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REVIEW OF PROGRESS IN PROVIDING CAPACITY-BUILDING SUPPORT TO PARTIES, PROMOTING COMMUNICATION, EDUCATION AND PUBLIC AWARENESS AND STRENGTHENING OF THE CLEARING-HOUSE MECHANISM AND TECHNOLOGY TRANSFER AND COOPERATION

PROGRESS REPORT ON TECHNOLOGY TRANSFER AND COOPERATION (ARTICLE 16 TO 19)

Note by the Executive Secretary

I. INTRODUCTION

1. The present note reports on progress in implementing requests to the Executive Secretary expressed in decision X/16 on technology transfer and cooperation, and presents pertinent conclusions as well as elements of a draft decision.

2. In its recommendation 4/1, the Ad Hoc Open-ended Working Group on Review of Implementation of the Convention, at its fourth meeting, requested the Executive Secretary (i) to develop, in cooperation with relevant partner organizations, a coherent, consistent and coordinated approach to technical and scientific cooperation, building upon existing mechanisms, possibly including the development of thematic and regional or subregional pilot initiatives for enhanced technical and scientific cooperation; and (ii) to engage in a process towards establishing a capacity-building network of national and regional centres of excellence in biodiversity (paragraphs 12 to 14). As the transfer of technologies of relevance to the Convention is typically not an on-off activity, but embedded in long-term scientific and technological cooperation, [1] these suggested activities are pertinent and the conclusions of this note suggest to build on these activities for the purpose of technology transfer.

* UNEP/CBD/COP/11/1.

[1] Decision IX/14 on technology transfer and cooperation, annex, paragraph 4.

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II. TECHNOLOGY NEEDS ASSESSMENTS

3. In paragraph 3 (a) of decision X/16, on technology transfer and cooperation, the Conference of the Parties at its tenth meeting invited Parties to consider including the preparation of technology needs assessments in the revision and updating of national biodiversity strategies and action plans, and to submit their technology needs assessments to the Executive Secretary. In paragraph 3 (b) of the same decision, the Conference of the Parties requested the Executive Secretary to compile and analyse the technology needs assessments received, taking into account the gap analysis prepared pursuant to paragraph 2 (b) of the same decision, and which is addressed in the next section of the present note.

4. Pursuant to this invitation, the Executive Secretary sent notification 2012/031 dated 15 February 2012 inviting Parties to submit, by 4 June 2012 latest, any relevant information along the lines provided by paragraph 3 (a) of decision X/16. A submission was subsequently received from the Government of Grenada.

5. In its submission, the Government of Grenada explained that the technology needs assessment required in the review and updating of the national biodiversity strategy and action plan includes:

(a) Capacity to measure and monitor biodiversity and ecosystems;

(b) Capacity to capture in the GDP services provided by natural environment;

(c) Capacity to strengthen the management of existing information systems, including the clearing-house mechanism and the biosafety clearing-house.

6. The needs assessment is further addressed in the analysis provided below (see paragraph 25(c)).

7. *Suggested way ahead*: Feedback on the invitation expressed in paragraph 3 (a) of decision X/16 has so far been very limited but it has to be borne in mind that, in many countries, the process of reviewing and, as appropriate, updating and revising national biodiversity strategies and action plans is ongoing. As decision X/16 remains operational until retired, the Executive Secretary could re-issue the call for submissions of technology needs assessments in due course. In addition, supporting activities could be undertaken with a view to strengthen technology needs assessments methodologies for the purpose of the Convention. This aspect is addressed in the next section.

III. GAP ANALYSIS OF SUPPORTING ACTIVITIES

8. In paragraph 2 (a) of decision X/16, the Conference of the Parties at its tenth meeting invited Parties, other Governments, relevant international organizations and initiatives, research institutions and the business sector, to submit to the Executive Secretary information on activities currently being undertaken by international, regional or national organizations and initiatives, including sectoral organizations and initiatives, which support, facilitate, regulate or promote technology transfer and scientific and technological cooperation of relevance to the Convention, such as on:

(a) Support for technology needs assessments and regulations, including capacity-building for technology assessments;

(b) Pertinent capacity-building and training courses;

(c) Pertinent seminars and symposia;

(d) Information dissemination;

(e) Other implementation activities including match-making and catalysing or facilitating the establishment of research-centre networks, alliances or consortia, joint ventures, twinning arrangements, or other proven mechanisms, on technologies of relevance to the Convention.

9. Paragraph 2 (b) of decision X/16 requested the Executive Secretary to disseminate and analyse this information, and to identify gaps in existing work as well as opportunities to fill these gaps and/or promote synergies. As requested by the decision, the compilation result was also made available through the clearing-house mechanism of the Convention website, in form of a searchable online database as well as an offline compilation document.[2]

10. The invitation to submit pertinent information as outlined above was communicated to Parties, other Governments, relevant international organizations and initiatives, research institutions and the business sector by notifications 2010/207, 2011/077, and 2011/094, and submissions were subsequently received from Belgium, Colombia, France, Poland, and the United Kingdom of Great Britain and northern Ireland. Submissions were also received from Bioversity International, the Global Mechanism of the United Nations Convention to Combat Desertification (UNCCD), the United Nations Framework Convention on Climate Change (UNFCCC) secretariat, and the UNEP World Conservation Monitoring Centre (WCMC). In light of the limited number of submissions received, additional web-based research was undertaken and consultations conducted in order to amend the information received. [3.]

11. The remainder of this section: (i) explains the scope and methodology of the gap analysis; (ii) summarizes the main gaps identified and (iii) provides recommendations on how to address these gaps and to promote synergies among existing activities. The full gap analysis and the compilation of information received are made available as an information document.

3.1 Scope and methodology

12. **Scope.** The research covered: submissions received in response to the invitation of paragraph 3 (a) of decision X/16; ongoing activities undertaken by the Convention Secretariat and its cooperation partners under the Convention's thematic programmes of work and cross-cutting issues, with a total of 71 international organizations and programmes, 32 regional organizations and agencies, as well as 45 development cooperation agencies of the Organization for Economic Cooperation and Development (OECD) countries and technology-related research centers from developing countries being reviewed. In addition, activities and mechanisms of major biotechnology business associations which are actively engaged in technology transfer at international and regional levels were also considered. A number of joint research and exchange programmes operated by universities that contribute to the transfer of relevant technologies were also reviewed. A total of 127 programmes and initiatives were identified as being relevant for this analysis, and were subsequently included in the database.

13. **Criteria for data selection.** Activities were considered relevant and selected if they were: (a) relevant to the list provided in decision X/16 (see above); (b) relevant to the Convention's objectives and in particular to the implementation of Article 16 of the Convention; (c) currently active, with long-term business plans and operational mechanisms; and (d) international (trans-border) in nature, thus leading to technology transfer and cooperation between countries.

14. **Definition of "gap".** Gaps were sought to be identified and analyzed against the following references:

[2] http://www.cbd.int/tech-transfer/gapanalysis.shtml

[3] The Secretariat wishes to acknowledge the work of Ms. Rui Zhang in undertaking the research.

(a) The programme of work on technology transfer and scientific and technological cooperation[4] adopted by the Conference of the Parties at its seventh meeting, in 2004 (hereafter referred as "PoW-TT");

(b) The Strategy for Practical Implementation of the programme of work on technology transfer and scientific and technological cooperation, developed by the AHTEG above for consideration by the Conference of the Parties at its ninth meeting, in 2008, and annexed to decision IX/14 (hereafter referred as "Implementation Strategy");

(c) The report of the meeting of the Ad Hoc Technical Expert Group on Technology Transfer and Cooperation, held in 2007 (hereafter referred as "AHTEG-TT ").

3.2 General findings

15. **While there are activities supporting the transfer of technologies of relevance to the Convention, they mostly do not formally refer or are connected to the Convention on Biological Diversity.** Among the total 127 programmes and initiatives identified as being relevant to this study, only 14 per cent are directly related or linked to the process of the Convention. Given the broad scope of technologies that are relevant for the implementation of the Convention, the support appears to be, in a number of cases, almost incidental, implying that it does not necessarily reflect or respond, in a systematic manner, to the needs of Parties and the guidance developed thereon under the Convention. For instance, many (though not all) entries in the database on local coping strategies for adaptation to climate change, operated by the UNFCCC secretariat [5], seem also to be relevant for implementing the Convention and, under the broad definition of technologies under the Convention, which also includes 'soft' technologies, would qualify as technologies for the conservation and sustainable use of biodiversity. However, such references are not provided in this database and its search tool.

16. Correspondingly, **relevant useful information is widely dispersed, which likely implies a knowledge gap**. The fact that most relevant activities are widely dispersed across programmes and initiatives, together with the lack of reporting or information sharing arrangements with the Convention, implies that many supportive activities, or useful information more generally, may simply not be known to the biodiversity community.

17. Given the nature of the information dispersal, **closing or narrowing the knowledge gap is not straightforward**. For instance, the clearing-house mechanism of the Convention, in its database on technology transfer and cooperation, already provides a collection of websites which contain relevant information. While the collection itself is searchable, e.g., by biome or region, prospective users will still have to search for the valuable pieces of information on the individual websites that were listed as a retrieval result. This clearly limits the usefulness of the collection; however, doing more is not feasible with existing capacity. For instance, the Secretariat undertook, on an experimental basis, web searches on available relevant technologies and put these in a dedicated sub-section of the database; however, properly maintaining and up-scaling this collection is not feasible with existing resources.

18. **Some types of support seem to be well-covered for some sectors and some types of relevant technologies, but the overall picture is uneven and patchy.** For instance, in the area of agricultural biotechnologies (as a subset of technologies that make use of genetic resources), the activities of CGIAR centers are pertinent, as well as, specifically with regard to information dissemination and catalyzing partnerships, the work of the International Service for the Acquisition of Agri-biotech Applications

[4] http://www.cbd.int/doc/publications/ttc-brochure-01-en.pdf

[5] See at http://maindb.unfccc.int/public/adaptation/ .

(ISAAA) and its web portal. However, there are no similar mechanisms for conservation and sustainable use technologies.

19. The majority of programmes and initiatives researched **provide more than one type of support**. Among the five types of support listed in paragraph 2 (a) of decision X/16, **information dissemination** leads with the largest number of activities, followed by **capacity-building** and **match-making.** Again, most **seminars and symposia** are not formally related to the CBD-specific technology transfer.

3.3 Summary of identified gaps

20. In light of the above, an overall gap appears to be the lack of an effective mechanism that bundles these widely dispersed but relevant elements of activities, thus making them more visible and, by ensuring that pertinent activities include an explicit focus on the technological objectives and needs of the Convention, more effective for the purpose of the Convention. The most dedicated information system for supporting and promoting technology transfer and cooperation of relevance to the Convention, namely, the clearing-house mechanism of the Convention and its technology transfer database, currently does not have the capacity for sustaining a reasonably comprehensive, focused and updated compilation of pertinent information, nor for providing additional useful functions that go beyond information collection and dissemination towards the promotion and facilitation of scientific and technical cooperation, as foreseen by Article 18 (3) of the Convention.

21. Existing global technology knowledge networks do not have an explicit focus on technologies of relevance to the Convention or, such as in the case of CGIAR, only address a subset of relevant technologies. Hence, although there are several centres of excellence in relevant technologies, harnessing their full potential of supporting technology transfer and cooperation for implementing the Convention and the Strategic Plan for Biodiversity 2011-2020 would require more effective coordination and networking support.

22. Other specific gaps identified include:

(a) Support for technology needs assessments (TNA) highlighting, in a systematic and explicit manner, the technology needs of Parties to implement the Convention and the Strategic Plan for Biodiversity (2011-2020), including the associated financial and capacity support needed to prepare TNAs, and the specific need for the development of a TNA methodology;

(b) Capacity-building and training on specialized technology transfer knowledge, operational skills and the application of practical tools, for example, on issues related to intellectual property rights, traditional knowledge and technologies embedded in material transfer agreements (MTAs), in accordance with the principles of ABS, TT agreement drafting skills, project formulation and financing;

3.4 Recommendations

23. It is important to note that the five types of support listed in decision X/16 will be more effective if they build on each other. The result of technology needs assessments, for instance, can provide useful information for designing targeted capacity-building and training. Information dissemination could be more focused if needs were clear. Hence, some form of coordination mechanism would be useful. Building on existing networks built under the Convention, such as the regional centers of excellence identified under the South-South cooperation workstream, or the Consortium of Scientific Partners, [6] as well as outside of the Convention, such as CGIAR and other relevant actors, opportunities could be explored for building a knowledge network dedicated to strengthening scientific and technological cooperation, with geographical centers of excellence on particular technological areas as its core. This

[6] See http://www.cbd.int/cooperation/csp/ .

would respond to the requests expressed in paragraphs 12, 13 and 14 of recommendation 4/1 of the fourth meeting of the Ad-hoc Open-ended Working Group on Review of Implementation of the Convention[7] and, as the transfer of technologies of relevance to the Convention is typically not an on-off activity, but embedded in long-term scientific and technological cooperation, such a network of partners could also be an effective means to promote and strengthen the transfer of technologies of relevance to the Convention, and thus to contribute to implementing Article 16 of the Convention and achieving Aichi Target 19 of the Strategic Plan for Biodiversity 2011-2020.[8]

24. Important functions of such a network could include to (a) to support the bundling of existing activities into a more focussed framework to promote more effective scientific and technological cooperation thus contributing to more effective transfer of technologies of relevance to the Convention; (b) thus establishing a dedicated knowledge network (or 'network of network') as outlined above; and (c) support the provision of technical support and tailored solutions, in response to the specific technology needs of Parties, as specified in the next paragraph.

25. In addition, and with the active support of the network, support in the following areas could be strengthened:

(a) **Technology needs assessments.** A group of technology transfer experts could be established to provide guidance on the development of TNA methodology, on the preparation of actual TNA in countries, and subsequent training formats. TNA could be linked to national reporting under the Convention on Biological Diversity and national biodiversity strategies and action plans (NBSAP). Training on TNA could be organized by the Convention on Biological Diversity in collaboration with relevant international organizations. The result of the TNA would be the guiding reference for other activities facilitating technology transfer, including capacity-building and training, financing, information dissemination, technology match-making events, and others. TNAs could be submitted by Parties as an input to the review of implementation of the Convention and the Strategic Plan;

(b) **Strengthen the CHM support function for technology transfer and cooperation,** by increasing support to updating and strengthening the technology transfer database of the clearing-house mechanism, and, additionally, to invest in an extended advisory service that can overcome the limitations of purely web-based information dissemination (see next sub-paragraph);

(c) **Establish a "TT-Helpdesk" to provide technical and technological support to Parties.** Advisory services could be made available by establishing a "TT-Helpdesk" operated by a dedicated biodiversity technology transfer specialist. This service could upscale and add value to the clearing-house mechanism's database on technology transfer by bringing together, in a systematic, sustainable, and user-friendly manner, the currently widely dispersed wealth of knowledge, experiences and information on biodiversity-related technologies, and respond to technology needs assessments submitted and to other requests for information and support in a tailored manner, by undertaking, as feasible, match-making and catalyzing or facilitating partnerships for scientific and technological cooperation.[9] This could include South-South and triangular cooperation as foreseen in paragraph 3 of

[7] Document UNEP/CBD/COP/11/4.

[8] *"By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied."*

[9] For instance, in responding to the needs assessment submitted by Grenada, the helpdesk could (i) bring this to the attention of relevant organizations and initiatives working on, respectively, remote sensing and other monitoring technologies, and on environmental accounting, and (ii) assist in the development of cooperative activities.

recommendation 4/8 of the fourth meeting of the Ad-hoc Open-ended Working Group on Review of Implementation of the Convention; [10]

(d) In order to complement the database and helpdesk and to facilitate direct contact and cooperation, **matchmaking events** could be convened at the margins of major meetings of the Convention on Biological Diversity or as a part of existing matchmaking events;

(e) It could be another task of the TT-helpdesk to prepare **updates on latest technical and technological information, including available technologies,** and disseminate them through e-newsletters as well as non-electronic outlets such as loose-leaf fact sheets to be distributed on the margins of meetings of the Convention.

3.5 Conclusions: draft decision elements

26. Building on, and referring to, paragraphs 12, 13 and 14 of recommendation 4/1 of the fourth meeting of the Ad-hoc Open-ended Working Group on Review of Implementation of the Convention,[11] the Conference of the Parties may wish to consider taking elements of a decision along the following lines:

Technology transfer and cooperation

14(*bis*). *Recognizing* the importance of integrated, long-term scientific and technological cooperation for facilitating and promoting technology transfer essential for attaining the three objectives of the Convention and for implementing the Strategic Plan for Biodiversity 2011-2020, *requests* the Executive Secretary, subject to the availability of financial and human resources,[12] to:

(a) Compile, in cooperation with, and with input from, the network of regional and national centers of excellence referred to in paragraph 13[**] above, knowledge, experiences and information on biodiversity-related technologies and associated activities that support, facilitate, regulate or promote technology transfer and scientific and technological cooperation of relevance to the Convention, and make it available, in a systematic and timely manner, through the clearing house mechanism of the Convention and its database on technology transfer and cooperation;

(b) Using the information compiled and in close liaison with the network, provide technical and technological support to Parties by responding to technology needs assessments submitted by Parties and other requests for technical and technological information in a tailored manner, by undertaking, as feasible, match-making and catalyzing or facilitating partnerships for technology transfer and scientific and technological cooperation, including, as appropriate, the development of thematic and regional or subregional pilot initiatives for enhanced technical and scientific cooperation, as foreseen in paragraph 14[**] above;

(c) Organize, as feasible and as appropriate, matchmaking events for technology transfer and scientific and technological cooperation, at the margins of major meetings of the Convention or as a part of existing matchmaking events;

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[10] Document UNEP/CBD/COP/11/4.

[11] Ibid.

[12] See UNEP/CBD/COP/11/10 and UNEP/CBD/COP/11/10/Add.1.

[**] See decision WGRI 4/1

(d) Prepare updates on latest technical and technological information, including available technologies, and disseminate them through e-newsletters as well as non-electronic outlets;

(e) Report to the Ad-hoc Open-ended Working Group on Review of Implementation at its fifth meeting on activities undertaken and progress made;

14(*ter*). *Recalling* paragraph 3 of decision IX/16, and with a view support the preparation of technology needs assessments, *requests* the Executive Secretary, subject to the availability of financial and human resources, and in cooperation with relevant experts, to review existing needs assessment methodologies, identify the needs for adaptation for the purposes of the Convention, and prepare a technology needs assessment methodology for the purpose of transfer of technologies of relevance to the Convention.
