UNEP

CBD

CONVENTION ON BIOLOGICAL DIVERSITY

Distr.
GENERAL

UNEP/CBD/AHTEG-2010-Ind/1/INF/7
6 October 2004

ORIGINAL: ENGLISH

AD HOC TECHNICAL EXPERT GROUP ON
INDICATORS FOR ASSESSING
PROGRESS TOWARDS THE 2010
BIODIVERSITY TARGET
Montreal, 19-22 October 2004
Item 3.1 of the provisional agenda*

INDICATORS FOR ASSESSING PROGRESS TOWARDS THE 2010 TARGET: STATUS AND TRENDS OF LINGUISTIC DIVERSITY AND NUMBERS OF SPEAKERS OF INDIGENOUS LANGUAGES 1/

Note by the Executive Secretary

I. SUMMARY

1. There are an estimated 5,000 to 7,000 languages spoken today on the five inhabited continents. Of these, about 250 are spoken by 97 per cent of the world's people. Conversely, about 96 per cent of the world's languages are spoken by about 3 per cent of the world's people. Indigenous and local communities speak the vast majority of these languages. More than half of the world's languages are spoken by less than 10,000 people. There is also a comparable magnitude and pace of the current extinction rates affecting biological diversity and human languages. Nevertheless, it is difficult to establish a functional or cause/effect linkage between the loss of languages and that of biodiversity.

2. Geographically, analyses have shown a large overlap between regions that are rich in biodiversity and those rich in languages. Linguists and anthropologists have suggested that the diversity of ideas carried by different languages and sustained by different cultures is as necessary as the diversity of species and ecosystems is for the survival of humanity and of life on the planet. The extinction of each language results in the irrecoverable loss of unique cultural, historical, and ecological knowledge. Each language is a unique expression of the human experience of the world. Every time a language dies, we have less evidence for understanding patterns in the structure and function of human language, human prehistory, and the maintenance of the world's diverse ecosystems. According to the most pessimistic predictions, the world may lose 90 per cent of languages in the next century.

3. While no accurate data about trends in language loss are available as yet, current information on numbers of languages and numbers of speakers can serve as baseline information. This information can

* UNEP/CBD/AHTEG-2010-Ind/1/1.

1/ Several text sections are taken from: UNESCO, WWF, Terralingua. 2003. Sharing a world of difference. The earth's linguistic, cultural and biological diversity. UNESCO Paris, 55 pages.

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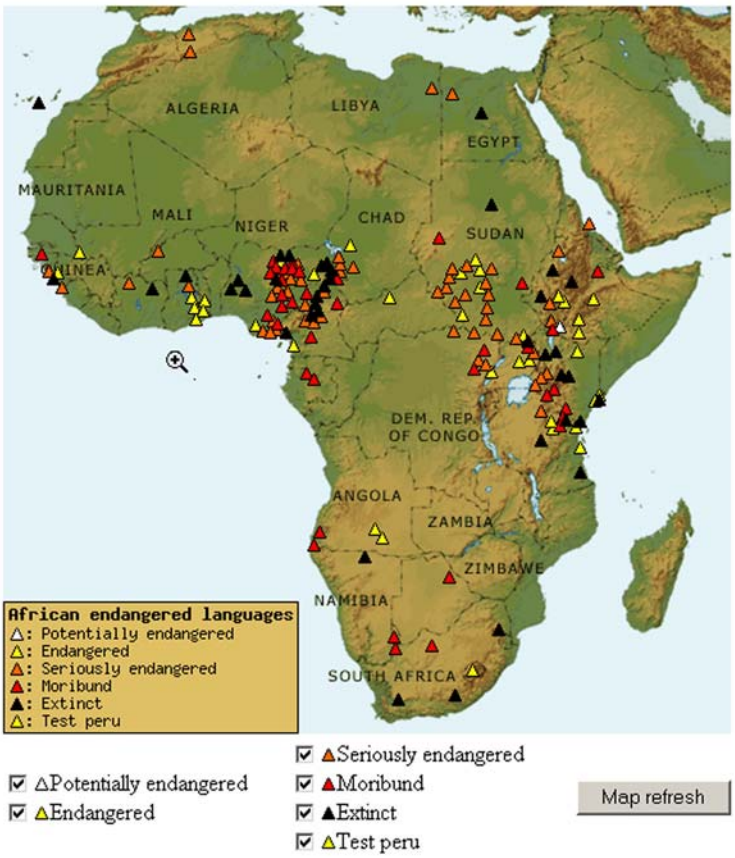
also be used as a proxy for the current state of traditional knowledge, innovations, and practices, because of the close association between language and cultural knowledge, including traditional ecological knowledge.

4. Through UNESCO's Atlas of the World's Languages in Danger of Disappearing, which is currently being made available online, 2/ information on trends in language loss can be analysed and publicized. Figure 1 shows the 97 endangered languages listed in the map of Africa

Figure 1. Endangered languages listed in the map of Africa (from UNESCO *Atlas of the World's languages in danger of disappearing*)



II. RELATION OF INDICATOR TO FOCAL AREA

5. Historically, distinctiveness in culture and language has formed the basis upon which human societies have defined their own identities: we think of ourselves as speakers of certain languages and we subscribe to certain religions, customs, values and world views which we take as self-evident. Knowledge, customs and beliefs thus vary for social reasons. But they are also dependent on specific environmental conditions that people have adapted to - what we eat, how food is preserved, the rhythms of work (when there is light; patterns of cold and warm, winter and summer, rainy and dry seasons), etc. - all depend on where we happen to live.

6. What we say is adapted to our biological and social environments; we talk about what is important to us. Different languages have developed distinct vocabularies to express those differences that are important to their speakers. One would not expect to find dozens of words for different types of snow or reindeer in the languages spoken in the Sahara desert, or scores of words for different types of

2/ http://www.malmusse.com/hugues/unesco/languenet/

sand and camels in the languages of the far North. In this sense, languages have been called "the DNA of cultures" - they have encoded the cultural knowledge that people have inherited from their ancestors, and each generation continues to add to this heritage.

7. Traditional knowledge, innovations and practices concerning the living environment are transmitted and maintained largely, if not exclusively, through language. Specialist environmental knowledge is associated with specific vocabulary, for which there is frequently no equivalent in other languages. Linguists point to various levels at which language loss can and does affect the maintenance of traditional environmental knowledge and it is commonly agreed that the structural and functional processes of language loss are correlated with the deterioration of traditional knowledge, innovations and practices.

8. Protecting traditional knowledge, innovations and practices in accordance with the provisions of Article 8(j) of the Convention on Biological Diversity is an important aspect of the conservation of biological diversity and the sustainable use of its components. Therefore, building indicators based on state and trends of languages and numbers of speakers, as a proxy for state and trends of traditional knowledge, innovations, and practices, can help make progress toward this goal and the specific targets mentioned in Section 4 below.

III. GENERAL DESCRIPTION

9. There are an estimated 5,000 to 7,000 languages spoken today on the five inhabited continents. 3/ The 14th edition of Ethnologue gives a total of 6,809 languages, of which 32 per cent found in Asia, 30 per cent in Africa, 19 per cent in the Pacific, 15 per cent in the Americas, and 3 per cent in Europe. 4/ Of the 6,000 languages listed in the 1992 edition of *Ethnologue* 5/ for which there are population figures, 52 per cent are spoken by less than 10,000 people; 28 per cent by less than 1,000; and 10 per cent are spoken by less than 100 speakers (figure 1). Overall, languages with 10,000 speakers or under total about 8 million people, less than 0.2 per cent of an estimated world population of 6 billion 6/ 83 per cent are restricted to single countries, and so are particularly exposed to the policies of a single Government.

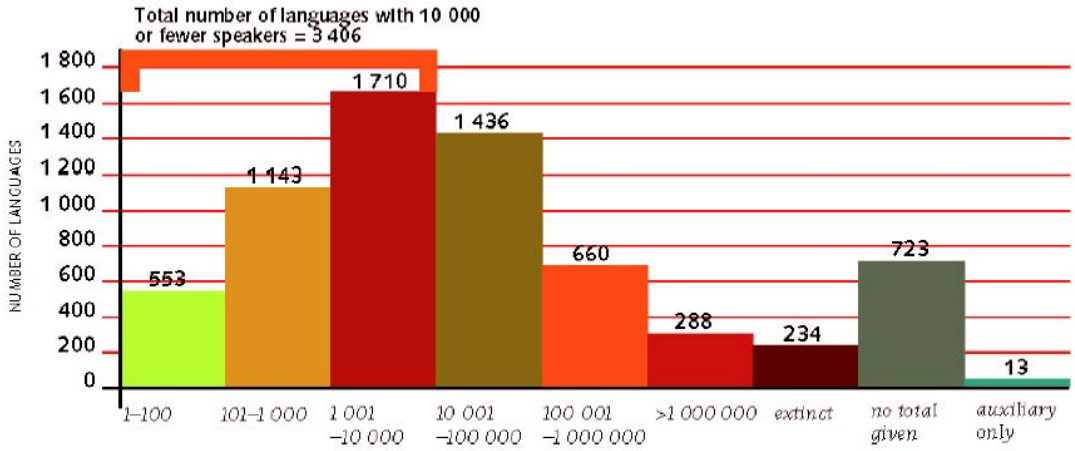
3/ Krauss, Michael. 1992. The world's languages in crisis. Language 68(1): 1-42.

4/ http://www.ethnologue.org/ethno_docs/distribution.asp

5/ Grimes, Barbara (ed.) (1992). Ethnologue - languages of the world. 12th edition Dallas: Summer Institute of Linguistics.

6/ Harmon, D. (1995). The status of the world's languages as reported in Ethnologue. Southwest Journal of Linguistics 14(1/2): 1–28.

Figure 1. Classification of world's languages by number of mother tongue speakers (n=6,760) 7/



10. About 97 per cent of the world's people speak about 4 per cent of the world's languages; and conversely, about 96 per cent of the world's languages are spoken by about 3 per cent of the world's *people*. 8/ Fewer than 300 languages have populations of speakers of over 1 million. These "mega-languages" account for over 95 percent of the world's population of 6.1 billion people. The ten most spoken languages as of 2001 are Chinese, Hindi, Spanish, English, Bengali, Portuguese, Arabic, Russian, Japanese, and German. They represent less than 1 percent of all languages, but comprise virtually half of the global population

11. Indigenous and local communities speak the vast majority of the world's languages, 90 per cent of which are not represented on the Internet. Half of all languages occur in only eight countries: Papua New Guinea (832), Indonesia (731), Nigeria (515), India (398), Mexico (295), Cameroon (286), Australia (268) and Brazil (234). 9/ At least 50 per cent of the world's languages are losing speakers. 10/

12. Just as there are hotspots of biodiversity, there are also hotspots of linguistic diversity: areas of the world with especially high concentrations of different languages, many of which are endemic to those regions or countries. The world record for linguistic diversity goes to the Pacific island of New Guinea, comprised of the country of Papua New Guinea and the Indonesian province of Papua (formerly Irian Jaya): there are more than 1,000 languages overall, spoken over a territory of nearly 885,000 km^2 (slightly smaller than France and Germany combined), with a total population of under 7 million people. Other linguistic diversity hotspots are found in Asia (especially in Indonesia and India), Africa (particularly in Nigeria, Cameroon, and the Democratic Republic of Congo), the Pacific (particularly Papua New Guinea and Australia), and the Americas (primarily in Mexico and Brazil). Papua New Guinea, with over 850 languages, and Indonesia, with some 670, have together almost a quarter of the world's spoken languages, and all the other hotspots have over 200 each (table 1, based on Ethnologue, 13th edition). In each of these areas, a high number of different languages is spoken over a relatively small territory. In other cases (such as Brazil and Australia), the number of languages is comparably high, but distributed over much larger territories.

7/ UNESCO, WWF, Terralingua. 2003. Sharing a world of difference. The earth's linguistic, cultural and biological diversity. UNESCO Paris, 55 pages. (Table from Harmon 1995.)

8/ Bernard, H. Russell. 1996. Language Preservation and Publishing. In: Nancy H. Hornberger. *Indigenous Literacies in the Americas: Language Planning from the Bottom up*. Berlin: Mouton de Gruyter, 1996, 139-156.

9/ Ethnologue: Languages of the World, 14th ed.; http://www.ethnologue.org/country_index.asp?place=all

10/ UNESCO 2003. Language Vitality and Endangerment. Ad Hoc Expert Group on Endangered Languages. Document submitted to the International Expert Meeting on UNESCO Programme Safeguarding of Endangered Languages - UNESCO Paris, 10–12 March 2003.

13. Each language reflects a unique world-view and culture complex, mirroring the manner in which a speech community has resolved its problems in dealing with the world, and has formulated its thinking, its system of philosophy and understanding of the world around it. In this, each language is the means of expression of the intangible cultural heritage of people, and it remains a reflection of this culture for some time even after the culture which underlies it decays and crumbles, often under the impact of an intrusive, powerful, usually metropolitan, different culture. However, with the death and disappearance of such a language, an irreplaceable unit in our knowledge and understanding of human thought and world-view is lost forever. 11/

14. Many of the world's cultures and languages -especially, but not only, the numerically smaller ones -are in grave danger of being overwhelmed by other, more dominant languages and cultures. Hundreds of languages have already disappeared over the past few centuries, particularly since the late 15th century when the era of European colonization began. And the trend is accelerating throughout the world, under the homogenizing pressures of both national assimilation and economic globalization. Virtually all languages with 1,000 speakers or under are threatened in this sense, although even more widely spoken languages are fully susceptible to the same pressures. Among these smaller languages, many have reached a stage of near extinction, with only a few elderly speakers left. Statistics on "nearly extinct" languages range between 6 and 11 per cent of the currently spoken languages. 12/

15. The loss of languages has been especially marked in the Americas and the Pacific. Of Australia's 250 languages, with at least 600 dialects, at least 50 languages are now extinct and another 100 face imminent extinction. In the early 1990s, only 9 had more than 1,000 speakers. In the United States and Canada, the situation is equally grave. Ethnologue lists 417 nearly extinct languages as of the year 2000 - that is, languages with only a few elderly speakers still alive. This means that these languages are no longer being transmitted to the younger generations and thus, as the older generations pass on, the languages will cease to be spoken.

16. Of these "nearly extinct" languages, 161 are spoken in the Americas (particularly the United States of America) and 157 in the Pacific (principally Australia). Asia has 55 "nearly extinct" languages, Africa 37, and Europe 7. These numbers for "nearly extinct" languages may seem small, but linguists warn that they only represent the tip of the iceberg. Many more languages are considered "endangered", showing signs that their speakers are beginning to switch to other languages, and that younger generations are no longer learning the language of their elders. Just as there are red lists for threatened animals and plants, Red Books have been compiled for threatened languages (table 1).

Table 1. Red Books of threatened languages 13/

Africa	http://www.tooyoo.l.u-tokyo.ac.jp/redbook/africa-index.html
South America	http://www.tooyoo.l.u-tokyo.ac.jp/redbooks/Samerica/index.html
Asia and the Pacific	http://www.tooyoo.l.u-tokyo.ac.jp/redbook/asiapacific/asia-index.html
Northeast Asia	http://www.helsinki.fi/~tasalmin/nasia_index.html
Europe	http://www.helsinki.fi/~tasalmin/europe_index.html
Databanks for Endangered Finno-Ugric Languages	http://www.helsinki.fi/~tasalmin/deful.html; http://www.suri.ee
Russia	http://www.eki.ee/books/redbook/

11/ The Atlas of the World's Languages in Danger of Disappearing, edited by Stephen Wurm, 2nd edition, published by UNESCO, 2001: 13.

12/ Maffi, Luisa. 1998. Language: A Resource for Nature. Nature and Resources: The UNESCO Journal on the Environment and Natural Resources Research 34(4): 12-21.

13/ From the UNESCO, WWF, Terralingua booklet "Sharing a World of Difference"

17. The Liguist list, which lists over 7,000 languages by combining the data from Ethnologue with information on ancient languages, includes 543 entries of languages, which have become extinct, and 432 entries of languages in imminent danger of becoming extinct. 14/

18. The latest edition of UNESCO's World Atlas of the World's Languages in Danger of Disappearing (2001) estimates that perhaps half of the world's languages may currently be endangered in varying degrees. Some scholars' prognosis is that even as many as 90 per cent of existing spoken languages may be extinct or near extinction by the end of this century. 15/

19. With the language, much of the knowledge, beliefs, and values held by a community may also be lost or seriously diminished, replaced by those of a more dominant language and culture.

20. The growing recognition of the scope and implications of the linguistic diversity crisis parallels the process that earlier led to the recognition of the biodiversity crisis. But in addition, as the previous paragraphs suggest, there is also an increasing realization that biological diversity and cultural and linguistic diversity are not separate aspects of the diversity of life, but rather intimately related, and indeed, mutually supporting ones. Likewise, the extinction crises that are affecting these manifestations of the diversity of life may be converging also -due to common economic, political, and social factors - and perhaps even driving each other on. This is especially the case with indigenous and minority communities that live close to the natural environment and depend on it for subsistence. They rely directly on it for food, medicine, construction materials and other products essential for their subsistence (through farming, herding, hunting, fishing, or gathering foodstuffs), as well as for their cultural and spiritual needs. Over time, these communities have through such activities developed in-depth knowledge of local ecosystems. They have adapted to them while at the same time learning to use and manage them to fulfill their needs. These societies have also elaborated complex classification systems for the natural world, reflecting a deep understanding of local flora, fauna, ecological relations and ecosystem dynamics. Anthropologists call this traditional ecological knowledge. Much of this knowledge is both expressed and transmitted through language, in words, stories and jokes, teasing and criticizing, planning and recounting events, and in general throughout everyday discussions, rituals, traditions and festivities. In many cases, indigenous and traditional knowledge has been found to be more sophisticated than Western science, and it precedes other sources of knowledge, such as scientists' findings. Ironically, the knowledge that was embedded in the smaller languages sometimes gets "rediscovered" by outsiders.

21. When young people no longer learn the language of their forebears, or know it only partially, the special knowledge incorporated in their languages is often not transferred to the dominant language that replaces it. Commonly, this is because the dominant language does not have the vocabulary for this special knowledge, or even because the very situations in which this kind of knowledge and its relevance for survival are learned do not occur in the dominant culture whose language indigenous or minority people adopt. This occurs especially where the earlier informal family and community-based education is replaced by formal education. For example, Maya youths in the Highlands of Chiapas now get most of their education formally in schools. But textbooks do not teach them about the medicinal plants found in the local environment, which earlier generations have been using effectively for a long time to treat illness. Much of this knowledge is thus not being transmitted in the course of daily life. Many younger people do not learn the names, characteristics, and uses of such plants, which would constitute readily available and reliable medicinal resources. Instead, they have to resort to the generally poorer medical care they can obtain from the "modern" medical system. Although it has not been uncommon for indigenous peoples to gradually move away from their low-impact technologies, as they have experienced heavy exploitation of and encroachment upon their territories, communities still strive to continue documenting and transmitting elders' knowledge to succeeding generations. The very existence of

14/ http://cf.linguistlist.org/cfdocs/new-website/LL-WorkingDirs/langres/index.html

15/ Krauss, Michael 1992. The world' s languages in crisis. Language 68(1): 4-10.

traditional ecological knowledge depends not only on databases, knowledge centres or research publications, but also on the possibility to use and develop it through traditional livelihood practices and traditional management systems.

22. The correlations between linguistic and cultural diversity and biodiversity can be observed by comparing the patterns of geographical distribution of the world's biodiversity and those of linguistic and cultural diversity, as well as by noting the relationship between the locations of threatened environments and languages. Areas of high biodiversity tend to host a high number of different languages. Comparing biological megadiversity countries to linguistic megadiversity countries, 7 out of 9 top countries for linguistic diversity are also among the top 17 countries for biological diversity. In addition, in the top 25 countries for the number of endemic languages (that is, languages spoken only within the borders of the respective countries), we find 13 of the 17 biological megadiversity countries (see the last column of table 2). In countries around the world, there is a high level of coincidence of endemism for vertebrates and languages, flowering plants and languages, and birds and languages. These correlations can be seen in table 2. The list ranks countries not in terms of all languages but according to the number of endemic languages. Remember that endemic languages represent the vast majority (some 83-84 percent) of the world's languages.

Table 2. Endemism in languages compared with rankings of biodiversity 16/

Country	**Endemic languages**		**Endemic vertebrates**		**Flowering plants**	**Endemic bird areas**	**On megadiversity list?**
	Rank	Number	Rank	Number	Rank	Rank	
PAPUA NEW GUINEA	1	847	13	203	18	6	yes
Indonesia	2	655	4	673	7	1	yes
Nigeria	3	376					
India	4	309	7	373	12	11	yes
Australia	5	261	1	1,346	11	9	yes
MEXICO	6	230	2	761	4	2	yes
CAMEROON	7	201	23	105	24		
BRAZIL	8	185	3	725	1	4	yes
DR CONGO	9	158	18	134	17		yes
PHILIPPINES	10	153	6	437	25	11	yes
USA	11	143	11	284	9	15	yes
Vanuatu	12	105					
Tanzania	13	101	21	113	19	14	
Sudan	14	97					
Malaysia	15	92			14		yes
Ethiopia	16	90	25	88			
CHINA	17	77	12	256	3	6	yes
PERU	18	75	8	332	13	3	yes
Chad	19	74					
Russia	20	71			6		
SOLOMON ISLANDS	21	69	24	101			

16/ From UNESCO, WWF, Terralingua. 2003. Sharing a world of difference. The earth's linguistic, cultural and biological diversity. UNESCO Paris, 55 pages. The table is modified by Skutnabb-Kangas, from Harmon, David, and Maffi, Luisa (2002). Are Linguistic and Biological Diversity Linked?. Conservation Biology in Practice3(1): 26-27. Figures for languages are derived by Harmon from the Ethnologue, 12th edition, and for vertebrates from Groombridge, B. (ed.) (1992). Global Biodiversity: Status of the Earth's Living Resources. World Conservation Monitoring Centre. London: Chapman and Hall. The countries which are on the top lists for endemism for both vertebrates and languages bolded are CAPITALIZED.

Nepal	22	68			22		
COLOMBIA	23	55	9	330	2	5	yes
Cote d'Ivoire	24	51					
Canada	25	47					

23. Papua New Guinea, which ranks first in terms of endemic languages, is number 13 in terms of endemic vertebrates. The United States of America is number 11 on both the languages and the vertebrates list. On the other hand, Nigeria is number 3 on the languages list but is not among the 25 top countries for any of the indicators of species diversity used here.

24. There is a significant overlapping distribution of all of the world's 6,809 languages (as identified in Ethnologue) and 866 ecoregions (as identified by WWF). This overlap occurs mostly in the forested areas of the tropics. Humid tropical climates appear to be especially favourable to both biological and linguistic diversification. At the same time, as the map shows, tropical forests are also among the most severely threatened regions and host some of the highest concentrations of "nearly extinct" languages (as can be seen in the overlap of the red dots for "nearly extinct" languages and the purple shading for the highly threatened ecoregions). But humans and their languages are present in most ecoregions and most biomes, and many of these ecoregions and languages are also threatened. Many of the threats are the same for both the ecosystems themselves and the peoples who live in them and hence for the languages they speak. Large-scale conversion of land use and unsustainable exploitation of natural resources with agribusiness, cattle ranching, logging, mining, oil drilling, creation of large dams, urban development, and road construction are among those activities which impinge on these ecoregions. Rapid socio-economic and political change affects local societies, alienating them from their traditional ways of life, or even removing them from their original environments. This in turn generally causes language and culture shift (adoption of a different, in general majority or otherwise dominant, language and culture). One result of these changes is that the use of traditional ecological knowledge and the ability to communicate it through language begin to fade out. The consequences often prove to be serious for the well-being of both the people and their environment. Local people may end up adopting (or being forced to adopt) ways of using the environment that were not developed locally and are not well adapted to local conditions. This has tended to lead to rapid depletion of natural resources and to environmental degradation. One example has been the conversion of forested land in the tropics to use for agriculture and pasture. The soil of rain forest areas is fragile and depends entirely on the forest itself for its regeneration. Once the trees are removed, it takes only a few years before the soil is depleted and the area turns barren. This reduces the population's ability to provide for food, water, medicine, shelter, and other basic necessities of life and affects their health status as well as their psychological, social, and spiritual conditions. Linguistic diversity is, then, our treasury of historically developed knowledge -including knowledge about how to maintain and use sustainably some of the most vulnerable and most biologically diverse environments in the world. If during the next century we lose more than half of our languages, we also seriously undermine our chances for life on Earth. From this perspective, fostering the health and vigour of ecosystems is one and the same goal as fostering the health and vigour of human societies, their cultures, and their languages.

IV. POLICY RELEVANCE

25. In 1992, the United Nations held the Conference on Environment and Development in Rio de Janeiro, to elaborate a framework linking environmental protection to sustainable human development. The various international documents that resulted from the Summit (Rio Declaration, Convention on Biological Diversity, Framework Convention on Climate Change, Statement of Forest Principles, Agenda 21, Convention to Combat Desertification) recognized the importance of traditional ecological knowledge for the conservation and sustainable use of biodiversity. None of these documents, however, explicitly recognized that the preservation, maintenance, and promotion of traditional ecological knowledge

requires the preservation, maintenance, and promotion of the languages through which this knowledge is expressed and transmitted. More recently, however, there has been specific recognition of the role that languages play in maintaining this knowledge. In 1999, the United Nations Environment Programme published a companion volume to its 1995 Global Biodiversity Assessment, 17/ titled Cultural and Spiritual Values of Biodiversity 18/ in recognition that such values, and the languages through which they are transmitted, have a major role in the conservation of biodiversity.

26. More recently, the WSSD Plan of Implementation, in para 44 on biodiversity, recognizes rights and calls for effective participation of indigenous and local communities in the use of biodiversity and the distribution of benefits from the application of traditional knowledge:

(a) Para 44 (j) Subject to national legislation, recognize the rights of local and indigenous communities who are holders of traditional knowledge, innovations and practices, and, with the approval and involvement of the holders of such knowledge, innovations and practices, develop and implement benefit-sharing mechanisms on mutually agreed terms for the use of such knowledge, innovations and practices;

(b) Para 44 (l) Promote the effective participation of indigenous and local communities in decision and policy-making concerning the use of their traditional knowledge.

27. Within the context to the Convention on Biological Diversity, the indicator applies to target 13 of the Global Strategy for Plant Conservation, adopted in decision VI/9:

(a) The decline of plant resources, and associated indigenous and local knowledge, innovations and practices that support sustainable livelihoods, local food security and health care, halted.

In the 2010 framework of the Convention on Biological Diversity, it relates to target 9.1:

(b) Protect traditional knowledge, innovations and practices and target 9.2

(c) Protect the rights of indigenous and local communities over their traditional knowledge, innovations and practices, including their rights to benefit sharing.

V. TECHNICAL INFORMATION

28. A language is in danger when its speakers cease to use it, use it in an increasingly reduced number of communicative domains, and cease to pass it on from one generation to the next. Smaller languages are in more danger, but complex social, economic, political, or religious factors are decisive for the transmission of an original language from parents to children. However, no single factor alone can be used to assess a language's vitality or its need for documentation.

29. Dorian (1980) 19/ lists three symptoms of language death: fewer speakers, fewer domains of use, and structural simplification.

30. Krauss (1992), 20/ in his comparison of languages to endangered biological species, defines three categories of languages:

(a) Moribund: languages no longer being learned as mother-tongue by children;

17/ Heywood, Vernon H. 1995. Global Biodiversity Assessment. Cambridge, UK: Cambridge University Press.

18/ Posey, Darrell A. (ed.) 1999. Cultural and Spiritual Values of Biodiversity. New York: UNEP (United Nations Environmental Programme) & Leiden: Intermediate Technologies, Leiden University.

19/ Dorian, Nancy C. 1980. Language shift in community and individual: The phenomenon of the laggard semi-speaker. International Journal of the Sociology of Language 25.85-94.

20/ Krauss, Michael. 1992. The world's languages in crisis. Language 68(1).1-42.

(b) Endangered: languages which, though now still being learned by children, will - if the present conditions continue - cease to be learned by children during the coming century; and

(c) Safe: languages with official state support and very large numbers of speakers.

31. Fishman (1991) 21/ uses an eight-stage intergenerational disruption scale, where the most threatened languages are those used only (1) by socially isolated old folks, (2) by a socially integrated population beyond child-bearing age, (3) only orally, with no literacy.

32. Statistics Canada has recently assessed the country's indigenous languages using an "index of continuity" (a comparison of the number who still speak it at home with the number who learned its as their mother tongue of origin) and an "index of ability" (a comparison of the number who can speak it conversationally with the number of mother-tongue speakers) (Norris 1998). 22/ McConvell and Thieberger's (2001) 23/ status report on the Aboriginal languages of Australia discusses the factors that produce moribundity (and vitality) in small languages as they struggle to co-exist with a large, sociopolitically dominant language, and use census and other data to develop age-class analyses of particular Aboriginal languages. From these age-class data, they create an Endangerment Index for these languages that attempts to quantify whether there is a drop-off in speaker percentage among the youngest generation.

33. The NGO Terralingua has developed an Index of Biocultural Diversity (IBCD) that uses five indicators, one of which is language, to measures the status of and trends in biocultural diversity for more than 230 countries and territories (Harmon and Loh 2004). 24/ The IBCD uses an unadjusted diversity richness measure, supplemented by measures adjusted for a country's area and population, to develop index values. A key finding is that there are three "core regions" of biocultural diversity: the Amazon Basin, Central Africa, and Indomalaysia/Melanesia. The IBCD project is currently seeking to develop time-series data on languages, as well as exploring ways to add specific measures of status and trends in traditional knowledge.

Limitations

34. Just as with species, it is difficult to determine exactly how many languages there are. This is due in part to the fact that many languages have not yet been described by linguists; in part, to the fact that there are no exact linguistic criteria for judging what is an independent language and what is a dialect of another language. Both of these factors contribute to variation in estimates of the total number of

21/ Fishman, Joshua A. 1991. Reversing language shift: Theoretical and empirical foundations of assistance to threatened languages. Clevedon, UK: Multilingual Matters.

22/ Norris, Mary Jane. 1998. Canada's aboriginal languages. *Canadian Social Trends* (Winter), 8-16.

23/ McConvell, Patrick, and Nicholas Thieberger. 2001. The state of indigenous languages in Australia. Unpublished draft report. Canberra: Environment Australia and AIATSIS.

24/ Harmon, David, and Jonathan Loh. 2004. A global index of biocultural diversity: Discussion paper for the International Congress on Ethnobiology, University of Kent, U.K., June 2004. Washington, D.C.: Terralingua.

languages currently spoken in the world. However, similar caveats exists for number of species, and this has not prevented the development of indicators of biodiversity. Recognizing that the role of indicators is to provide an approximation (rather than an exact picture) of the status and trends of what is being measured, the degree of uncertainty about number of languages is not a significant obstacle against the development of an indicator of status and trends of languages.

VI. APPLICATION OF THE INDICATOR AT NATIONAL/REGIONAL LEVEL

35. The indicator can be applied at the national/regional level

VII. SUGGESTIONS FOR THE IMPROVEMENT OF THE INDICATOR

36. While increasingly comprehensive information becomes available on the number of languages and speakers of these languages no time series information is as yet available. A simple comparison of the successive editions of *Ethnologue* would reflect the increase in knowledge as much as trends in loss of languages. By comparing random subsamples of languages it may be possible to generate an index. This, however, requires additional work. Without additional analyses, the current information on numbers of indigenous languages and numbers of speakers may therefore serve as a baseline.

37. Since languages may serve as a useful proxy but are not a direct measure of traditional knowledge, the indicator will need to be complemented by additional specific indicators of status and trends in traditional knowledge, which the Open-ended Working Group on Article 8(j) and Related Provisions has been requested to develop.
