.

2. Austria

17. Austria submitted a study entitled *"A new Tweed from 'Forest Sheep'. Wool Quality Production and the Use of a Sheep Genetic Resource for Extensive Pasturing."* This study is described in document UNEP/CBD/SBSTTA/11/INF/11, box 9.

3. Colombia

18. Colombia submitted a document that provides an overview of the range of incentive measures implemented in Colombia for the conservation and sustainable use of biodiversity. The document explains that different conceptual and analytical frameworks are used in their design, such as: the tools of welfare economics and environmental economics; conjoint analysis; multi-criteria analysis; experimental economics; participatory rural analysis; descriptive statistics; as well as the application of the IFRI (International Forest Resources and Institutions) database, within the framework of the Institutional Analysis and Development Approach, in cooperation with the University of Indiana.

19. The document further explains that these frameworks were applied to a number of ongoing projects with a view to undertake a methodologically sound validation of their application and to provide a solid base for comparative studies of projects and programmes in the Andean zone as well as in other countries in the regions. Ongoing projects include:

(a) Mecanismo por pago de servicio ambiental en la microcuenca de Chaina, municipio de Villa de Leyva y Chiquiza, Boyaca;

(b) Incentivos para reconversión ganadera en la cuenca del río la Vieja, Valle del Cauca;

(c) Análisis de la exención del impuesto predial como incentivo para la conservación y uso sostenible de la biodiversidad en tierras privadas: Estudio de caso en el municipio de Filandia, Quindio;

(d) Análisis de la exención del impuesto predial como incentivo para la conservación y uso sostenible de la biodiversidad en tierras privadas: Estudio de caso en el municipio de El Encino, Santander;

(e) Incentivos para apoyar estrategias de conservación y uso sostenible en el municipio de Manizales, Caldas;

(f) Incentivos dirigidos a la conservación y uso sostenible de la biodiversidad en el ecosistema de la Laguna de la Cocha, como sitio Ramsar;

(g) Incentivos dirigidos al aprovechamiento sostenible de fauna silvestre;

(h) Evaluación de las políticas Agropecuarias y su relación con la conservación y uso sostenible de la biodiversidad en Orinoquía;

(i) Marco regulatorio para la implementación de incentivos a la producción ecológica – ECOS.

20. The document explains that the incentive measures applied in these projects can be distinguished according to the following (mutually not exclusive) categories: (i) incentive measures for conversion to organic farming; (ii) incentive measures for the sustainable use of forest fauna; (iii) payments for environmental services; and (iv) incentive measures applied on private lands.

Incentive measures for conversion to organic farming

21. The document provides an overview on the conceptual framework for the design of a system of incentives to support organic/ecological farming (*Producción Agropecuaria Ecológica*), which has to address the following elements: international experiences with regard to political preconditions and the environment impacts; (ii) compatibility with rules of the World Trade Organization; (iii) scenarios for the further development of international markets in organic products (iv) technological underpinnings of conversion.

22. The document explains further that the economic tools of the incentive system can be summarized in the following four basic incentives: conversion incentive, certification incentive, accreditation incentive and incentive to the ecological productive investment, and provides more detailed explanations on each type of incentive. Finally, under this section, the document presents a brief study of project (b) mentioned above (*Incentivos para reconversión ganadera en la cuenca del río la Vieja, Valle del Cauca*), which seeks to support conversion to silvopastoralism.

Incentives for the sustainable use of forest fauna

23. This section of the document provides a brief overview of activities supporting the sustainable use of turtles in different regions of Colombia, including the use of mechanisms such as tradable quota, incentive payments and taxes on resource uses.

Incentive measures applied to private lands

24. This section provides a more detailed analysis of projects (c), (d) and (e) above, focusing in particular on the effects of tax exemptions as an incentive for conservation and sustainable use of biodiversity. The section analyses the impacts of this tool on municipal budgets and identifies a number of requirements for the successful application of this instrument, such as a systematic, scenario-based analysis of the budgetary implications as well as the implementation of mechanisms for refinance.

Payments for environmental services

25. This section presents a detailed study of project (a) above (*Mecanismo por pago de servicio ambiental en la microcuenca de Chaina*). The project seeks to generate incentives for the conservation and sustainable use of forests in a local watershed with a view to maintain their hydrological services, by introducing a system of compensatory payments for land users. The study describes the ecological conditions in the watershed as well as the institutional framework of the system, and provides an overview of economic costs of operating the system. It also provides a brief overview of the experiences gained so far, pointing in particular to the limitations of a collective process.

26. The document also provides information on the application of forestry incentives certificates (*Certificados de incentivos forestal)* and on available tax rebates for environmental objectives. This information was already summarized in document UNEP/CBD/COP/7/INF/13.

4. Czech Republic

27. The Czech Republic explained that there are some non-monetary incentive measures applied in the country, and provided brief descriptions of the following policies and programmes:

- A National programme and Action plan on *environmental education and public awareness* that has been carried out in 2004 – 2006 with the involvement of non-governmental organizations, in particular centers for ecological education, in coordination of the ministry of the Environment and the Ministry of Education, Youth and Sports.

- The commitment of creating incentive measures under the *European Landscape Convention* of which the Czech Republic is also a Contracting Party.

- The existence of a number of *non-monetary awards*, including the "Award of the Minister of the Environment" (awarded every year for a special contribution to the environment), the "Award of Josef Vavrousek" (given to the best University Diploma thesis with an environmental focus), and the anti-award called "Ropak" (given to individuals or companies that acted in an unfriendly to the environment in the previous year).

- The system of *certification* under ISO 14 000, which also covers business parties with positive impacts on the environment, as well as systems for forest certification and "bio – products".

5. European Community

28. The submission by the Netherlands and the European Commission, on behalf of the European Community and its member States, included information on the European Community in general as well as on three member States, namely, the Czech Republic, the Netherlands, and Spain. The information on the European Community in general is summarized below, while the information on the member States, for ease of reference, is summarized in individual sections.

29. In its submission, the European Community and its member States acknowledged the importance of adopting economically and socially sound measures that act as incentives for the conservation and sustainable use of components of biological diversity, and said that these measures cover a large field of instruments like monetary incentives (e.g. subsidies, tax exemptions, tax incentives) and non monetary incentives (e.g. regulations, eco-labels, education, research, governance, liability, etc.).

30. The submission explains that, as regards non-monetary incentives, the EU and its member states have developed a wide range of measures, which provide positive incentives to the conservation and sustainable use of biodiversity. These policies and practices range from regulations such as the so-called EU "birds" and "habitat" directives, environmental impact assessments and strategic environmental assessments, environment liability, access to information, as well as other EU and national programmes related to research and environmental technology, to the promotion of organic agriculture, the sustainable management of forests and the support for training and public awareness activities. It generally indicated that most of the non-monetary EU environment policy measures have a positive impact on biodiversity and many of them can be considered a non-monetary positive incentive measure for the conservation and sustainable use of biodiversity. The document provided more detailed information on a number of programmes and initiatives.

31. On the *EU Environmental Liability Regime*, the submission explains that the Directive introduces for the first time in Europe liability for biodiversity damage. To make the Directive effective and manageable, a limited definition of biodiversity is applied, which will however be reviewed and, if appropriate, changed, ten years after entry into force of the Directive. The Directive also covers damage

to all water resources in the EU as well as land contamination that risks harming human health, providing additional indirect protection to biodiversity other than that specifically defined in the Directive.

32. On the *EU Directive on Strategic Environment Assessments*, adopted in 2001 to be fully transposed by Member States by 21 July 2004, the submission explained that, as the Directive's application is at an early stage, it is too soon to estimate its effectiveness. Nevertheless, according to the submission, experience in countries that already operate similar systems suggests that they are beneficial in environmental and biodiversity terms. The monitoring requirement contained in the Directive should prove a useful trigger for remedial action when plans have unforeseen adverse consequences.

33. On the *EU Eco-labelling and Eco-Management and Audit Scheme (EMAS)*, the submission explained that so far, effects of products on biodiversity have not been identified as the key environmental impact. The Commission has launched an internal evaluation exercise to evaluate current EMAS and Eco-label performances in fostering sustainable production and consumption. The product group with the strongest link with biodiversity issues is the new EU eco-label for tourist accommodation and the criteria for camp sites which are under development. As regards EMAS, the document explains that, while EMAS may indirectly contribute to the conservation or sustainable use of biodiversity, it is not clear whether it has been applied to tackle biodiversity impacts in a targeted manner. However, there has not been as yet any targeted work on the development of guidelines on biodiversity in the EMAS system.

34. On *green public procurement*, the submission notes that the Commission published in 2001 its interpretative communication on the Community law applicable to public procurement and the possibilities for integrating environmental considerations into public procurement, which clarified the possibilities for taking up environmental elements in public procurement procedures. According to the submission, it may be difficult to introduce biodiversity issues in a contract for buying goods, services or works, because it will be difficult to establish a link between biodiversity and the subject of the contract. Moreover, major perceived hurdles are the fact that contracting authorities (administrations) lack the necessary environmental know-how to insert environmental elements into their procurement procedures, as well as the fact that "green" products/ services/works may still be more expensive.

35. The document also noted the adoption of the *Environmental Technologies Action Plan* of the Commission, an ambitious plan to further environmental technologies within the EU and globally. It seeks to exploit their potential to improve both the environment and competitiveness, thus contributing to growth and possibly creating jobs. It sets out a number of actions that the Commission will take and some that other stakeholders, such as industry and national and regional governments, should undertake for the plan to be successful.

36. The submission briefly describes a number of elements of the reformed *Common Fisheries Policy* that are characterized as (mostly) non-monetary incentive measures: (i) a shark finning regulation; (ii) a plan of action to reduce discards in EC fisheries; (iii) a proposal for a Regulation to protect cetaceans from by-catch; (iv) a Regulation on the protection of deep-water coral reefs from the effects of trawling in the Darwin Mounds: (iv) the renewal of the sandeel closure in force off the Firth of Forth since 2000, for 2004; (v) the proposed Mediterranean regulation, which contains measures to protect sensitive habitats and banning fishing practices that may damage the physical environment; (v) the adoption of a proposal to protect from the effects of trawling the vulnerable habitats such as coral reefs, thermal vents and carbonate mounds found around the Macaronesian Isles.

6. India

37. India submitted a study on *Joint Forest Management (JMF)* as an example of non-monetary positive incentives. The study is summarized in document UNEP/CBD/SBSTTA/11/INF/11, box 7.

38. India also submitted a study on incentive-based mechanisms for watershed management. The project is a part of the implementation phase of the India country study under the international project:

"Developing markets for watershed protection services and improved livelihoods" undertaken by an NGO, Winrock International India, based in New Delhi. The project explores the innovative approach of valuing biodiversity resources associated with the land use patterns such as grazing land in the context of its ecosystem value by designing and implementing mechanisms to provide incentives for upstream communities from the downstream users and the major beneficiaries of the watershed.

39. This approach of linkage of upstream and downstream users with the natural resources of the watershed catchments is been explored in the Changar region, Himachal Pradesh, India. The study explains that many upstream communities, who are stewards of watersheds, are poor and have neither the resources nor the incentive to maintain or enhance watershed services that are used by downstream users; in fact, they are quite often dependent on the same resource for their livelihood e.g. livestock grazing. On the other hand, people in downstream areas who benefit from these services may contribute nothing towards better management of upstream areas. Thus, there is a need to explore alternative approaches through which receivers of the service can compensate the suppliers for changes in land use and management practices upstream to secure watershed protection services. Incentive-based approaches offer a solution that can be tried in conjunction with the other existing approaches.

7. Iran (Islamic Republic of)

40. Iran explained that Iran's fourth National Development Plan calls for the identification and adoption of economically and socially sound measures that act as incentive for conservation and sustainable use of biodiversity. Examples include: (i) the requirement to acquire valid estimations on ecosystem goods and services values and environmental degradation costs of major development plans in the country; (ii) the development of various measures to reduce overuse of pesticides and promoting sustainable agriculture practices, (iii) the promotion of private sector involvement and initiatives in conserving the biodiversity, through environmental awards and the application of ISO 14000; and (iv) the development of incentive measures in areas such as air, water and soil pollution, as well as waste and recycling.

41. Options for further activities were also identified: (i) the promotion of environmental training; (ii) the development of eco-tourism; and (iii) the enhancement of attitudes towards nature and biodiversity.

8. Myanmar

42. Myanmar informed that the Forest Department has been distributing the tree seedlings free of charge to schools and people for planting, as a positive incentive measure. The letter also notes that case studies could not be carried out at this stage.

9. Netherlands

43. According to the submission, the Netherlands considers incentives to be an important tool for conservation and sustainable use of biodiversity. It recognizes adverse incentives and policy measures are a threat for these objectives. Moreover, in view of the Netherlands, adverse incentives may prevent positive incentives and policies form being effective and efficient.

44. The submission provided an anecdotal selection of experiences on the use of non-monetary positive incentive measures for the conservation and sustainable use of biodiversity, such as on (i) the use of covenants within the food chain (e.g. supermarkets, food industry and farmers associations) of organic foods, which contribute to the lowering pressures on biodiversity; (ii) the promotion of certification systems; (iii) the preparation of a policy on sustainable procurement which may result in better market share of certified products; (iv) the development of cross-sectoral "red for green measures", consisting of the permission to perform an activity with a lower impact when abolishing the harmful activity (e.g., the granting of a building permit for housing if intensive animal husbandry produce will be abolished).

10. Spain

45. The submission from Spain noted a recent trend by Autonomous Communities to include incentive measures in natural resource management planning. Such planning is based on the differentiation of zones within the site, and the application of the incentive measures normally dpends on the importance of the zone or lies in the promotion of specific products or services.

46. The document notes that it has been a common practice in the past few years to create trademarks with focus on the management and sustainable use of biodiversity connected with protected areas or with biodiversity-rich rural landscapes. The trademarks include both private initiatives as well as trademarks created by Autonomous Communities (like the trademark *Natural Park of Andalucía,* created by Andalucía). The public sector, without being involved in its design and management, has a favourable policy to the introduction of certification procedures and environmental indicators of products and services directed to prove sustainable management.

11. Thailand

47. Thailand provided an overview of the use of incentive measures in Thailand, on (i) the development of markets for non-timber forest resources, (ii) community based forest management, and (iii) the establishment of youth camps in national parks as a means to raise awareness. The submission described the following activities: (i) promotion and development of markets for small timber and non – timber products; (ii) activities related to seed germination and seedling care and nurture, with a view to support farmers, government institutions, non governmental organizations, private entities, and publics to increase green areas; (iii) a voluntary community forest plantation project, with a view to build a management and administration system for forest plantation and a systemized and well managed forest; (iv) the promotion of community forest management by providing incentives such as training or the provision of enhanced seedlings; (v) strengthening the role of Buddhist Monks as key players in leading local community to conserve and develop forest resources and the environment.

48. The Department of National Parks Wildlife and Conservation has undertaken two major projects regarding non-monetary positives incentives for conservation and sustainable use of biodiversity. Youth camps are organized for conservation of natural resources and environment in national parks, with a view to educate young people towards a better understanding of natural resources conservation, and to promote and develop eco-tourism. Moreover, a public relation program was established to disseminate information regarding: rare, endangered species and the importance and high value of wildlife and plants, with a view to raise awareness and concerns in wildlife and plants.

12. United Kingdom of Great Britain and Northern Ireland

49. According to the submission, there are a few examples of non-monetary positive incentive measures in the United Kingdom, although it would be debatable whether these create positive incentives or simply recognize existing behaviour. Such measures include:

- labeling/certification systems such as the marine stewardship council certification scheme or the soil association organic certification scheme. They may not have the conservation of biodiversity as their primary aim but applicants often have to meet criteria about biodiversity (such as reducing dolphin by-catch etc.);

- A whole range of environmental and sustainability awards, some of which explicitly cover biodiversity, others include biodiversity as a category and still others where biodiversity can be tied into other environmental achievements. Examples include the annual English Nature *Sites of Special Scientific Interest (SSSI) award,* which recognizes owners and managers of SSSI's who adopt exceptional management practices, as well as the Business Commitment to

the environment, an independent awards scheme that runs annually and is aimed at businesses that can demonstrate commitment to the environment, over and above statutory requirements.

B. Information received from organizations

1. Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

50. CITES provided a report of the Technical Workshop on Economic Incentives and Trade Policy, held in Geneva, Switzerland from 1 to 3 December 2003.

51. On economic incentives, several participants stressed the need to learn from past experiences. This would include assessing the effectiveness and impacts of existing economic instruments with the aim of enunciating major elements that could be used by CITES Parties to manage international wildlife trade. Similarly, further work on economic instruments can profit from and build on guidelines that have already been developed in other forums, such as UNEP and the Convention on Biological Diversity. At the same time, some participants noted that more research needed to be done on the different types of impacts of trade measures, including the shifts in economic costs and benefits, while others suggested that policies could also be derived from 'trying out' policies and learning form practical experience.

52. Participants agreed that wildlife trade needed to be sustainable and generate revenues, which create incentives for further conservation of the resource. They also agreed that secure and properly enforced property rights were an essential condition for trade to contribute to wildlife conservation. It was concluded from the workshop results that more work on the use of economic incentives is needed as well as more information gathering from already existing projects of other organisations such as the Convention on Biological Diversity and UNEP-ETB. Participants also considered the need for another workshop on economic incentives before being able to provide more practical recommendations.

53. CITES also submitted a *Scoping Paper on Individual Transferable Quotas for Acipenseriformes spp. in the Caspian Sea,* which was prepared by the International Institute for Environment and Development (IIED) on behalf of CITES. The study explored the applicability of ITQs to the Caspian sturgeon fishery by introducing the general concepts of an International Transferable Quotas system and addressing the specific design issues that need to be considered for its application to the sturgeon population in the Caspian Sea. Based on lessons learned from a number of case studies where ITQs have been implemented, the study highlighted the limits of such an approach, identified key issues that need to be considered to assess its viability and effectiveness, and indicated a ladder of research necessary to design and implement an efficient and sustainable system.

2. IUCN – The World Conservation Union and Insight Investment

54. IUCN – The World Conservation Union and Insight Investment provided a study on *Biodiversity Offsets: Views, experiences, and the business case.* Biodiversity offsets are conservation activities that intend to compensate for the residual, unavoidable harm to biodiversity caused by development projects. The goal of the report is to explore the potential and limitations of biodiversity offsets as a tool for conservation, namely, to consider the concepts involved, such as "net benefit" and "no net loss", as well as why, where, when and by whom biodiversity offsets might be used, and what issues remain to be resolved. This report provides preliminary conclusions regarding the potential and limitations of biodiversity offsets, and what should be done to improve them.

3. United Nations Environment Programme (UNEP)

55. The United Nations Environment Programme provided information on the final release of two publications on economic instruments for policy-making:

(a) *The Use of Economic Instruments in Environmental Policy: Opportunities and Challenges*;

(b) *Economic Instruments in Biodiversity-related Multilateral Environmental Agreements.*

56. Comprehensive summaries of these publications were provided in paragraphs 48-50 the synthesis report on information on incentive measures received from Parties and organizations prepared by the Executive Secretary for the seventh meeting of the Conference of the Parties (UNEP/CBD/COP/7/INF/13).

4. United Nations Forum on Forests

57. The United Nations Forum on Forests submitted two reports that contain information on the design and application of incentive measures for the conservation and sustainable use of forests.

58. The report *Progress in Implementation on Economic Aspects of Forests: Report of the Secretary-General* (E/CN.18/2003/7) discusses the role of incentive measures for forest management. It notes that, since significant externalities and public goods are associated with forests, full-cost internalization is crucial. If negative externalities are not taken into account and all the costs are not included, there can be significant and harmful overproduction or overuse of the resource. Measures like life cycle analysis of wood products have been gaining popularity, and environmental assessment of projects is ensured by law in many countries, thus increasing full-cost internalization in the wood production chain and in the use of forest resource and wood products.

59. As regards economic instruments for environmental protection, the report observes that recent years have seen an increasing trend towards developing market-based instruments for environmental protection and production of ecosystem services. A survey suggests that, worldwide, there are close to 300 ongoing cases of actual and/or proposed payments for environmental services. Promising schemes — for example, tradable development rights in Brazil, payments for carbon, water and biodiversity in Costa Rica, conservation concessions to protect biodiversity in Guyana, and protection of the Catskill Mountains to conserve the water supply of New York City in the United States of America — are emerging at all levels.

60. The report also notes that, as market-based tools to promote sustainable forest management and to promote trade in forest products from sustainably managed forest resources, voluntary certification of forest management and labelling of forest products have made considerable progress in recent years. To date, the area of forests certified under various schemes worldwide is estimated at about 130 million hectares, compared with a mere 5 million hectares in 1998. Of this, tropical forest countries account for about 10 million hectares. However, the existence of a number of certification schemes calls for efforts towards their harmonization, and there are several ongoing processes aiming at compatibility of different schemes, such as the Mutual Recognition Framework. Ongoing certification initiatives with provisions for group certification and proposals for introducing stepwise or modular certification (to provide more time to achieve best practices) are especially important in enabling small and medium-sized enterprises and indigenous peoples producer groups to participate fully in certification schemes.

61. The report *Financing for Sustainable Forest Management: Current Challenges in the Changed Financial Environment*, prepared to assist the UNFF Ad Hoc Expert Group on the Finance and Transfer of Environmentally Sound Technologies in carrying out its tasks, also contains information on the role of inc measures. The report notes that for increasing revenue collection, payment mechanisms for non-market benefits and transparent and coherent long-term forest policies, including incentives, are elements of a comprehensive financial strategy for sustainable forest management. The role of the public sector is crucial for creating legal, policy and institutional frameworks for stable and transferable property rights.

62. The report also notes that there has been vital development in market-based instruments for the production and protection of environmental services. It has been reported that there are nearly 300 ongoing cases of actual and/or proposed payments for environmental services. In that regard, in addition to IPF, IFF and the United Nations Forum on Forests, the Kyoto Protocol to the United Nations Framework Convention on Climate Change and the Convention on Biological Diversity manifest the importance of "payments for environmental services from forests" and emphasize the role of forests in carbon sequestration. GEF also provides financing for ecosystem services through its Operational Programme for Integrated Ecosystem Management.

III. INFORMATION ON THE APPLICATION OF METHODOLOGIES FOR THE ASSESSMENT OF VALUES OF BIODIVERSITY

A. *Information received from Parties*

1. Czech Republic

63. The Czech Republic informed that work is ongoing on improving methodologies for the valuation of forest resources and of habitats. The Ministry of the Environment of the Czech Republic, in the framework of the research and development programme, coordinated a Project called "Comparison of approaches in valuing selected segments of nature in the Czech Republic and EU aimed at unification of such approaches". The Czech Ecological Institute with cooperation with other experts carried out this project in the period of 2001 – 2003. The outcomes of the project are still under review and in progress.

2. European Community

64. The submission by the Netherlands and the European Commission, on behalf of the European Community and its member States In 2002, explained that the European Commission commissioned a study called *Populating the Environmental Valuation Reference Inventory: 40 European valuation studies,* which was undertaken by Economics for the Environment Consultancy Ltd (eftec). The purpose of the study was to review 40 economic valuation studies that had taken place in European countries. Some of those include biodiversity related aspects such as the valuation of forests and national parks. Moreover, the European Commission commissioned a study on the valuation and restoration of damage to natural resources for the purpose of environmental liability. This study provided an overview over the most important methodologies for damage valuation in a liability context, and also provided an overview on important economic valuation tools.

3. The Netherlands

65. The Netherlands informed that methods are currently under development for decision-making processes with respect to major infrastructure projects.

4. Spain

66. Spain explained that there are different Administrations (including some Autonomous Communities) that are promoting initiatives to valuate environmental goods and services. These initiatives have the objective to assess the general costs of conservation and sustainable use to help in the decision making and priority setting procedures. Some of the most important, and with a broader perspective, of these initiatives are:

- The Navarra Strategy for the Conservation and sustainable use of biodiversity (Action Plan 1999-2004). This strategy includes one chapter on the valuation of biodiversity in Navarra.

Different relevant ecosystem goods and services are identified: wood, pastures, hunt, fish, wind, recreational values, landscape, and even fixed carbon as well as non-use values;

- The economic valuation of the Spanish network of National Parks seeks to identify environmental and recreational values by way of an analysis of the economic value of the network that integrate different aspects such as the present public use as well as the future public use and the no use value;

- The First Integral Economic Valuation of the Forest Ecosystems in Andalucía (2003) includes production aspects, as well as recreational and environmental ones.

5. United Kingdom of Great Britain and Northern Ireland

67. The United Kingdom provided a number of documents on the application of valuation methods.

Developing measures for valuing changes in biodiversity: Final Report

68. The document reports the findings of a research project funded by the Department for the Environment, Food and Rural Affairs (DEFRA). The aim of the research was to develop an appropriate framework that will enable cost-effective and robust valuations of the total economic value of changes to biodiversity in the UK countryside. The research involved a review of ecological and economic literature on the valuation of biodiversity changes. The information gathered from this review, along with the findings from a series of public focus groups and an expert review of valuation methodologies, were used to develop a suite of valuation instruments that were used to measure the economic value of different aspects of biodiversity. Contingent valuation and choice experiment studies were administered to households in Cambridgeshire and Northumberland, while valuation workshops were conducted in Northumberland only. The data from these studies were also used to test for benefits transfer.

An Economic Assessment of the Costs and Benefits of Natura 2000 Sites in Scotland

69. This study was commissioned by the Scottish Executive Environment and Rural Affairs Department (SEERAD) in November 2002 to conduct a detailed assessment of the economic costs and benefits in seven case-study areas: River Bladnoch Dumfries, Clyde Valley woods Clyde, Waukenwae & Red Moss, Sands of Forvie Area, Tips of Corsemaul & Tom Mor, Strathglass Complex and Lewis & Harris Group. The main contributor to financing the costs of managing the sites is the Government, through various Government agencies (43% of annual costs). Landowners contribute around 30% of the policy-on land management costs.

70. The study concludes that current full conservation protection of all sites throughout Scotland shows that an overall national welfare benefits are seven times greater than the national costs and represent good value for money. About 99% of this benefit (£210 million per year) relates to non-use values. Around 51% accrues as non-use value to the Scottish general public and 48% accrues as non-use value to visitors to Scotland. Around £1.5 million (1%) of the benefits relate to use values and when non-use values are excluded, the BCR over 25 years is only 0.06. The non-use values have been measured using carefully designed contingent valuation questionnaire surveys. The survey results indicate that potentially considerable benefit is gained from the continued protection of these sites without people necessarily visiting the sites. In addition to the quantified benefits, continued protection of the sites provides significant social, cultural, educational, research, environmental services and health values. These have not specifically been valued as part of this study, although part of these values will be included within the use and non-use value estimates.

Assessing the biodiversity impacts of transportation projects in the United Kingdom

71. The document provides guidance on how to appraise the costs and benefits of transport options in terms of their effects on both biodiversity and earth heritage (geological) interests. The methodology for appraising the impact of plans on biodiversity and earth heritage follows the four stage general approach to: describe sequentially the characteristic biodiversity and earth heritage; appraise environmental capital - using a set of indicators, describe how proposals impact on biodiversity and earth heritage features, including effects on its distinctive quality and substantial local and to produce an overall assessment score on a seven point scale.

Valuing the benefits of biodiversity in British forests

72. This report looks at existing studies and identifies the problems of applying values from these studies across all woodland. The approach adopted in this study is to use non-use values for biodiversity derived in existing studies for one specific type of woodland, and, by employing focus groups, to identify the public's relative values for biodiversity in other types of woodland.

Willingness to pay for the conservation and management of the wild geese

73. The study explains that in recent years a number of techniques such as Contingent Valuation (CV) and Choice Experiments (CE) have been established to establish the monetary values of non-market benefits. These techniques aim to measure the willingness to pay (WTP) of beneficiaries through the establishment of hypothetical markets. In this study these techniques were applied to estimate the WTP of the public for conserving wild goose stocks in Scotland. Monetary valuation of the non-market benefits of wild geese conservation is important to: help identify the optimal population of wild goose species by quantifying the marginal benefits of changes in the number of geese; to help justify public expenditure on goose management schemes and to assist in the selection of appropriate plans and policies for goose conservation. One conclusion of the survey is however that the survey approach is not entirely satisfactory when valuing unfamiliar environmental issues such as wild goose conservation.

Revealing the value of the natural environment in England

74. This report, commissioned by DEFRA, reviews the evidence on the role that the rural environment plays in the English economy. It focuses on the rural land use aspects of the environment economy relationship and presents overall estimates of the significance of different environment-related activity to the economy nationally. The review also provides a brief summary of experience in valuing the rural environment in England, and also reviews wider evidence of the value of the environment to society, by considering aspects such as the membership of environmental organisations, participation in environment-linked recreational activity, and evidence of the benefits of the environment to human health and well-being.

The Economic, Social and Ecological Value of Ecosystem Services: A Literature Review (Final Report)

75. This report presents the results of a broad literature review on the economic and other values of ecosystem goods and services. The review was commissioned by DEFRA to examine the role of ecosystem goods and services in communicating the benefits of biodiversity. The report considers the contribution of such goods and services from socio-economic and ecological perspectives drawing upon mostly international examples, and focusing on wetlands, forests and agro-ecosystems. The report also provides a framework that links ecosystems to their goods and services and resulting benefits to society. The report explains that this framework can enable better decision-making for ecosystem use, by demonstrating the full economic costs implicit in trade-offs between development and preservation of ecosystems. Two case studies are presented in an annex to demonstrate how ecosystem goods and services can be defined and their value quantified. Another annex contains a technical report that presents the scope of the study and further details on the issues discussed in the main report.

76. The report concludes that the examples of measures capable of 'capturing' demonstrated value include payments for provision of ecosystem services, creation of markets for ecosystem services where they do not already exist, improving the property rights system, enhancing the assets of the poor, improving the quality of economic growth, reforming international and industrial country policies and improving governance.

B. Information received from organizations

1. Food and Agriculture Organization (FAO)

77. The Food and Agriculture Organization of the United Nations provided a report on *Applications of the contingent valuation method in developing countries.* The report explains that the contingent valuation technique (CVM) is one survey technique for estimating the values of non-marketed goods. Applications of CVM that took place to date in developing countries are surveyed, and issues of relevance to successful implementation of this technique in these countries are discussed. This report can be used by FAO and its Member countries for guiding the work of practitioners who have a leading or technical contribution role in the design of CVM surveys. Furthermore, this report is meant to orient the work of experienced professionals with a general or technically specialized competence, towards the major steps in identification of the valuation issues, in survey design, and in the empirical methods necessary for CVM to value the non-marketed goods.

2. IUCN – The World Conservation Union (IUCN), The Nature Conservancy and The World Bank

78. Staff of the World Bank, IUCN—The World Conservation Union, and The Nature Conservancy have recently worked together and prepared a report on *Valuing Ecosystem Benefits* that seeks to clarify how ecosystem valuation should be conducted to answer specific policy questions. In particular, it looks at how valuation should be used to examine four distinct aspects of the value of ecosystems: (i) Determining the value of the total flow of benefits from ecosystems; (ii) Determining the net benefits of interventions that alter ecosystem conditions; (iii) Examining how the costs and benefits of ecosystems are distributed; and (iv) Identifying potential financing sources for conservation.

79. In an annex, the report also provides summaries of valuation studies in different regions of the world: (i) The Total Economic Value of Mediterranean forests; (ii) The value of natural capital in Sub-Saharan Africa; (iii) The impact of deforestation on Ghana's national savings rate; (iv) The benefits of reforestation in coastal Croatia; (v) The benefits of protecting Haiti's forest remnants; (vi) The value of mangrove forests as fish nurseries in Thailand; (vii) Tourism vs logging on Palawan; (viii) The costs and benefits of Madagascar's protected areas system; (ix) The impact of conservation on local communities in Uganda; (x) Paying for water services in New York State.

80. The report notes that a range of methods has been developed to value ecosystems and the services they provide, as well as the costs of conservation. The methods available are increasingly sensitive and robust, but they are often incorrectly used. One reason is poor understanding of the purposes of valuation and what questions it can, or cannot, answer. As a result, decision makers may get misleading guidance on the value of ecosystems and their conservation. Against this background, this report aims to provide guidance on how economic valuation can be used to address specific, policy-relevant questions about nature conservation.

81. The report concludes that economic valuation has both strengths and limitations as a tool for decision-making. It also notes, however, that decisions about environmental management are not getting easier, and that information about costs and benefits is increasingly essential to ensure efficient, equitable, and sustainable outcomes. The report states that, against this background, valuation can play an important role in providing such information, provided it is used correctly.

3. United Nations Forum on Forests

82. The United Nations Forum on Forests submitted two reports that contain information on the design and application of valuation tools.

83. The report *Progress in Implementation on Economic Aspects of Forests: Report of the Secretary-General* (E/CN.18/2003/7) explains that, since significant externalities and public goods are associated with forests, accurate valuation of forest goods and services is necessary for efficient resource allocation, welfare optimization and environmental accounting, and the IPF/IFF proposals for action have put a strong emphasis on this aspect of sustainable forest management. Statistics on the value of wood products are considered to be of good reliability and coverage, while the value of non-wood products is much more difficult to capture. Many countries report problems with application of non-market valuation techniques. A significant body of scientific literature exists on increasingly sophisticated valuation techniques, and their empirical applications are on the increase, but there seems to be a need to improve their practical applicability and usefulness in decision-making.
