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URBANSHIFT CITY ACADEMY
Urban Biodiversity

UrbanShift 城市学院
城市生物多样性

CHENGDU, CHINA

1-3 July 2025

1-3 七月 2025

DAY 1

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Welcome!

欢迎光临！

DAY 1 - Agenda / 第一天 - 议程

TIME	SESSION TITLE	DESCRIPTION
13:00-13:30 (30 mins)	Welcome & Participant Introductions	• Welcome to the Urban Biodiversity training • Meet the trainers • Establish common expectations for the training • Participant introductions (prompt for participants: what does urban biodiversity mean to you?)
13:30-14:00 (30 mins)	Presentation: What is Urban Biodiversity? Why Does it Matter for Cities?	• Introduction to the UrbanShift Urban Biodiversity online course • Familiarize participants with the concept of urban biodiversity and why cities should prioritize biodiversity considerations [10 mins] • The imperative and opportunity for cities to contribute to national level biodiversity goals through the UN Convention on Biological Diversity and the Global Biodiversity Framework [15 mins] • Q&A [5 mins]

14:00-15:15
(75 mins)
	How to Develop a Data Driven Urban Biodiversity Strategy	• Introduction to six requirements for cities to develop a biodiversity strategy [60 mins]
		  • Goals and Indicators
		  • Data Sources
		  • Data collection (including the importance of community participation and citizen science)
		  • Data Analysis
		  • Data Actionability
		  • Data Governance
		• Q&A [15 mins]

15:15-15:30 (15 mins)	TEA BREAK	
15:30-16:00 (30 mins)	City Spotlights: Presentations from Participating Cities	• Quezon, Philippines [15 mins] • Anji City, China [15 mins] • Anji City Urban Biodiversity Case Sharing

16:00-17:30
(90 mins)
	Interactive Exercise: Using Data to Create a New Park in PerfectPlace City – Part 1	• Split participants into diverse groups
		• Section 1 [45 mins]:
		  • Each group is given a priority urban issue: public access to parks, climate mitigation, water quality, etc.
		  • Groups discuss data priorities and develop indicators
		  • Groups present their indicators
		• Section 2 [45 mins]:
		  • Groups discuss how to combine data layers to choose locations of new parks
		  • Groups analyze data and propose park locations

DAY 2 – Agenda / 第二天 - 议程

TIME	SESSION TITLE	DESCRIPTION
09:00-9:15 (15 mins)	Day 2 Welcome	• Welcome • Overview of Day 2 agenda
09:15-10:00 (45 mins)	City Spotlights: Presentations from Participating Cities	• National Institute of Urban Affairs, India [15 mins] • On behalf of GEF-7 Indian cities • Melaka City, Malaysia [15 mins] • Q&A [15 mins]
10:00-10:45 (45 mins)	Interactive Exercise: Using Data to Create a New Park in a Hypothetical City – Part 2	• Groups present their proposed park locations
10:45-11:15 (30 mins)		TEA BREAK
11:15-11:45 (30 mins)	Presentation: Nature as Infrastructure	• Conceptualizing nature as critical infrastructure and assigning value to the infrastructural services that nature provides in cities [20 mins] • Q&A [10 mins]
11:45-12:15 (30 mins)	Presentation: Introduction to the City Biodiversity Index	• How to use the self-assessment tool to assess and monitor the progress of city-led biodiversity conservation efforts against pre-intervention baselines [20 mins] • Q&A [10 mins]
12:15-13:15 (60 mins)		LUNCH BREAK

DAY 2 – Agenda, cont. / 第二天--议程，续

TIME	SESSION TITLE	DESCRIPTION
13:15-13:45 (30 mins)	Post-lunch Energizer	
13:45-14:30 (45 mins)	Presentation: Cost-benefit Assessments for Nature-related Projects	• Introduction to city-level cost-benefit assessments for nature (using nature as a proxy for biodiversity) • Illustrate the potential financial return on investment for nature-based projects in cities • Case study: Canal Restoration to Mitigate Flooding and Water Pollution in Kochi, India
14:30-15:00 (30 mins)	Case Study Presentation: Chengdu's Urban Green Heart program	• Introduction to the AIPH Green City Awards [10 mins] • Case study presentation: Chengdu's Urban Green Heart program [20 mins] • Q&A [10 mins]
15:00-15:30 (30 mins)	Presentation: Introduction to Natural Capital Valuation	• Overview of natural capital valuation and how to use it to estimate the financial value of nature's contributions and incorporate nature into city project design • Case study from an Asian city • Q&A [10 mins]
15:30-16:00 (30 mins)		TEA BREAK
16:00-17:00 (60 mins)	Interactive Exercise: Conduct Your Own Cost-benefit Assessment	• Split participants into diverse groups • Using provided scenarios, brainstorm and discuss costs and benefits • Report back in plenary
17:00-17:15 (15 mins)	Day 2 Wrap Up & Preview of Day 3	• Preview of Day 3 agenda • Reminder about site visit

DAY 3 - Agenda / 第三天 - 议程

TIME	SESSION TITLE	DESCRIPTION
09:00-09:15 (15 mins)	Day 3 Welcome	• Welcome • Overview of Day 3 agenda
09:15-10:00 (45 mins)	Presentation: Urban Biodiversity Finance Guide – Sources of Finance for Biodiversity	• Overview of different financing sources and resources for urban biodiversity projects in cities • Showcase innovative mechanisms to finance urban biodiversity related projects • Catalogue of financing and technical assistance opportunities for 2023 – 2024 • Biodiversity finance decision-making tree • Q&A [15 mins]
10:00-10:30 (30 mins)	Interactive Exercise: Using the Biodiversity Finance Decision Making Tree - Part 1	• Split participants into diverse groups • Provide scenarios and ask the participants to identify the best financial pathways for the projects based on their characteristics and attributes
10:30-11:00 (30 mins)	TEA BREAK	
11:00-11:30 (30 mins)	Interactive Exercise: Using the Biodiversity Finance Decision Making Tree - Part 2	• Report back in plenary
11:30-12:00 (30 mins)	Presentation: Technical Assistance Opportunities to Enhance Access to Finance for Biodiversity in Cities	• Overview of ICLEI's Transformative Actions Program (TAP) and case studies from Asian cities [10 mins] • How to prepare a TAP application [10 mins] • Q&A [10 mins]
12:00-12:30 (30 mins)	Wrap-up	• Feedback survey • Participants' reflections: What did you learn? What else do you want to know? How can we continue to help you?

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MEET THE TRAINERS / 会见培训师

John-Rob Pool
Senior Manager,
UrbanShift, WRI

Dr. Ted Wong
Research and Project Associate,
Data & Tools,
WRI

Dr. Elizabeth Wesley
Data Scientist,
Urban Surfaces and
Extreme Heat,
WRI

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RULES OF ENGAGEMENT / 交战规则

Participate actively

Moderators will give the opportunity to everyone in the room to contribute

Keep distraction to a minimum

积极参与

主持人将为在座各位提供发表意见的机会

尽量减少干扰

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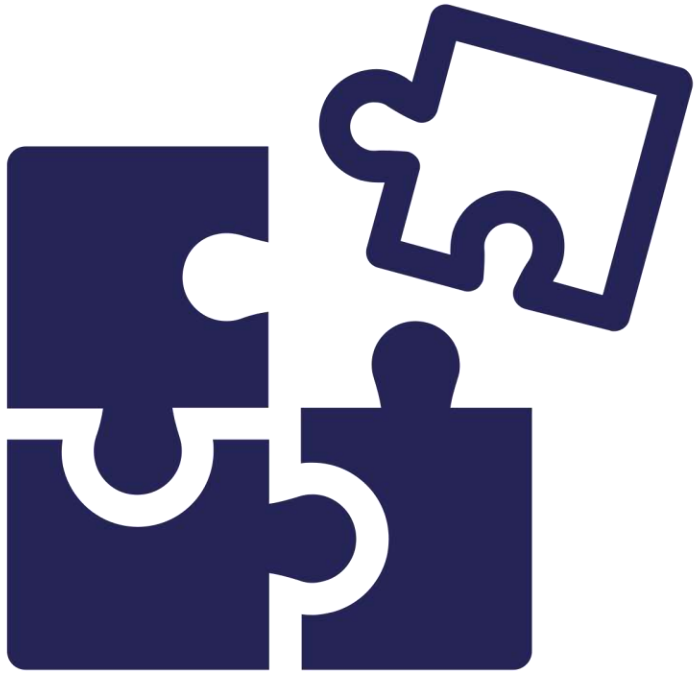
IMPORTANT: THANK YOU FOR BRINGING YOUR EXPERTISE / 重要：感谢您带来的专业知识



We know that some of you are already experts in biodiversity.

我们知道，你们当中有些人已经是生物多样性方面的专家。

Some of you are experts in the social and political dimensions of urban planning and practice.

你们中有些人是城市规划和实践的社会和政治方面的专家。

There will be gaps in the information we present. Please share your expertise and help us create a complete picture.

我们提供的信息可能会有遗漏。请分享您的专业知识，帮助我们绘制一幅完整的图画。

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Participant Introductions / 与会者介绍

- Your name
- Your city
- Your organization
- Your job title

- 您的姓名
- 您所在的城市
- 您所在的机构
- 您的职称

In one word what does Urban Biodiversity mean to you? /

用一个词来概括城市生物多样性对您的意义？

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What is Urban Biodiversity? Why Does it Matter for Cities? /

什么是城市生物多样性？为什么它对城市很重要？

URBAN BIODIVERSITY ONLINE CITY ACADEMY COURSE

城市生物多样性在线城市学院课程

Duration / 持续时间

8 hours / 八小时

Lead Institution / 牵头机构

World Resources Institute

Languages / 语言

English, French, Spanish, Portuguese, Indonesian Bahasa and Mandarin Chinese

Certificate / 证书

Personalized certificate / 个性化证书

Enrollment in the UrbanShift Online City Academy courses is open to all

UrbanShift 在线城市学院的课程面向所有人开放。

https://www.shiftcities.org/urban-biodiversity

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Many people associate *BIODIVERSITY* with wild places and threatened species / 许多人将生物多样性与野生场所和濒危物种联系在一起

images: public domain

Traditional conservation biology / 传统保护生物学

- Emphasize individual species and habitat types / 强调个别物种和生境类型
- Leverages extensive knowledge of particular ecological requirements and relationships / 利用对特定生态要求和关系的广泛了解
- Focus on wild places and pristine habitat / 关注野生场所和原始栖息地

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Many people associate *CITIES* with anti-nature / 许多人将城市与反自然联系在一起

CC BY-SA 2.0 Adam Jones

CC BY 2.5 Tim Kiser

Urban challenges for biodiversity / 城市生物多样性面临的挑战

- Environments hostile to wildlife / 不利于野生动物的环境
- Lack of detailed ecological knowledge / 缺乏详细的生态知识
- Biodiversity a low priority / 生物多样性不是优先事项

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Cities are ecosystems
...and part of the global ecosystem /
城市是生态系统……也是全球生态系统的一部分

We are ecological actors /
我们是生态行动者

CC BY-NC 2.0 Benjamin Noury

Wild things are part of our lives /
野生动物是我们生活的一部分

CC BY 2.0 Kandukuru Nagarjun

We have enormous impact /
我们有巨大的影响力

CC BY-SA 3.0 Uxud

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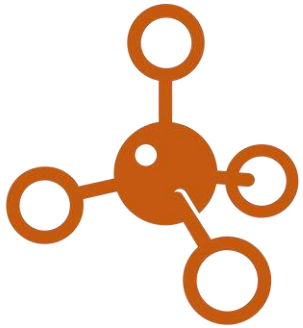
Cities MUST be part of every sustainability strategy / 城市必须成为所有可持续发展战略的一部分

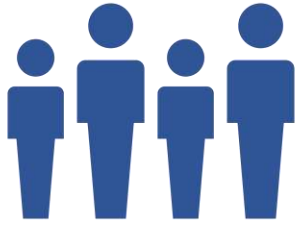
70%
global GHG emissions



50%
global waste

Great impact means… /
巨大的影响力意味着…

55%
global population



80%
global GDP

great opportunity for change /
变革良机

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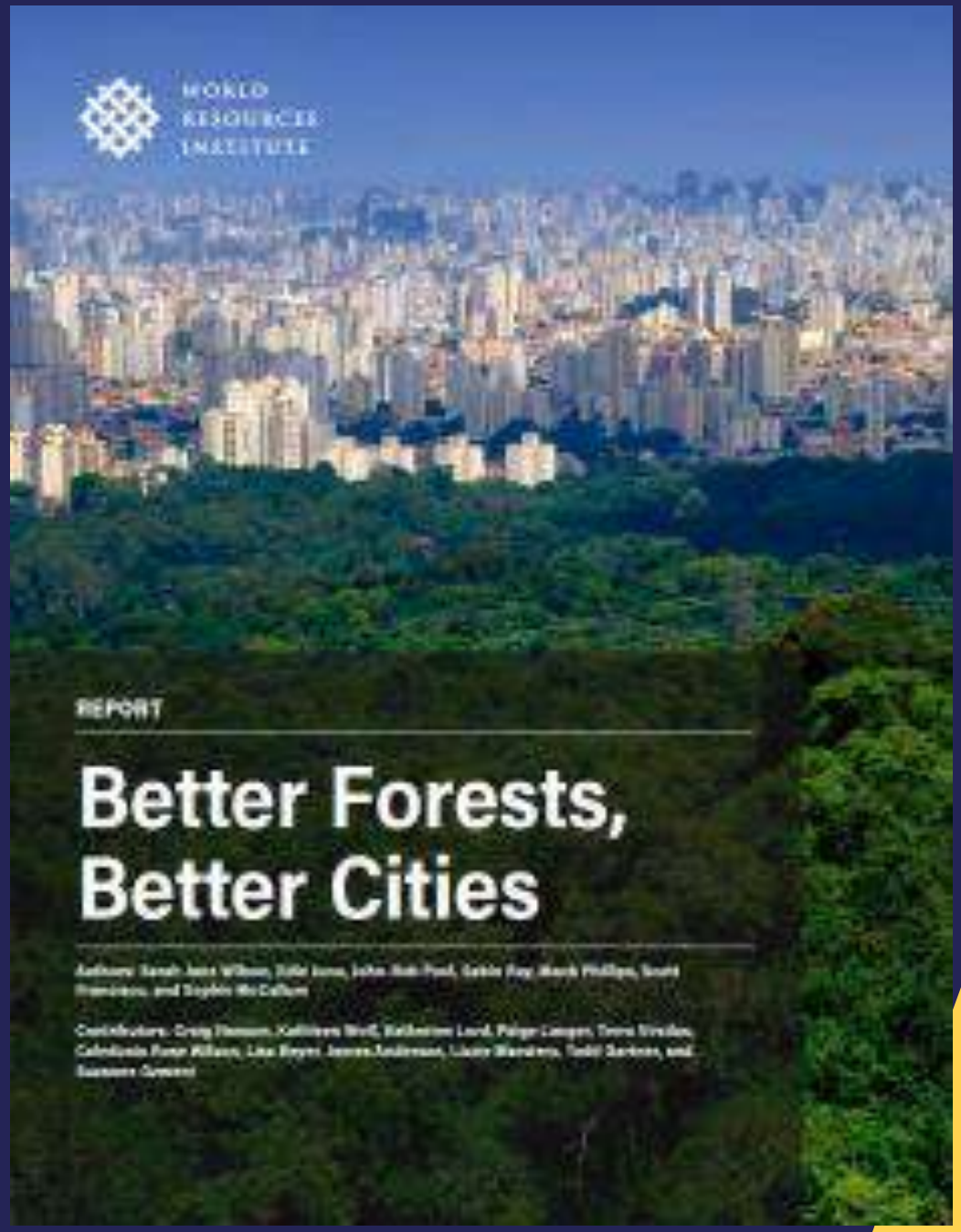

NINE THINGS CITIES NEED TO KNOW ABOUT BIODIVERSITY

1. BIODIVERSE FORESTS PROVIDE MORE GOODS AND SERVICES TO CITIES
2. BIODIVERSE FORESTS STORE MORE CARBON, MORE RELIABLY
3. BIODIVERSE, INTACT FORESTS PROTECT WATERSHEDS
4. FOREST BIODIVERSITY PROVIDES A TEMPLATE FOR NEW MEDICINES AND PHARMACEUTICALS
5. BIODIVERSE FORESTS SUPPORT THE WORLD'S POLLINATORS--AND URBAN FOOD SUPPLIES
6. PROTECTING BIODIVERSE FORESTS CAN REDUCE RISK OF DISEASES AND PANDEMICS
7. ACCESS TO BIODIVERSITY IN URBAN AREAS BENEFITS PHYSICAL AND MENTAL HEALTH
8. URBAN FORESTS CAN SUPPORT BIODIVERSITY
8. TROPICAL FORESTS HOLD THE VAST MAJORITY OF EARTH'S TERRESTRIAL BIODIVERSITY

1. Biodiverse ecosystems provide more goods and services to cities /
生物多样性生态系统为城市提供更多商品和服务

2. Biodiverse ecosystems store more carbon, more reliably /
生物多样性生态系统能更可靠地储存更多的碳

3. Biodiverse, intact ecosystems protect watersheds / 完整的生物多样性生态系统保护流域

4. Biodiversity in the world's ecosystems provide the blueprints for new medicines and pharmaceuticals /
世界生态系统的生物多样性为新药和制药提供了蓝图

5. Biodiverse ecosystems support the world's pollinators—and therefore urban food supplies /

生物多样性生态系统支持着全世界的授粉者，因此也支持着城市的食物供应

6. Protecting natural ecosystems can reduce risks of zoonotic and vector-borne diseases and pandemics /
保护自然生态系统可降低人畜共患病、病媒传染病和大流行病的风险

7. Access to biodiverse nature in urban areas provides measurable benefits to urban residents /

在城市地区接触生物多样性的大自然可为城市居民带来可衡量的益处

8. Urban forests can house high biodiversity / 城市森林可以容纳高度的生物多样性

9. Tropical forests hold the majority of Earth’s terrestrial biodiversity and are therefore essential to urban well-being and sustainability /
热带森林拥有地球上大部分陆地生物多样性，因此对城市福祉和可持续性至关重要

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INGRID'S SLIDES

How to Develop a Data Driven Urban Biodiversity Strategy – Part 1

如何制定数据驱动型城市生物多样性战略--第一部分

Topics

主题

1. Goals and indicators

2. Data sources

3. Data collection

1.目标和指标

2.数据来源

3.数据收集

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Elements of a biodiversity strategy / 生物多样性战略的要素

Actions
Specific things the city does or plans to do.

Inputs
Resources and conditions necessary to implement the actions

Outputs
Concrete, nonquantifiable measures of success, such as deliverables and events.

Indicators
Quantifiable measures based on data. Convey information about progress toward goals.

行动
城市所做或计划做的具体事情

投入
实施行动所需的资源和条件

产出
具体的、不可量化的成功衡量标准，如交付成果和活动

指标
基于数据的可量化衡量标准。传递有关目标进展情况的信息

Pierce JR, Barton MA, Tan MMJ, Oertel G, Halder MD, Lopez-Guijosa PA, et al. (2020) Actions, indicators, and outputs in urban biodiversity plans: A multinational analysis of city practice. PLoS ONE 15(7): e0235773. https://doi.org/10.1371/journal.pone.0235773

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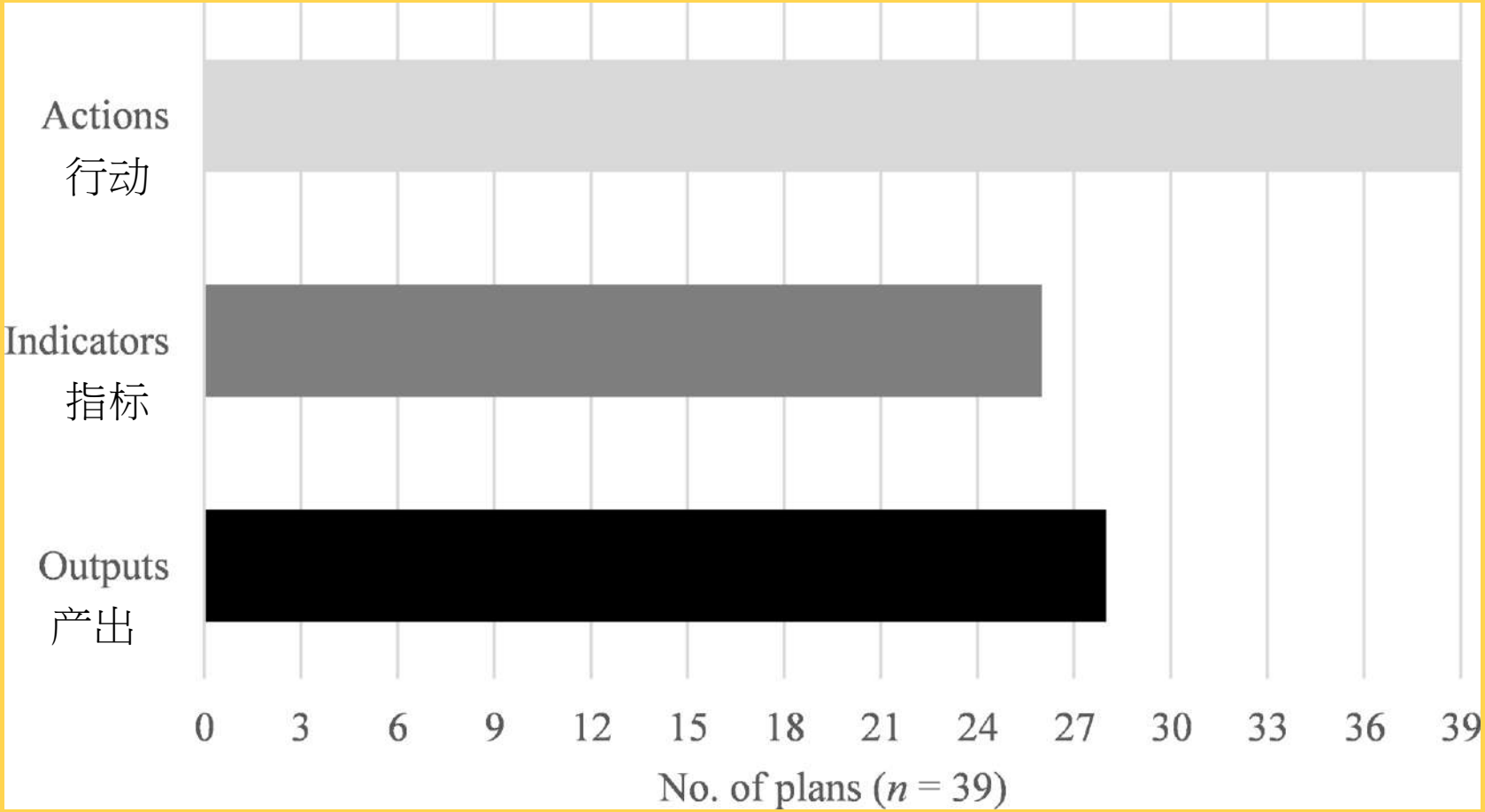
Many plans are incomplete

许多计划不完整



What do city biodiversity plans typically include?

城市生物多样性计划通常包括哪些内容？

Pierce JR, Barton MA, Tan MMJ, Oertel G, Halder MD, Lopez-Guijosa PA, et al. (2020) Actions, indicators, and outputs in urban biodiversity plans: A multinational analysis of city practice. PLoS ONE 15(7): e0235773. https://doi.org/10.1371/journal.pone.0235773

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How the strategy elements fit together
战略要素如何相互配合

GOAL *Increase bird diversity*

Indic.

目标
增加鸟类多样性

ACTION

Restore riparian habitat

Indic.

行动
恢复河岸栖息地

INPUT

Money and staff time

Indicator

输入
资金和员工时间

OUTPUT

Invasive plant removal project

Indicator

产出
入侵植物清除项目

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What indicators?

有哪些指标？

Money and staff time ?

资金和员工时间

Program to remove invasive plants ?

入侵植物清除项目

Restore riparian habitat ?

恢复河岸栖息地

Increase bird diversity ?

增加鸟类多样性

These probably require baseline and follow-up

这些指标可能需要基准线和后续跟踪

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Indicators can point to failure points

指标可以指出失败点

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What makes a good indicator?

什么是好的指标？

Relevant	相关性
Specific	具体
Calculable	可计算
Interpretable	可解释
Replicable	可复制

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Are these good indicators?

这些指标好吗？

Which of these indicators might be good for assessing the effectiveness of a wetland restoration program?

在这些指标中，哪些指标可用于评估湿地恢复计划的有效性？

Ecosystem health	生态系统健康
Money spent on restoration	用于恢复的资金
Area of wetlands	湿地面积
Number of microbial species	微生物物种数量
Population of the city	城市人口

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Urban biodiversity assessment frameworks

城市生物多样性评估框架

IUCN Urban Nature Indexes (UNI)

Theme	Indicator Topics	Theme	Indicator Topics
1. Consumption Drivers	Material consumption	2. Human Pressures	Sprawl
	Harmful harvest & trade		Water pollution
	GHG emissions from energy		Noise pollution
	Unsustainable diets		Light pollution
	Water withdrawal		Invasive species
3. Habitat Status	Land use/protection	4. Species Status	Animal species
	Ecosystem restoration		Plant species
	Shorelines & riverbanks		Functional diversity
	Vegetation		Microbiota
	Connectivity		Endemic species
5. Nature's Contributions to People	Exposure to nature	6. Governance Responses	Planning
	Access to nature		Law & policy
	Human health		Education
	Livelihoods		Management
	Sacred natural sites		Incentives & participation

https://www.iucnurbannatureindexes.org/

Singapore Index on Cities' Biodiversity (SICB)

SINGAPORE INDEX ON CITIES' BIODIVERSITY

PART II – INDICATORS

Core Components	Indicators	Maximum Score
Native Biodiversity in the City	1. Proportion of Natural Areas in the City	4 POINTS
	2. Connectivity Measures or Ecological Networks to Counter Fragmentation	4 POINTS
	3. Native Biodiversity in Built Up Areas (Bird Species)	4 POINTS
	4. Change in Number of Vascular Plant Species	4 POINTS
	5. Change in Number of Native Bird Species	4 POINTS
	6. Change in Number of Native Arthropod Species	4 POINTS
	7. Habitat Restoration	4 POINTS
	8. Proportion of Protected Natural Areas	4 POINTS
	9. Proportion of Invasive Alien Species	4 POINTS
Ecosystem Services provided by Biodiversity	10. Regulation of Quantity of Water	4 POINTS
	11. Climate Regulation – Benefits of Trees and Greenery	4 POINTS
	12. Recreational Services	4 POINTS
	13. Health and Wellbeing – Proximity/Accessibility to Parks	4 POINTS
	14. Food Security Resilience – Urban Agriculture	4 POINTS
Governance and Management of Biodiversity	15. Institutional Capacity	4 POINTS
	16. Budget Allocated to Biodiversity	4 POINTS
	17. Policies, Rules and Regulations – Existence of Local Biodiversity Strategy and Action Plan	4 POINTS
	18. Status of Natural Capital Assessment in the City	4 POINTS
	19. State of Green and Blue Space Management Plans in the City	4 POINTS
	20. Biodiversity Related Responses to Climate Change	4 POINTS
	21. Policy and/or Incentives for Green Infrastructure as Nature-based Solutions	4 POINTS
	22. Cross-sectoral and Inter-agency Collaborations	4 POINTS
	23. Participation and Partnership: Existence of Formal or Informal Public Consultation Process Pertaining to Biodiversity Related Matters	4 POINTS
	24. Participation and Partnership: Number of Agencies/Private Companies/ NGOs/Academic Institutions/International Organisations with which the City is Partnering in Biodiversity Activities, Projects and Programmes	4 POINTS
	25. Number of Biodiversity Projects Implemented by the City Annually	4 POINTS
	26. Education	4 POINTS
	27. Awareness	4 POINTS
	28. Community Science	4 POINTS
	Native Biodiversity in the City (Sub-total for indicators 1-9)	36 points
	Ecosystem Services provided by Biodiversity (Sub-total for indicators 10-14)	20 points
	Governance and Management of Biodiversity (Sub-total for indicators 15-28)	56 points
	Maximum Total:	112 points

https://www.cbd.int/doc/publications/cbd-ts-98-en.pdf

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An example indicator

指标示例

5.2 Access to Nature

Intent	Measure increasing access to natural areas for all members of vulnerable urban communities.
Instructions	Complete the advanced or basic indicator as follows:
	Basic: Calculate the percentage of residents living within a walkable distance (300 metres) of a public, open access natural area.
	Advanced: Calculate the percentage of residents in the lowest income quintile (lowest 20%) living within a walkable distance (300 metres) of a public, open access natural area.
Alternatives	Complete Singapore Index indicator 13 (based on the 2021 version).
Resources	None
Scoring	Score this indicator as follows:

++ **Multi-year positive trend established**
+ Positive trend observed
• Baseline measured, trend undetermined
- Negative trend observed
-- Data

Percent of residents within 300 m of a public natural area

公共自然区域 300 米范围内居民的百分比

INDICATOR 13

HEALTH AND WELLBEING – PROXIMITY/ ACCESSIBILITY TO PARKS

HOW TO CALCULATE INDICATORS

(13A) Proximity is measured in terms of the proportion of the households living within 400m from a park or green space.

Straight line distances are used to determine whether households fall within 400m from a park or green space. Details and illustrations on how this indicator may be calculated can be found in **Annex F**.

(Population of city living within 400m from a park/green space) ÷ (Total population of city) × 100%

OR

(13B) Accessibility is measured in terms of the proportion of the population living within walking distance (400m) from a park or green space. This distance takes into account obstacles and routes within the street network system, differing from the calculation of proximity. Details and illustrations on how this indicator may be calculated are appended below.

Spatial analysis software such as ArcGIS will be helpful to calculate this indicator.

(Population of city living within walking distance (400m) from a park/green space) ÷ (Total population of city) × 100%

WHERE TO GET DATA FOR CALCULATIONS

of data include GIS software, satellite of land

BASIS OF SCORING

The city is to score itself using either criteria (13A) or (13B), depending on data availability.

Some cities have used the highest score of 90-100% as their planning target.

Scoring range for (13A)

0 POINTS: < 30.0%
1 POINT: 30.0 – 49.9%
2 POINTS: 50.0 – 69.9%
3 POINTS: 70.0 – 89.9%
4 POINTS: 90.0 – 100.0%

Cities are encouraged to use (13B) for this indicator as residents' accessibility to parks will provide a more accurate measure of parks that are available to residents.

Scoring range for (13B)

0 POINTS: < 46.1%
1 POINT: 46.1 – 55.7%
2 POINTS: 55.8 – 64.8%
3 POINTS: 64.9 – 72.0%
4 POINTS: > 72.0%

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Local or global data?

本地数据还是全球数据？

LOCAL
本地

high spatial resolution
高空间分辨率

alignment with local priorities
符合当地优先事项

benefit from existing administrative structures
受益于现有的行政结构

often ready for analysis
通常可用于分析

high accuracy
精确度高

difficult to compare with other cities
难以与其他城市比较

GLOBAL
全球

moderate spatial resolution
中等空间分辨率

alignment with global frameworks
与全球框架一致

subject to technical constraints
受技术限制

might require pre-analysis processing
可能需要预先分析处理

moderate precision
中等精度

designed for global comparisons
专为全球比较而设计

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General data considerations

一般数据考虑因素

Cost and usage rights	成本和使用权
Spatial and temporal resolution	空间和时间分辨率
Reputation of the source	数据源的声誉
Longevity and update frequency	寿命和更新频率

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Types of data typically required for SICB / UNI

生物多样性评估框架通常需要的数据类型

Land use, vegetation, cover types	土地利用、植被、覆盖类型
Species counts	物种计数
Access to nature and nature's benefits	接触自然的机会和自然的益处
Policies, plans, government entities and initiatives	政策、计划、政府实体和倡议
Waste-production behavior or residents	废物产生行为或居民
Resource-use behavior or residents	资源使用行为或居民

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Some good global data sources

一些良好的全球数据来源

Species counts	Global Biodiversity Information Facility https://www.gbif.org/	物种计数
Vegetation types	WorldCover https://esa-worldcover.org/	植被类型
Urban land use	Global Intra-Urban Land Use https://gee-community-catalog.org/projects/giulu/	城市土地利用
High-priority areas for biodiversity	Key Biodiversity Areas https://www.keybiodiversityareas.org/	生物多样性高度优先区域

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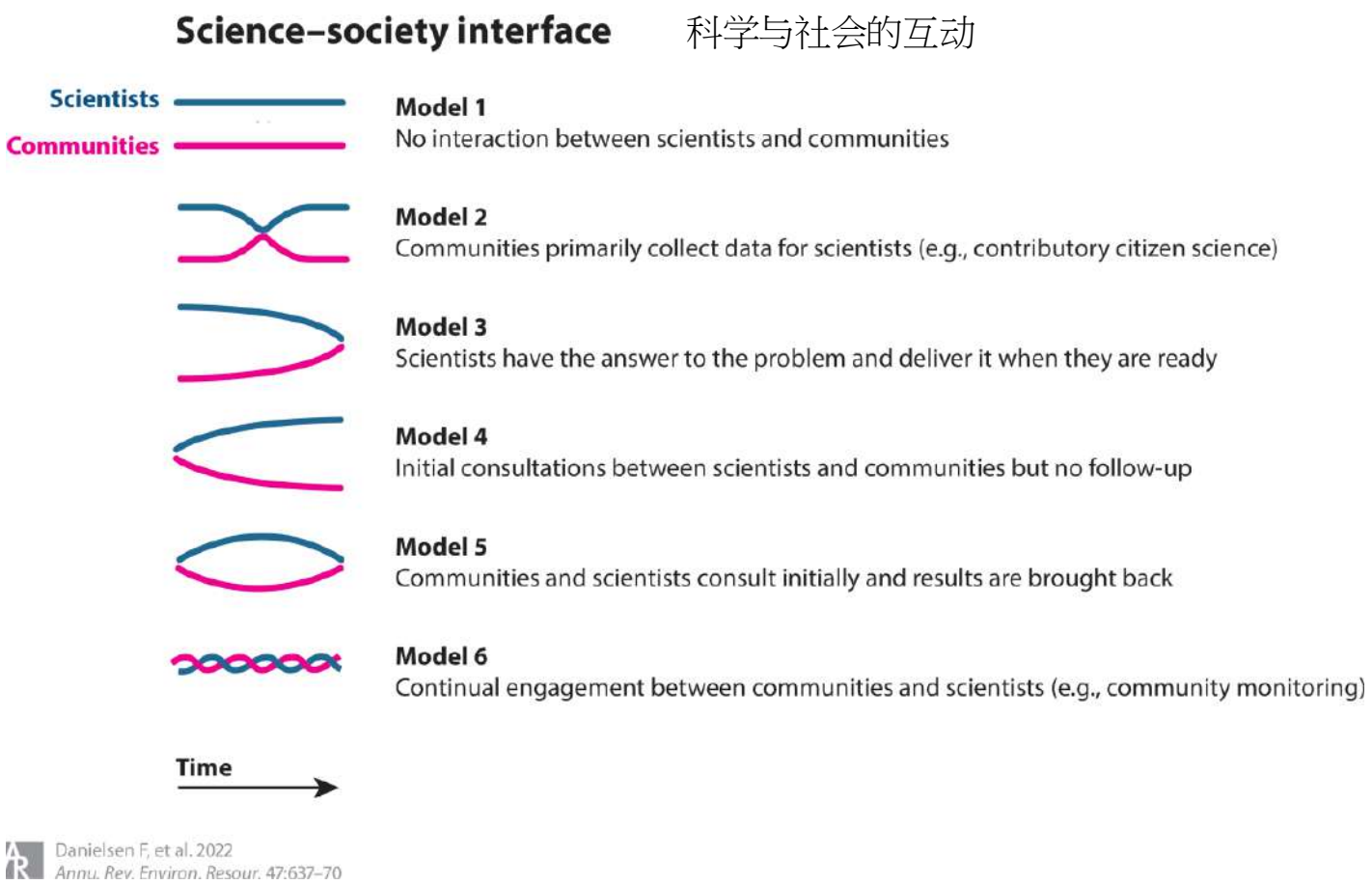
Community-based ecosystem monitoring
基于社区的生态系统监测



Finn Danielsen, Hajo Eicken, Mikkel Funder, Noor Johnson, Olivia Lee, Ida Theilade, Dimitrios Argyriou, Neil D. Burgess. 2022. "Community Monitoring of Natural Resource Systems and the Environment" Annual Review of Environment and Resources 47:1, 637-670

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Citizen science

公共科学

- **Data collected without specific scientific goal in mind**
- **Protocols and data-management structures designed by scientists**
- **Accuracy varies**

- 在没有特定科学目标的情况下收集数据
- 由科学家设计的协议和数据管理结构
- 准确性不同

Photo: Gill Conquest/EXCITES, University College London https://www.nature.com/nature-index/news/how-to-run-successful-citizen-science-project

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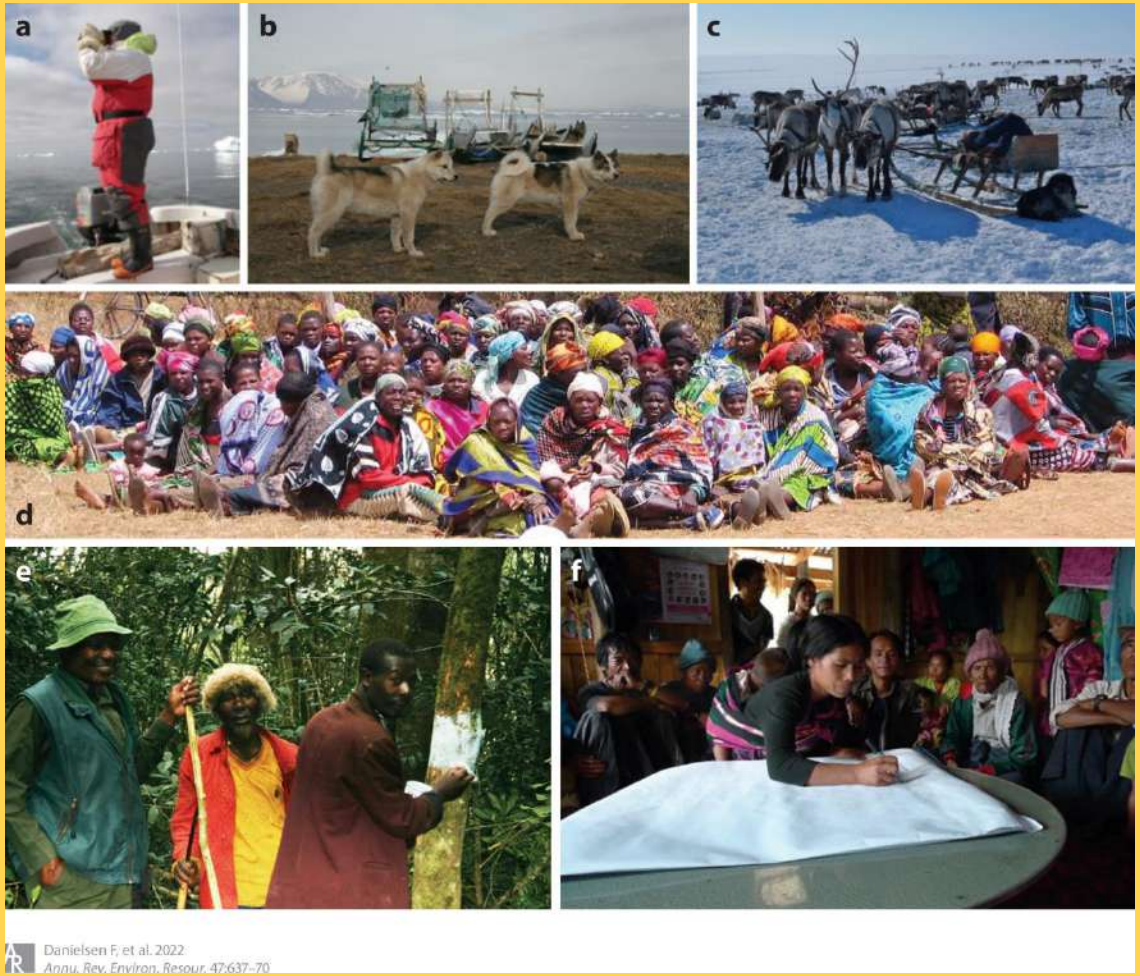
Community-based ecosystem monitoring
基于社区的生态系统监测

- **Goals defined by community and scientists in collaboration**
- **Data collection and management processes designed by community with scientists' advice**
- **Data quality is generally good**



- 由社区和科学家合作确定目标
- 社区根据科学家的建议设计数据收集和管理流程
- 数据质量总体良好

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Finn Danielsen, Hajo Eicken, Mikkel Funder, Noor Johnson, Olivia Lee, Ida Theilade, Dimitrios Argyriou, Neil D. Burgess. 2022. "Community Monitoring of Natural Resource Systems and the Environment" Annual Review of Environment and Resources 47:1, 637-670

Benefits of participatory data collection

参与式数据收集的优势

- **Low cost**
- **Public education**
- **Public empowerment**
- **Favorable publicity for projects**

The main drawback is that data accuracy can be lower than data from an all-professional data-collection effort. This is why careful process design is important. For example, many CS projects use custom smartphone apps to ensure complete data entries.

- 成本低
- 公众教育
- 增强公众能力
- 有利于项目的宣传

主要缺点是数据准确性可能低于全专业数据收集工作的数据。因此，精心设计流程非常重要。例如，许多 CS 项目使用定制的智能手机应用程序来确保完整的数据输入。

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Your experiences

你的经历

What have been your experiences with participatory data collection?

您在参与式数据收集方面有哪些经验？

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How to Develop a Data Driven Urban Biodiversity Strategy – Part 2

如何制定数据驱动型城市生物多样性战略 --第二部分

Topics

主题

- Data analysis
- Data actionability
- Data governance

- 数据分析
- 数据可操作性
- 数据管理

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How to reproduce the analysis?
如何复制分析结果？

$$\frac{Area\ of\ protected\ or\ secured\ natural\ areas}{Total\ area\ of\ city} \times 100\%$$

$$\frac{保护区面积}{城市总面积} \times 100\%$$

Aside from the data, what information do you need to perform this calculation?

除数据外，您还需要哪些信息来进行计算？

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What makes calculations reproducible?

怎样才能重复计算？

- **Clear, detailed documentation**
- **Software code or spreadsheets with formulas, if available**
- **Source data that are**
  - Publicly available
  - Methodologically clear
  - Updated regularly

- **清晰、详细的文档**
- **包含公式的软件代码或电子表格（如有）**
- **源数据**
  - 可公开获得
  - 方法清晰
  - 定期更新

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What makes data actionable?

如何使数据具有可操作性？

Easy to find

易于查找

Timely and up-to-date

及时更新

Easy to contextualize

易于结合实际情况

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Data findability

All Databases

- Anti-Cybrecrime Group
- Bangko Sentral ng Pilipinas
- Bureau of Jail Management and Penology
- Bureau of Labor Relations
- CheckMySchool
- Commission on Filipinos Overseas
- Commission on Higher Education
- Commission on Human Rights
- Department of Agriculture
- Department of Education
- Department of Environment and Natural Resources
- Department of Health
- Department of Labor and Employment
- Department of Social Welfare and Development
- Department of Tourism

Home › Docs › All Databases › Open Data Philippines

OPEN DATA PHILIPPINES

The **Open Data Philippines (ODPH) Portal** is an online repository of open data resources and datasets from gover agencies. This portal addresses the constitutional right of Filipinos to data is part of a government initiative to prom transparent, participatory, inclusive, and accountable governance. ODPH is also a commitment to the Open Governi Partnership.

Open Data Philippines Portal

ODPH also provides **gender disaggregated data** with gender statistics and data visualization. Users may filter and

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Data contextualizability 数据上下文

78.8 %

Nairobi permeable area

可渗透区域

https://citiesindicators.wri.org/

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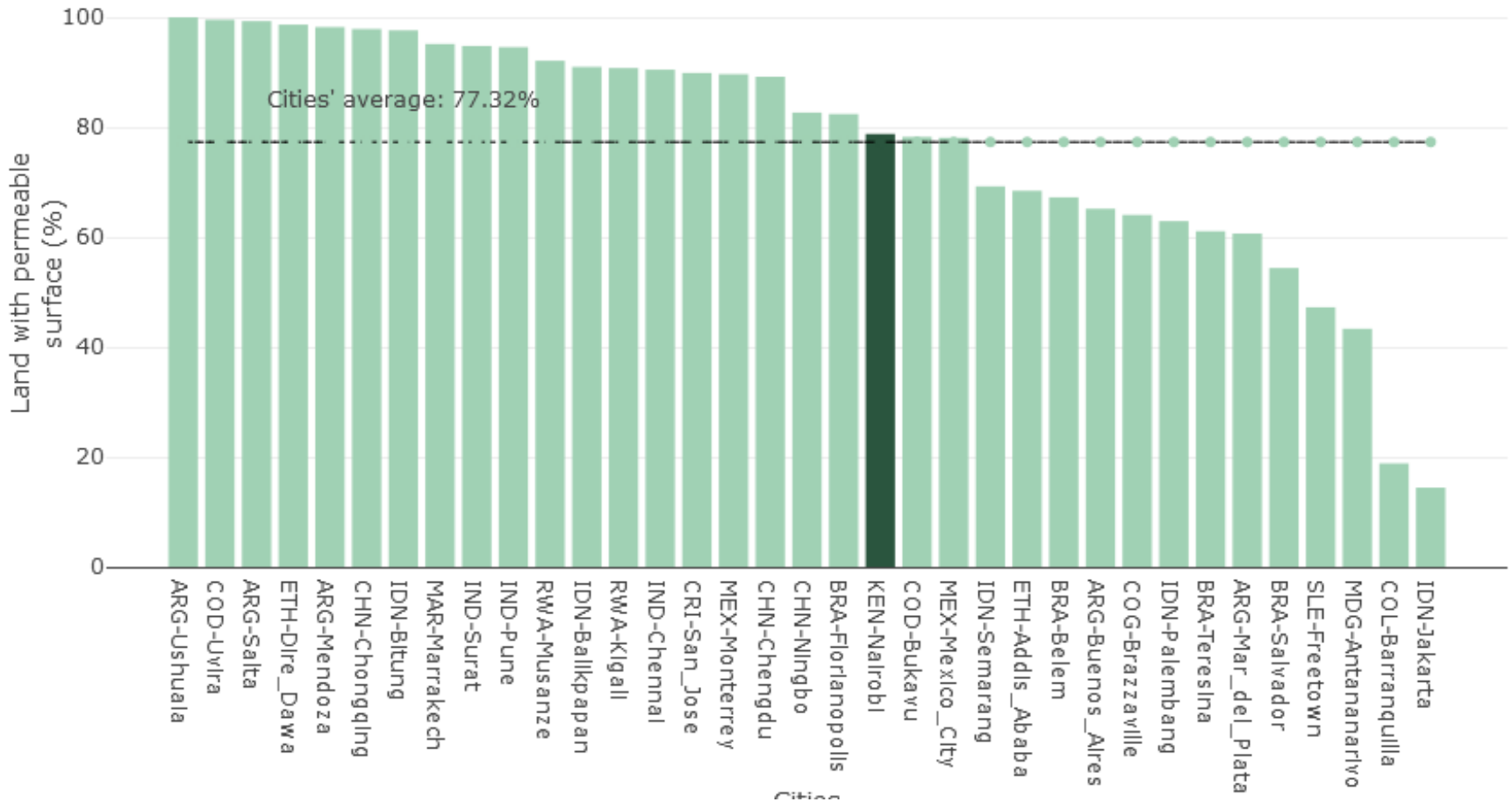
Contextualization through benchmarking

通过基准对照了解背景情况



https://citiesindicators.wri.org/

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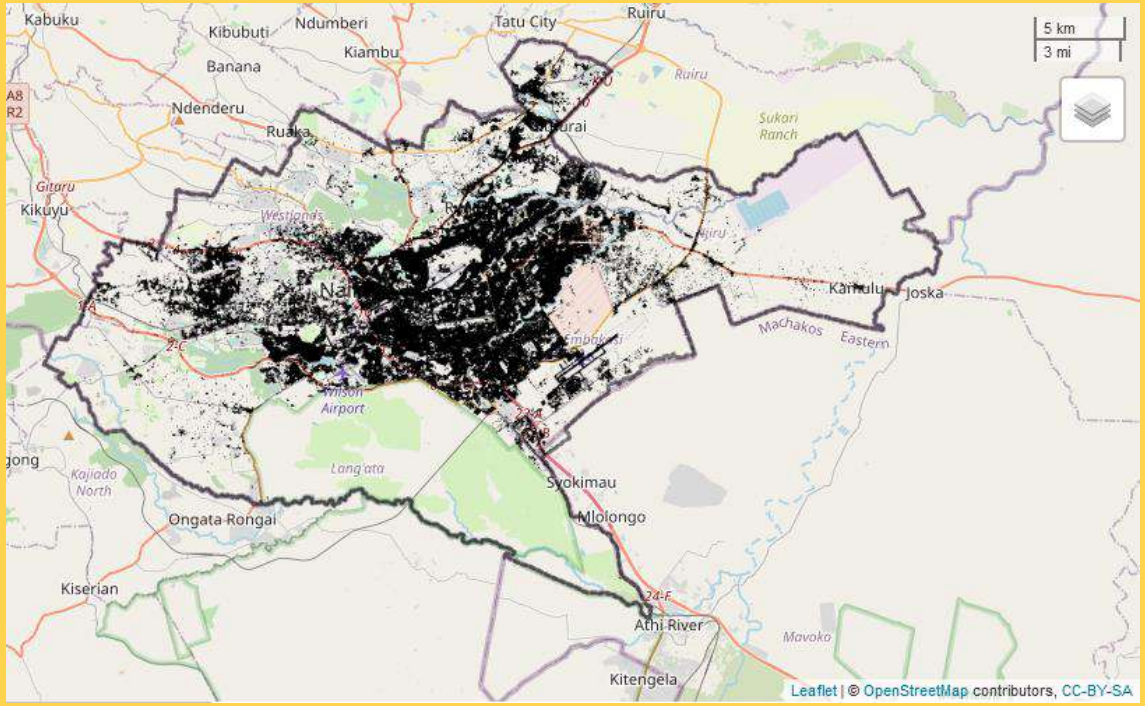
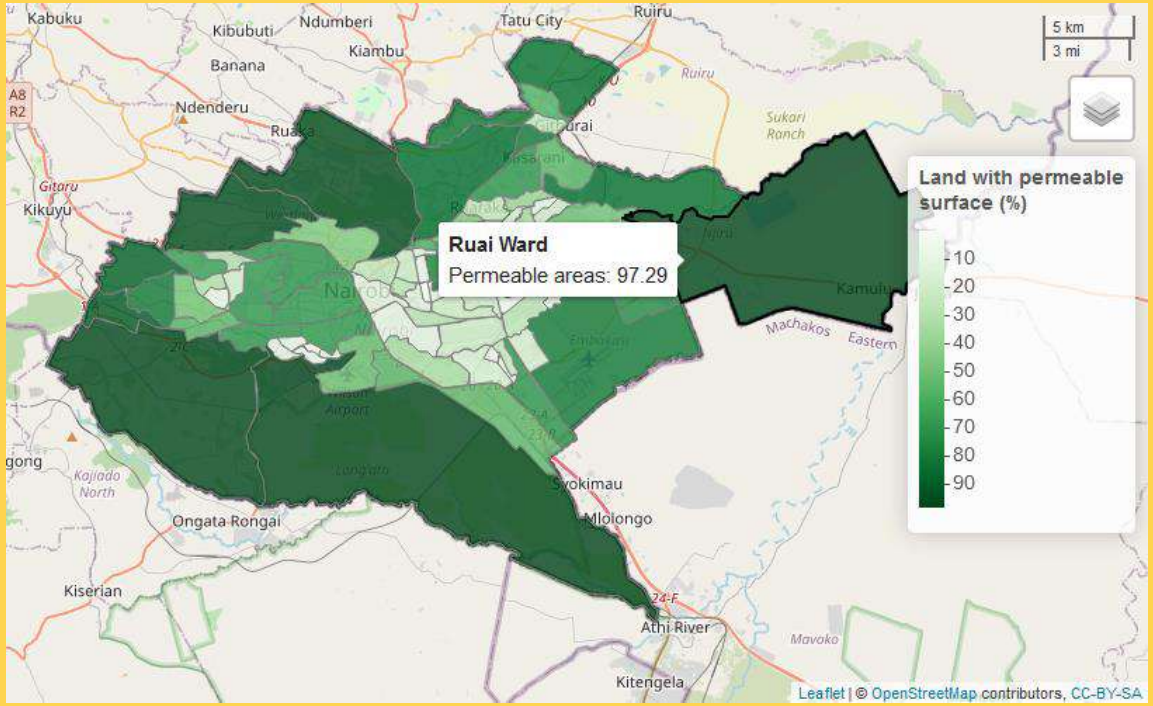
Contextualization through spatial detail

通过空间细节了解背景



Nairobi



Nairobi

https://citiesindicators.wri.org/

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Actionable data speaks to its audience

可操作的数据与受众对话

Audience 受众	Constraints 制约因素	Strategies 战略
Assessment frameworks 评估框架	**Standardized definitions and units** 标准化定义和单位	**Standard tools, protocols** 标准工具和协议
Decision-makers 决策者	**Political and administrative priorities** 政治和行政优先事项	**Frequent engagement** 经常参与
Civil society, general public 民间社会和公众	**Varying quantitative sophistication** 不同的定量复杂性	**Visualizations, partnerships with journalists** 可视化以及与记者的合作

User research

用户研究

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Domains of data governance

数据管理领域

Data safety and security		数据安全与保障
Data quality		数据质量
Data storage, management, and inventory		数据存储、管理和库存
Data availability and accessibility		数据可用性和可访问性
Data integration and interoperability		数据集成和互操作性

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Goals of data governance

数据管理的目标

- **Support decision-making**
- **Protect stakeholders**
- **Establish standard, low-friction processes**
- **Promote transparency**

- 支持决策
- 保护利益相关者
- 建立标准、低摩擦的流程
- 提高透明度

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Data stakeholders

数据利益相关者

Stakeholder class 利益相关者类别	Risks 风险	Mitigation strategies 缓解策略
Data subjects 数据主体	**crime** 犯罪 **misuse** 滥用 **embarrassment** 尴尬	**anonymization** 匿名 **aggregation** 化汇总 **minimization** 最小化
Data holders 数据持有者	**cost** 成本 **inefficiency** 低效 **blame for misuse** 滥用的责任	**open-data norm** **data-sharing agreements** 分享文化 数据共享协议
Data users 数据用户	**poor findability** 查找数据困难 **difficulty of use** 使用数据困难 **poor quality** 数据质量差	**data portal** 数据门户网站 **quality control** 质量控制 **standards and templates** 标准和模板

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Elements of data sharing agreements

数据共享协议的要素

- **Intended uses and prohibited uses**
- **Time period of the agreement**
- **Data description**
  - Time period
  - Spatial extent
  - Resolution
  - Data fields
  - Format and transmission method
- **Update and support considerations**
- **Requirements for storing and managing the data**
- **Acknowledgment requirements**

- **预期用途和禁止用途**
- **协议期限**
- **数据说明**
  - 时间段
  - 空间范围
  - 分辨率
  - 数据字段
  - 格式和传输方法
- **更新和支持方面的考虑**
- **存储和管理数据的要求**
- **确认要求**

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Standardization 数据标准化

- **Quality standards**
- **Metadata requirements**
- **Standard procedures**

- 质量标准
- 元数据要求
- 标准程序

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Organization-wide scope

组织范围

- When these standard processes apply to all data producers and data holders in an organization, data integrity and responsibility become woven into the organization's culture.

- If the governing body's authority comes from the Mayor, then its scope can encompass the entire government: fleet management, tax department, police.

- 当这些标准流程适用于组织中的所有数据生产者和数据持有者时，数据完整性和责任就会融入组织的文化中。

- 如果管理机构的权力来自市长，那么其范围就可以涵盖整个政府：车队管理、税务部门、警察局。

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Presumption of openness

开放性假设

OPEN DATA INITIATIVES...

- Promote innovation among data users
- Enforce good data practices among data holders
- Reduce data management costs embody government transparency

开放数据计划...

- 促进数据用户的创新
- 在数据持有者中推行良好的数据实践
- 降低数据管理成本 体现政府透明度

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Technology and people

技术与人员

Data governance is not just about computers. It's also about...

- Relationships between departments
- Adoption of behaviors
- Skill development
- Conflict resolution
- Goal-setting and strategic planning

Don't let the IT department run the whole thing!

数据管理不仅与计算机有关。它还涉及

- 部门之间的关系
- 行为的采用
- 技能开发
- 解决冲突
- 目标设定和战略规划

不要让信息技术部门包办一切！

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What have we left out? 我们遗漏了什么？

指标

数据管理

利益相关者

参与式数据收集

Goals and actions

Data governance

Indicators

Global vs local data

全球和本地数据

标准化

开放数据

Data actionability

目标和行动

Open data

Data standardization

评估框架

可复制性

Data quality

Assessment frameworks

可操作的数据

数据质量

Inputs and outputs

Reproducibility

Participatory data collection

Data stakeholders

Data contextualization

投入和产出

情境化

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TEA BREAK

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