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FIRST EXPERT WORKSHOP ON THE DEVELOPMENT
OF THE CITY BIODIVERSITY INDEX
Singapore City, 10-12 February 2009

FIRST MEETING ON THE DEVELOPMENT OF THE CITY AND BIODIVERSITY INDEX

Note by the Executive Secretary

1. The first Expert Workshop on the Development of the City Biodiversity Index follows the proposal by the Secretariat of the Convention on Biological Diversity and the government of Singapore to create an urban biodiversity index that will allow cities to measure their progress in implementing the Convention. As detailed in the annotations to the provisional agenda (UNEP/CBD/EW.DCBI/1/1/Add.1), the development of such a tool is in line with decision VII/30 on the Strategic Plan, decision VIII/15 on monitoring implementation of the achievement of the 2010 target, decision IX/8 on the review of implementation of goals 2 and 3 of the Strategic Plan, decision IX/9 on the process for the revision of the Strategic Plan and decision IX/28 on cities and local authorities.

2. The annexed document has been prepared by the Government of Singapore and reviewed by the members of the Global Partnership on Cities and Biodiversity, and is being submitted in the form and language in which it was received by the Secretariat of the Convention.

Annex

I. GENERAL INTRODUCTION

1. The ***2007 Revision of World Urbanization Prospects*** published by the Population Division of the Department of Economic and Social Affairs of the United Nations confirmed that cities concentrate, in 2008 for the first time in history, more than half of the world's population. Following this trend, the world population is expected to be 70% urban in 2050. Hence, the major impacts on biodiversity will inevitably lie in urban settlements. The decisions, behaviour and consumption habits of this large population in urban settlements could potentially affect a powerful positive influence on biodiversity conservation.

II. RATIONALE FOR DEVELOPING A CITY BIODIVERSITY INDEX

2. An attempt to develop an urban sustainable development index for Singapore did not incorporate biodiversity and ecological integrity[1]. There are attempts at benchmarking national environmental stewardship, of which one of the most widely accepted is the 2005 Environmental Sustainability Index (ESI)[2] devised jointly by Yale Center for Environmental Law and Policy (Yale University), Center for International Earth Science Information Network (Columbia University), World Economic Forum and Joint Research Centre of the European Commission, Ispra. To address some of the gaps of the 2005 ESI, the team designed the 2008 Environmental Performance Index (EPI)[3] to quantitatively measure and benchmark a country's performance on a core set of environmental policy goals. These indices can only be applied at country level, as cities and small states do not meet the size criteria for the ESI. WWF International in collaboration with the Zoological Society of London and the Global Footprint Network recently published The Living Planet Report 20084 which also focused on countries, and additionally, geographical regions. Most cities, which will now and in the future, house the majority of the world's population, are excluded form these benchmarking exercises.

3. It is, hence, necessary to formulate a methodology for benchmarking the biodiversity and environmental stewardship of cities. Developing a biodiversity index for cities, possibly including ways to evaluate their ecological footprint and impact on environmental services, would be a way forward in this direction.

4. Many cities have identified indicators for biodiversity. However, there was no single index that aggregated all the indicators into one figure. However, there is no single index that aggregates all the indicators in one figure. But information for compiling such an index is available as evident from the bibliography on "Biodiversity and Cities" compiled by Peter Werner and Rudolf Zahner5 which demonstrates that there was a wealth of studies on this topic, covering a wide range of species, ecosystems, factors, etc. The case studies of ICLEI's Local Action For Biodiversity (LAB) Initiative too

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[1] Ooi, G.L. (2005) **Sustainability and Cities: Concept and Assessment.** Singapore: Institute of Policy Studies

[2] Yale Center for Environmental Law and Policy, Center for International Earth Science Information Network, World Economic Forum and Joint Research Centre of the European Commission (2005) **2005 Environmental Sustainability Index: Benchmarking National Environmental Stewardship.**

[3] Yale Center for Environmental Law and Policy, Center for International Earth Science Information Network, World Economic Forum and Joint Research Centre of the European Commission (2008) **2008 Environmental Performance Index.**

[4] WWF, Zoological Society of London, and Global Footprint Network (2008) **Living Planet Report 2008.** Gland: WWF

[4] Werner, P., & Zahner, R. (2008) **Biodiversity and Cities: A Bibliography.** Third Conference of the COmpetence NeTwork URban Ecology: Urban Biodiversity and Design, Erfurt 2008. Darmstadt: CONTUREC and IWU

highlighted the achievements of global pioneers in this area and indicated that good biodiversity data are available.

III. METHODOLOGY

5. The Living Planet Report 2008 uses two "complementary measures to explore the changing state of global biodiversity and of human consumption, i..e, the Living Planet Index and the Ecological Footprint." These two parameters, comprising different indicators, are tracked through time.

6. The 2005 Environmental Sustainability Index (ESI) measures an ESI Score based on 5 components, 21 Indicators and 76 Variables. The 2008 Environmental Performance Index Framework focuses on 2 overarching objectives, i.e., Environmental Health and Ecosystem Vitality, which are represented by six policy categories and twenty-five performance indicators.

7. It is proposed that the City Biodiversity Index follows this hierarchy method of components/objectives, indicators and variables. The CBI team will define the objectives and identify the appropriate measurable biodiversity indicators and variables. Important criteria for the indicators and variables are that a) they are quantifiable, b) data are available, and c) data are reliable. The methodology for calculating the CBI should be stringent and scientifically credible.

8. In order to link more closely to CBD decision VII/30 and to the CBD indicators framework and the 2010 targets, the CBI team may consider allowing disaggregation by major key themes such as:

- Species diversity and maintenance of viable populations in urban areas – related to Goal 2 of the CBD framework: Promote the conservation of species diversity (with Target 2.1: Restore, maintain, or reduce the decline of populations of species of selected taxonomic groups; and Target 2.2: Status of threatened species improved.)
- Biodiversity compatibility of urban planning and resource supply – related to Goal 5. Pressures from habitat loss, land use change and degradation, and unsustainable water use, reduced. (Target 5.1: Rate of loss and degradation of natural habitats decreased.)
- Maintenance of green spaces and natural areas – related to Goal 8. Maintain capacity of ecosystems to deliver goods and services and support livelihoods (Target 8.1: Capacity of ecosystems to deliver goods and services maintained; and Target 8.2: biological resources that support sustainable livelihoods, local food security and health care, especially of poor people maintained.)

9. This would facilitate communication and reporting (for instance, within the GBO-3 process), and allow Parties to consider including urban areas in the 2010 framework. The CBI can also consider measuring, at city level, existing impact/consumption and ecological footprint data and indicators already established at national and regional level, to allow for comparisons and trend analysis (i.e. the CBI could be comparable to existing impact analysis tools). An index can identify trends, but efforts can also be invested in supplementing data with indicators for drivers of the trends, and the effect of governance processes and programmes promoting sustainability.

10. The methodology will be refined and specific suggestions for components, indicators and variables will be proposed in an updated paper based on the comments and feedback received.

IV. ISSUES TO BE ADDRESSED

11. There are several challenging issues that need to be addressed, including, the definition of the geographical boundaries of the cities; differences in species richness due to their geographical locations,

differences in the reliability of data sets used; what and how many components, indicators and variables to take into account, etc. This list will inevitably increase with the circulation of this concept paper.

V. APPROACH

12. In May 2008, Mr. Mah Bow Tan, Minister of National Development of Singapore, proposed the CBD-led development of the CBI at the 9th Meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD). To follow-up on this, the Secretariat of the CBD and the National Parks Board of Singapore (NParks) are jointly organising the Technical Expert Workshop on CBI in Singapore from 10 February to 12 February 2009. Members of the Global Partnership on Cities and Biodiversity have been invited to nominate their technical experts to participate in this workshop in the development of CBI as an evaluation tool. Once the evaluation tool has been designed, cities will be invited to test its applicability. The CBI will be presented at the 10th Meeting of the Conference of the Parties to the CBD.

VI. ROAD MAP

13. The road map of the CBI is as follow:

29 May 2008	Singapore made commitment to work on a CBD-led development of a City Biodiversity Index as an evaluation tool
10 -12 Feb 2009	1st Technical Expert Panel Workshop on City Biodiversity Index
Feb 09 – Feb 2010	Work with SCBD and the Global Partnership on Cities and Biodiversity to test-bed the CBI pm several cities
Mar 2010	2nd Technical Expert Panel Workshop on CBI to evaluate the implementation of the CBI and refine the CBI, if necessary
Oct 2010	Presentation for endorsement at CBD COP-10 at Nagoya

VII. PROPOSED IMPLEMENTATION APPROACHES

14. There are two possible models for implementation, which could be combined as appropriate:

1) An institution collates information on several cities and does its own analysis and ranking of cities. The World Economic Forum uses this model for their Environmental Sustainability Index and Environmental Performance Index. It is a costly exercise, which requires extensive manpower.

2) The CBI is developed as a self-assessment evaluation tool. Cities, like those with the Global Partnership on Biodiversity and Cities, in particular, those partaking in ICLEI/LAB and cities under the ASEAN Working Group on Environmentally Sustainable Cities, could apply the CBI. The Global Partnership on Cities and Biodiversity can find ways to periodically monitor the reports made by the cities to validate their self-assessments. This could be a more efficient approach that involves commitment by cities and optimizes resources.
