UNEP

CBD

CONVENTION ON BIOLOGICAL DIVERSITY

Distr.
GENERAL

UNEP/CBD/AHTEG-TTSTC/3
23 July 2007

ORIGINAL: ENGLISH

AD HOC TECHNICAL EXPERT GROUP ON
TECHNOLOGY TRANSFER AND SCIENTIFIC
AND TECHNOLOGICAL COOPERATION
Geneva, 10 – 12 September 2007
Item 4 of the provisional agenda*

DEVELOPMENT OF STRATEGIES FOR PRACTICAL IMPLEMENTATION OF THE PROGRAMME OF WORK ON TECHNOLOGY TRANSFER AND SCIENTIFIC AND TECHNICAL COOPERATION

Note by the Executive Secretary

I. INTRODUCTION

1. In Article 16 of the Convention on Biological Diversity, Parties recognized that access to and transfer of technology among Contracting Parties are essential elements for achieving the objectives of the Convention, and have undertaken to facilitate such access and transfer to other Parties of technologies that are relevant to the conservation and sustainable use of biological diversity or make use of genetic resources and do not cause significant harm to the environment. Articles 16 to 19 of the Convention set out how access and transfer of technology and technical and scientific cooperation are to be carried out. Technology transfer and technology cooperation is also of direct relevance to Article 15 on access and benefit-sharing. Indeed, Parties have recognized in the Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization that non-monetary benefits to the provider of genetic resources could take the form of the transfer of knowledge and technology under fair and most favourable terms, in particular technology that makes use of genetic resources.

2. To give effect to these provisions, the Conference of the Parties adopted, in decision VII/29, a programme of work on technology transfer and technological and scientific cooperation. The programme of work is intended to promote and facilitate the transfer of and access to technologies from developed to developing countries, including the least developed among them and small island developing States, as well as countries with economies in transition, as well as among developing countries and other Parties. It consists in four main elements: (i) technology assessment; (ii) information systems; (iii) creating enabling environments; and (iv) capacity-building and enhancement.

3. In decision VIII/12, paragraph 4, the Conference of the Parties decided to establish an *Ad Hoc* Technical Expert Group on Technology Transfer and Scientific and Technological Cooperation with a

* UNEP/CBD/AHTEG-TTSTC/1.

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view to collect, analyse and identify ongoing tools, mechanisms, systems and initiatives to promote the implementation of Articles 16 to 19 of the Convention, as well as *to propose strategies for practical implementation of the programme of work on technology transfer and scientific and technical cooperation*.

4. In paragraph 10 of decision VIII/12, the Conference of the Parties indicated that the mandate of the *Ad Hoc* Technical Expert Group shall be as set out in decision VII/29, paragraph 7. Further to the adoption of the programme of work by the same decision, in this paragraph, the Conference of the Parties requested the Executive Secretary to establish an expert group on technology transfer and scientific and technical cooperation, which would work through electronic consultations and long-distance communications as well as through meetings in conjunction with the informal advisory committee of the clearing-house mechanism. 1

5. According to paragraph 7 of decision VII/29, the expert group was to assist the Executive Secretary in the:

a. Preparation of proposals on options to apply institutional, administrative, legislative and policy measures and mechanisms, including best practices, as well as to overcome barriers, to facilitate access to and adaptation of technologies on the public domain and to proprietary technologies by developing countries and countries with economies in transition ("proposals" hereafter); and in particular, on measures and mechanisms that:

   (i) Foster an enabling environment in developing and developed countries for cooperation as well as the transfer, adaptation and diffusion of relevant technologies;

   (ii) Provide, in accordance with existing international obligations, incentives to private-sector actors as well as public research institutions in developed country Parties, to encourage cooperation and transfer of technologies to developing countries, through, e.g., technology transfer programmes or joint ventures;

   (iii) Promote and advance priority access for Parties to the results and benefits arising from technologies based upon genetic resources provided by those Parties, in accordance with Article19, paragraph 2, of the Convention, and to promote the effective participation in related technological research by those Parties;

   (iv) Promote innovative approaches and means of technology transfer and cooperation such as Type 2 partnerships, in accordance with the outcome of the World Summit on Sustainable Development, or transfers among actors, involving in particular the private sector and civil society organizations;

b. Exploration of possibilities and mechanisms of cooperation with processes in other Conventions and international organizations, such as the Expert Group on Technology Transfer (EGTT) under the United Nations Framework Convention on Climate Change ("exploration" hereafter").

6. Part (a) of this mandate reflects activity 3.1.2 of the programme of work on technology transfer and technological and scientific cooperation, under programme area 3 on "enabling environments". Under this activity, the Executive Secretary was requested to undertake a "compilation and synthesis of information, including case studies, and preparation of guidance" on the issues enumerated in the previous paragraph.

1/ In addition to electronic consultations, members of the group met back-to-back to SBSTTA at its eleventh meeting, on 27 November 2005, in Montreal. Please see document UNEP/CBD/COP/8/19, paragraphs 8-11, and document UNEP/CBD/COP/8/19/Add.2 (UNEP/CBD/AHTEG-TTSTC/3/Add.1), paragraphs 2 – 7, for details on the work of this expert group.

7. In accordance with this decision, the Executive Secretary established the expert group, and prepared the proposals and exploration, for consideration by the eighth meeting of the Conference of the Parties, as document UNEP/CBD/8/19/Add.2. In decision VIII/12, the Conference of the Parties took note of the proposals and of the exploration contained in this document, and invited Parties to make submissions thereon to the Executive Secretary no later than four months prior to the meeting of the *Ad Hoc* Technical Expert Group. The Conference of the Parties requested the Executive Secretary to analyse the views submitted and to forward the results together with the proposals and the views of Parties to the *Ad Hoc* Technical Expert Group for its work. The Executive Secretary was also requested to invite relevant conventions and international organizations and initiatives to contribute to the work.

8. Views on document UNEP/CBD/8/19/Add.2 that were received further to this invitation are compiled in document UNEP/CBD/AHTEG-TTSTC/INF/1. For ease of reference, document UNEP/CBD/8/19/Add.2 is reproduced *verbatim* as document UNEP/CBD/AHTEG-TTSTC/3/Add.1.

9. Section II of the present note points to other relevant decisions and recommendations that the *Ad Hoc* Technical Expert Group may wish to take into consideration. The analysis of the views submitted is provided in section III. Section IV identifies a number of strategic elements to support the work of the *Ad Hoc Technical Expert Group* in further considering the initial proposals and developing a strategy for practical implementation of the programme of work on technology transfer and scientific and technological cooperation.

II. OTHER PERTINENT DECISIONS AND RECOMMENDATIONS FOR CONSIDERATION BY THE EXPERT GROUP

A. Decision VIII/17 on private-sector engagement

10. In paragraph 9 of decision VIII/17, on private sector engagement, the Conference of the Parties invited the Ad Hoc Technical Expert Group on Technology Transfer and Scientific and Technical Cooperation to address the role of the private sector in achieving the three objectives of the Convention and to consider the relevance of decision VIII/17 for the work of the Expert Group, and to report thereon to the Conference of the Parties. The decision is reproduced verbatim in Annex I of the present note.

11. The Expert Group may wish to take this invitation into consideration in its deliberations, and to report on it accordingly.

B. Recommendation 2/1 of the Ad-hoc Open-ended Working Group on Review of Implementation of the Convention, on implementation of goals 2 and 3 of the Strategic Plan

12. The Ad-hoc Open-ended Working Group on Review of Implementation of the Convention at its second meeting, which took place in Paris from 9-13 July 2007, considered, under item four of its agenda, priority areas for capacity-building, access to and transfer of technology and technology cooperation. Its recommendation thereon was subsequently included in recommendation 2/1, on implementation of goals 2 and 3 of the Strategic Plan, under identical sub-heading.

13. In the preamble of recommendation 2/1, the Working Group emphasized the importance of the issue of access to and transfer of technology and technology cooperation, and scientific and technical cooperation, in the implementation of the Convention and, in that respect, of the mandate of the Ad Hoc Technical Expert Group on Technology Transfer and Scientific and Technological Cooperation. In paragraph 14 of the same recommendation, the Working Group notes the need to provide Parties with additional information on guidance, initiatives, mechanisms, systems and tools to improve technology transfer and cooperation, including:

(a) Approaches to technology transfer and cooperation which address the prioritized needs of countries based on priorities in the national biodiversity strategies and action plans rather than non-specific and global approaches;

(b) Bilateral and multilateral cooperation agreements as means to achieve effective transfer of technology;

(c) Guidance and initiatives to increase private sector engagement and strengthen enabling environment for investments at the national level.

14. The Expert Group may wish to take the pertinent sub-section of recommendation 2/1 of the Working Group, and the need expressed in paragraph 14 of the recommendation, into consideration in its deliberations. The advance unedited version of the sub-section of recommendation 2/1 is reproduced verbatim in Annex II of the present document.

III. ANALYSIS OF VIEWS SUBMITTED BY PARTIES AND INTERNATIONAL ORGANIZATIONS ON DOCUMENT UNEP/CBD/COP/8/19/ADD.2

15. Views on document UNEP/CBD/COP/8/19/Add.2 were submitted by Colombia, Cuba, and Germany, as well as by the International Chamber of Commerce (ICC) and the International Environmental Technology Center of the United Nations Environment Programme/Division of Technology, Industry an Economics (IETC).

A. General comments

16. Several submissions provided comments of a general nature. *Colombia* noted that that the proposals contained in the document are not legally binding, and are therefore limited to identifying options for activities, and further explained that there is a significant void that needs to be filled in order to complete the crucial task of achieving a set of guidelines to regulate the legal and technical environment required for ongoing technology transfer processes, and for scientific and technical cooperation, in order to move forward with the implementation of the Convention.

17. *Germany* expressed the belief *"that it is urgently needed to make a real effort in translating the today academic theories and our commitments presented in the decisions on TT into action. This may be done in small steps in a well designed step-by-step approach and by learning by doing but it could also, if the framework allows such development, done in an ambitious broader and visionary approach."*

The *International Chamber of Commerce* indicated that it places high priority on development of effective technology transfer policies that promote the capacity of people to benefit economically and/or socially from innovation.

B. Conceptualizing and defining technology transfer

18. Several submissions addressed how to define and conceptualize technology transfer. Further to observations by members of the electronic expert group, the proposals contained in document UNEP/CBD/COP/8/19/Add.2, in paragraph 17, had already explained that, in undertaking activities on enabling environments, it would be important to recognize the crucial links and differences between technology transfer and scientific and technological cooperation – the two elements addressed by the programme of work. Technology transfer, in particular in the context of the third objective of the Convention, would not be effective as an on-off activity, but would need to be embedded in integrated, long-term scientific and technological cooperation, which would also provide a key mechanism for the effective building or enhancement of capacity in developing countries and countries with economies in transition. *Colombia* re-affirmed this observation and underlined the importance of drawing a distinction between the concepts of technology transfer and technological cooperation.

19. *Colombia* also referred to the distinction of relevant technologies under the Convention as those that contribute to meeting the objectives of the Convention (that is, according to Article 16 (1), technologies that are relevant to the conservation and sustainable use of biological diversity or make use of genetic resources and do not cause significant harm to the environment) and noted that, while this distinction is valid, it would be important to clarify that the goal of said technologies should not be expressly tied to the objectives of the Convention, in the sense that there may be associated technologies that contribute to the achievement of those objectives without necessarily holding them as their main and/or foremost goal. Taking this into account, the policy must be broad in scope when it comes to the concept of technologies that contribute – directly or indirectly – to achieving the objectives of the Convention.

20. In the context of paragraph 17 of document UNEP/CBD/COP/8/19/Add.2, Cuba pointed to the problem of "brain drain", explaining that it causes imbalances with regard to the equity of cooperation processes and results in a deepening and broadening of differences between developing and developed countries. Cuba therefore suggested amending paragraph 17 as follows: occasionally, during the process of scientific and technical cooperation between developed and developing countries, there is a transfer of knowledge and technology resulting from the exodus of university professionals and technologists towards developed countries, for various reasons linked to more expeditious means of achieving higher levels of specialization, better economic conditions, etc. In general, it is the most highly skilled human capital that is involved in this exodus toward developed countries.

21. *Germany* also believes that it will be necessary to adopt a general understanding of the term technology transfer. Referring to the reflections of the electronic expert group on the links and differences between "technology transfer" and "technology cooperation", Germany is of the opinion that the expert group should find a definition which reflects both concepts. In order to facilitate this discussion, Germany provided two definitions of "technology transfer":

- *"The real value of any TT lies in the local adaptation and integration of the technology on community or national level. The whole process integrates transfer of knowledge and hardware as well as capacity building, training and financial support. TT should enable the recipient to control and further develop the technology according to his needs so that it contributes in a sustainable way to strengthen local economies, to generate additional income and to reduce poverty. This should be realised in long-term technology cooperation partnerships."* (Source: BfN Skript 160 "Technology Transfer via the Clearing-House Mechanism (CHM), 2005, DE-CHM).

- *"[…] as a broad set of processes covering the flows of know-how, experience and equipment for mitigating and adapting to climate change amongst different stakeholders such as governments, private sector entities, financial institutions, non-governmental organisations (NGOs) and research/education institutions"* (Source: Technology without Borders – International Energy Agency / CTI 2001).

22. While not referring to the need for work on conceptualizing or defining technology transfer, the International Chamber of Commerce (ICC) provided the following definition: "technology transfer *is the process of developing practical applications from the results of scientific research."*

C. Need for priority setting

23. A number of submissions underlined the need to identify priorities in the further work on technology transfer and scientific and technological cooperation, and identified concrete priorities from the perspective of the country or the organization. This sub-section references only those elements that were explicitly characterized as priorities by the submitting Party or organization. It is noteworthy however that the submissions, by providing views on certain elements but not on others, may also allow deducing some prioritization in an indirect manner. Those elements are discussed in the other sub-sections.

24. *Colombia* explained that, in the interest of maximizing the efficiency of technology transfer processes, priorities must be set according to specific national needs with regard to technology transfer, aimed at, in order:

- Strengthening national capacities and capabilities pertaining to research and innovation systems.

- Technological priorities (valuation and monitoring techniques, processes for the sustainable use of biological diversity).

25. The *International Chamber of Commerce (ICC)* agreed that prioritization is necessary to ensure the success of work on the topic, and recommended that efforts focus on the following:

- Making full use of information systems (programme element 2) to increase access to information about new technologies, their uses, potential, and case studies about the transfer of technologies and adaptations made to date;

- Conducting a review of national trade policies, investment regimes and export controls to ensure that they support technology transfer (options *iii*, *iv*, *and xi* of the proposals contained in document UNEP/CBD/8/19/Add.2).

- Providing guidance to countries on programmes to enhance access to capital, guarantees, etc for small and medium-sized companies (option *viii*) and to public institutions on options for working in consortia, etc. (option *xiii*); creating twinning arrangements (option *xiv*); and public-private partnerships (option *xv*);

- Creating incentives for the private sector and foreign actors to engage in technology transfer (options *xvii* and *xviii*).

26. The *UNEP DTIE International Environmental Technology Center* noted the broad scope of document UNEP/CBD/8/19/Add.2 and further stated that, while it provides a good point of departure for the discussion, at one point of time the actual activities need to be prioritized and put against actual costs."

27. As regards broadness of the document, it is noteworthy that some members of the electronic expert group, in discussing the draft of document UNEP/CBD/8/19/Add.2, had also questioned the direct relevance and practicability of some elements, and in particular of those under chapter B of the proposals, but that the group eventually agreed to keep the proposals broad and hence to keep these elements for the time being in order to reflect the broad mandate given to the group. 2/

D. Cooperation with other organizations, initiatives and conventions

28. *Colombia* noted that, in the context of Article 16, which stipulates preferential terms for the transfer of technology to developing countries, international cooperation and financing, in conjunction with financial institutions, is key to capacity-building.

29. *Germany* underscored the importance to "screen" existing initiatives that are actually facilitating technology transfer of relevance to the Convention. Noting that the document contains two good examples of such initiatives (the ISAAA and the CGIAR), *Germany* also said that the Equator Initiative should be much more promoted and disseminated as an important initiative offering a basket of practical technology transfer experiences that are relevant to developing countries.

2/ See UNEP/CBD/COP/8/19/Add.2, paragraph 3.

30. Moreover, duplication of efforts should be avoided, and synergistic work should be used to the maximum possible, between the different technology transfer expert groups of the CBD and UNFCCC, as well of the joint liaison group of the three Rio conventions. 3/

31. The *International Chamber of Commerce (ICC)* indicated that, given the private sector's critical role in effecting technology transfer and scientific and technological cooperation, it looks forward to being a partner in work aimed at eliminating obstacles and facilitating both access to and adaptation of technologies with the necessary accompanying know-how.

32. The *UNEP DTIE International Environmental Technology Center (IETC)* pointed to the necessity of creating networks through which to address priority areas – assuming that there is a significant knowledge, including research, at the national and local level that can be utilized by other countries. IETC pointed to the example of integrated pest management, under which a number of interesting field experiences have been accomplished and could be easily replicated by others, just depending on the information given in research journals.

E. Role of the private sector

33. Several submissions underscored the importance of the private sector in technology transfer and cooperation, and of associated instruments. *Colombia* noted the private sector's dominant hold on the relevant global technology and underscored the role of incentive measures, including negative incentive measures (see also sub-section below, on individual tools and means).

34. *Cuba* identified that capacity of local entrepreneurs to invest at a risk, and their management and business organization skills, as being one factor determining the capacity of countries on the receiving end to absorb the transferred technology.

35. In the context of avoiding duplication of efforts and maximizing synergy between the CBD and UNFCCC expert groups as well as within the joint liaison group of the three Rio conventions, *Germany* explained that by bundling efforts, the private sector might become more interested in mobilizing financial and technological resources that match the technology transfer needs relevant to the Convention, which could also help to broaden the financial basis for technology transfer.

36. The *International Chamber of Commerce (ICC)* noted the critical role of the private sector in effecting technology transfer and scientific and technological cooperation, and further explained that an effective and successful technology transfer system would incorporate both government support and private sector incentives, based on three pillars: (i) a durable government commitment to science in education, research, regulation and related infrastructure; (ii) broad rule-of-law protections, including strong intellectual property protections, in a just and consistent court system; and (iii) legal means for private actors to benefit from investment in technology transfer.

F. Removing barriers/obstacles

37. Several submissions addressed the removal of barriers and obstacles, including trade-related obstacles, and/or pointed to the importance of not creating new obstacles. *Colombia* noted the role of direct foreign investment as the dominant mechanism for technology transfer to developing countries, and pointed to State action on the receiving end, such as increasing the flexibility of tariff and non-tariff barriers to trade and investment. 4 But diversifying instruments would also call for the creation of monetary and non-monetary incentives in economies on the providing end (see also next sub-section). In addition, *Colombia* also referred to the rationale of support activity S3 in document

3/ See the discussion in document UNEP/CBD/COP/8/19/Add.2, paragraphs 25 to 32.

4/ See options (iii) and (iv) of document UNEP/CBD/COP/8/19/Add.2.

UNEP/CBD/8/19/Add.2, namely, that the elimination of tariff and non-tariff barriers by developed countries for certain biodiversity-related goods can contribute to increase the demand for imported biodiversity-related goods, which will subsequently increase the demand for technologies for sustainable use of the underlying biodiversity assets in exporting developing countries.

38. *Colombia* also said that, in order to avoid creating disincentives for the process of technology transfer, the access to and the transfer of technology should not be detrimental to the protection of intellectual property rights.

39. *Germany* also noted that it will be crucial for successful technology transfer to promote policies and institutional changes that lead to the removal of barriers and increased market penetration of biodiversity friendly technologies.

40. The *International Chamber of Commerce (ICC)* said that great care must be taken to ensure that the very effort aimed at creating enabling environments for technology transfer and cooperation does not itself create barriers or administrative burdens that undermine our objective, and suggested informing expert and working groups, established under the Convention for other purposes, of the work being undertaken to facilitate technology transfer and cooperation, and to ensure that their own work does not frustrate these efforts by creating new barriers.

41. The *UNEP DTIE International Environment Technology Center* noted that, while the technology transfer aspects are normally business-to-business oriented arrangements, the national import tax system of several developing countries is in itself prohibitive for import of cutting-edge technologies.

G. Individual tools and means

42. Several submissions commented on individual means and tools suggested in document UNEP/CBD/COP/8/19/Add.2.

Biodiversity Technology Initiative (BTI)

43. *Germany* indicated support for the idea of the Expert Group exploring the value of a Biodiversity Technology Initiative (see supporting activity S7 in document UNEP/CBD/8/19/Add.2), as a central initiative for the implementation of an overall biodiversity-related technology transfer strategy. One major role of a BTI could be capacity building through workshops and training seminars, but the initiative could also act as a facilitator in preparing project proposals for technological cooperation.

44. In paragraph 15 of decision VIII12, on technology transfer and cooperation, the Conference of the Parties requested the Executive Secretary to explore possibilities of developing a 'Biodiversity Technology Initiative', taking into account the Climate Technology Initiative (CTI). Further to this request, the Executive Secretary prepared a draft report, which will be made available to the Expert Group as an information document.

Incentive measures

45. *Colombia* said that developing country Parties are required to play a facilitative role to enable access by private initiatives, but applying only legislative and policy measures would seem to be a bit limited, as incentives – tax exemptions, subsidized loans etc – must also be established. Such incentives would obviously be considered within the framework of legal instruments. 5

5/ See options (xvii) and (xviii) of document UNEP/CBD/COP/8/19/Add.2.

46. Moreover, according to *Colombia*, negative incentives could – and should – also be applied. By increasing the cost of non-compliance with environmental strategies, plans and policies, those would be stronger and well-enforced, turning them into effective instruments in promoting demand for environmentally sound technologies at the receiving end.

47. The *International Chamber of Commerce* identified the creation of incentives for the private sector and foreign actors to engage in technology transfer (options *xvii* and *xviii* in document UNEP/CBD/COP/8/19/Add.2) as a priority area on which future efforts should focus.

National consulting point of technology access and transfer

48. *Germany* indicated its general support of the idea to identify, as appropriate, a central national consulting point on technology access and transfer, noting that this central consulting point could be the National Focal Point of the clearing house mechanism. 6 The Focal Point might organise the relevant activities related to the use of the CHM as the information mechanism of the CBD in order to facilitate access to and transfer of information on relevant technologies.

49. The *International Chamber of Commerce* expressed its belief that a separate body or group to serve as a "consulting point" on technology access and transfer (see option *xii*) would not be necessary under the Convention. However, the Convention could serve a central role in providing information (both about available technologies and needs) through the clearing house mechanism and other information systems.

Technology Fairs

50. Both *Germany* and the *ICC* are supportive of the proposal (option S6) to hold technology fairs and workshops in connection with Convention meetings to bring together technology providers and users but also to build awareness among delegates of the important role of technology in achieving the Convention's objectives. *Germany* in this connection observed that the predominant majority of any technology transfer would be based on former personal contacts though meetings. These meetings would allow the exchange of ideas and facilitate contact building between future partners. Germany recommended discussing how to make practical use of future COP and SBSTTA meetings for "technology transfer match making" and contact building purposes, for instance, by identifying the needs of a sub-region/country and bringing relevant technology suppliers to this meeting.

H. Comments related to individual elements of the programme of work

Programme element one: technology assessments

51. Several submissions made comments that relate to the activities foreseen in element one of the programme of work on technology transfer and scientific and technological cooperation: the preparation of technology needs assessments, including the assessment of needs for related capacity building; and the preparation of transparent impact assessments and risk analyses of the potential benefits, risks and costs associated with the introduction of technologies.

Identifying technology transfer needs

52. Several submissions underlined the importance of identifying technology transfer needs. *Colombia* said that the identification of each State's specific needs with regard to technology transfer, as a precondition for satisfactory transfer of technology and technological and scientific cooperation, is an essential complementary activity in order to generate a climate conducive to technology transfer.

6/ See option (xii) of document UNEP/CBD/COP/8/19/Add.2.

53. *Germany* said that any effective implementation and development of technology transfer relevant to the Convention would depend on a clear commitment by all Parties, and that it fully agrees with paragraph 14 (a) of the proposals that biodiversity technology transfer would need to be driven by demand/the recipient country needs. This would require as a crucial precondition that the host country must assess what knowledge and technologies are needed, which would further require that this should be part of a national implementation plan which indicates the national actors and who needs which technology. Only a clear understanding of the concrete technology needs relevant to the Convention by Parties would allow a focussed commitment and strategic support in implementing the programme of work on technology transfer and any related activities in support.

54. Making specific reference to the UNEDP-GEF Handbook on Technology Needs Assessments, Germany also identified a need to analyse existing material such as guidelines, hand-books etc. relevant to technology transfer and explore the potential and practical applicability of this material for the purpose of the Convention.

55. The *UNEP DTIE International Environmental Technology Center (IETC)* explained that, while it is welcome that the various UN agencies linked with this issue provide information what they are doing and/or can deliver in support, this has to be met by a real need, expressed by the potential users.

Undertaking technology impact/risk assessments

56. Several submissions addressed technology impact and/or risk assessments. *Colombia* noted that gaps would need to be addressed in the effectiveness of technologies used in the processes under the Convention, owing to a lack of adequate impact assessments and technical analyses.

57. *Germany* noted that it will be important, in any technology transfer or technology cooperation activity, to carefully consider the adaptation and impact assessment (risk assessments) of the transferred technology.

58. The *International Chamber of Commerce (ICC)* expressed concern about undue focus on technology assessment as a means of contributing to enabling environments, explaining that *"any efforts to harmonize or guide or dictate such assessments may well result in administrative requirements or other filters that serve to block governments, organisations, companies or institutes from obtaining necessary new technologies rather than facilitate timely access."*

59. The *ICC* also expressed concern about the terminology found in document UNEP/CBD/COP/8/19/Add.2 and its predecessor documents that suggests the need for impact assessments and risk analysis to "ensure that transferred technologies are economically viable, socially acceptable and environmentally friendly", explaining that *"countries, and their citizens, should be free to evaluate and seek access to new technologies without screening or steering from the international community because what is economically viable or socially acceptable will vary widely among countries but also within countries."*

60. The "*preparation, as appropriate, of transparent impact assessments and risk analysis of the potential benefits, risks and associated costs with the introduction of technologies, including new technologies, whose risks and benefits are not yet determined"* are foreseen as activity 1.2.1 of the programme or work on technology transfer and scientific and technological cooperation adopted by the Conference of the Parties at its seventh meeting. The programme of work identifies the Parties to the Convention as the main actors in implementing this activity, in collaboration with relevant national and international stakeholders and with support from GEF and from relevant international funding organizations, as appropriate.

61. The *UNEP DTIE International Environmental Technology Center (IETC)* made reference to its recent development of the Sustainability Assessment Tool (SAT), which guides a potential buyer through the process of assessing various technologies along the economical, environmental and social point of views.

Programme element two: information systems

62. *Germany* noted that information systems are supportive elements to the development of the programme of work on technology transfer, and further stated that: "*the Clearing-House Mechanism (CHM) of the CBD should be developed and promoted as the relevant mechanism to disseminate information on technologies and best practices in technology transfer relevant to the Convention. It will be an important task to design the role and functionality of the information system facilitating TT. Any development in this direction needs to be based on concrete needs and also expectations presented by Parties and future users. The role and niche of the CHM in this respect should be clear. Any development should be demand-driven and not contain all and any area of technology. This development should be discussed in conjunction with the IAC CHM."*

63. As explained above, the *International chamber of Commerce (ICC)* identified making full use of information as a priority for further work, and also indicated that relevant impact or risk assessments by regulatory authorities should be made available, along with information about the technologies, via these information systems.

64. Both *Germany* and the *ICC* are supportive of the proposal (option S6) to hold technology fairs and workshops in connection with Convention meetings (see above under individual tools and means).

65. The *UNEP DTIE International Environmental Technology Center (IETC)* described it experience in operating a technology database, which was eventually discontinued for a number of reasons, and provided information on its recent development of an internet based information system (ESTIS) for networks to be able to share their experiences and lessons learned.

Programme element four: Capacity building and enhancement

66. Several submissions underlined the importance of capacity building. As explained before, the strengthening of national capacities and capabilities pertaining to research and innovation systems was identified as a priority by *Colombia*. It further explained that the identification of technology needs would go hand-in-hand with activities aimed at both technical and institutional capacity-building, and referred back to the observation contained in document UNEP/CBD/COP/8/19Add.2, that technology transfer would need to be embedded in integrated, long-term scientific and technological cooperation, which would also provide a key mechanism for the effective capacity building or enhancement.

67. *Cuba* underscored the importance to be specific about the capacity of countries on the receiving end to absorb the technology transfer, since those countries must have certain knowledge and skills in order to be able to successfully adopt foreign technological knowledge. It further explained that absorption capacity covers the learning and adaptation phases of technology transfer, determined by the following factors: (i) the level and nature of the educational system; (ii) the application of basic research results to concrete uses and new product development; (iii) the intellectual property regime used in the country on the receiving end; (iv) the technology gap between the technology used on the national market and the imported technology; and (v) local entrepreneurs' capacity to invest at a risk, and their management and business organization skills.

68. Quoting the work of ISAAA as an example, *Germany* referred to capacity building in the context of creating new initiatives that, based on the national analyses of concrete technology needs, facilitate access to and the transfer of technologies. The work of such initiatives might include long-term

partnerships and capacity building. *Germany* also noted that one major role of a Biodiversity Technology Initiative (see sub-section on means and tools above) could be capacity building through workshops and training seminars.

69. The *UNEP DTIE International Environmental Technology Center (IETC)* explained that capacity building is almost always included as a part of any IETC project. Noting that IETC is mainly involved with pollution control/industrial environment, the submission further explained that a few of the capacity building activities linked with the Iraqi project have elements of biodiversity management as their main focus.

IV. POSSIBLE ELEMENTS OF A STRATEGY FOR PRACTICAL IMPLEMENTATION OF THE PROGRAMME OF WORK ON TECHNOLOGY TRANFER AND SCIENTIFIC AND TECHNICAL COOPERATION

70. According to paragraph 6 of decision VIII/12, the *Ad hoc* Technical Expert Group shall use the initial proposals contained in document UNEP/CBD/COP/8/19/Add.1 (UNEP/CBD/AHTEG-TTSTC/3/Add.1) for its work, together with the analysis of views submitted, provided in the previous section, as well as the views themselves. Consistent with the views provided, the Expert Group, in its consideration of the existing proposals contained in document UNEP/CBD/AHTEG-TTSTC/3/Add.1, may wish to take into consideration *inter alia* the following strategic elements for further elaboration and/or added emphasis in a strategy for practical implementation of the programme of work. 7

A. Biodiversity Technology Initiative (BTI)

71. Further to supporting activity S7 in the initial proposals and to paragraph 15 of decision VIII/12, the Expert Group may wish to explore the value and possibility of a Biodiversity Technology Initiative (BTI) and, in the event of a positive consideration, may wish to put more emphasis on the establishment of a BTI as a central initiative for supporting the implementation of an overall biodiversity-related technology transfer strategy. The main purpose of the Biodiversity Technology Initiative would be to assist Parties in implementing Articles 16 to 19 of the Convention and the elements of the work programme adopted by the Conference of the Parties in its decision VII/29, including through capacity building through workshops and training seminars. It could bring countries together to foster international cooperation, for instance by facilitating the development of technological cooperation projects, and could involve the private sector in order to facilitate the development and diffusion of technologies of relevance to the Convention. Hence, establishment of the BTI would be consistent with the observation that transfer and technology cooperation should be embedded in integrated, long-term mechanisms of technological cooperation rather than isolated, one-time initiatives.

72. Further to decision VIII/12, document UNEP/CBD/AHTEG-TTSTC/INF/2 provides an exploration of possibilities for the development of a BTI, taking into account the Climate Technology Initiative (CTI). The CTI, which was launched in 1995 by 23 OECD/International Energy Agency member countries and the European Commission in order to support the technology-related objectives of the United Nations Framework Convention on Climate Change, seems to show the useful role of such an international network for the effective implementation of provisions on technology transfer.

73. In further exploring possibilities for developing a Biodiversity Technology Initiative, the *Ad hoc* Technical Expert Group may wish to consider the following elements identified in document UNEP/CBD/AHTEG-TTSTC/INF/2:

7/ Only those elements were explicitly identified that, in accordance with the views provided, seemed to need further elaboration and/or added emphasis.

- Identification of candidates that could act as a host institution, bearing in mind the indicative list of criteria provided in the note; 8

- Funding mechanisms and arrangements;

- Involvement and participation of developing countries and corresponding institutional arrangements;

- Relationship with the Convention;

- Cooperative mechanisms with other organizations and initiatives.

74. The opportunities and mechanisms of cooperation under the elements of the programme of work as provided in section III C of document UNEP/CBD/AHTEG-TTSTC/3/Add.1 could also be applied within the framework of the BTI.

B. Conceptualizing technology transfer and cooperation, and prioritization of activities

75. In light of the references made be several submissions to paragraph 17 of the initial proposals and the links and differences between technology transfer and technology cooperation, the Ad hoc Technical Expert Group may wish to consider further elaboration of the language provided in paragraph 17.

76. Further to the views provided on prioritization, the Group may also wish to consider identifying other priority activities, to be emphasized in the strategy for practical implementation of the programme of work, and/or whether and where to introduce language to the effect that priorities must be set according to specific national needs with regard to technology transfer.

C. Involvement of the private sector, and the provision of incentives

77. Several submissions underlined the role of the private sector. Given that much technology is proprietary and in the hands of the private sector, once progress is made in assessing technological needs of specific countries or regions, it will be essential to involve the private sector. Seminars or technological forums could be organized at the regional or sub-regional levels with the active participation of industry with a view to providing information to governments and institutions in developing countries on available technologies and how to access them. Joint ventures and/or public-private partnerships could facilitate access to technology and play a role in the development of funding mechanisms for technology transfer. Incentive measures could be used in order to enhance the transfer of relevant technology and technological cooperation. These issues are already addressed in options (xv) to (xviii) of the initial proposals as well as in section III C on cooperation. The *Ad hoc* Technical Expert Group may wish to consider whether to put more emphasis on these elements.

8/ "A potential host institution of the prospective BTI should, *inter alia*: (i) being a center of excellence regarding relevant technical capacity and expertise on the CBD, its three objectives, and in particular on Articles 16 to 19 (the access to, and transfer of, technologies, including biotechnologies, for the conservation and sustainable use of biodiversity or technology that make use of genetic resources and do not cause significant harm the environment, as well as scientific and technological cooperation); (ii) provide access to a strong international network of relevant experts and partner institutions; (iii) guarantee impartiality, ideally through a global multilateral governance structure; (iv) provide sufficient institutional flexibility to enable the establishment of a Biodiversity Technology Initiative under its umbrella (such as under the IEA provisions on special activities and implementing agreements)."

D. Cooperation with other organizations, initiatives and conventions in implementing the elements of the programme of work

78. Several submissions underlined the importance of cooperation with other organizations, initiatives and conventions for more effective technology transfer and scientific and technological cooperation, with a view to avoid duplication of work and realize synergies whenever feasible. The *Ad hoc* Technical Expert Group may therefore wish to consider integrating section III of document UNEP/CBD/AHTEG-TTSTC/3/Add.1 into the strategy. In particular, sub-section C identifies opportunities and mechanisms of cooperation under the elements of the programme of work (technology assessments, information systems, enabling environments, and capacity building and enhancement), which are consistent with the views provided on these elements.

The UNEP Bali Strategic Plan

79. In this connection, the Bali Strategic Plan for Technology Support and Capacity-building seems to stand out as a highly relevant complementary global initiative that could provide support to a strategy for practical implementation of the programme of work on technology transfer and scientific and technological cooperation. When adopting the programme of work, the Conference of the Parties, in decision VII/29, already invited the United Nations Environment Programme to "*take into account the need for technology transfer and technology cooperation and capacity-building under the Convention when preparing and implementing the Inter-Governmental Strategic Plan on Technology Support and Capacity-Building, in order to ensure synergy and support in the implementation of the programme of work on technology transfer and cooperation.*" The Plan identifies areas that need to be addressed, many of which are also relevant in the context of the proposals contained in document UNEP/CBD/AHTEG-TTSTC/3/Add.1. [9]

E. South-South Cooperation

80. The programme of work on technology transfer and scientific and technological cooperation, under programme area four, on capacity building and enhancement, activity 4.4.1, calls upon relevant international, regional and national organizations and initiatives to support the development and operation of regional or international initiatives to assist technology transfer and cooperation as well as scientific and technical cooperation, particularly those initiatives designed to facilitate South-South cooperation and South-South joint development of new technologies. It should be noted that technology and knowledge transfer was also one of the focal areas identified for enhancing South-South cooperation at a brainstorming meeting of experts held at the CBD Secretariat in November 2006.

81. South-South cooperation holds significant potential for the delivery of technology support and capacity-building activities. South-South activities could be developed with a view to building partnerships between public and private institutions in different developing countries, with a view bringing together the holders of available expertise, technology and experience with identified needs, as well as identifying opportunities and practical mechanisms to facilitate South-South cooperation. The ongoing work of UN Agencies, in particular UNEP and UNDP, and initiatives such as NEPAD could provide support to this work.

9/ See the discussion of the Bali Strategic Plan provided in document UNEP/CBD/AHTEG-TTSTC/2.

Annex I

VIII/17. Private-sector engagement

The Conference of the Parties,

Recalling decisions III/6, V/11 and VI/26 of the Conference of the Parties, in particular objective 4.4 of the Strategic Plan ("Key actors and stakeholders, including the private sector, are engaged in partnership to implement the Convention and are integrating biodiversity concerns into their relevant sectoral and cross-sectoral plans, programmes, and policies"),

Emphasizing the need to involve all stakeholders in the implementation of the Convention and the achievement of the 2010 target, while mindful also that responsibilities for implementation rest primarily with Parties,

Noting the need to enhance voluntary commitments of the private sector to, and strengthen regulation in support of, the objectives of the Convention,

Recognizing that the private sector encompasses a broad range of actors,

Noting that there are multiple reasons for promoting the engagement of business and industry in the implementation of the Convention, including the following:

(a) The private sector is arguably the least engaged of all stakeholders in the implementation of the Convention, yet the daily activities of business and industry have major impacts on biodiversity. Encouraging business and industry to adopt and promote good practice could make a significant contribution towards the 2010 target and the objectives of the Convention;

(b) Individual companies and industry associations can be highly influential on Governments and public opinion; thus, they have the potential to raise the profile of biodiversity and of the Convention itself;

(c) The private sector possesses biodiversity-relevant knowledge and technological resources, as well as more general management, research and communication skills, which, if mobilized, could facilitate the implementation of the Convention,

Welcoming ongoing and new initiatives to engage businesses in furthering the objectives of the Convention, including dialogue between business leaders and Ministers involved in implementing the Convention,

Welcoming the initiative of the Ministry of the Environment of Brazil and the Department for Environment, Food and Rural Affairs of the United Kingdom, together with the World Conservation Union (IUCN), the Brazilian Business Council for Sustainable Development (CEBDS), Insight Investment and the Executive Secretary, to develop ideas, that could best be pursued through the Convention or in support of its objectives, for engaging business in biodiversity issues, as a means of working towards the 2010 target,

Noting the report of the first Business and the 2010 Biodiversity Challenge meeting (UNEP/CBD/WG-RI/1/INF/5) held in London on 20-21 January 2005, as well as the report of the second meeting (UNEP/CBD/COP/8/INF/11) held in São Paulo, Brazil, from 3-5 November 2005,

Noting that the following types of tools and mechanisms may be of use in facilitating contributions from business and industry towards the implementation of the Convention and its 2010 target:

(a) Awareness-raising materials and training workshops on business and biodiversity issues;

(b) Guidance on the integration of biodiversity considerations into existing voluntary or mandatory reporting and performance standards, guidelines, and indices in order to mainstream biodiversity considerations into business practice;

(c) Certification schemes reflecting the full range of biodiversity-related issues to facilitate consumer choice based on companies' biodiversity performance;

(d) Internationally agreed standards on activities that impact biodiversity;

(e) Guidance and tools to assist companies in implementing good practice with regard to biodiversity;

(f) Biodiversity policies and action plans to define and operationalize companies' biodiversity commitments;

(g) Biodiversity benchmarks to guide and assess companies' biodiversity management practices;

(h) Guidelines for incorporating biodiversity-related issues into existing environmental impact assessment procedures and strategic impact assessment;

(j) Partnerships to facilitate knowledge-sharing with regard to good practice;

(k) Public-private partnerships,

Further noting that some of the tools and mechanisms enumerated above may also be of use in facilitating cooperation among government agencies that deal with biodiversity conservation and sustainable use and those that deal with economic development, in regard to implementation of the Convention and achievement of its 2010 target,

Noting that contributions from business and industry towards the implementation of the Convention and its 2010 target could be facilitated by further work under the Convention to develop:

(a) Tools, guidance and standards on biodiversity-related issues relevant to the private sector;

(b) Tools for assessing the value of biodiversity and ecosystem services, for their integration into decision-making;

(c) Guidance for potential biodiversity offsets in line with the objectives of the Convention;

(d) Guidance on integrating biodiversity into industry standards, certification schemes and guidelines;

(e) A guide to the Convention for the private sector;

(f) Guidance for Parties on how to engage the private sector, in accordance with national needs and circumstances,

Noting that further work on ways and means of supporting small and medium-sized enterprises with environmentally sound products, such as that developed by the UNCTAD BioTrade Initiative, would help to promote good biodiversity practice among business and industry,

1. *Urges* national focal points, working with relevant government departments, to communicate the importance of biodiversity to companies operating within the jurisdiction of Parties, including state-owned companies and small and medium enterprises, to engage such companies in the development of national biodiversity strategies and action plans, and to encourage such companies to adopt practices that support the implementation of national biodiversity strategies and action plans and the objectives of the Convention;

2. *Encourages* national focal points, where appropriate, to include private sector representatives on national delegations to meetings of the Subsidiary Body on Scientific, Technical and Technological Advice, the Conference of the Parties, and other intergovernmental meetings, and nominate them to participate in technical expert groups;

3. *Requests* the Executive Secretary to compile information on the business case for biodiversity and good biodiversity practice, and to make this information available through the clearing-house mechanism;

4. *Further requests* the Executive Secretary to include the private sector as a target audience for its outreach materials and in the Global Initiative on Communication, Education and Public Awareness (CEPA);

5. *Invites* businesses and relevant organizations and partnerships, such as the Finance Initiative of the United Nations Environment Programme, to develop and promote the business case for biodiversity, to develop and promote the wider use of good practice guidelines, benchmarks, certification schemes and reporting guidelines and standards, in particular performance standards in line with the 2010 indicators, to share information on biodiversity status and trends, and to prepare and communicate to the Conference of the Parties any voluntary commitments that will contribute to the 2010 target;

6. *Invites* businesses to align their policies and practices more explicitly with the three objectives of the Convention and its goals and targets;

7. *Encourages* business representatives to participate in the meetings of the Conference of the Parties, the Subsidiary Body on Scientific, Technical and Technological Advice, and other intergovernmental meetings;

8. *Decides* to consider, at its ninth meeting, further ways and means to promote business engagement in the implementation of the Convention, with a particular emphasis on the Convention's role in facilitating such engagement;

9. *Invites* the Ad Hoc Technical Expert Group on Technology Transfer and Scientific and Technical Cooperation to address the role of the private sector in achieving the three objectives of the Convention and to consider the relevance of the present decision for the work of the Expert Group, and to report thereon to the Conference of the Parties;

10. *Encourages* Parties to prioritize the implementation of Article 6(b) of the Convention.

Annex II

2/1. Implementation of goals 2 and 3 of the Strategic Plan

The Ad Hoc Working Group on Review of Implementation of the Convention on Biological Diversity, *having undertaken* the in-depth review of the implementation of goals 2 and 3 of the Strategic Plan, *recommends* that the Conference of the Parties at its ninth meeting adopt a decision along the following lines:

The Conference of the Parties

(...)

Priority areas for capacity-building, access to and transfer of technology

Recognizing the importance of capacity-building and access to and transfer of technology and that these should address identified national needs and priorities,

Aware that inadequate capacity building, access to and transfer of technology, and technology cooperation are obstacles to the implementation of the Convention, especially in developing countries, in particular least developed countries and small island developing States, as well as countries with economies in transition,

Noting the need for a better use of existing mechanisms and an enhanced partnership with international and regional organizations,

Emphasizing the importance of the issue of access to and transfer of technology and technology cooperation, and scientific and technical cooperation in the implementation of the Convention and, in that respect, of the mandate of the Ad Hoc Technical Expert Group established in decision VIII/12 (Technology transfer and cooperation

12. *Recalling* Article 20, of the Convention, *urges* Parties, to fulfil their obligations and commitments in regard to the Convention,

13. *Encourages* relevant implementing agencies to address nationally identified capacity needs for the implementation of the Convention;

14. *Notes* the need to provide Parties with additional information on guidance, initiatives, mechanisms, systems and tools to improve technology transfer and cooperation, including:

(c) Approaches to technology transfer and cooperation which address the prioritized needs of countries based on priorities in the national biodiversity strategies and action plans rather than non-specific and global approaches;

(d) Bilateral and multilateral cooperation agreements as means to achieve effective transfer of technology;

(c) Guidance and initiatives to increase private sector engagement and strengthen enabling environment for investments at the national level;

15. *Recommends* that capacity building for national biodiversity strategies and action plans focus on:

(a) Elaboration and updating of national biodiversity strategies and action plans with broad stakeholder participation and based on nationally-identified needs and obstacles;

(b) Effective delivery and implementation of national biodiversity strategies and action plans;

(c) Monitoring implementation of national biodiversity strategies and action plans;

(d) Mobilization of financial resources for development, review and implementation of national biodiversity strategies and action plans;

16. *Encourages* Parties to establish or strengthen national clearing-house mechanisms to promote scientific and technical cooperation with other Parties, in particular with developing countries, in particular the least developed countries and small island developing States, as well as countries with economies in transition;

17. *Requests* the Executive Secretary, in cooperation with partner organizations to facilitate:

(a) The continued exchange of best practices and lessons learned from the preparation, updating and implementation of national biodiversity strategies and action plans, through appropriate forums and mechanisms such as the clearing-house mechanism and, subject to available resources, strengthened cooperation with regional processes, South-South cooperation and voluntary peer -review;

(b) The provision of training and technical support from partner organizations;

(c) Scientific and technical cooperation as well as technology transfer and cooperation to enhance the capacity of developing country Parties, in particular least developed countries and small island developing States, as well as countries with economies in transition, to support national implementation of the Convention including through a better use of the clearing-house mechanism, the financial mechanism and communication, education and public awareness under the Convention;

18. *Recalling* paragraph 6 of decision VIII/8, *reaffirms* the need for regional and sub-regional meetings to discuss national experience in implementing national biodiversity strategies and action plans, and the integration of biodiversity concerns into relevant sectors, including consideration of obstacles and ways and means for overcoming the obstacles;

19. *Further requests* the Executive Secretary, to:

(a) Continue to build upon the existing database of national biodiversity strategies and action plans;

(b) In collaboration with partner organizations continue to compile a range of instruments, including toolkits and documentation of best practices and lessons learned, to support Parties to develop, review and implement their national biodiversity strategies and action plans and related implementation activities, including for the achievement of the 2010 biodiversity target;

(c) Identify opportunities in the organization of work of the bodies of the Convention, as appropriate, to support development, review and implementation of national biodiversity strategies and action plans;

20. *Takes note of* the opportunity provided by the ongoing development of “One UN” programmes and *encourages* Parties, including the “One UN” pilot countries, to give due consideration to integrating biodiversity issues as identified in their national biodiversity strategies and action

21. *Invites* the United Nations Environment Programme, the United Nations Development Programme and the Food and Agriculture Organization of the United Nations, in partnership with the Convention, building upon, *inter alia*, the Bali Strategic Plan for Technology Support and Capacity-building, to further examine ways and means to support national implementation of the Convention;

22. *Invites* all bilateral and multilateral development cooperation agencies to promote mainstreaming of the environment, including biodiversity, into development cooperation activities;

23. *Also invites* Parties and other Governments and relevant organizations to contribute to initiatives aimed at assessing the benefits of implementing the three objectives of the convention, and the costs of the loss of biodiversity and the failure to take measures to fulfil the three objectives of the Convention, and *encourages* Parties to take this information into account when elaborating, reviewing and implementing national biodiversity strategies and action plans;

24. *Consider* developing a framework of options to mobilize human and technological resources at national level, drawing on, and taking full consideration of, existing instruments, initiatives, and experiences;

(...)
