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AD HOC OPEN-ENDED WORKING GROUP ON REVIEW OF IMPLEMENTATION OF THE CONVENTION
Fourth meeting
Montreal, 7-11 May 2012
Item 5 of the provisional agenda*

PROCEEDINGS FROM THE EXPERT GROUP MEETING ON BIODIVERSITY FOR POVERTY ERADICATION AND DEVELOPMENT AND THE EXPERT GROUP ANALYSIS OF THE ROOT CAUSES OF, AND INTERLINKAGES BETWEEN, BIODIVERSITY LOSS AND POVERTY

INTRODUCTION

1. As welcomed by decision X/6 of the tenth meeting of the Conference of the Parties to the Convention on Biological Diversity (COP 10) in Nagoya, Japan, the First Expert Meeting on Biodiversity for Poverty Eradication and Development, hosted by India through its Ministry of Environment and Forest, was held from 12 to 15 December 2011 at the Indian Council of Forest Research and Education in Dehradun, India. The meeting was organized by the Secretariat of the Convention on Biological Diversity (SCBD), co-hosted by the Indian Ministry of Environment and was supported through the generous financial contributions by Japan, Germany and France.

2. Decision X/6 is at the heart of the vision of the Strategic Plan for Biodiversity (SPB) 2011-2020 "Living in Harmony with Nature" where "By 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet, and delivering benefits essential for all people." and is essential to respond to The Rationale for the Plan: "biological diversity underpins ecosystem functioning and the provision of ecosystem services essential for human well-being. It provides for food security, human health, the provision of clean air and water; it contributes to local livelihoods, and economic development, and is essential for the achievement of the Millennium Development Goals, including poverty reduction." The mission of the Strategic Plan is to take effective and urgent action to halt the loss of biodiversity in order to ensure that by 2020 ecosystems are resilient and continue to provide essential services, thereby securing the planet's variety of life, and contributing to human well-being, and poverty eradication (…).[1]

3. Developing countries, small island developing States, least developed countries and countries in transition are directly addressed by decision X/6, however the decision does not exclude developed countries as their internal strategies and policy coherence for poverty eradication and development are also equally concerned by it.

* UNEP/CBD/WG-RI/4/1/Add.1

[1] Decision X/2, annex.

/…

4. According to the terms of reference decided on at the tenth meeting of the Conference of the Parties, the Expert Group was requested to:

"*... further elucidate the linkages between the three objectives of the Convention and poverty eradication and development processes, drawing upon expertise in both communities (biodiversity and development) and to identify the most effective approach towards a framework on capacity-development for mainstreaming biodiversity and ecosystem services for sustainable development and poverty eradication, building on existing initiatives and in close cooperation with relevant organizations*.

The Expert Group shall provide technical input to the Ad Hoc Open-ended Working Group on Review of Implementation of the Convention at its fourth meeting in accordance with the following terms of reference:

(a) Review the SWOT analysis to be prepared by the Secretariat;

(b) Identify the root causes of poverty that are possibly linked to biodiversity loss and suggest ways and means by which such causes may be removed or remediated by fulfilling the three objectives of the Convention;

(c) Identify means for scaling up good practices and lessons learned and sharing the linkages, between poverty eradication programmes and the three objectives of the Convention for sustainable development at the local, national, regional, subregional and global level;

(d) Provide guidance and priorities for all relevant actors involved in development processes (Governments, sector ministries, implementation agencies and other target groups such as policy-makers, practitioners, scientist, media, education);

(e) Ensure that the full range of biodiversity and ecosystem services considerations are taken into account to ensure that the guidance is consistent with the three objectives of the Convention and its Strategic Plan as well as to all the Millennium Development Goals and the United Nations Millennium Declaration.[2] "

5. The Expert Group was regionally balanced and composed of experts nominated by Parties and observers from each United Nations region as requested by decision X/6 at the tenth meeting of the Conference of the Parties[3].

6. The Expert Group Meeting used each of the paragraphs provided by the terms of reference[4] (above paragraphs a-e) as the titles and subject matter of the sessions on the agenda.

7. A questionnaire on the status of national mainstreaming of biodiversity and ecosystem services into poverty eradication and development[5] was sent to participants before the meeting. The following delegates and observers completed the questioners and sent them to the Secretariat before and during the meeting: government representatives of Mexico, Georgia, the Republic of Moldova, Columbia, Grenada, the United Kingdom of Great Britain and Northern Island, Germany, South Sudan, and the Republic of Kiribati, as well as two observers representing Association for the Protection of Environment and Culture and the Kanuri Development Association. The answers participants provided to the questionnaire offered a base for the discussions during the meeting.

8. The working documents[6] supplied to the Dehradun meeting participants were the following:

(a) The preliminary SWOT analysis;

(b) A glossary of working definitions;

(c) A reading list of documents;

(d) Note on capacity development for mainstreaming biodiversity into poverty reduction;

(e) A compilation of the answers given by participants of the mainstreaming questionnaire;

[2] General Assembly resolution 55/2 of 8 September 2000.

[3] See Annex A

[4] The complete terms of reference can be consulted in the Annex of decision X/6 at http://www.cbd.int/decision/cop/?id=12272

[5] Available at http://www.cbd.int/development/

[6] Available at http://www.cbd.int/development/

(f) Draft Provisional Framework on Capacity-Building for Mainstreaming Biodiversity and Ecosystem Services for Sustainable Development and Poverty Reduction[7];

(g) A list of participants; and

(h) The Nagoya Declaration on Biodiversity in Development Cooperation.

9. The principal outcome of the meeting was the generation of "Dehradun Recommendations" to be presented to the fourth meeting of the Working Group on Review of Implementation (WGRI-4) of the CBD and subsequently to the eleventh meeting of the Conference of the Parties (COP-11).

10. Two documents were generated from the Expert Group Meeting on Biodiversity for Poverty Eradication and Development: a report of the meeting[8] and this information document. The Summary Report, outlines the meeting's main discussions, an executive summary of "The Root Causes of, and Interlinkages between, Biodiversity and Poverty" and the "Dehradun Recommendations". This information document is composed of the meeting's proceedings, the full text of the "Root Causes of, and Interlinkages Between, Biodiversity Loss and Poverty" and a compilation of the results from the group work carried out at the meeting.

ITEM 1. OPENING OF THE MEETING

11. The Meeting was opened at 9.30 a.m. by Dr. V.K. Bahuguna, Director General, Indian council of Forestry Research and Education. He welcomed participants and emphasized the importance of the meeting.

12. Mr. Ravi Sharma, on behalf of Mr. Ahmed Djoghlaf, Executive Secretary of the Convention on Biological Diversity, thanked the experts who helped the Secretariat prepare the Expert Meeting. He also acknowledged that without the generous financial support from Japan, France, and Germany the meeting would not have been possible.

13. Further remarks were made by Mr. Hem Pande the National Focal Point to the CBD, Joint Secretary, Ministry of Environment and Forests, Government of India, Dr. R.B.S. Rawat, Principal Chief Conservator of Forests, Uttarakhand Forest Department and Dr. Renu Singh, Head of the Biodiversity and Climate Change Division, Indian Council of Forestry Research and Education. All speakers warmly welcomed the meeting participants to the Expert Meeting and emphasized the importance of the subject making note of India's strong implication in the work to alleviate poverty.

14. Mr. Pavan Sukhdev, TEEB Team Leader, delivered a key-note speech via video-message on the the necessity for the better economic valuation of biodiversity and ecosystem services to help alleviate poverty.

ITEM 2. ORGANIZATIONAL MATTERS

15. In accordance with established practice, Dr. Renu Singh, Head of the Biodiversity and Climate Change Division, Indian Council of Forestry Research and Education was given the presidency of the meeting as a representative of the host country.

16. Mr. Ravi Sharma of the Secretariat of the Convention presented the meeting's objectives and the organization of work. The provisional agenda (UNEP/CBD/EGM-BPED/1/1), based on the established terms of reference, was adopted along with the meeting's chairpersons. The meeting was held in English.

17. A "WGRI Recommendation Panel" was designated to compile the recommendations for the fourth meeting of the Working Group on Review of Implementation and the eleventh meeting of the Conference of the Parties. The Panel was composed of one country representative from each United Nations region (government representatives from India, Mexico, Norway, Cameroon and Kiribati).

18. An introductory presentation was given by Mr. Didier Babin of the Secretariat of the Convention. He explained the various decisions under the Convention on Biological Diversity pertaining to poverty eradication and development, the Biodiversity for Development initiative and gave a brief overview of the CBD's SPB 2011-2020.

[7] http://www.cbd.int/recommendation/wgri/?id=12238

[8] UNEP/CBD/WG-RI/4/5

19. Throughout the meeting, the Indian hosts collected all the PowerPoint presentations given over the three days and provided all participants with a CD at the end of the meeting. All presentation and the meeting's preparatory documents are available for consultation on Biodiversity for Development's website.[9]

ITEM 3. SESSION 1: ROOT CAUSES OF POVERTY THAT ARE LINKED TO BIODIVERSITY

20. According to decision X/6 the Expert Meeting was meant to: "Identify the root causes of poverty that are possibly linked to biodiversity loss and suggest ways and means by which such causes may be removed or remediated by fulfilling the three objectives of the Convention". This session, focused on the three objectives of the Convention and explored where and how biodiversity conservation and the sustainable use of biodiversity can contribute to poverty eradication, as well as, how efforts to address poverty can make sure they take biodiversity considerations into account. The session provided background information for the meeting.

21. The chair of the first session, Ms. Bente Herstad**,** the nominated expert from Norway, made a presentation where she stated that the goal of the first session was to gain a common understanding and produce a framework for how to carry out the work of the Expert Group Meeting. She identified the following challenges for the session: to clarify which subset of the CBD the Expert Group should focus on, to identify which Aichi Targets were of special relevance to poverty-eradication and development processes, and to generate concrete proposals for the fourth meeting of the Working Group on Review of Implementation and the eleventh meeting of the Conference of the Parties. Ms. Herstad also underlined the importance of biodiversity and ecosystems services for ensuring food and water security as well as the need to take biodiversity into account when planning and constructing transportation infrastructure.

22. Mr. Ben ten Brink, nominated government expert from the Netherlands, gave a presentation on how biodiversity and poverty related. Using the example of agriculture, he presented how the relationship between poverty (as measured by productivity per ha) and biodiversity (measured in main species abundance) could be a win-lose, win-win, lose-win and lose-lose depending on a limited set of socioeconomic and ecosystem factors (determinants). The higher the sustainable productivity per unit area the lower the need for conversion of natural land into production systems, and the lower the loss of biodiversity and related services. He showed that productivity increase, changing consumption patterns especially in the rich countries, and efficient use is a key factor in both poverty alleviation and biodiversity conservation.

23. A case-study on biodiversity and sustainable livelihoods was presented by Mr. Anupam Joshi representing the World Bank. Mr. Joshi based on the World Bank's work in India and Bangladesh suggested actions which could help improve the current management of biodiversity of that region of the world. He suggested scaling up the current protection of natural habitats, upgrading the legal status of existing and potential natural reserves, restoring degraded habitats, sustainably developing natural resources through improved extraction practices, and enhancing economic incentives for the sustainable use of biodiversity by capturing existing public goods associated with biodiversity.

24. Ms. Jessica Smith (UNEP) made a presentation titled "Poverty and Development in the Convention on Biological Diversity". Her presentation, which was based on an in-depth report[10], illustrated the biodiversity-poverty linkages and other efforts to mainstream poverty into text of the Convention and its programme of work. She also stated the CBD's poverty-related text has been unevenly implemented in the CBD's programme of work.

25. After the presentations were complete all participants raised questions and made comments on the topic beginning a dialogue on the subject. Participants unanimously agreed that the subject was too complex to tackle in only one session and therefore a small drafting group was established to produce a summary document on the subject. The drafting group worked during the meeting as well as through correspondence after the meeting to finalize "The Root Causes of, and Interlinkages between, Biodiversity Loss and Poverty" (Annex B).

[9] http://www.cbd.int/development/

[10] www.cbd.int/development/doc/cbd-pow-poverty-en.pdf

ITEM 4. SESSION 2: AVAILABLE MEANS TO MAINSTREAM BIODIVERSITY INTO POVERTY ERADIACTION AND DEVELOPMENT PROCESSES

26. According to decision X/6 the Expert Meeting was meant to: "Review the SWOT analysis to be prepared by the Secretariat". This session identified the existing mechanisms, initiatives and processes (MIPs) which mainstream biodiversity and ecosystem services into poverty eradication and development processes. The session's discussions and recommendations served to complete the preliminary SWOT analysis with any missing MIPs as well as to identify future CBD partners to fulfill decision X/6 on the "Integration of biodiversity into poverty eradication and development".

27. The second session was chaired by Mr. Andreas Gettkant, the government nominated expert from Germany. Mr. Gettkant presented the proposed organization of the session as well as the session's objectives. He asked that the group suggest actions to move towards achieving the SPB's 2 and 14 targets, with actions such as developing monitoring methods, determining what was required from each actor and stakeholder, and formulating how to organize capacity-building activities.

28. Ms. Natasha McQuaid of the Secretariat for the CBD presented an overview of the Secretariat's analysis of the strengths, weaknesses, opportunities and threats (SWOT) of existing mechanisms, initiatives and processes relevant to mainstreaming biodiversity and ecosystem services into poverty eradication and development processes.

29. Mr. Paul Steele of the Poverty Environment Initiative (PEI) presented the experiences and lessons learnt for mainstreaming biodiversity and ecosystem services into poverty eradication and development processes. Specifically, the lessons learnt were to: target specific environmental outcomes that matter to the poor, focus on working with Ministries that make investment decisions, produce economic evidence to inform the reforms process, generate innovative and sophisticated approaches to building in-country capacity, and create harmonised and coherent United Nations support.

30. After the presentations questions were raised and a brainstorming session was had on how to establish indicators for mainstreaming biodiversity and ecosystem services into poverty eradication and development processes. The level of involvement needed from specific stakeholders for the mainstreaming process was also discussed with all participants.

31. There was a general consensus that the presented SWOT analysis was a useful tool and offered a valuable opportunity for continuing the work of the Expert Group and of the Convention on this topic. The Expert Group on Biodiversity for Poverty Eradication and Development requested that the secretariat continue to work on the SWOT in preparation for the fourth meeting of the Working Group on Review of Implementation and the eleventh meeting of the Conference of the Parties and requested the Secretariat to:

(a) Broaden the SWOT analysis to include relevant regional mechanisms, processes and initiatives[11];

(b) Continue to work through correspondence and teleconferences with the Expert Group to further improve the SWOT analysis;

(c) Make use of the strengths, weaknesses, threats, and opportunities of the 28 mechanisms, initiatives and processes analyzed by the Secretariat to continue the work of the Expert Group and of the CBD on this subject;

(d) Consult the organizations analysed by the SWOT in order to deepen the analysis.

[11] Suggestions to add the following initiatives, mechanisms, or processes: Regional initiatives: Organization of Red Sea; Organization of Gulf of Aden; Organization of Nile basin; Re-Greening Africa initiatives; Roles of Regional banks; Regional trade agreements; Regional organizations for economic integration (SADC, ACTO…) The private sector initiatives: Forest Stewardship Council; the Climate, Community and Biodiversity Alliance; International Finance Corporation Performance Standard 6 (Biodiversity Conservation and Sustainable Natural Resource Management). Other conventions: CITES; Ramsar; CMS. Other suggestions: World Trade Organization and Subsidy Systems; The Consultative Group on International Agricultural Research (CGIAR)

ITEM 5. SESSION 3: SCALING-UP GOOD PRACTICES AND LESSONS TO MAINSTREAM BIODIVERSITY AND ECOSYSTEM SERVICES WITH POVERTY ERADICATION AND DEVELOPMENT PROCESSES

32. According to decision X/6, the Expert Meeting was meant to: "Identify means for scaling-up good practices and lessons learned and sharing the linkages, between poverty eradication programmes and the three objectives of the Convention for sustainable development at the local, national, regional, subregional and global level." The goals of the session were to: (i) establish procedures for monitoring and evaluation, (ii) produce recommendations on how to integrate, and mainstream biodiversity and ecosystem services into development and poverty eradication processes and procedures, and (iii) decide how to better exchange information on best practices for mainstreaming processes.

33. This session was chaired by Mr. Nik Sekhran from the United Nations Development Programme who gave a presentation explaining the session's objectives and goals. His presentation included a brief outline of the ecological, social, and economic benefits of mainstreaming biodiversity and ecosystem services into poverty eradication and development processes. He spoke about the benefits of sustainable management of biodiversity using a landscape approach along with the processes and prerequisites necessary to put such an approach into place. Ways to integrate the private sector into a landscape approach to biodiversity management were proposed.

34. Mr. Amadou Diop representing the African Development Bank, made a short presentation on "How bank systems should contribute to mainstream biodiversity?" Based on his experience at the African Development Bank, he spoke about how to scale up good practices for mainstreaming biodiversity and ecosystem services into poverty eradication and development processes when dealing with different stakeholders. When working with communities, he said that the complex and heterogeneous nature of communities must be taken into account. He mentioned that governments could most effectively deal with mainstreaming if they were transparent, had good intersectoral communication and coordination, as well as being decentralized. Finally, he stated incentives could help the private sector to engage in activities that protect and replenish biodiversity and ecosystems services.

35. Mr. Adalberto Eberhard, the nominated expert from Brazil, presented the issue of mainstreaming biodiversity into poverty eradication and development policies for Brazil. He began his presentation with a reminder to the group that there are many ecological processes that are yet unexplained or unknown to humans, and that the precautionary principle should be respected with regards to biodiversity and ecosystem service management. This was illustrated by the example of how the Amazon forest receives 50% of its nutrient inputs from sand clouds travelling from the Bodélé desert in Chad. Regarding Brazil's approach to mainstreaming, he explained that there are extensive laws and policies to safeguard biodiversity but that enforcement of this legislation is limited. He also stated that determining and defining the root causes of poverty is extremely challenging for the Expert Group as the root causes of poverty are created locally, regionally, and nationally, and that changes in poverty and biodiversity are the symptoms of these local root causes.

36. Mr. Andreas Gettkant, the nominated expert from Germany, presented an example of how Germany addressed the issue of mainstreaming biodiversity into poverty eradication and development policies. He stated that biodiversity and the environment underpin human livelihoods because of the ecologic, social and economic benefits that they provide to humans. He presented some of the work to move mainstreaming efforts forward that Germany has undertaken and participated in since 1992. The lessons learnt included: formal environment and climate assessment in German DC (binding from 2011 on for all policies, programmes and projects) , developing a better understanding of the economic and social implications of biodiversity and ecosystem services (i.e. ecosystem based adaptaion), and furthering the integration of biodiversity into other sectors of development work (i.e. water, agriculture…).

37. Following the presentations, a group exercise was carried out. Participants established three working groups to brainstorm about how to better mainstream biodiversity and ecosystem services into poverty eradication and development from three perspectives: 1) communities, 2) markets, the private sector, and livelihoods, and 3) governance. Each brainstorming group identified, from their group's perspective, good practices, lessons learnt, gaps and opportunities to scale-up good practices for mainstreaming biodiversity and ecosystem services into poverty eradication and development. After the groups discussed separately, all participants returned to the main meeting room to present and discuss their findings. This brainstorming sessions is presented in Annex C1.

ITEM 6. SESSION 4: CAPACITY DEVELOPMENT FRAMEWORK

38. According to decision X/6, the Expert Meeting was meant to: "further elucidate the linkages between the three objectives of the Convention and poverty eradication and development processes, drawing upon expertise in both communities (biodiversity and development) and to identify the most effective approach towards a framework on capacity-development for mainstreaming biodiversity and ecosystem services for sustainable development and poverty eradication, building on existing initiatives and in close cooperation with relevant organizations.". The session, chaired by Ms. Prudence Galega, the nominated representative of Cameroon, began to establish the principal elements to be included in a capacity development framework and at which level they will be applied.

39. Mr. Paul Steele made a presentation on capacity-building where he stated that capacity development is: "the process through which individuals, organizations and societies obtain, strengthen and maintain their capabilities to set and achieve their own development objectives over time"[12]. He suggested that for a country to mainstream biodiversity for poverty reduction it needs competent and motivated individuals working within effective organizations, and operating in a supportive enabling environment. He also posed the following questions to the participants for discussion in three small groups:

- How have (1) Politicians and major government departments (eg Finance, Transport, Agriculture), (2) the private sector, or (3) communities been convinced and acted to mainstream biodiversity for poverty reduction?
- What were the capacities needed in terms of enabling environment, organizations and individuals that made this happen?
- How where these capacities achieved?

40. Afterwards, nominated government representatives from Grenada, Mexico and Sudan shared their experiences of mainstreaming biodiversity and ecosystem services into poverty eradication and development.

41. Ms. El Khitma Mohammed, the nominated government expert from Sudan explained that Sudan's major lessons learnt for sustainable biodiversity management necessitates the involvement of the poor in decision making. She also stated that all relevant ministries must fully consider biodiversity in their plans and policies.

42. Mr. Santiago Lorenzo, the nominated government representative from Mexico stated that efforts have been ongoing for almost 20 years to mainstreaming poverty eradication into biodiversity conservation. However despite this, stronger efforts needed to be made to reinforce governance priorities, law enforcement, public awareness for mainstreaming biodiversity and ecosystem services into poverty eradication and sustainable development processes. His main final remark was about the need to change the current economic paradigm as the root of poverty and ecosystem degradation.

43. Mr. Aden Forteau, the nominated government representative of Grenada, emphasized that while the mainstreaming process had begun it was still necessary to continue and scale-up efforts to mainstream biodiversity. He emphasized that a holistic policy, structure, strategic plan and implementation structure was key. Synergies had to be further developed as well as active involvement of stakeholders at all phases. More resources needed to be mobilized, as well as political will developed and institutional support.

44. Mr. Medani Bhandari, the co-founder and former chair of Association for Protection of Environment and Culture (APEC-Nepal), presented case-studies on the problems and consequences of poverty and biodiversity conservation in Bangladesh, India, Nepal and Pakistan. He explained that biodiversity and poverty issues could not be addressed in isolation. He concluded that unprecedented levels of cooperation, collaboration and resource mobilization were needed and that new mechanisms of cooperation were required to develop special provisions to help the poor move towards managing biodiversity.

45. A question and answer period on countries' mainstreaming experiences followed. The participants then clustered into three groups (governance, private sector and communities) to discuss and make suggestions for capacity-building, keeping the questions from Paul Steele in mind. The participant's answers were then grouped into appropriate categories and presented to the group. The results of the group work can be consulted in Annex C2.

[12] UNDP, *Practitioner's Guide: Capacity Development for Environmental Sustainability*, *Group* (New York, NY, 2011), http://www.beta.undp.org/content/dam/aplaws/publication/en/publications/environment-energy/www-ee-library/mainstreaming/cdes/UNDP Practitioner%27s GuideWEB.pdf.

ITEM 7. SESSION 5: GUIDANCE AND PRIORITIES ON MAINSTREAMING FOR ALL RELEVANT ACTORS INVOLVED IN DEVELOPMENT PROCESSESS

46. According to decision X/6 the Expert Meeting was meant to: "Provide guidance and priorities for all relevant actors involved in development processes (Governments, sector ministries, implementation agencies and other target groups such as policy-makers, practitioners, scientist, media, and education)". The session, chaired by Aden Forteau the government nominated expert from Grenada, discussed the best and most efficient methods for the mainstreaming of biodiversity and ecosystem services into poverty eradication and development processes.

47. A group exercise on the identification of guidance and priorities, held in small groups at first, was coordinated by Jessica Smith (UNEP). Participants formed groups which produced guidance and recommendations for mainstreaming biodiversity and ecosystem services into poverty eradication and development processes from the perspective of a key stakeholder or actor. The participants formed groups as follows: 1) The Secretariat of the Convention on Biological Diversity, the Expert Group, National governments, and the Conference of the Parties; 2) Academic and research institutions; 3) International, subnational, and local organizations; 4) The private sector and local governments; and 5) NGOs, civil society and media. Each group designated a "group facilitator" and a "group note-taker". After an initial discussion period, the note-taker and facilitator changed groups to test and improve their guidance proposals with a different group. Results from the group activity are located in Annex C3. The propositions made by the groups served as a base for the Expert Group's "Dehradun Recommendations" for the fourth meeting of the Working Group on Review of Implementation and the eleventh meeting of the Conference of the Parties.

ITEM 8. FINAL SESSION: CONCLUSION AND RECOMMENDATIONS

48. The goal of the final session was to produce concrete recommendations for the fourth meeting of the Working Group on Review of Implementation of the Convention. This final session was chaired by Dr. Renu Singh, Head of the Biodiversity and Climate Change Division, Indian Council of Forestry Research and Education.

49. After a brief introduction from the chair, Mr. S.P. Subudhi presented a history and overview of the Rajaji National Park as an introduction to field trip held in the park on 15 December. Complementary documentation about the park was also distributed to participants.

50. The WGRI Recommendation Panel" compiled a draft of concrete recommendations based on the discussions and group work of the participants during the meeting. The participants were requested to comment on whether there were any missing elements which were not in the draft. After the comments were received and discussion was concluded, participants decided that the :

(a) Final version of the recommendations to be presented to the fourth meeting of the Working Group on Review of Implementation would be titled "Dehradun Recommendations";

(b) Report and all documentation produced for and during the Expert Group Meeting would be considered the capacity development framework for mainstreaming biodiversity and ecosystem services into poverty eradication and development[13];

(c) Participants would continue the work of the meeting, including the finalization of the report and the Dehradun recommendations, through correspondence and teleconferencing as appropriate;

(d) Secretariat of the Convention would generate a first draft of the Dehradun Recommendations and of the meeting report which would be circulated to all participants for comments;

(e) Secretariat of the Convention would then generate a final version of the report, including the "Dehradun Recommendations" which would be validated by the Recommendation Panel for the Working Group on Review of Implementation; and

(f) The Executive Secretary submit the Dehradun Recommendations for consideration at to the fourth meeting of the Working Group on Review of Implementation.

51. In addition to the Dehradun Recommendations for to the fourth meeting of the Working Group on Review of Implementation, the Expert Group on Biodiversity for Poverty Eradication and Development requested that the secretariat ask all Parties to the Convention to fill out the mainstreaming questionnaire.[14]

[13] http://www.cbd.int/development/EGMBPED/

ITEM 9. ADOPTION OF THE MEETING REPORT AND CLOSURE OF THE MEETING

52. Dr. Renu Singh representing India presented the conclusions of the meeting which were then adopted by the participants.

53. The participants thanked the Indian Hosts, the Indian Council for Forestry Research and Education for their hospitality.

54. The meeting ended on Wednesday, 14 December 2011 at 7 p.m.

[14] Available for consultation at http://www.cbd.int/development/

ANNEX A – List of participants

Name	**Government nominated representatives / Observers**
El Khitma El Awad Mohammed Ahmed	Sudan (Government representative)
Prudence Tangham Galega	Cameroon (Government representative)
Hem Pande	India (Government representative)
Turang Teuea	Republic of Kiribati (Government representative)
Nona Khelaia	Georgia (Government representative)
Ala Rotaru	Republic of Moldova (Government representative)
Andreas Gettkant	Germany (Government representative)
Ben ten Brink	The Netherlands (Government representative)
Bente Herstad	Norway (Government representative)
Aden Forteau	Grenada (Government representative)
Santiago Lorenzo Alonso	Mexico (Government representative)
Adalberto Eberhard	Brazil (Government representative)
Vishaish Uppal	World Wildlife Fund (India)
Tony Rajan Mathew	Kerala Sustainable Urban Development Project (India)
Rashed Al Mahmud Titumir	Forest Peoples Programme (Bangladesh)
Lazar Chirica	NGO Center Fagus / Top Geo Project Company (Republic of Moldova)
Babagana Abubakar	Kanuri Development Association (Nigeria)
S. Faizi	Indian Biodiversity Forum (India)
Nik Sekhran	United Nations Development Programme (South Africa)
Jessica Smith	United Nations Environment Programme (United Kingdom)
Irene Hoffmann	Food and Agriculture Organization of the United Nations (Italy)
Raquibul Amin	International Union for Conservation of Nature - South Asia Programme (Thailand)
J.S. Rawat	International Union for Conservation of Nature (India)
Amadou Bamba Diop	African Development Bank (Tunisia)
Herbert Acquay	World Bank (Ethiopia)
Aditi Jha	Development Alternatives (India)
Paul Steele	Poverty-Environment Initiative (Thailand)
Medani P. Bhandari	Association for Protection of Environment and Culture (Nepal)
Pramod Krishan	Unites Nations Development Programme (India)
Anupam Joshi	World Bank (India)
Renu Singh	Indian Council for Forest Research and Education (India)
V.K. Bahuguna	Indian Council for Forest Research and Education (India)
Ravi Sharma	Secretariat of the CBD
Atsuhiro Yoshinaka	Secretariat of the CBD
Natasha McQuaid	Secretariat of the CBD
Didier Babin	Secretariat of the CBD

ANNEX B – Root Causes of, and Interlinkages between, Biodiversity Loss and Poverty

Executive Summary

I. In response to Decision X/6 and the mandate of the Expert Group on Biodiversity for Poverty Eradication and Development, this document aims to support a better understanding of the common root causes of biodiversity loss and poverty, and the interlinkages between biodiversity and poverty, a prerequisite for the targeted mainstreaming called for in X/6, X/2 (Strategic Plan for Biodiversity), and elsewhere throughout the Convention.

II. Ultimately, all people depend on ecosystems and their biodiversity, both the poor and the rich. However, the poor depend disproportionately on biodiversity for their subsistence needs – both in terms of income and insurance against risk.

III. A certain level of biodiversity loss is unavoidable in economic development, with the exception of already degraded areas. Even in degraded areas, however, there is still high potential for achieving win–win outcomes for poverty reduction and biodiversity through, for example, green economic transitions and ecosystem restoration. There are good examples of countries increasingly using biodiversity in a sustainable way to achieve development goals. These can be drawn upon to minimize the possible negative effects of development and increasing consumption on biodiversity

IV. Care should be taken to avoid that poor and vulnerable groups are the ones to pay the cost of strict protection of biodiversity by not being compensated for losing their customary and traditional user rights when strict protection regimes are deemed necessary. Including safeguards in the design of conservation policy and projects will ensure that poor people are not made worse off, or their rights infringed.

V. If the conversion of natural ecosystems is unavoidable to meet human needs, loss of biodiversity and ecosystem functions is mitigated by transforming the land in sustainable, intensive production systems. The loss of capability to produce biomass – degradation- should be prevented at all means.

VI. Although many management decisions affecting biodiversity and ecosystem services are made at a local level, these are conditioned by sector, national and international policies. These provide clear opportunities to mainstream biodiversity in ways that can support poverty reduction.

VII. However, positive poverty reduction and biodiversity outcomes cannot be taken for granted. Many opportunities exist but may have the opposite effect if poorly managed or implemented. And a major challenge is to ensure consistent policies across sectors, scales and policy domains.

VIII. While there is significant experience and literature on tools and processes for mainstreaming the environment in general, there is much less experience with the tools for mainstreaming biodiversity and ecosystem goods and services. Some lessons from poverty-environment mainstreaming, however, prove very valuable guidance.

Introduction

1. In Decision X/6, COP *Decided* to establish an **Expert Group on Biodiversity for Poverty Eradication and Development**, to "elucidate the linkages between the three objectives of the Convention and poverty eradication and development processes, drawing upon expertise in both communities (biodiversity and development) and to identify the most effective approach towards a framework on capacity development for mainstreaming biodiversity and ecosystem services for sustainable development and poverty eradication."
2. A better understanding of the **common root causes** of biodiversity loss and poverty and the interlinkages between biodiversity and poverty is a prerequisite for targeted and effective mainstreaming of biodiversity.
3. This document is intended to **support discussion** within in the CBD by exploring different aspects of the complex relationship between biodiversity and poverty.[15]
4. Although the members of the Expert Group acknowledge that poverty has social, economic, institutional and ecological causes, our focus is mainly on the latter, which reflects the mandate of the Convention[16]. Socio-political and economic root causes of biodiversity loss and poverty, however, do have to be considered, e.g., through greater engagement of the Convention with development processes.
5. The following **aspects of biodiversity and poverty** have been considered: i) working definitions of biodiversity and poverty and a framework for analyses; ii) *the biophysic*al relationships between poverty and biodiversity; iii) common root causes; iv) ways in which biodiversity conservation and sustainable use can promote poverty eradication, and; v) identifying groups of people who are prone or vulnerable to falling into poverty due to biodiversity degradation or biodiversity protection measures.
6. The biodiversity–poverty relationship is **complex and location specific** (Tekelenburg et al., 2009; Smith et al., 2010; sCBD, 2010 b and c). It has a multi-dimensional, multi-scale, multi-temporal and multi-actor character. Moreover, biophysical and socio-economic causes are often interwoven. The nature of the relationship and the direction of the causation – whether biodiversity determines poverty or poverty determines biodiversity – are functions of the setting and the context. Contexts and institutional settings differ across countries, societies and ecosystems. Given this complexity, the Expert Group followed a **pragmatic approach** in which a few different types of biodiversity–poverty linkages – with different root causes and exposed peoples **–** were identified and briefly examined here. In this initial report only first order biodiversity–poverty relationships are taken into account.

Framework and definitions

7. Considering the **biodiversity–poverty relationship** in **a historical perspective** provided a **basic framework for analysis**.
8. There are diffe**rent beliefs an**d knowledge systems and consequently different **perspectives on poverty**. The view from many people in the industrialized world differs from, for example, the point of view of many indigenous peoples. For the former, poverty is often more strictly related to economic parameters lack of money, possessions, GDP and industrialization – although there is increasing recogniti**o**n that poverty is multi-dimensional and includes issues such as lack of power, lack of support networks, lack of freedom of choice, and so on. For indigenous peoples and local communities these elements of poverty may be meaningless constructs. Their view is more holistic

[15] The analysis should in no way be considered final or complete. The members of the expert group do not consider this report a scientific paper. However, it is based on scientific and traditional knowledge of the members of the expert group at hand. The references to literature are anecdotal rather than all compassing and must be seen as illustrative rather than offering scientific proof.

[16] Basic human needs that relate directly to ecosystems and natural resources such as food, water and energy security, and physical safety.

and relates to a wide array of elements. Poverty may, for example, may be viewed in terms of not being an integral part of – or living in harmony with – the land and its plants and animals; lack of a peaceful community and a safe environment; or losing ownership of a unique culture, art, traditional cloths or language. If one of these elements is not working well, it will affect everything. To many, indigenous peoples are poor because of their low incomes or lack of money. From the indigenous perspective "modern" people are poor because they lack the more spiritual elements and do not care for Mother Earth. Different perspectives and different development paradigms, may lead to different conclusions.

9. In this document the expert group tries to bridge the two perspectives. The **livelihoods concept** may be of help for it refers to universal basic human needs such as food, water, fibre, energy and physical safety. The *availability* of products and services to fulfill these basic human needs seems to be informative, as they directly relate to ecosystem functioning. Moreover, information on these commodities is quantitative, widely available and is relevant for all, irrespective their perspectives[17]. Information on ecosystem services is more difficult to assess and quantify, as reflected in various approaches to determine indicators. The entire socio-economic importance of biodiversity cannot and does not figure in public statistics, as its contribution to livelihoods and sustenance accrues mostly at the micro-level. These would require a more verbal and qualitative approach.
10. Ecosystems are **spatially and temporally linked**. For example, some scientists state aerial nutrient transfer from Chad would support functions of the Amazon forests (Lovett, 2011). The vagaries of monsoon in the Indian sub-continent are a good example for the importance of the temporal dimension.
11. **Biodiversity loss** is considered to be the decrease in population sizes of many original species and the increase in population sizes of a few others –often opportunistic or introduced species – due to human interventions. Because these small number of opportunistic species gradually replace the original ones, different ecosystems are becoming more and more alike –the so-called homogenization process (Lockwood *et al*., 2001). Extinction is a last step in a long degradation process.[18] The loss in agro-biodiversity is a similar process, in which local breeds and crop varieties are gradually replaced by a small group of globally applied ones.
12. In this document, biodiversity loss is measured accordingly in terms of **mean species abundance** (MSA) (Alkemade et al., 2009). MSA is a composite measure of the CBD indicators on species abundance and distribution (UNEP/CBD/SBSTTA/15/2)[19]. It is applied in global and regional assessments undertaken by UNEP, CBD, OECD, TEEB and others. It measures the average change in population sizes of the original species compared to their abundance in the intact or low-impacted state[20]. However, when defining the "original" biodiversity, we need to keep in mind that nature is dynamic and evolutionary. Addressing this dynamic in conservation is of crucial importance both for conservation strategies and for developing management techniques that aims to mimic natural processes to reduce the negative effects of humans at nature.
13. In this report, ecosystem **degradation** is defined as the final result of biodiversity loss, resulting in a loss of regulating and supporting ecosystem services. One often used indicator for ecosystem degradation is the loss of soil fertility or capability to produce organic material.

[17] Both the former and the latter indicators relate to indicators of the Millennium Development Goals.

[18] Surprisingly, species richness initially often increases . This is called the intermediate disturbance diversity peak (Lockwood et al, 2001)

[19] These indicators relate to 2010-indicators and those proposed by the expert group on indicators for the Aichi targets and have been applied in the Global Biodiversity Outlooks.

[20] It is a measure similar to the inflation index, which measures the average of a representative basket of products compared to a reference year.

Interlinkages and common root causes

14. Figure 1 shows result from a literature review on the relationship between biodiversity and poverty. **All types of relationship are found**: growing income in combination with decreasing biodiversity (win–lose); decreasing income in combination with increasing biodiversity (lose–win); win-win; and lose-lose. There are also intermediate outcomes, such as win–neutral and win–lose less.

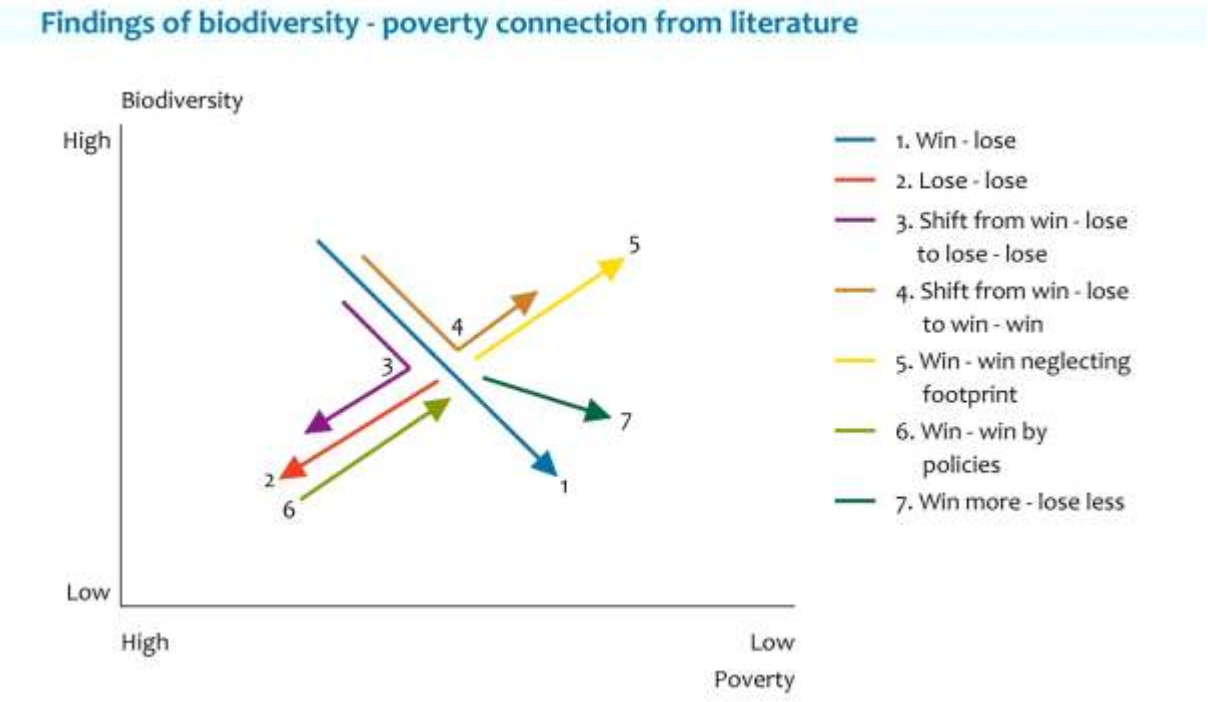

Figure 1: Generic relationships between biodiversity and poverty found in the literature. Source: Tekelenburg et al, (2009).

15. At first glance, these diverse outcomes might lead to the conclusion that a generic relationship between biodiversity and poverty does not exist, and that the relationship between the two is entirely location-specific. However, these seemingly diverse outcomes can be consistently rearranged into a few **development pathways**, as shown in the "spider" in Figure 2.

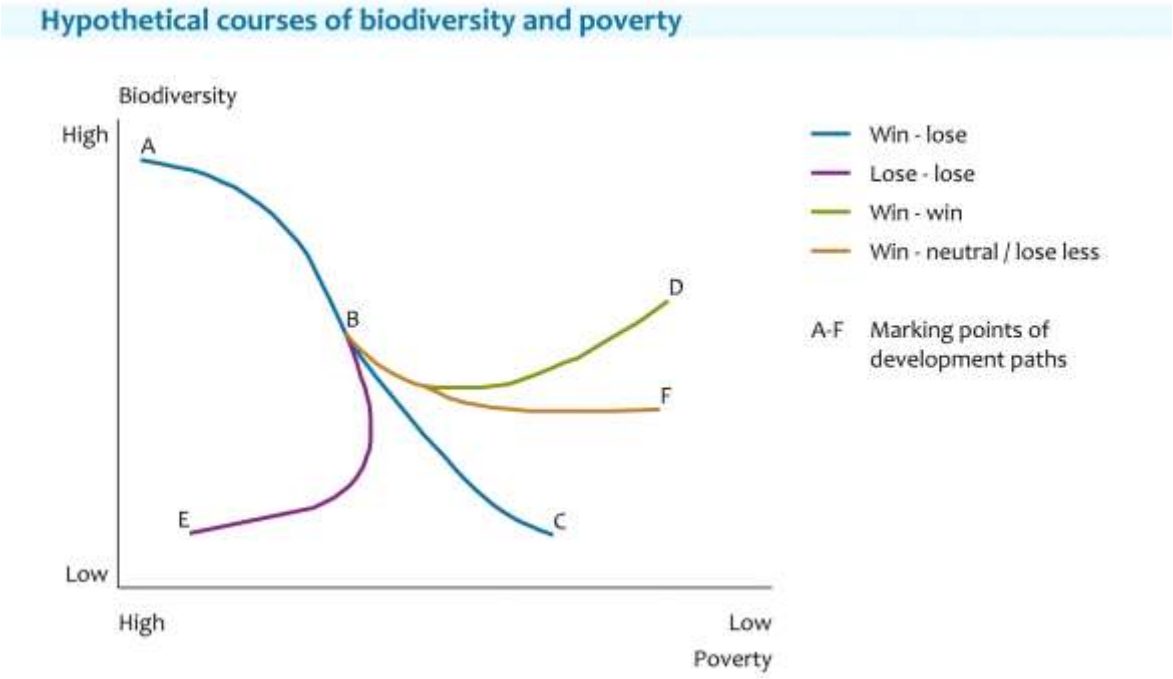

Figure 2: Generic relationships between biodiversity and poverty rearranged according to 4 stylized development pathways. Source: Tekelenburg et al, (2009).

16. These stylized development pathways are roughly akin to broad **socio-economic transitions** in which livelihoods based on i) "hunting and gathering" (most or all food is obtained from wild plants and animals) gradually transform into ii) extensive agriculture (some domesticated species), which in turn shift to iii) intensive agriculture (high productivity per unit area). This simplified schema does not apply only to crops. A similar process took place in the case of livestock production, fibre production in plantations, fish production in aquaculture and, most recently in the production of fuel-crops. All these categories can currently be found in different regions of the world, with different cultures, and biophysical and economic constraints and opportunities. Today, the number of people who exclusively depend on hunting and gathering for their livelihoods has become small. However, hunting and gathering is regularly practiced as an additional source of income in extensive and traditional agricultural livelihoods (WRI, 2005; Sjaastad, 2005) – in other words more than one livelihoods category can be undertaken at the same time. Hunting and gathering is particularly important for obtaining goods and services such as bush meat, fire wood and fodder, edible and medicinal plants, mushrooms and clean water ("**environmental income**"), and indicates direct relationships with, and dependency on, the healthy ecosystems.
17. With productivity increase per unit area, income and loss in original biodiversity also increased – the so-called **"win-lose**" development pathway (A -> C). In this process, the original, non-functional species (i.e. those that are not of direct use to humans) are progressively replaced by functional ones. A negative side-effect is that the increase in the production of a limited number of specific goods (e.g. food) is at the expense of the other ecosystem goods and services[21]. If these biodiversity losses are not properly managed and limited, the ecosystems eventually lose their capability to produce organic material and degrade. This is the second development pathway, the so-called **lose–lose** (A -> E). The

[21] In general increased economically profitable good production goes at the expense of non-tangible and non-marketable ecosystem services.

third development pathway is **"win–win",** in which biodiversity recovers after a win–lose trajectory, while income increases further (A -> D) [22]. The **second win–win** scenario is one in which degraded ecosystems are restored by reversing a lose–lose process (E -> B)[23]. The extent of degraded ecosystems has been estimated at more than 20 million km^2 since the dawn of settled agriculture, more than 15% of the world's terrestrial surface (Lal, 2001; FAO, 2011). Many examples of the latter win–win development pathway can be found (UNEP, 2011). A restoration target has been recently included in the Aichi target 15 for 2020 (CBD, 2010).

18. **Common root causes** of biodiversity loss and poverty relate to ecological, socio-economic, institutional and governance factors. Ecological factors that make systems vulnerable to collapse include: extreme cold and hot temperatures and low and high precipitation, poor soils, slopes and high altitudes. Socio-economic and institutional factors that make systems vulnerable to collapse include: high population density and growth; high levels of (economic) poverty; lack of technology, skills and education; no access to inputs, services and capital; presence of natural assets for which there is a high global market demand; and lack of institutional capacity, regulation, law enforcement and tenure security. Governance issues are critical – both biodiversity loss and persistent poverty may be symptoms of corruption, lack of accountability and vested interests. Decisions to conserve or exploit biodiversity and decisions to reduce or ignore poverty are thus inherently political processes. Decisions about how resources are used and by whom are often made independently from any concern with either poverty reduction or biodiversity conservation but rather reflecting the economic, political or individual interests. Also other poverty related factors such as unequal distribution of gains within and between countries, and lack of societal security and income redistribution arrangements may directly impact biodiversity. The effects of overconsumption on biodiversity are more indirect, as shown later. Each of these factors adds to the risk of unsustainable development (figure 3). The **tipping point** at which an ecosystem and its land use will collapse differs from location to location and can, in general, hardly be predicted (sCBD, 2010 b and c).
19. A few **basic driving forces** underlying the above factors are the social dilemma, external cost and disconnection. The *social dilemma* refers to the basic inclination of each individual to chose his or her own benefit if he or she has to balance personal gains against public cost. Consequently, tangible short term private profit wins from 'virtual' long-term public gains. *External cost* refers to the economic flaw of not taking environmental losses into account. As a result, the profit from logging a forest doesn't take the cost into account of those who suffer from increasing flooding and droughts downstream. Similar, a farmer got fully paid for the goods he produced, irrespective of whether he maintains the ecosystem's capability to produce, although the latter is far more important as being the basis of human wealth. *Disconnection* refers to the problem that modern mass transport systems and long-distance trade disconnects people from the consequences of mismanagement. If mismanagement leads to natural resource depletion, exploitation just shifts towards still-intact natural assets, as can be seen in the 'stock wise' depletion of marine natural resources (Pauly et al., 2005). These basic human and economic drivers explain the ongoing over-exploitation of natural assets despite its social cost, leading to poverty and out migration, and finally abandonment of the natural resources use.

[22] There are indications that this so called 'green Kuznets-curve' is only possible at the expense of biodiversity loss elsewhere, and therefore a win–win might not exist if these losses (footprint) are also taken into account (Tekelenburg *et al.*, 2009).

[23] The concept of 'green economy' may encompass the development pathways win-neutral (in stead of win-lose) and win-win.

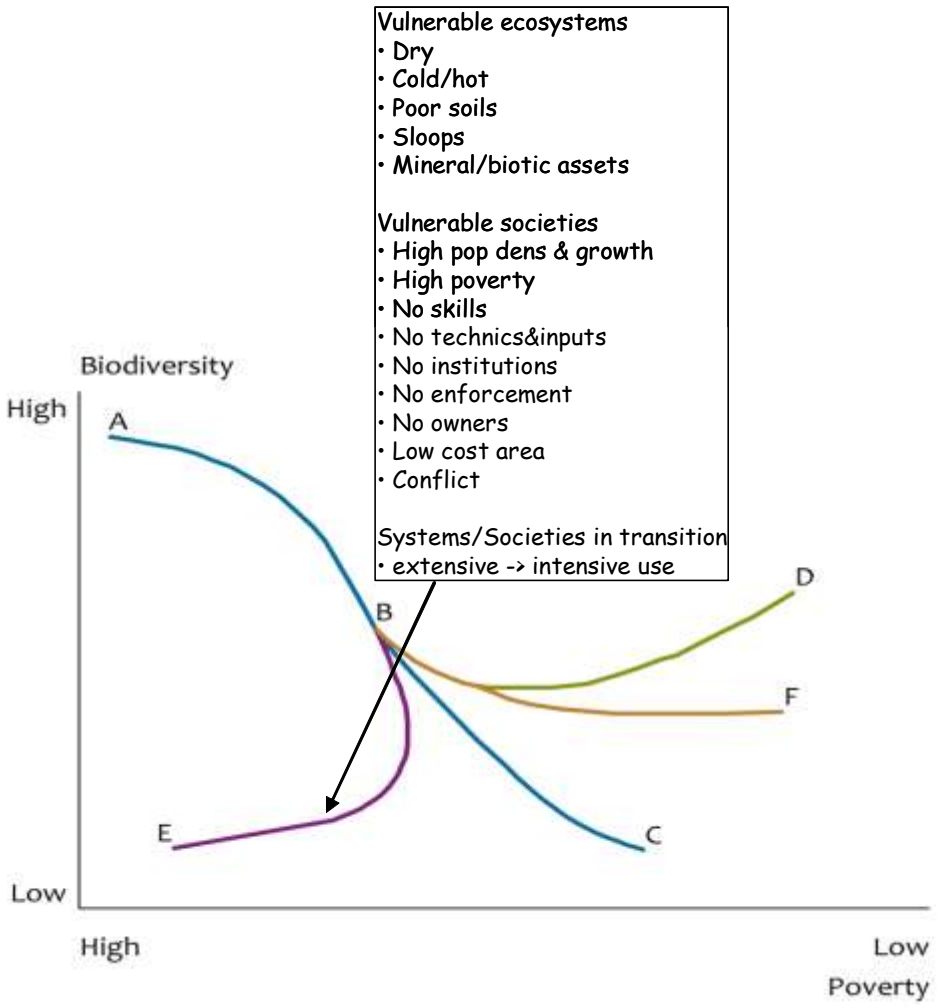

Figure 3: Socioeconomic, institutional and ecological factors which contribute to the risk at a lose–lose development pathway. (Source: B. ten Brink; pers. comm.)

20. The above factors act in different configurations from place to place. However, two types of configurations are regularly found: the **capital-driven** and the **poverty-driven mechanism.** The capital-driven mechanism is characterized by a combination of the presence of natural assets, high market demand and integration, good infrastructure, high access to capital, high levels of skills and technology. The poverty-driven mechanism is characterized by high poverty rates, high population density and growth, poor skills and technology, low access to capital, and low market integration. Both mechanisms can easily lead to a lose–lose development path in case of weak regulation, weak law enforcement or weak resource tenure regimes (Tekelenburg et al., 2009).
21. When in figure 2 'poverty' is replaced by food production per hectare per year and ' biodiversity' is quantified in MSA[24], the "spider" figure becomes more profound, as shown in figure 4. The three

[24]It should be stressed that MSA is not an all covering proxy for biodiversity, and cannot include all species due to lack of data. Different components and attributes of biodiversity are important in different ways or different contexts. The relative abundance of a comparatively limited set of natural resources is often the critical in the short term, such as wood and food species, but over the longer term a diverse range of resources is essential as a risk

stages of economic development have been included, and the win–win development pathway has been removed from the figure as it is unlikely to occur in practice. The tipping points (red dots) turning a win-lose into a lose-lose are hypothetical, currently hardly known, and ecosystem-specific (sCBD, 2010). Poverty, in terms of food availability, has a higher probability in the dotted circles.

22. In general, ecosystems experience the **largest biodiversity loss** in the transition from hunting and gathering to extensive agriculture. The **largest food production gains** are achieved in the transition from extensive to intensive agriculture. The circles relate to those systems where biodiversity-related poverty has a high probability of occurring. A similar analysis could be made for other commodities such as fisheries in aquatic ecosystems, forestry, or fodder or bio-energy production. However, such analysis is more difficult for non-marketed goods and services the livelihoods of many people depend upon, due to the data problems described above.
23. As for **agricultural biodiversity,** the figure is slightly different from wild biodiversity. Agro-biodiversity is at it highest level in traditional, extensive, heterogeneous agricultural systems and subsequently sharply declines in intensive systems that mostly depend on external inputs (e.g. fertilizer, feed). In the latter, a few highly productive[25] transboundary breeds and crop varieties replace the traditional ones. In essence, this homogenization process is similar to that in wild biodiversity as described above.

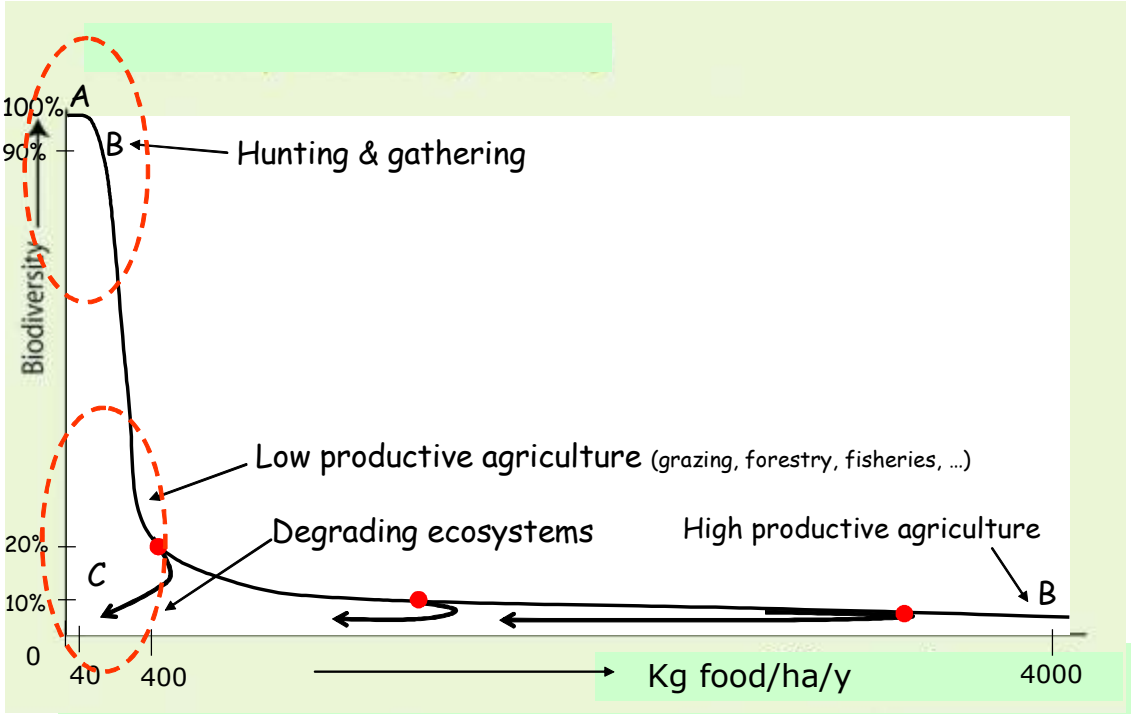

Figure 4: The three phases of socioeconomic development are related to biodiversity loss (MSA) and to production of food per unit area, as proxy for food availability. The circles relate to situations with a high risk at poverty incidence. The food production figures apply for land suitable for intensive production systems. For marginal land –without high inputs and management effort- the production figures will scale down accordingly.

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management strategy and for maintaining the flow of critical services (Roe et al 2011). In the context of the figure, MSA does however shows well how biodiversity changes resulting from land use change.

[25] They are highly productive in these systems which depend on high external inputs that replace ecosystem services (e.g. fertilizer, pesticides, irrigation), not inherently highly productive

24. Although many **other factors,** including population density, (in) equality, income (re)distribution and trade, have second and third order effects on the availability of food, and thus poverty, in local situations, they are not taken into account here for reasons of simplicity.
The overarching picture is that **direct dependence of people on ecosystem goods and services** varies and declines from livelihoods depending on hunting-gathering to industrial societies. Equally, all ecosystem services are used in hunting-gathering systems, while in intensive systems the production of goods is increasingly spatially disconnected and separated from the regulatory and supporting services. On the other hand the **indirect dependence of people on ecosystem goods and services** is equally high in all production systems; for example also the urban poor depend on clean water. The indirect effects of biodiversity loss on poverty tend to increase with increasing globalization, and the concomitant spatial and temporal disconnect.

Exploring ways in which biodiversity conservation and sustainable use can promote poverty eradication

25. Key lessons from the development sector (see for example Steele et al 2008; Bass et al 2005) are that reducing poverty is not all about increasing household income. *Assets* matter (including social assets) as does the *regularity* and *security* of income – more than its actual scale. Interventions that "work" include:
   - Building assets and income: including employment; selling local goods and services; increasing access to land and resources; increasing productivity of existing resources.
   - Providing or improving infrastructure and services in order to reduce environmental health risks (including clean water, sanitation, safe housing) or mitigate impact of risks (clinics, health services etc).
   - Securing safety nets through social protection and social assistance (including cash transfers) in order to protect people from shocks and reduces vulnerability, help conserve and accumulate assets, helps transform economic and social relations.
   - Increasing voice and visibility - within national political structures and within own locality
26. Some of these interventions are short term, practical actions to meet immediate needs while others entail long term support to organise and develop political power and voice. It is clear that biodiversity management can contribute to all of these interventions (Table 1).
27. Indigenous peoples whose livelihoods depend on extensive agriculture and hunting and gathering have livelihoods depending on direct extraction of ecosystem goods and services. The impacts of biodiversity loss caused by their own extraction are therefore felt immediately and avoided in their relationship with their environment. Although considered as poor by many definitions, they do not necessarily consider themselves so. In that case, the biodiversity–poverty nexus is not problematic, and requires no direct interventions. This changes in the case of exploitation of peoples' habitat by external factors (climate change, migrants, non-local enterprises), or in cases in which their access to biodiversity is been limited (e.g., for political reasons, or reasons of nature protection), or in case of rapid population growth. Here, solutions may be found in amongst others: migration and protection policies, community-based management and user rights, compensation for lost income, payment for ecosystem services, conservation-related livelihoods, etc (figure 5).

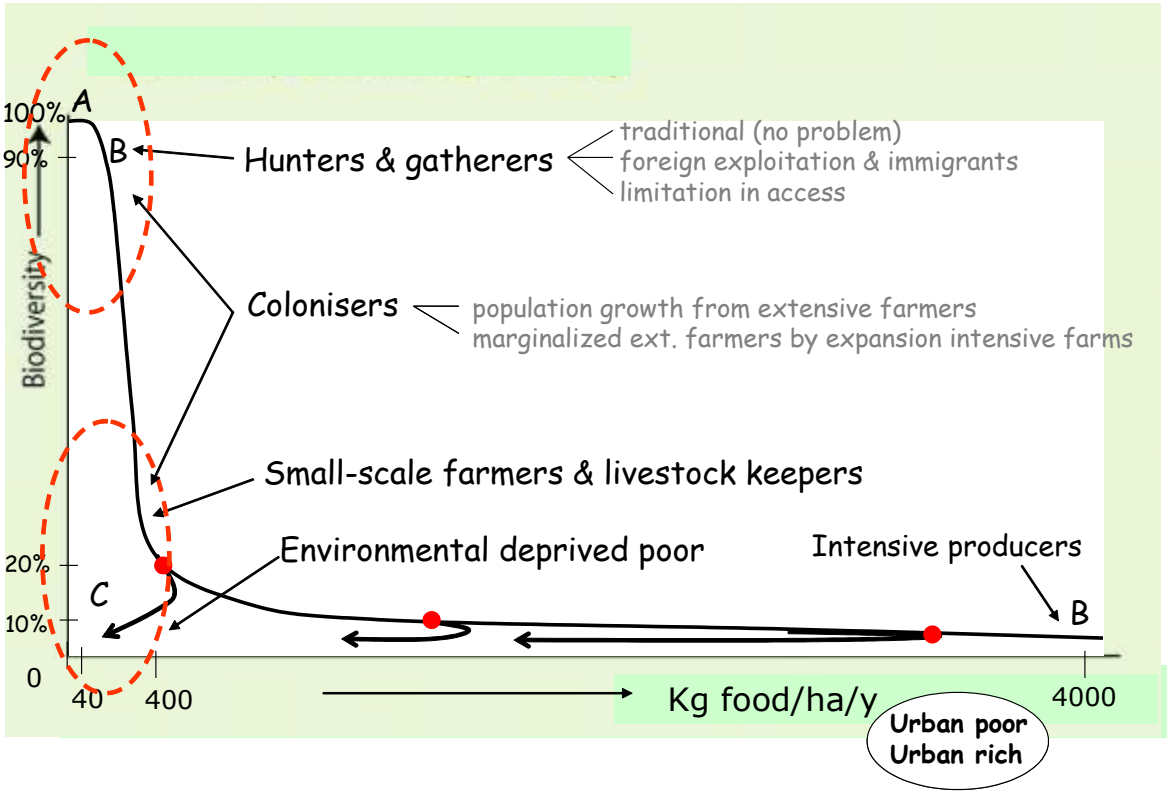


Figure 5: Socioeconomic groups and their relationship with the biodiversity-poverty nexus.

28. While farmers and livestock keepers directly depend on ecosystem services in all development stages, their relative numbers in society decline, while societal inequality within and between societies tends to increase. In regions where their absolute numbers increase, especially in developing countries, this may lead to an ongoing expansion of **extensive - often self subsistence- agriculture** into still-intact ecosystems. The same applies in the case of local communities or small-scale farmers who are marginalized in the transition towards intensive agricultural systems or who are forced to shift towards the agricultural frontiers and into the remaining natural ecosystems. In the case of vulnerable ecosystems, the absence of traditional knowledge and skills, or a breakdown of traditional property regimes, a lose–lose development path is likely, resulting in a self-perpetuating cycle of population growth, migration, land conversion, degradation, abandonment and so on. Here are opportunities for intervention and mainstreaming**.** Solutions may be found in amongst others: intensifying- agriculture, creating alternative jobs, community-based management, user rights of the remaining natural plots, nature protection for additional environmental income and for creating a safety net in times of lower income, and spatial planning (figure 5).
29. In degraded areas, primary production has almost come to a standstill because of loss of vegetation, top soil, depletion of nutrients or soil organic matter (carbon) and consequently loss of soil humidity and amplification of local temperature fluctuations. Dry lands cover around 40 % of the world's terrestrial area and support some 2 billion people. About 10% (6 million km2) of dry lands are degraded (UNCCD, 2011). Degraded areas may be home to environmentally deprived peoples who are extremely poor, and are often nomadic small-scale livestock keepers who continually search for food, water, fodder, fuel wood and shelter. The disruption of traditional common property regimes results in overgrazing, that keeps these ecosystems degraded, blocking self-regeneration, and is a key factor in a vicious poverty and degradation trap. At the same time, the loss of water holding capacity may have serious consequences for peoples downstream in the form of droughts and floods, landslides in steep areas. The loss of soil organic carbon and carbon-sequestration affects all people via its

effects on the climate. Here, solutions may be found in large-scale restoration such as the African Re-greening Initiatives in the Sahel and at the Loess Plateau in China. They showcase the major potential of the (second) win-win development pathway (E -> B in figure 2): creating alternative jobs in restoration, reconversion into nature, nature protection and payment for ecosystem services, reducing livestock densities and free grazing, human out-migration, and dedicating economic and ecological areas by spatial planning. The restoration of an ecosystem could in the short term mean limiting the availability/access to ecosystem services, but could greatly increase it in the long term. Given the vastness of world's degraded areas here is a great potential for biodiversity, poverty alleviation, climate change mitigation and improving food and water availability (figure 5).

30. In urban areas the number of poor people who do not *directly* depend on ecosystem goods and services is increasing. Although they may seem to be entirely disconnected from the biodiversity–poverty nexus, this is not the case (figure 5). First, **poor urban people** may have been forced to migrate to the cities because of biodiversity-related poverty in rural areas, such as due to ecosystem degradation or lack of (access to) natural resources. Second, they still depend on environmental goods and services supplied by ecosystems and the rural population, although less than the rich. Third**,** they are affected by environmental problems such as polluted waters, diseases and lack of fuel wood. Food availability is, in many cases, less problematic, as food is massively imported because of the political and economic power of urban populations. However, price volatility has increased in recent years due to many factors, including competition for land from energy crops. Although more indirect, the biodiversity–urban poverty nexus is problematic, exists on an enormous scale and requires specific intervention and mainstreaming aiming at low and stable food prices, clean water and alternative, more sustainable energy sources.
31. Ultimately, all people – also the **rural and urban rich -** depend on functioning ecosystems and their biodiversity (figure 5) in its broadest sense, although poor people are more directly dependent, because of their limited ability to purchase alternatives such as food, medicines, insurance (Roe et al., 2011). Generally, the shift towards intensive agriculture and low agro-biodiversity increases food security in the short term, but risks decreasing food security in the longer term if, for example, large scale production failure occurs due to pests or sudden climate fluctuations. Here, efficiency of the high production systems is inversely related to their resilience against shocks. Solutions may be found in paying farmers for maintaining agro-biodiversity and ecosystem functioning. Rich people would highly contribute by reducing over-consumption and changing diets towards lower animal products consumption (PBL, 2010).
32. Concerning the *production sectors, d*o we need **intensive or extensive production systems?** Although intensive agriculture generally leads to low levels of wild and agro-biodiversity within the agro-ecosystem (figure 5), it does enable much larger intact natural areas to be remained *outside* the agricultural system (if eco-efficient). This is a key issue given: i) about 63 million km^2 of land is suitable for intensive agriculture, of which is about 40 million km^2 is in use; the 'reserve' consist mainly of natural forests and grasslands in the temperate - tropical zones; ii) the growing demand for food[26] may lead to an additional land claim of 2-12 million km^2 by 2050 depending on the increase of agricultural productivity ; iii) other competing claims on land by 2050 for: forestry (~ 3-5 million km^2, energy crops (0-10 million km^2), land for water and climate regulation (unknown million km^2), urban expansion (0.3 million km2); iv) ongoing losses of agricultural land caused by large-scale degradation resulting from improper management (2-5 million km^2) and climate change; and v) the need to halt biodiversity loss (Aichi Targets) and mitigate climate change (UNFCCC) (PBL, 2010). Obviously, land is limited to meet all human needs. Heading for intensive production systems as a solution (segregated systems) or for extensive systems (mixed) will have major impacts on landscapes, biodiversity and poverty. This dilemma requires a solution in the short term.

[26] which is expected to double in the first half of this century population increasing from 6 to more than> 9 billion, accompanied by three times per capita income growth leading to more consumption. Especially the growth in consumption of more proteins (meat and dairy) is land demanding.

33. Concerning the *consumers*, can change in **consumption patterns** and **consumption efficiency** makes a difference? Roughly 30% of food produced for human consumption is lost or wasted globally throughout the supply chain, from initial agricultural production down to final household consumption. This amounts to about 1.3 billion tons per year. Such food losses imply that huge amounts of the resources used in food production are used in vain (FAO, 2011). The untapped potential to reap the on-farm benefits is particular large in developing countries dominated by small-sale farming. Reduced losses further down the supply chain will benefit retailers and/or consumers in terms of lower prices and higher food availability. Changing diets (fewer animal products) in wealthy countries has high potentials and will lead to a decline in the demand for feed cereals, many of which are also suited for food. These effects will partly spill over to other countries, with lower food prices and increased food availability for those importing food, and a global reduction of expansion in agricultural land (PBL, 2010).
34. Socioeconomic development plans, Strategic poverty reduction plans, spatial planning of land use, Strategic Environmental Assessments (SEA), landscape restoration and soil fertility management are some of the most suitable planning vehicles of mainstreaming biodiversity. The sCBD (2008) characterizes three broad types or approaches to mainstreaming:
    - integration of biodiversity into economic sectors (agriculture, forestry, fisheries, infrastructure, energy, tourism, education, health etc);
    - integration into cross-sector policies and strategies (finance, national development, poverty eradication etc); and
    - integration into spatial planning, especially at provincial/state and municipal levels.

    Table 1 provides illustrations of biodiversity-poverty activities and outcomes.
35. **Spatial planning of land use** is a particularly promising tool to determine which areas could be dedicated to various types and intensities of economic production, and which other areas are necessary for ecological goods and services including conservation of biodiversity, taking into account their ecological characteristics and vulnerability (figure 6). Similarly, a balance between low- and high-diversity agro-ecosystems needs to be found to ensure short and long-term food security, balancing agricultural efficiency and resilience. The planning concerns differentiation among scales for example watersheds and ecological corridors at the broader scale, and land-use patterns and supporting vegetation patches at the finer scale.

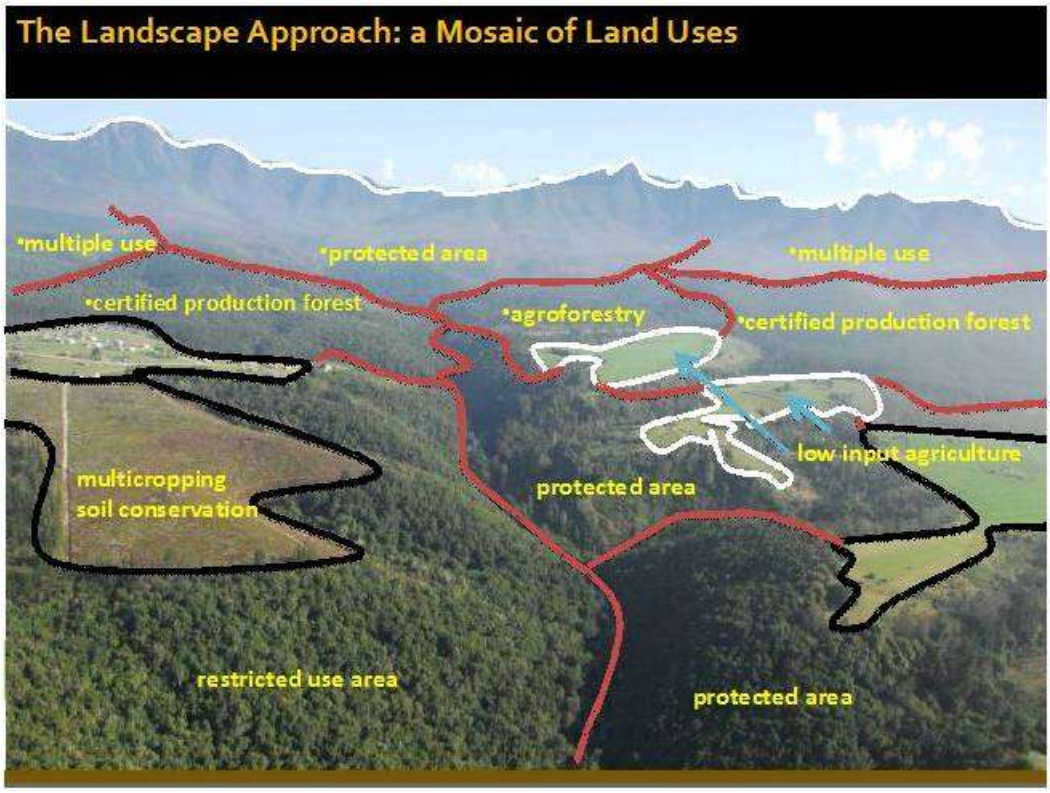


Figure 6: Spatial planning at the landscape level is an interesting vehicle to explore mainstreaming biodiversity (Source: Nik Sekhran, UNDP).

36. Mainstreaming is not about creating parallel and artificial processes and systems, but about integrating biodiversity into existing and/or new sector and cross-sector structures, processes and systems (sCBD 2011). Mainstreaming should also be aimed at the integration of sector concerns, particularly with regard to the dependence of many of the world's poor on fisheries, forests and other ecosystems and their services, into biodiversity planning. Indeed, a true mainstreaming is a **mutual mainstreaming** of biodiversity into development, and vice-versa (sCBD 2011). Biodiversity mainstreaming discussions to date have largely emphasised integrating biodiversity into poverty and development policy. But the inverse — mainstreaming poverty reduction objectives into biodiversity policy — is equally important to ensure that efforts are coherent and mutually supportive. (Bass et al 2010; Kok et al., 2010)).
37. Mainstreaming biodiversity into poverty alleviation policies is possible in all systems, although to a varying degree and with different focus. Mainstreaming in **highly natural ecosystems** could address the stability of the indigenous peoples' livelihoods system in relation to their environment, such as by integrating their traditional knowledge into the management of protected areas. Even if the area is not classified as protected, seeking active involvement of the local community in the development agenda can go a long way towards conservation not necessarily limited to biodiversity. In **extensive land-use systems**, issues of access and tenure security, producer organization, and measures to improve productivity and marketing are central. There is also a need to provide alternative livelihoods for candidate and current colonizers. Restoring **degraded ecosystems** can be mainstreamed in collaboration with socioeconomic development plans and the UN Conventions on Climate Change and Combating Desertification. In **intensive land-use systems**, a 'dichotomy' landscape approach may be followed with intensive production economic areas on the one hand and ecological areas for maintaining supporting, regulatory and cultural functions on the other hand. Mainstreaming could focus on measures that increase resource-use efficiency (land, water, nutrients), and reduce pollution.

Certainly this schematic dichotomy does not imply that ecosystem services require no attention in intensive agricultural land, in contrary, the maintenance of their capability to produce (top soil depth, structure, nutrients and soil organic carbon) is of key concern to prevent degradation. Addressing resource-use efficiency should also address consumption patterns in order to encourage consumption that does not harm biodiversity.

Constraints and challenges

38. Several **constraints** may hamper mainstreaming. These include the prevailing development paradigm, which treats biodiversity as an economic 'externality'; a lack of data, skills and institutional capacity to work on biodiversity-development links; and competing interests that limit the political will for change. If Parties to the CBD are to successfully mainstream biodiversity they will have to improve their outreach and interaction with the development and economic communities. A critical first step to mainstreaming is identifying national, sectoral or local level 'entry points' for getting relevant biodiversity concerns on the development agenda, and the associated 'drivers' — formal or informal advocates, laws, funders or projects with the vision, incentives and resources to act. Environmental institutions on their own are often not effective drivers. These tend to 'push' biodiversity issues whereas effective change more often results from a **demand-pull** by interested authorities, for example, budget directors investigating the value of environmental assets, potential revenue streams, associated costs and risks, and distributional implications (Bass et al 2010). Approaches to mainstreaming biodiversity into development will obviously differ between places, in time, and context, and depending on the entry point and driver used. But a review of effective environmental mainstreaming (Dalal-Calyton and Bass, 2009) suggests clear principles to guide the process (see Box 1).

Box 1: GUIDING PRINCIPLES FOR EFFECTIVE MAINSTREAMING
Leadership: create and mobilise political will, engage with champions for biodiversity, development, finance and civil society;
Integration: integrate biodiversity and development approaches through demand pull rather than a one-way 'push';
Key sectors: focus on economic sectors that manage substantial environmental assets and risks, and have significant resources to invest, such as mining, food, energy, tourism, water and energy;
Dialogue: use a wide range of means to make voices heard, 'exorcise demons' and learn others' perspectives on shared problems; and
Processes: use existing mainstream frameworks and established analytical and planning processes where possible
Source: Dalal-Clayton, B. and Bass, S. 2009.

39. **Recognition** of the link between the status of biodiversity and the fate of poor people implies that biodiversity should be a priority in international efforts to address poverty reduction. However, the accessible nature of biodiversity that makes it so important to poor people – the fact that ecosystem services and biodiversity resources are public goods – ironically also means that it is under-valued – if valued at all – in national economies. The Millennium Ecosystem Assessment and the study on The Economics of Ecosystems and Biodiversity (TEEB) both highlight the fact that until the values of biodiversity and ecosystem services are properly taken into account they will continue to be depleted and their potential to support poor people jeopardized.
40. **GDP – the traditional measure** of national income and economic progress – is a misleading indicator of societal progress since it does not take into account changes in the national stocks and flows of natural resources or measures of distribution. However, there are examples of "green accounting" approaches that do take natural assets into account. A study in India showed that

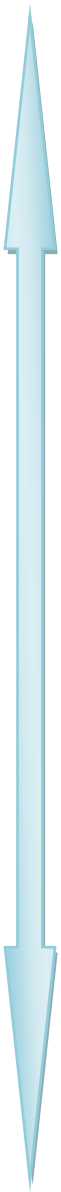
ecosystem services accounted for 7% of national GDP but that when the GDP approach is focused on a subset of the national population – the poor – this changes to 57% (TEEB, 2008).

41. Currently biodiversity is treated as an environmental issue and addressed at the national level by environment ministries. Maximizing the contribution of biodiversity to poverty reduction requires acknowledgement that it is also a development issue and requires **serious engagement by finance and planning ministries** as much as by environment ministries. More widespread application of concepts such as "GDP of the poor" described in the Indian example above, would provide much greater recognition of the importance of ecosystem, services and the link between biodiversity and poverty alleviation.
42. At the international level, the new CBD strategic plan beyond 2010 continues to recognize the dual challenge of linking conservation and sustainable use of biodiversity with development and poverty reduction. The CBD has been recommending the mainstreaming of biodiversity since its inception. This requires not just better dialogue between environment and development communities at the national and international level and better integration of national and international biodiversity and development agendas, but also **vertical coordination and coherence** between global and regional agreements, national policies and local implementation.
43. Without these kinds of approaches, biodiversity and ecosystem services will continue to be depleted and their potential to act as a safety net for the poor – let alone to contribute to poverty reduction – will be in jeopardy.

Table 1: Illustrations of biodiversity-poverty mainstreaming outcomes

Biodiversity-poverty mainstreaming can result in a spectrum of outcomes, ranging from 'upstream' - influencing a policy, plans, budget, decision, etc - to 'downstream' - changing behaviors and delivering environmental improvements 'on-the-ground'. Adapting from Dallal and Clayton (2009), Roe and Sunderland (in press), and B. ten Brink and I. Hoffmann *(pers comms),* we illustrate a number of mutually supportive outcomes at each level:

Upstream



[1] Participation and democratic process outcomes:
• Greater interaction of biodiversity and poverty reduction/development stakeholders
• Improved involvement of directly biodiversity-dependent (sometimes vulnerable) stakeholders

[2] Policy and political outcomes:
• High-level sector, fiscal, development and social policies, constitutions and stat**e**ments of national vision, include biodiversity considerations, and vice versa
• Political leadership across all parties is broadly supportive of linkages between biodiversity and development

[3] Plan outcomes:
• Inclusion of biodiversity-poverty linkages in national development and poverty reduction strategies, e.g., Socio-economic development plans (national, regional, local levels), Poverty reduction strategy papers (PRSPs), National Biodiversity Strategies and Action Plans (NBSAPs).
• Inclusion of biodiversity-development linkages in sector plans and implementation strategies,
• Biodiversity and development are reflected both as a sector or range of sectors (e.g. for biodiversity conservation and ecosystem service delivery) and as a cross-cutting issue for all other sectors in the plan (e.g. as safeguards and as potentials for co-benefits)

[4] Budget outcomes:
• Inclusion of development-biodiversity linkages in national and sector budgets
• Fiscal instruments informed by biodiversity-development linkages
• Eradicating perverse incentives

[5] Institutional and capacity outcomes:
• A range of appropriate tools/procedures for biodiversity-development mainstreaming on a continuing basis are available, recognised and with adequate mandates, skills and resources to employ them, e.g., Economic valuation of maintaining ecosystems functioning as important as the economic value of its products utilized; Spatial and land use planning with inclusion of macro-zoning into functional ecological non-use zones, limited use zones and and full economic production zones
• Strengthened capacity in key sector ministries to include pro-poor biodiversity into their strategies
• Strengthened capacity within finance/planning ministries as well as biodiversity-related agencies to integrate biodiversity into budget decision-making; and strengthened capacity within biodiversity-related institutions to understand

development and economic processes and interact in a constructive manner
• A range of systemic links between institutions are made, formal and informal, to ensure improved flow of information and ideas
• Biodiversity-poverty criteria are established as cross-cutting norms for planning and monitoring purposes
• Mainstreaming biodiversity into global conventions, e.g., Focus on fuel production from waste, avoid large-scale energy crop production (UNFCCC), Utilize ecosystem self-regenerating capacity in degraded areas (CCD), Ban trade in commodities which originates from non-sustainable production (WTO), Inclusion of external cost into product price (WTO)

[6] Investment outcomes:
• Improved domestic resource mobilization for poverty-biodiversity investments
• Increased donor contributions to country-level investment in pro-poor biodiversity mechanisms

[7] Behavioral outcomes:
• Sustained behavioral change by individuals, institutions, and society, in both public and private domains; pro-biodiversity, pro-poor objectives are a normal, accepted and expected part of doing business, e.g.: reduced food waste; less consumption of animal-based products; Conservation of a minimum population level of local breeds and crop varieties for food security reasons, Buy eco-certificated products,
• Key patterns and processes of production, consumption and waste treatment in sectors and localities are informed by biodiversity and poverty considerations, e.g., Sustainable and eco-efficient intensification of food and wood production, reducing expansion of extensive agriculture and avoiding conversion of marginal, vulnerable ecosystems; Shift from charcoal to bio gas for heating and cooking, reducing the pressure on forests; Re-greening farmland, restoring natural processes improving fertility, food production, water and wood availability and climate conditions (see African re-greening initiatives); Reduce livestock densities and overgrazing;

Downstream

[**8]) Pro-poor biodiversity management outcomes**
• Maintenance/restoration/enhancement of pro-poor ecosystem services, e.g. medicinal, cosmetic or edible plants; healthcare, wild foods, soil fertility; traditional breeds and crop varieties; water purification
• Employment in biodiversity-based enterprises; e.g. in eco-tourism lodges; tour guides, game guards, sales of NTFPs; handicrafts; wildlife trade
• Revenue sharing and distribution of benefits from biodiversity-based enterprise; e.g. park entry fees, tourism ventures, indigenous and natural products, etc to communities
• Extension to local communities of infrastructure/services provided for conservation personnel and or tourists; e.g. roads, communications, piped water, health and education services, family planning
• Compensation for reduced access to natural biodiversity or wildlife damage
• Empowerment of local communities and increasing voice; e.g. clarification/strengthening of land and resource rights; Community involvement in biodiversity management ; Strengthening local institutions for sustainable resource management

[9] Ultimate (biodiversity and developmental) impacts of these outcomes:

• Improved productivity and sustainability of use of biodiversity assets on which the poor depend; protection and management of targeted species populations,
• Risks from environmental hazards better managed through informed, targeted control mechanisms
• Improved and sustained income, safety nets, health and livelihoods for individuals, companies and the public from use of environmental assets; e.g., protect soils and soil biodiversity against depletion and erosion, soil fertility management; Watershed protection for clean and sufficient water, physical safety against floods, droughts and wildfires; protection of forest patches on slopes against land slides
• Alternative livelihoods, viable, sustainable enterprises demonstrating the green economy, e.g., sustainable tourism, certification and other sustainable uses raising the value, community-based natural resource management
• Improved access to biodiversity for the poor, e.g., land tenure and user rights, property regimes encouraging common property resource management; Protect natural and semi-natural plots for fodder, fuel wood, water regulation, physical safety, timber, food, medical plants
• Compensation for lost income in case of exploitation limitation or area protection (REDD, PES, etc.); safeguards e.g., protection against (foreign or domestic) large-scale industrial exploitation of natural resources

Literature cited

Alkemade R, M. van Oorschot, L. Miles, C. Nellemann, M. Bakkenes, and B. ten Brink (2009). GLOBIO3: A Framework to Investigate Options for Reducing Global Terrestrial Biodiversity Loss. Ecosystems 12:374-390.

Bass, S; Reid,H; Satterthwaite, D; and Steele, P (2005) Reducing Poverty and Sustaining the Environment: The Politics of Local Engagement Earthscan, London

Bass S, Roe D, Smith J (2010). Look both ways: mainstreaming biodiversity and poverty reduction. IIED Policy Brief: London.

Cavendish W. (2000). Empirical Regularities in the Poverty-Environment Relationship of Rural Households: Evidence from Zimbabwe. World Development 28: 1979-2003**.**

Dalal-Clayton B; and Bass S (2009). The Challenges of Environmental Mainstreaming. IIED, London

FAO (2011). Global food losses and food waste. Extent, causes and prevention. By J. Gustavsson, C. Cederberg, U. Sonesson, R. van Otterdijk, A. Meybeck, FAO, Rome.

FAO (2011). State of the World's Land and Water Resources for Food and Agriculture. FAO, Rome.

Kok, Marcel T.J., Stephen Tyler, Anne Gerdien Prins, László Pintér, Heike Baumüller, Johannah Bernstein, Elsa Tsioumani, Henry David Venema, Richard Grosshans (2010). Prospects for mainstreaming ecosystem goods and services in international policies. Biodiversity 1 (1 & 2), pp. 45-51.

Lal, R. (2001). Soil degradation by erosion, Kand degradation & development 12: 519-539.

Lockwood J.L., M.L. McKinney (2001). Biotic Homogenization. Kluwer, New York. 289p.

Lovett, R. (2011). African dust keeps Amazon blooming. Nature Published online 9 August 2010 | | doi:10.1038/news.2010.396

OECD, 2001. DAC Guidelines on Poverty Reduction. , 86(17), p.127. Available at: www.oecd.org/dataoecd/47/14/2672735.pdf.

Roe, D and Sunderland T (2012). Biodiversity conservation: an effective mechanism for poverty alleviation? In Dulal, H (ed) Poverty In a Changing Climate, Lexington Books

Roe, D; Thomas, D; Smith, J; Elliott, J and Walpole M (2011) Biodiversity and Poverty: Ten Frequently Asked Questions. Gatekeeper Series no 55. International Institute for Environment and Development, London

sCBD (2008). Mainstreaming Biodiversity: Workshops on national biodiversity strategies and action plans. SCBD, Montreal, Canada.

sCBD (2010a). Global Biodiversity Outlook 3. Secretariat of the Convention on Biological Diversity, Montreal.

sCBD (2010b). Linking Biodiversity Conservation and Poverty Alleviation: A State of Knowledge Review. Editor: D. Roe, IIED. CBD Technical Series No. 55. Montreal.

sCBD (2010c). Ibisch, P.L. & A. Vega E., T.M. Herrmann (eds.) 2010. Interdependence of biodiversity and development under global change. Technical Series No. 54. Secretariat of the Convention on Biological Diversity, Montreal (second corrected edition).

sCBD (2011). NBSAP training modules version 2.1 – Module 3. Mainstreaming biodiversity into national sectoral and cross-sectoral strategies, policies, plans and programs. Montreal.

OECD (2008). OECD Environmental Outlook to 2030. OECD Paris.

Pauly D, Watson R, and Alder J (2005) Global trends in world fisheries: impacts on marine ecosystems and food security. Philosophical Transactions of the Royal Society B: Biological Sciences 360:5-12.

PBL (2010). Rethinking Global Biodiversity Strategies: Exploring structural changes in production and consumption to reduce biodiversity loss. PBL-Netherlands Environmental Assessment Agency, The Hague/Bilthoven.

Scherr, S.J. and J.A.McNeely (2007). Biodiversity conservation and agricultural sustainability: towards a new paradigm of 'ecoagriculture' landscapes. Phil. Trans. R. Soc. B (2008) 363, 477–494, doi:10.1098/rstb.2007.2165

Sjaastad, E., A. Angelsen, P. Vedeld, J. Bojö (2005). What is Environmental Income? Ecological Economics 55: 37– 46.

Smith, J., Mapendembe, A., Vega, A. Hernandez Morcillo, M., Walpole, M., Herkenrath, P. (2010). "Linking the thematic Programmes of Work of the Convention on Biological Diversity (CBD) to Poverty Reduction". Biodiversity for Development: New Approaches for National Biodiversity Strategies. CBD Secretariat, Montreal.

Steele, P; Fernando, N; and Weddikkara, M (2008) Poverty Reduction That Works: Experience of Scaling Up Development Success. Earthscan, London.

Tekelenburg, A., B.J.E. ten Brink, M. Witmer (2009). How do biodiversity and poverty relate? An explorative study. PBL-Netherlands Environmental Assessment Agency, The Hague/Bilthoven.

UNCCD 2011. Progress Report. Global Drylands: A United Nations system-wide response ICCD/CRIC(9)/CRP.1 UNCC Committee for the Review of the Implementation of the Convention Ninth session Bonn, 21–25 February 2011.

UNEP (2010). Assessing the Environmental Impacts of Consumption and Production: Priority Products and Materials, A Report of the Working Group on the Environmental Impacts of Products and Materials to the International Panel for Sustainable Resource Management. Hertwich, E., van der Voet, E., Suh, S., Tukker, A., Huijbregts M., Kazmierczyk, P., Lenzen, M., McNeely, J., Moriguchi, Y.

UNEP, 2010. Dead Planet, Living Planet – Biodiversity and Ecosystem Restoration for Sustainable Development . A Rapid Assessment. United Nations Environment Programme, GRID-Arendal, Norway

UNEP (2011). Vision for change. Recommendations for effective policies on sustainable lifestyles. Paris.

UNPEI, 2009. Mainstreaming poverty-environment linkages into development planning: a handbook for practitioners, Earthprint

UNEP/CBD/SBSTTA/15/2 (2011). Suggested indicators for the Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets. Montreal.

World Resources Institute (WRI) in collaboration with United Nations Development Programme (UNEP), and World Bank (2005). World Resources 2005: The Wealth of the Poor - Managing Ecosystems to Fight Poverty. Washington, DC: WRI.

Annex C

RESULTS FROM GROUP WORK AND BRAINSTORMING SESSIONS

This annex presents the results produced by the participants of the Expert Group held in Dehradun, India 12-14 December, 2011. Results are presented from the following sessions:

C1. Scaling Up Good Practices and Lessons to Mainstream Biodiversity and Ecosystem Services with Poverty Eradication and Development Processes
C2. Capacity development framework
C3. Guidance and priorities on mainstreaming for all relevant actors involved in development processes

C1. Session on Scaling Up Good Practices and Lessons to Mainstream Biodiversity and Ecosystem Services with Poverty Eradication and Development Processes

Participants of the Expert Group on Biodiversity for Poverty Eradication and Development established three working groups to brainstorm about how to better mainstream biodiversity and ecosystem services into poverty eradication and development from three perspectives: those of communities, of the private sector, and of governance. Each brainstorming group identified, from their group's perspective, good practices, lessons learnt, gaps and opportunities to scale-up good practices for mainstreaming biodiversity and ecosystem services into poverty eradication and development

Results from Governance Group	• Key determinants of a governance model in the context of mainstreaming biodiversity into poverty eradication include: a) participation & inclusiveness; b) transparency & accountability; and c) equity. • Parties should undertake the required reforms in the legal, institutional, policy and programme frameworks across sectors for integrating biodiversity into poverty reduction strategies. • Suiting to site specificity and depending on the social, economic and ecological attributes, landscapes may require different models of governance for optimizing ecosystem services (both tangible and intangible). • There is a felt need to vest biodiversity management at the most appropriate level of local governance institutions in order address livelihood concerns. The trend of decentralization process taking place in many countries is an opportunity for integrating biodiversity into poverty reduction plans. • Adequate compensation and offsets should be provided to local communities who bear the cost of conservation/ development cognizant of the economic value of biodiversity and ecosystem services. This requires substantial scaling up of capacities at the national, sub-national, community and individual levels. • Parties should institute appropriate systems for responsible use of biodiversity by the private sector that has direct bearing on poverty reduction. The measures could include: incentives & disincentives, compliance mechanisms, capacity upgrading, etc. • Considering the effectiveness of small holdings in improving agro-biodiversity and reducing poverty, parties should undertake, among other measures, land tenure reforms so that the landless and marginal farmers have better tenurial and food security. • Countries should strengthen/create effective cross-sectoral coordination mechanisms at national and sub-national levels for managing biodiversity as a key tool for poverty reduction. • In revising National Biodiversity Strategy and Action Plans, counties should focus on poverty reduction as a key tool for biodiversity management. Further, the process of NBSAP revision should be linked to national planning and budgetary processes and not conducted as an isolated exercise. • In defining a landscape unit, watersheds at appropriate scale may be considered.

Results from Markets, the Private Sector and Livelihoods Group	**How do ecosystems impact and get impacted by market dynamics?** • Spatial and temporal variety in both; Biodiversity is slow and markets are fast; Biodiversity tends to be far from markets – transport costs always a factor (example from Himalayas of weavers) • Markets tend towards economic efficiency; not designed for ecological efficiency; tendency towards monoculture • Is there an established position between, biodiversity, ecosystem services, and poverty eradication? Answer: No, there's a huge amount of variety • Trade-offs need to be recognized and considered. A case of trade-offs from the United Nations Food and Agricultural Organization: the market for food drives animal genetic diversity; traditional well-adapted breeds are being crossbred or replaced with a smaller number of high-output breeds and a limited number of species, especially dynamic is the poultry sector; efficiency gains through selection has led to increased production and low product prices and poverty reduction; there is a need to set up conservation strategies for local breeds and to address externalities in the business model through incentives. • Challenge: only commercially viable biodiversity is easy to address/conserve through a market mechanism
	Distributional aspects: • Need to have access rights or land tenure in order for markets to work effectively, therefore the governance of markets required • Heterogeneity in the poor, in areas, winners and losers of different interventions; there is a need social protection and safeguards for the poor; this could be a rights-base approaches • Often the poor aren't aware of their rights or mechanisms available to them e.g., Payment for Ecosystem Services or Access and Benefit Sharing • International mechanisms rarely benefit the poor, but rather benefit the intermediaries of the mechanisms
	What opportunities do market instruments provide? • Boride in biodiversity based products and services; good examples exist but still small scale; when up-scale risks involved; how to get the balance right? • Cases from World Wildlife Form India: Genetic diversity of tree fruit varieties, mango, citrus; identify the varieties that can be marketed; successful and registering varieties; not all commercially viable then there is not demand for it. Identification of bio-resource in the villages that can be made commercially viable; catalogue of products available in villages • Risk: Most of the activities are seasonal; cannot be up-scaled; danger of converting into a monoculture to meet demand; and demand is very insecure • Lesson: need access to best professional talent for viable biodiversity-based products and services; real designers, suppliers, etc who are already profitable • Lesson: The State and multi-laterals can give grants and support to help biodiversity based products and services commercially viable; but can only support for so long (example of Global Environment Forum projects in markets) • Issue: Access to credit; need supply of money to great credit; distorted market power • Lesson: Social organization, land rights, community organization – if these things don't exist then markets will not work • Important role of the media in stimulating consumer demand for sustainable products: Consumer organization and pressure; private standards come from consumer organization; fair, equitable, organic, biodiversity. European consumer market is very tough • Access and Benefit Sharing and Technical Knowledge very challenging: 15 years of experience in World Intellectual Property Organization on the impact on traditional knowledge and communities • Solution (?): The Convention for Biological Diversity could work to consider trade implications on biodiversity and poverty, and work with partners to suggest minimum standards for trade (others said the Convention has no mandate on this)
	International trade structured to incentivise biodiversity and poverty reduction? • Trade-offs between socio-economic considerations and technical barriers to trade and market entry • Questions of scale of poverty reduction and scale of international trade opportunities. GIZ sustainable enterprise trade fairs are some steps between local supply capacity and the international demand; but markets want much larger and more regular supply than 'the poor' can normally supply – requires communities to organize into cooperatives, collectives, etc and also focus on local/regional demand first • Also sustainable production, biotrade, eco-tourism all rely on transport costs – externalities to climate • Eco-labels good to attract European trade but cost is borne by suppliers and can present a barrier to entry for developing markets; don't always give full picture and mislead (green washing, potential bias against developing country suppliers) • Example of European trade: Small producers have no chance to compete; 'green box' measures and non-tariff trade barrier; need 'good' instrument to internalize externalities; no discussion at global level because of controversy; European system as a model to understand how to "internalize externalities" • Ecological and Social Standards for Trade: not fully appropriate unless we have a better understanding trade, biodiversity and poverty dynamics

Results from Markets, the Private Sector and Livelihoods Group Continued	• Issue: No benchmarking system for environment in trade agreements; in health system you have SPS system then allowed to trade • A survey on private voluntary standards – labels and products say biodiversity, gender, community into account; but in a hard core legal cases all fall of these under Technical Barriers to Trade
	What drives Private sector? • There's no one answer, but generally profit driven, • **Social responsibility:** Brazil and Japan on business and biodiversity, part of the private sector that is very committed to trade sustainable products; more the national companies like Carrefour (not deforested areas); Natura Montecarrio; Chiquita bananas Costa Rica; cosmetics depend on biodiversity • Companies need clear rules to level playing field; • Companies to promote Access and Benefits Sharing themselves because they want the rules to be clear; there are incentives to marketing good certified products; • **Case**: India's Biodiversity Act; very few know about it; starting an awareness programme to make the corporate sector aware; giving them a period to comply then take them; facilitate them to comply • **Case**: Avena group; construct bridges between corporate world on biodiversity and poverty and Natura company delivering on social responsibilities (http://adage.com/article/global-news/brazilian-cosmetic-company-natura-building-brand-globally/228143/) • Case: Brazil's government guarantees the purchasing of food for local schools that don't use pesticides which is a good example of an incentive for small and medium sized companies • Existing process: Internalizing externalities through public procurement policies; Marrakesh process; green procurement
	Other issues: • Degradation and restoration and land; land is tangible; government role and PPPs for • Rights on the land; rent and return; investment of the banks in the land; rent money for 25 from the bank; long-term security • Support establishment of sub-regional learning to building understand the linkages and share mainstreaming • 4 levels of recommendation: • **Household**: property rights and stability (access or tenure); market structure (interlocked, intermediation in supply chains; money lenders in the absence of state; market failure); scale effect; buffer stock /stabilization stocks for seasonal products (soy bean) / marketing boards; • **National level (sub-national)**: regulation and compliance; coherence with others; alignment; pro-biodiversity policies; fiscal policies (subsidy and tax structure, e.g. to inorganic fertilizers, oil producers; buy at a pre-set price (recommend minimum support price); people who do things well have to pay more – this is perverse; knowledge generation and sharing (R&D activities); recognize IP rights for farmers; educate consumers about availability (Israeli strawberries) • **International**: Technical Barriers to Trade, Sanitary and Phytosanitary measures, the Convention on International Trade in Endangered Species of Wild Fauna and Flora, The Nagoya Protocol on Access and Benefit-Sharing, interlink these into the Convention on Biological Diversity's process, Access and Benefit-Sharing as an entry point to addressing some of the failures; no net loss target and compensation; biodiversity credits (tradable like carbon credits); Clean Development Mechanism for biodiversity (some argument about carbon markets); carbon markets are skewed to Brazil, Russia, India, and China; sustainable consumption & production; help in the transition • **Biodiversity community**: supply biased; hook up with professionals in the mainstream markets

Results from Communities Brainstorming Session[27]	**What drives some communities to protect/conserve species and ecosystems in a more prudent manner? What are the key attitudinal, cultural and economic factors that determine sustainability considerations at community level?** • In the developing world, it is lowest strata in the society that is involved in the protection/conservation of biodiversity. Unfortunately the methods used, the modalities developed aren't necessarily sustainable. • Lives on customary laws. • In contrast the developed world deals in the legal world and the same is not well developed in the developing world. • For *e.g.*, they monitor vulnerable species and the message is passed on to the higher levels of authority/government for action/policy development of policy etc. Attitude: The concept of ecological sustainability is quite deeply entrenched. NGO's put pressure on governments to refocus on sustainability. A relevant example is the ecologically sustainable use of agricultural land – a part of the land being reserved for biodiversity conservation. Cultural : • Community rules and traditional practices in the developing world – certain species of plants and animals not to be touched. You only kill what you can eat and again only animals that have grown to a certain level. • Though not directly related to culture, the practice of nomadic farming practiced in Africa is contributing to biodiversity conservation. In this a patch of land is used for a certain period of time and then the group moves away to a new piece of land. Then again, the type of animals used by communities also affects biodiversity. Contrast the cow that just attacks the shoot to the goat that is uprooting the plants. Economic: • Identifying species of economic value and looking at mechanisms to exploit them sustainably. Unexpected/Unacceptable Results: • Loss of species both natural and agricultural.
	Is sustainable use really a panacea for poverty eradication? • The communities to decide what is sustainable for itself and establish taxes to prevent spillage and overrides (above sustainable levels). • The economic resources procured through the establishment of licenses to be fed back into the community. This way, the sustainable use does contribute to poverty eradication. • Then again, there is a time horizon that needs consideration with issues of sustainability. • Very often than not at the level of individuals and communities sustainability is not an issue. As long as the individual is able to satisfy his/her needs (*e.g.*, someone hungry depending on the forest produce), there is no reason to be concerned about sustainability. • Then again the poverty that is rampant at the community level will not tolerate/sustain any efforts on conservation and sustainability. The only difference is when the issue of the next generation comes through. • Conditions external to the community can impose sustainability on the community. For *e.g.*, the grazing pressure in Africa. Across two communities dependent on pastures for their cattle an arrangement can come through in the sense that at one point in time they depend on their own pastures while at other get fodder from neighbouring communities.

[27] In all the points that were discussed there is a clear cut distinction between the developing world and the developed world. In our group discussing communities Africa was represented, Asia was there and so was Europe. So the discussion did cut across continental boundaries. It seems as if the community as the operating level is more applicable in the developing world especially with regard to Africa and Asia when compared to the developed world.

Results from Communities Brainstorming Session Continued	**How do communities navigate conflicts – both within and extraneous?** • Here again there is a clear distinction between the developed and the developing world. For the former the resolution of disputes/conflicts is through the legal system and the administrative hierarchy and for the latter the same is achieved through the social hierarchy. • In Africa there are community laws that are established and time honoured practices. As such, the resolution is done within the community itself. • In Europe the legal system provides a framework that is external to the community for the resolution of conflicts. An obvious example is the provision of hunting rights to elite people which is often restricted to the community on the basis of permits and licenses.
	Identifying community needs and key barriers for mainstreaming biodiversity and ecosystem services with poverty eradication and development. Needs: • In terms of needs for mainstreaming biodiversity and ecosystem services the major requirement is the change in behavior of individuals and communities. • This can only be brought about through the provision of incentives. Unless there is something in it for me, why should I change? Self interest (both at the individual and community levels) needs to be catered for. • Specific recommendations need to be framed up after intensive studies of the communities in the context of ecosystem. What is applicable in Nigeria (*e.g.,* farm land) might not be applicable in Liberia. There is no "One size fits all". Barriers: • The value of biodiversity is difficult to establish. If at all established very focused and sustained efforts required for it to be brought down to the level of communities so that they can be part of the process of conservation. • Real life examples which the community can relate to need to be used in education (*e.g.,* the Aral Sea turning into desert like conditions). • There is no planning at the community level. Participatory planning and local initiatives are absent. • Policy development done in a top-down approach. • Contemporary planning processes being imposed on communities without taking into consideration traditional norms and practices. • The "We know what is good for you" approach results in the lack of trust on the part of the communities. • Education and illiteracy hampers mainstreaming efforts. Ignorance on biodiversity and the need to have it conserved sustainably is a serious impediment to mainstreaming. Lack of clarity/standing instructions in access and benefit sharing. For *e.g.,* in India multinational companies establishing base and exploiting natural resources (*e.g.,* Coca Cola depleting ground water in Plachimada, Kerala, India) without taking the community into confidence.

C2 - Session on Capacity development framework brainstorming

Participants of the Expert Group on Biodiversity for Poverty Eradication and Development were posed the following questions:

(g) How have key stakeholders been convinced and acted to mainstream biodiversity for poverty reduction?
(h) What were the capacities needed in terms of enabling environment, organizations and individuals that made this happen?
(i) How where these capacities achieved?

The participants clustered into three groups (governance, private sector and communities) to discuss and make suggestions for capacity building, keeping the above questions in mind. The participant's answers were then grouped into appropriate categories and presented to the group.

Advice for politicians and governments	**Economic Analysis and Advocacy** • Think outside the box	• Include the economic valuation of biological resource
	Economics and valuation • Building capacities on Economic valuation for biodiversity and ecosystem goods and services	• Institutionalization of capacity building
	Effective implementation • Skilled and resourceful manpower (state and local biodiversity boards) • Improve capacity to converge and be able to implement effectively	• Better mechanisms for policy implementation
	Vision • An administration without vision, capacity development becomes a "one-off" exercise and not a process	• Attitude of learning by doing
	Budgets Skills • Budget/financial gap	• Capacity for negotiation budgetary negotiations
	Inter-sectoral coordination • Interdisciplinary teams • Mainstream biodiversity into other policies and develop policies and measures to internalize environmental externalities	• Environment ministry mainstreamed into the other strategic ministries • Incentives for collaboration between ministries (coherent policies and actions)
	Other • Transparency in decisions • Collaborative Management • Financial and Human resources • Knowledge management – systemize experiences in biodiversity management	• Legal framework for human rights perspective on biodiversity and ecosystem services • Creation of special ministries on sustainable development • Re-training of government offices in charge

Advice for Communities	**Administration – structural framework** • Improving conflicts between local authorities and population • Representation and organization to other levels (grouping and alliances) • Integration of biodiversity conservation activities into all local programmes and strategies	• Collaborative management • Financial support • Training • Organizational Development in Sustainable Production
	Awareness • Training • Financial	• Importance of biodiversity conservation • Biodiversity registries (including local names and scientific names)
	Empowerment • At present there is limited participation • Have the right to benefit from ecosystem • Sustainable management of natural resources • Capacity for survival and business development	• Negotiation skills • Enhancement of bargaining capacity • Develop and maintain pride and identity related to biodiversity and heritage (through education) cooperation and cooperative skills, government action and voice
	Results • Demand and desire for improvement of services • Motivation to see the process through • Migration of opportunities	• Cooperation as organization • Support innovators • Share benefits
Advice for the private sector	**Corporate Social Responsibility (CSR)** • Commit to CSR	• Human rights perspective of biodiversity
	Partnerships • Be more open and willing to adapt/reach out and build meaningful partnerships ; Reach out to all concerned stakeholders • Use participatory approach	• Training on partnership/cooperation with government and civil societies on the issues
	Supply chains • Analyze production chains • Out-grower schemes	• Integrating biodiversity and product supply chain management
	Awareness of biodiversity values • Make the business case for Biodiversity and show how it can be profitable • Value both economic and non-economic values of biodiversity	• Awareness raising on the value of biodiversity • Awareness of biodiversity values for the future
	Research and development and investment • Finance projects • Accessible and available to the public at lower or more competitive cost and higher efficiency • Methods for marketing biodiversity-positive products and services	• Accountability and advocacy • Innovation and redesign; Bio-mimicry • Research and development on pro-biodiversity pro-poor products and services and markets
	Regulation, compliance, planning • Planning activities in accordance with the legal status of value of biodiversity • Integrate biodiversity into business/action plan	• Produce laws and regulations in biodiversity • Environmental biodiversity accountability and how to enforce this

C3 - Guidance and priorities on mainstreaming for all relevant actors involved in development processes

Participants formed groups which produced guidance and recommendations for mainstreaming biodiversity and ecosystem services into poverty eradication and development processes from the perspective of a key stakeholder or actor. The groups were divided as follows:

1) ***The Secretariat of the CBD, the Expert Group, National governments, and the Conference of the Parties;***
2) ***Academic and research institutions;***
3) ***International, sub-national, and local organisations as well as local governments;***
4) ***The private sector;***
5) ***NGOs, civil society and media;***

The Secretariat, the Expert Group, National Governments, and the Conference of the Parties	**Secretariat** • Independent review of the implementation of poverty related articles in the Convention • Committed funding for the Biodiversity for Development Programme • Technical Assistance to national governments for integrating poverty into the NBSAPs • More Information Technology-based meetings
	Expert Group • Continuation of work to develop guidelines through IT media
	National governments • Review NBSAPs to integrate poverty concerns • Mainstreaming NBSAPs with national planning and budgetary allocations increased • Particular attention to the implementation of Article 8j, 10c, 15(7) and objective 2 and 3 of the Convention/CBD • Regional cooperation
	The Conference of the Parties • National reporting format with MRV on poverty/biodiversity and review of the national reports at the COPs • New Programme of Work (PoW) on Poverty and Biodiversity • Review (and implementation of recommendations) of existing programmes of work in order to integrate poverty concerns

Academic & research Institutions	• Species identification (taxonomy) to continue with focus on ecosystem functioning – species interrelationship • Integrate monitoring of ecosystems across spatial and temporal scales (e.g. Amazon) • Alternative resources/technology for the population and livelihood means • More focus on Green Economy, land use dynamics, and sustainable development • Monitoring, modeling and publicizing mechanisms [drivers?]: desertification, climate change, habitat change, GHG emissions, sensitivity analysis • Data (reliable and standardized formats) and research results to be communicated to governments and from there on to international organizations
International organizations, Sub-national / local organizations, local governments	**International organizations** • Awareness raising and mainstreaming of treaties and Conventions across member states • Forums for nations to analyze and discuss possible solutions and prioritization • Synergy and cooperation across international organizations (avoid duplication) • Increase biodiversity concerns within World Trade Organization (development and environment) • Develop tools, methods and standards for monitoring biodiversity and poverty • Development targets and indicators • Develop efficient monitoring techniques • Technical assistance towards biodiversity mainstreaming (e.g. building from Poverty Environment Initiative) • Harmonization with national development plans (reference to Busan Declaration / principles)
	Sub-National • ICLEI, World Council of Municipalities should take into consideration poverty and biodiversity issues on their agenda; benefits from biodiversity and ecosystem services in local development processes
	National: • More coordination/cooperation between Minister of the Environment and Ministry for local Governance/Interior Affairs; awareness raising on biodiversity • Capacity development: facilitation of income generating activities/sustainable use of biodiversity and knowledge management; ecosystem services;
	Local: • Public participation • Capacity development and resources necessary! Institutional strengthening; empowerment of local development committees and other forms for local planning / spatial planning • Environmental departments need to be considered in local budgets; weak control mechanisms; participate in zoning (Ecological Economic Zoning) land use planning, rural infrastructure

The Private sector at the International, National and Local levels	**International level:** • World Business Council for Sustainable Development, Global Compact and others consider/address within Green Economy debate implications of how technologies (like biotechnology, biofuels) impact on biodiversity and poverty eradication / awareness raising for members • Global Good Agricultural Practice/Global Food Security should consider biodiversity in benchmarking standards
	National Level • Chambers of commerce, national/bilateral councils of inclusivity, national associations of retailers; awareness raising/cooperative development: Access and Benefit-Sharing (training in regulations); ecological/social standards; payment for ecosystem services; benefits from biodiversity; special attention to support for SMEs • Corporate Social Responsibility programmes should consider biodiversity
	Local Level: • Access to incentive measures and programmes to integrate biodiversity conservation and poverty alleviation into production schemes, certification schemes, benefit sharing, PES, socio-biodiversity programs like in Brazil, capacity development; (workshops, media campaigns)
NGOs, civil society and The media	**Calls upon:** • Conservation and Development NGO community to build platforms/strategies for achieving mainstreaming • NGOs/civil society to play a critical role to empower local communities to integrate & upscale biodiversity poor development • NGOs/civil society to build where appropriate stronger linkages with local governments to upscale mainstreaming • Civil society/media/NGOs to support mainstreaming into governments planning and implementation process
	Recommends to governments: • To ensure that their planning and implementation process is transparent & inclusive to promote mainstreaming to all sectors • Encourage mainstreaming by NGOs/civil society through appropriate financial support • To launch media campaigns to create the awareness and support for mainstreaming

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