

The Singapore Index on Cities' Biodiversity

Second Curitiba Meeting on Cities and Biodiversity,
Curitiba, Brazil, 6-7 January 2010

Presentation Outline

- Why?
- How?
- What?
- Current progress
- Singapore's experience
- Where do we go from here?

Why a Biodiversity Index for Cities?

- 2008: > 50% of people live in cities
- 2050: > 70% will live in cities
- 2025: 26 megacities with population of > 10 million each (22 from developing countries)
- Increase in cities' ecological footprint
- Limitation of current indices



How was the Biodiversity Index for Cities Developed? (1)

- Dr. Djoghla's call for cities to share and pool knowledge, develop new approaches, methods and tools
- May 2008, Minister Mah's proposal for Parties to collaborate in developing a CBD-led "city biodiversity index"
- February 2009, Singapore hosted with the SCBD the first expert workshop on the development of the city biodiversity index



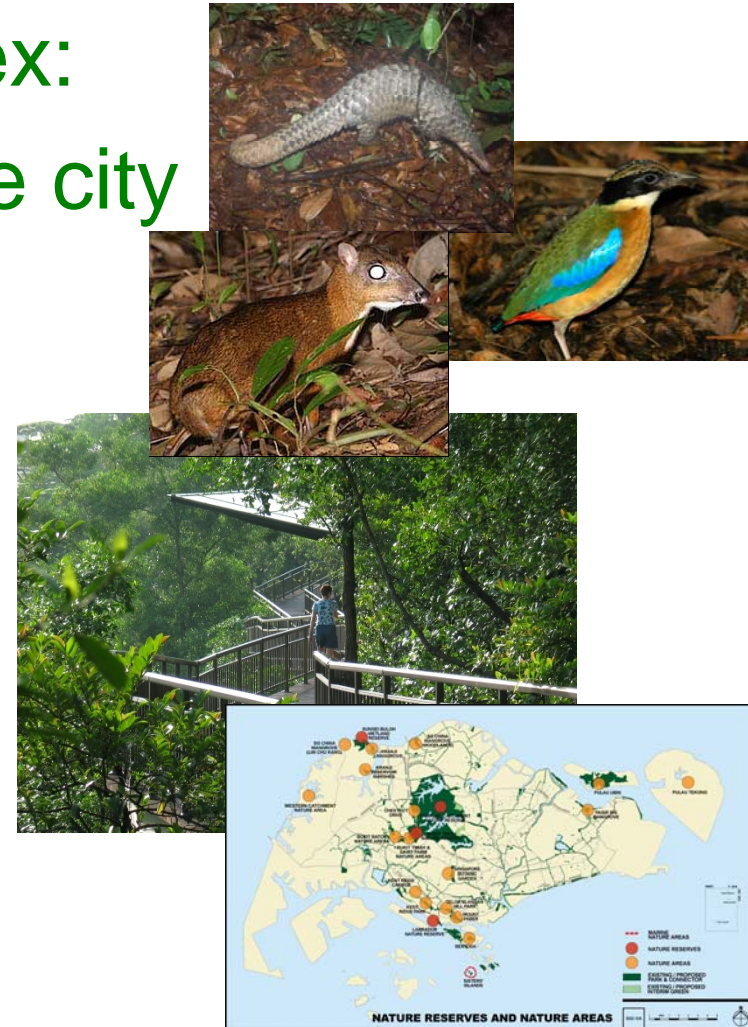
How was the Biodiversity Index for Cities Developed? (2)

- Workshop objectives are to develop a city biodiversity index to:
 - Assist national governments and local authorities in **benchmarking** their **biodiversity conservation efforts** in the urban context
 - Help **evaluate progress** in reducing the rate of biodiversity loss in urban ecosystems
- Proposed index:
 - a self-assessment tool
 - easy to apply
 - scientifically credible
 - objective and fair



How was the Biodiversity Index for Cities Developed? (3)

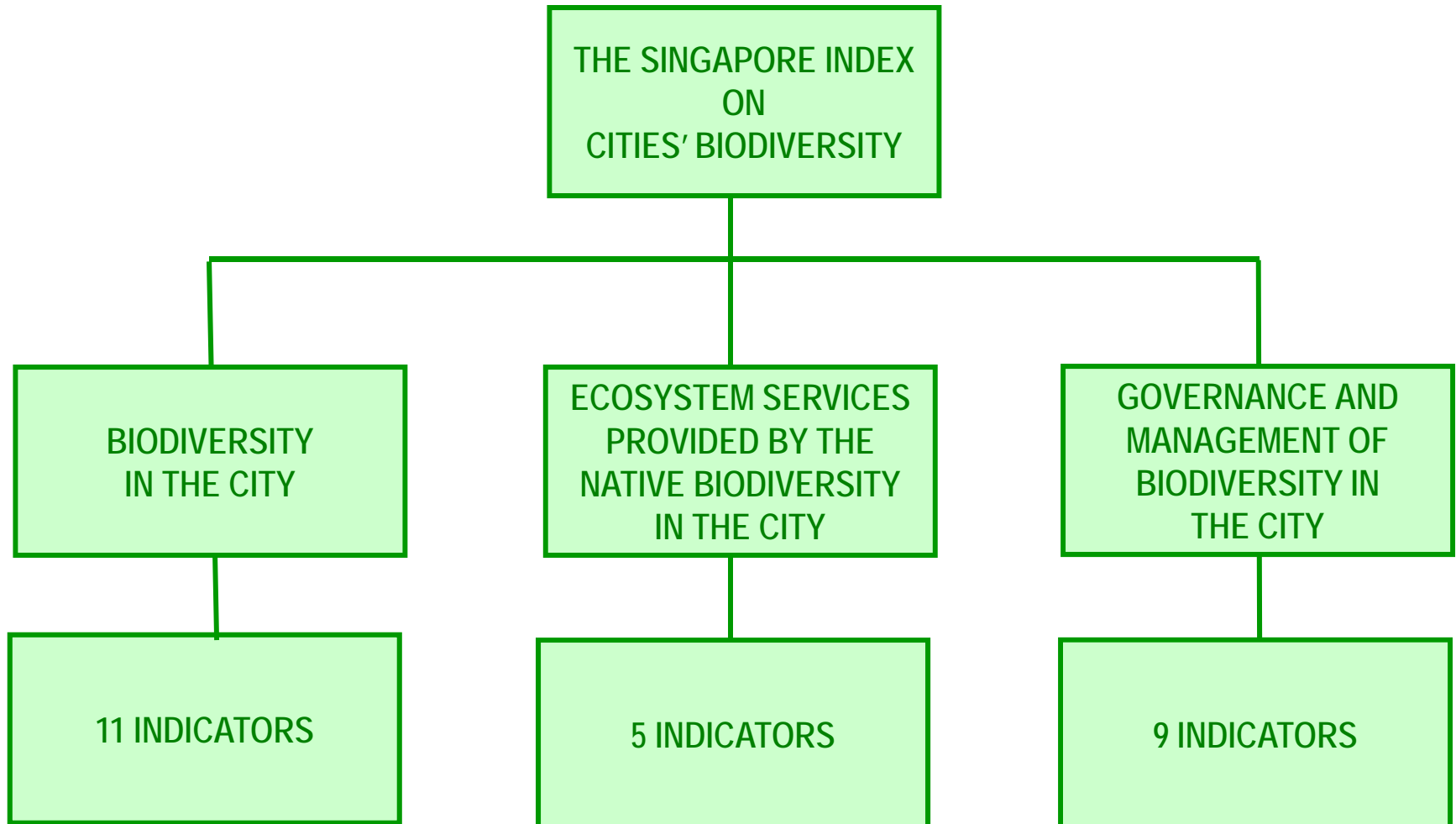
- 3 components for the Index:
 - Native biodiversity in the city
 - Ecosystem services provided by native biodiversity in the city
 - Governance and management of native biodiversity in the city



How was the Biodiversity Index for Cities Developed? (4)

- **Technical Task Force:**
 - Dr. Nancy Holman, London School of Economics
 - Mr. Peter Werner, Institute of Housing and Environment, Darmstadt, Germany
 - Professor Thomas Elmqvist, Stockholm Resilience Centre
 - Mr. Andre Mader, ICLEI-Local Government for Sustainability
 - Ms. Elisa Calcaterra, IUCN
 - Mr. Oliver Hillel, Secretariat of the CBD
 - Dr. Lena Chan, NParks

The Proposed Singapore Index on Cities' Biodiversity (The Singapore Index)



The Singapore Index – 11 Indicators for Biodiversity in the City

1. % of natural/ semi-natural areas
2. Diversity of ecosystems
3. Fragmentation measures
4. Native biodiversity in built-up areas
- 5 – 9. Native Species – Plants, Birds, Butterflies and 2 other species
10. % of protected areas
11. Proportion of invasive alien species

The Singapore Index – 5 Indicators for Ecosystem Services

- 12. Freshwater services
(cost for cleaning water)
- 13. Carbon storage (no. of trees in the city)
- 14. Recreation and education services
(no. of visits/ person/ year)
- 15. Area of parks and protected areas/
population of city
- 16. No. of educational visits to parks or nature
reserves per year (under 16 years/ year)

The Singapore Index – 9 Indicators for Governance and Management

17. Budget allocated to biodiversity projects
18. No. of biodiversity projects and programmes organised by the city annually
19. Rules, regulations and policy (LBSAP)
20. No. of institutions covering essential biodiversity-related functions
21. No. of inter-agencies coordinating
22. Existence of a consultation process
23. Existence of partnerships
24. Incorporation of biodiversity into the school curriculum
25. No. of outreach programmes and public awareness events

The Singapore Index – Cities Testing the Index

- Cities that have evaluated their data availability
 - Brussels, Curitiba, Edmonton, Joondalup, Montreal, Nagoya, Singapore
- Cities that have agreed to test-bed
 - European cities in the IUCN/ Countdown 2010 project, Frankfurt, Paris, King's County (USA)
- Cities that have been sent invitations to test-bed
 - Adelaide, Gold Coast, Hannover, Melbourne, Oslo, Seattle, Tainan City (Taiwan), Vancouver

The Singapore Index – Singapore's Experience in Testing the Index To-Date (1)

- Definitions – clarity
 - E.g. “protected areas” (Ind.10)
- Fragmentation measures
 - Minimum patch size?
- Native species
 - Scoring system for other taxonomic groups
- Freshwater services
 - Difficulty in obtaining data

The Singapore Index – Singapore's Experience in Testing the Index To-Date (2)

- Budget allocated to biodiversity projects
 - for Singapore, total budget of the city = country, may need to exclude defence, infrastructure, health and education
- Rules, regulations and policy
 - not applicable to Singapore? Focused on LBSAP
- Institutional Capacity (no. of agencies involved inter-agency coordination related to biodiversity)
 - Consider no. of inter-agency coordination initiatives rather than no. of agencies involved in coordination

The Singapore Index – Singapore's Experience in Testing the Index To-Date (3)

- Participation and Partnership (existence of a consultation process)
 - focused on process rather than substance; to reconsider the scoring system
- Education and Awareness-Raising
 - Focused on process rather than substance
 - Can the city influence national school curriculum?

The Singapore Index – Roadmap to COP-10, Nagoya

Dates	Event
Dec 2009	Finalisation of the draft indicators for the Singapore Index.
6-7 Jan 2010 Curitiba, Brazil	2nd Meeting of the Global Partnership on Cities and Biodiversity
18-20 Jan 2010, London, UK	Expert consultation of the Revision and Updating of the Strategic Plan of the Convention in which the Singapore Index will be proposed as an evaluation tool for the 2010 target.
Mar 2010, Jakarta, Indonesia	High Level Seminar on Environmentally Sustainable Cities
Apr 2010, Singapore	ASEAN Workshop on the Singapore Index on Cities' Biodiversity
28-30 Jun 2010, Singapore	World Cities Summit
Jul 2010, Singapore	2 nd Expert Workshop on the Development of the Singapore Index on Cities' Biodiversity
24-26 Oct 2010, Nagoya, Japan	City Biodiversity Summit
27-29 Oct 2010, Nagoya, Japan	High Level Segment of the CBD COP10
18-29 Oct 2010, Nagoya, Japan	COP10

The Singapore Index – Next Steps

- Broaden the geographical representation of cities testing the index
- Engage more partners to contribute their data and share their experience in test-bedding
- Review indicators in July 2010
- Explore potential applications
 - Guidelines on how to enhance native biodiversity
 - Provision of biodiversity inputs into the master planning of cities
 - Basis for calculation of economic value of biodiversity and ecosystem services
 - As the biodiversity component of other indices

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