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Item 11 of the provisional agenda*

INDICATORS FOR ASSESSING PROGRESS TOWARDS THE 2010 BIODIVERSITY TARGET: STATUS OF TRADITIONAL KNOWLEDGE, INNOVATIONS AND PRACTICES

Note by the Executive Secretary

I. INTRODUCTION

1. In decision VII/30, annex II, the Conference of the Parties adopted a framework to enhance the evaluation of progress in the implementation of the Strategic Plan, covering seven focal areas, one of which is “protect traditional knowledge, innovations and practices”. In each of these focal areas, goals, sub-targets and indicators are to be identified. In paragraph 7 of decision VII/30, the Conference of Parties requested the Ad Hoc Open-ended Working Group on Article 8(j) and Related Provisions to explore the need and possible options for indicators for the protection of innovations, knowledge and practices of indigenous and local communities, and to report the results to the Conference of the Parties at its eighth meeting.

2. In annex I to decision VII/30, the Conference of the Parties adopted a suite of indicators for assessing progress towards the 2010 biodiversity target (see annex I) comprising indicators for immediate testing and possible indicators for development. With regards to traditional knowledge an indicator on the status and trends in linguistic diversity and speakers of indigenous languages was included as an indicator for immediate testing.

3. This note was prepared by the Executive Secretary to assist the Working Group in its consideration of this issue. Section II, provides an update of work undertaken so far regarding language indicators. Section III offers some suggestions regarding the establishment of other indicators to assess the status of traditional knowledge, innovations and practices. Section IV provides a basis for recommendations by the Working Group concerning future work on the testing of possible indicators for the protection of innovations, knowledge and practices of indigenous and local communities, to complement the language indicator, which has been adopted. The Working Group is invited to make

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recommendations, as appropriate, for the consideration of the Conference of Parties on the basis of suggestions contained in section IV.

4. Annex I, contains the table of provisional indicators for assessing progress towards the 2010 biodiversity target. Annex II lists possible indicators for the protection of traditional knowledge and indicates their potential and status of development.

II. A SUMMARY OF THE PROGRESS MADE ON LANGUAGE INDICATORS

5. In decision 30, paragraph 27, the Conference of Parties adopted the status and trends of linguistic diversity and numbers of speakers of indigenous languages as an indicator for immediate testing, for the status of traditional knowledge, innovations and practices and requested that further indicators be identified by the Working Group on Article 8(j) and related provisions.

6. In its conclusions prepared for the tenth meeting of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA), the Ad Hoc Technical Expert Group on Indicators, which met in Montreal from 19 to 22 October 2004, noted that data on the status of linguistic diversity and numbers of speakers of indigenous languages are available, *inter alia*, through the Ethnologue database (UNEP/CBD/SBSTTA/10/INF/7).

7. The Group observed, however, that a methodology for the extraction of meaningful trends information from these data is yet to be developed. An index of the number of indigenous languages losing speakers versus indigenous languages gaining speakers might be feasible and could be a more sensitive indicator of the actual status of indigenous languages rather than a simple count of languages in each category of numbers of speakers (see UNEP/CBD/SBSTTA/10/INF/21). The data from the Ethnologue database might be suitable to applying the calculation used in developing the Red List Index (see UNEP/CBD/SBSTTA/10/INF/13). To test this, it is important to identify indigenous languages for which the numbers of speakers have been assessed at least twice, using a comparable methodology. In its recommendation X/5, SBSTTA identified UNESCO, in collaboration with UNEP-WCMC, to coordinate work on this indicator. They are currently researching this issue to report back to the Working Group on Article 8(j) and Related Provisions and the eighth meeting of the Conference of the Parties.

8. The Executive Secretary has commissioned UNESCO to prepare, on the basis of various sources of information, including the Ethnologue database, the UNESCO Atlas on Endangered Languages and other published information, a database of those indigenous languages for which the numbers of speakers have been assessed at different dates using a comparable methodology and the same definition for the specific language. Where available, an endangerment category will be assigned to the language, which is based on the number of speakers as well as other criteria identified by the UNESCO Ad Hoc Expert Group on Endangered Languages. Based on this information UNESCO will make recommendations on the calculation of trends. The results of this analysis are expected to be available by the end of 2005.

III. POSSIBLE INDICATORS TO ASSESS THE STATUS OF TRADITIONAL KNOWLEDGE, INNOVATIONS AND PRACTICES

9. Since languages may serve as a useful proxy but are not a direct or singular measure of traditional knowledge, the AHTEG on indicators noted that additional indicators that relate more specifically to indigenous knowledge, innovations and practices need to be developed to provide a more accurate picture of the status and trends in traditional knowledge. The Advisory Group on Article 8(j) and related provisions established in decision VII/16 E, paragraph 4 (d), provided advice on possible indicators for consideration of the Working Group. Possible indicators discussed by the Advisory Group included:

- (a) Land-based Indicators

- (i) Recognition/existence/continuation of traditional land tenure of indigenous and local communities noting that territories may include fresh and marine waters (e.g. sea and sea-bed tenure);
- (ii) Traditional lands and waters managed or co-managed by indigenous and local communities such as co-managed protected areas (where indigenous and local communities may be able to exercise traditional ecological knowledge in managing their territories);
- (iii) Changing land-use patterns may indicate territories where the traditional land use has changed to modern uses and could possibly be measured by geographic information satellite systems (GIS).

(b) People-based indicators: demographics and statistics on the urbanization and movement/s of indigenous and local communities away from traditional territories;

(c) Programme and policy-based Indicators: trends in establishment and effective implementation of favourable government policies and programmes to traditional knowledge retention, use and intergenerational transfer and their effective implementation (such as indigenous education programmes and policies containing elements of traditional knowledge or indigenous health programmes that incorporate and utilize traditional knowledge and traditional healers);

(d) Culture-based indicators:

- (i) Access to traditional resource rights;
- (ii) Cultural freedom and cultural indicators including community-based cultural well-being audits, which are self-administered and self-initiated indicators of the cultural well-being of indigenous and local communities, with the emphasis on self-assessment;
- (iii) Other possible indicators of traditional knowledge could include such manifestations of traditional knowledge as the existence of cultural institutions; the existence of knowledge holders and the persistence of customary law and cultural practices; the existence of totems (indicating totemic diversity); the loss of distinct tribal groups (tribal clustering), physical manifestations of culture such as rituals and ceremonies; and the continuing transmittal of traditional knowledge to future generations.

10. In considering the before-mentioned possible indicators for traditional knowledge, it is important to recall that, in accordance with the principles for choosing indicators identified by the Expert Group on Indicators of biological Diversity, which met in Montreal in February 2003, (UNEP/CBD/SBSTTA/9/10), any additionally proposed indicators must include reliable and comparable data over standardized periods of time, to allow for measurement and the establishment of trends. Having noted that, it is most likely that an accurate picture of the state of traditional knowledge will only be achieved through a bundle of indicators and that a group of indicators may need to be both quantitative and qualitative in nature. Annex II to this document provides a table showing the above-mentioned indicators and additional information on data sources, data availability and methodology.

11. Given that the cultures and lifestyles of indigenous and local communities are closely related to their traditional lands and waters and that the use of their traditional knowledge requires that these

peoples have access to traditional lands and waters, some indicators may be land-based indicators ^{2/} and may include access to and use of lands and waters traditionally occupied or used by indigenous and local communities and such things as involvement in protected areas management, as possible indicators of indigenous and local communities who can practice their traditional (ecological) knowledge on traditionally occupied lands and waters.

12. Indigenous and local communities who maintain or have achieved access to their traditional resources, such as via access to protected areas to engage in sustainable harvesting of resources enabling them to practice their traditional lifestyles may also be a useful indicator of the maintenance of traditional knowledge.

13. Given the close relationship that indigenous and local communities have to the traditional lands and waters they occupy or use, people movement/s such as migration, immigration and increasing urbanization (demographics), particularly if it is away from their traditional territories, will impact upon a community's ability to maintain their traditional knowledge, especially knowledge that is used for the preservation of biological diversity. Such demographic analysis may be a useful and measurable indicator concerning the retention and use of traditional knowledge.

14. The existence and effective implementation of government policies and programmes which have a direct impact (either positive or negative) on the retention and use of traditional knowledge could be considered as possible indicators although measurement may prove problematic, and if possible, may largely be qualitative in nature, unless the implementation is measured by quantifiable outcomes. Specific programmes such as Indigenous Education Policies and Programmes, which include elements of traditional knowledge including the involvement of knowledge holders, may provide a useful measurement of whether traditional knowledge is being valued and passed on to future generations through formal education settings. Hence, on a national policy level, established indigenous education programmes may be an indication of the survival and use of traditional knowledge. Included in indigenous education policies or programmes ^{3/} should be elements of mother-tongue education, bilingual education and/or English (mainstream language) as a second language (ESL) strategies, which suggest the continued use of indigenous languages. The same could be said of established health policies and programmes that include elements of traditional knowledge and/or recognized traditional health practitioners.

15. The United Nations Development Programme (UNDP) has suggested through its *Human Development Report 2004* (<http://hdr.undp.org/reports/global/2004/>), that cultural freedom or liberty (and hence the ability to practice one's traditional knowledge) may depend on the existence of policies on religions and religious practice; policies on customary law and legal pluralism; policies on multiple languages (including indigenous languages); and/or policies for redressing socio-economic exclusion. The critical analysis of government programmes and policies and the inclusion of such material in national reports to the Convention may be an effective qualitative measurement of healthy government policy environments for traditional knowledge.

16. Traditional knowledge and traditional resources have been managed by indigenous and local communities since time immemorial, using customary law embedded in spiritual cosmology. Persistence of customary law, and/or the existence knowledge holders, or spiritual leaders or Elders and the

^{2/} The property systems of the indigenous and local communities are collective and extraordinarily diverse, and their concepts of property diverge deeply from many of the core assumptions of Western property law, particularly Anglo-American property law (Battiste And Henderson, 2000; Lepage, 1994).

^{3/} The report of the third session of the United Nations Permanent Forum on Indigenous Issues (E/2004/43), pages 7-11.

persistence of cultural practices, may all be regarded as manifestations of traditional knowledge and may thus be useful indicators that traditional knowledge continues to be used and passed on to younger generations. However, indicators that attempt to measure “culture” need to be carefully considered and should be self-administered and community-based. They should also include modern initiatives such as indigenous and local community research initiatives (such as those conducted by indigenous academic institutions). The usefulness of cultural well-being audits depends on them being a self-administered and self-initiated indicator/s of indigenous and local communities own cultural well-being (these could be family, local community or tribally-based). The principle of self-assessment is a particularly important consideration, as is the notion of “cultural well-being”. Such measurements will largely be qualitative in nature but will have a direct correlation to the use and retention of traditional knowledge.

17. Some scientists have established measurable factors that indicate that indigenous and local communities have been using their traditional land-management practices, such as evidenced by the presence of extensive *terra preta* soils, which are indicators of slash-and-burn activities. For instance, extensive *terra preta* soils currently underlay many old-growth forest stands in places such as the Bolivian Amazon.^{4/} However, this would be applicable in certain regions only and may not be a universal indicator for all indigenous groups as not all groups practice these kinds of activities or live in environments where this activity is appropriate. Other scientific systems such as GIS may offer some solutions. GIS is a technology that manages, analyses, and disseminates geographic knowledge. In particular, GIS can measure biomass and chlorophyll and changes in land use (land-use patterns) and comparing these measurements over time may provide an indication of changes away from traditional land use. This information is already being collected and there may be a need to reorganize this information for the purposes of identifying changing land-use patterns away from traditional land use. Such identification of the quantity of change may indicate movements away from traditional land use and thus, the associated traditional knowledge.

18. In concluding, it would appear that quantifiable indicators may largely be land-based indicators and demographics, as these provide a more accurate picture of indigenous and local communities physical connection to the lands and waters on which they practice their knowledge, innovations and practices, relevant to the conservation and sustainable use of biodiversity. In countries where indigenous populations and territories are accurately captured in national statistics and censuses, it may be possible to analyse such data, if that data is reliable and comparable and is available over standardized periods of time, to allow for measurement and the establishment of trends. This indicator may provide an accurate picture at the national level. However such information may not be available globally.^{5/} It would also appear that a nurturing government policy environment is certainly necessary if traditional knowledge is to be retained and exercised and passed on to future generations and where such policies and programmes are measured by outcomes, such information may be quantifiable. It may be possible to capture this information through the national reporting process.

19. Indicators which attempt to measure culture or manifestations of traditional knowledge will need to be community-driven and will largely be qualitative in nature. It appears that no one single indicator will accurately capture the status and trends of the knowledge, innovations and practices of indigenous and local communities relevant to the conservation and sustainable use of biodiversity, that the development of a bundle of indicators may be necessary and that proposed indicators should be both quantitative and qualitative in nature.

^{4/} See Journal of Biogeography 30: 1381-1390 [2003].

^{5/} The joint paper prepared by the UN system on data collection and disaggregation by ethnicity for the Second Session of the Forum (E/C.19/2003/4) describes the main challenges in this area and is a useful basis for further discussions regarding data collecting and indigenous peoples, as well as the Report of the Workshop on Data Collection and Disaggregation for Indigenous Peoples (E/C.19/2004/2).

IV. DRAFT RECOMMENDATIONS CONCERNING POSSIBLE OPTIONS FOR INDICATORS FOR THE PROTECTION OF INNOVATIONS, KNOWLEDGE AND PRACTICES OF INDIGENOUS AND LOCAL COMMUNITIES

20. The Ad Hoc Working Group on Article 8(j) and Related Provisions may wish to recommend that the Conference of the Parties at its eighth meeting adopt a decision along the following lines:

Recognizing that the status and trends of linguistic diversity and numbers of speakers of indigenous languages is a useful indicator for the retention and use of traditional knowledge, if used along with other indicators,

Recognizing that a bundle of indicators will need to be developed, as proxies for cultural change and that they will have relative value as indicators for the status of traditional knowledge,

1. *Notes* the importance of both qualitative and quantitative indicators to provide a broad picture of the status and trends of traditional knowledge;

2. *Emphasizes* that community-based self-administered indicators are highly significant in measuring traditional knowledge where it occurs;

3. *Decides* to adopt land-based, people-based, programme-/ and policy-based, and culture-based indicators according to the table in annex II, to complement the adopted indicator (on status and trends of linguistic diversity and numbers of speakers of indigenous languages), for the status and trends of traditional knowledge, innovations and practices, in order to assess progress towards to 2010 biodiversity target;

4. *Requests* the Executive Secretary on the basis of submissions by Parties, Governments and relevant organizations, to compile and analyse information on the testing of the proposed indicators contained in annex II, for the protection of innovations, knowledge and practices of indigenous and local communities in accordance with the principles identified by the Expert Group on Indicators of Biological Diversity (UNEP/CBD/SBSTTA/9/10), recalling that additionally proposed indicators must include reliable and comparable data over standardized periods of time, to allow for measurement and the establishment of trends, and to submit information regarding the testing of these indicators for the protection of traditional knowledge through the national reports, to be collated in a report thereon to the Working Group on Article 8(j) and related provisions at its next meeting;

5. *Invites* Parties, Governments and relevant organizations to communicate to the Secretariat any relevant information on measuring and testing the proposed indicators in annex II below for the protection of innovations, knowledge and practices of indigenous and local communities;

6. *Requests* the Executive Secretary to compile this information and make it available through the clearing-house mechanism;

7. *Invites* Parties and Governments to consider appropriate measures, that may be relevant to their specific circumstances, with the involvement of indigenous and local communities, to implement frameworks at the national level to measure indicators contained in annex II below, with a view reporting on the retention and use of traditional knowledge taking into account quantitative and qualitative indicators, in both national reporting and for the 2010 biodiversity target.

Annex I

PROVISIONAL INDICATORS FOR ASSESSING PROGRESS TOWARDS THE 2010 BIODIVERSITY TARGET*

<i>A. Focal area</i>	<i>B. Indicator for immediate testing</i>	<i>C. Possible indicators for development by SBSTTA or Working Groups</i>
Status and trends of the components of biological diversity	Trends in extent of selected biomes, ecosystems and habitats	
	Trends in abundance and distribution of selected species	
		Change in status of threatened species (Red List indicator under development)
		Trends in genetic diversity of domesticated animals, cultivated plants, and fish species of major socioeconomic importance
	Coverage of protected areas	
Sustainable use		Area of forest, agricultural and aquaculture ecosystems under sustainable management
		Proportion of products derived from sustainable sources
Threats to biodiversity	Nitrogen deposition	
		Numbers and cost of alien invasions
Ecosystem integrity and ecosystem goods and services	Marine trophic index	Application to freshwater and possibly other ecosystems
		Connectivity/fragmentation of ecosystems
		Incidence of human-induced ecosystem failure
		Health and well-being of people living in biodiversity-based-resource dependent communities
	Water quality in aquatic ecosystems	
		Biodiversity used in food and medicine
Status of traditional knowledge, innovations and practices	Status and trends of linguistic diversity and numbers of speakers of indigenous languages	Further indicators to be identified by WG-8j
Status of access and benefit-sharing		Indicator to be identified by WG-ABS
Status of resource transfers	Official development assistance provided in support of the Convention (OECD-DAC-Statistics Committee)	
		Indicator for technology transfer

* As contained in annex I to decision VII/30 of the Conference of the Parties

Annex II

LIST OF PROPOSED INDICATORS, DATA SOURCES AND METHODOLOGY

Possible indicators on status of traditional knowledge, innovations and practices	Possible data sources	Data available now?	Methodology available?
A. Language-based indicator			
(i). <i>Status and trends in linguistic diversity and speakers of indigenous languages</i> as a proxy for trends in traditional knowledge	SIL-Ethnologue database; UNESCO Atlas of Endangered Languages programme; published information; data solicited from renowned linguistic institutions and national census which record relevant information.	Yes. Through international data-bases and through national census.	Under review.
B. Land-based indicator			
(i) <i>Recognition/existence/continuation of traditional land tenure of indigenous and local communities</i> noting that territories may include fresh and marine waters (e.g. sea and sea-bed tenure); and/or	Some information may be available on a country-by-country basis.	Data could be supplied through national reports.	To be further considered.
(ii) <i>Traditional lands and waters managed or co-managed by indigenous and local communities</i> such as co-managed protected areas (where indigenous and local communities may be able to exercise traditional ecological knowledge on managing lands and waters traditionally occupied by them); and/or	Some information may be available on a country-by-country basis and/or World Database on Protected Areas.	Data could be supplied through national reports	To be further considered.
(iii) <i>Changing land-use patterns</i> may indicate territories where the traditional land use has changed to other uses and could possibly be measured by the Global Information Satellite systems (GIS).	GIS (Geographic Information System)	Information is available but would required reorganization and analysis. This information could be supplied through the national reports.	To be further considered.

Possible indicators on status of traditional knowledge, innovations and practices	Possible data sources	Data available now?	Methodology available?
C. People-based			
(i) Demographics and statistics on the urbanization and <i>movement/s of indigenous and local communities away from traditional territories</i> ;	National statistics and census.	Will not be available for all countries but where data is disaggregated on ethnicity, information could be supplied through national reports.	To be further considered.
D. Programme and policy-based			
(i) The establishment and effective implementation of <i>favourable government policies and programmes</i> to traditional knowledge retention, use and intergenerational transfer and their effective implementation (such as indigenous education programmes and policies containing elements of traditional knowledge or indigenous health programmes that incorporate and utilize traditional knowledge and traditional healers).	Government programmes and policies relevant to status and trends in traditional knowledge.	Further analysis required as a qualitative indicator.	To be further considered.
E. Culture-based			
(i) Access to <i>traditional resource rights</i> ;	Some information may be available on a country-by-country basis.	Data could be supplied through national reports.	To be considered.
(ii) Cultural freedom and <i>cultural indicators</i> including community-based cultural well-being audits, which are self-administered and self-initiated indicators of the cultural well-being of indigenous and local communities, with the emphasis on self-assessment.	Government programmes and policies pertaining to cultural freedoms and indigenous and local community self-assessment through self-administered community level cultural audits.	Information could be supplied through national reports regarding policies relevant to cultural freedoms and indigenous and local communities could	To be considered.

		consider cultural audits.	
(iii). Other possible indicators of traditional knowledge could include such <i>manifestations of traditional knowledge</i> as the existence of cultural institutions; the existence of knowledge holders and the persistence of customary law and cultural practices; the existence of totems (indicating totemic diversity); the loss of distinct tribal groups (tribal clustering), physical manifestations of culture such as rituals and ceremonies; the continuing transmittal of traditional knowledge to future generations; and continuing erosion and/or loss of traditional lands and waters; and access to resources (resource rights), amongst others.	Self-assessment and community-based	No	To be considered.
