



Citizen Science and the UN Sustainable Development Goals

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Mapping citizen science contributions to the UN sustainable development goals

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Abstract

The UN Sustainable Development Goals (SDGs) are a vision for achieving a sustainable future. Reliable, timely, comprehensive, and consistent data are critical for measuring progress towards, and ultimately achieving, the SDGs. Data from citizen science represent one new source of data that could be used for SDG reporting and monitoring. However, information is still lacking regarding the current and potential contributions of citizen science to the SDG indicator framework. Through a systematic review of the metadata and work plans of the 244 SDG indicators, as well as the identification of past and ongoing citizen science initiatives that could directly or indirectly provide data for these indicators, this paper presents an overview of where citizen science is already contributing and could contribute data to the SDG indicator framework. The results demonstrate that citizen science is “already contributing” to the monitoring of 5 SDG indicators, and that citizen science “could contribute” to 76 indicators, which, together, equates to around 33%. Our analysis also shows that the greatest inputs from citizen science to the SDG framework relate to SDG 15 Life on Land, SDG 11 Sustainable Cities and Communities, SDG 3 Good Health and Wellbeing, and SDG 6 Clean Water and Sanitation. Realizing the full potential of citizen science requires demonstrating its value in the global data ecosystem, building partnerships around citizen science data to accelerate SDG progress, and leveraging investments to enhance its use and impact.

Keywords Sustainable Development Goals (SDGs) · Citizen science · SDG indicators · Tier classification for SDG indicators · Crowdsourcing · Community-based monitoring

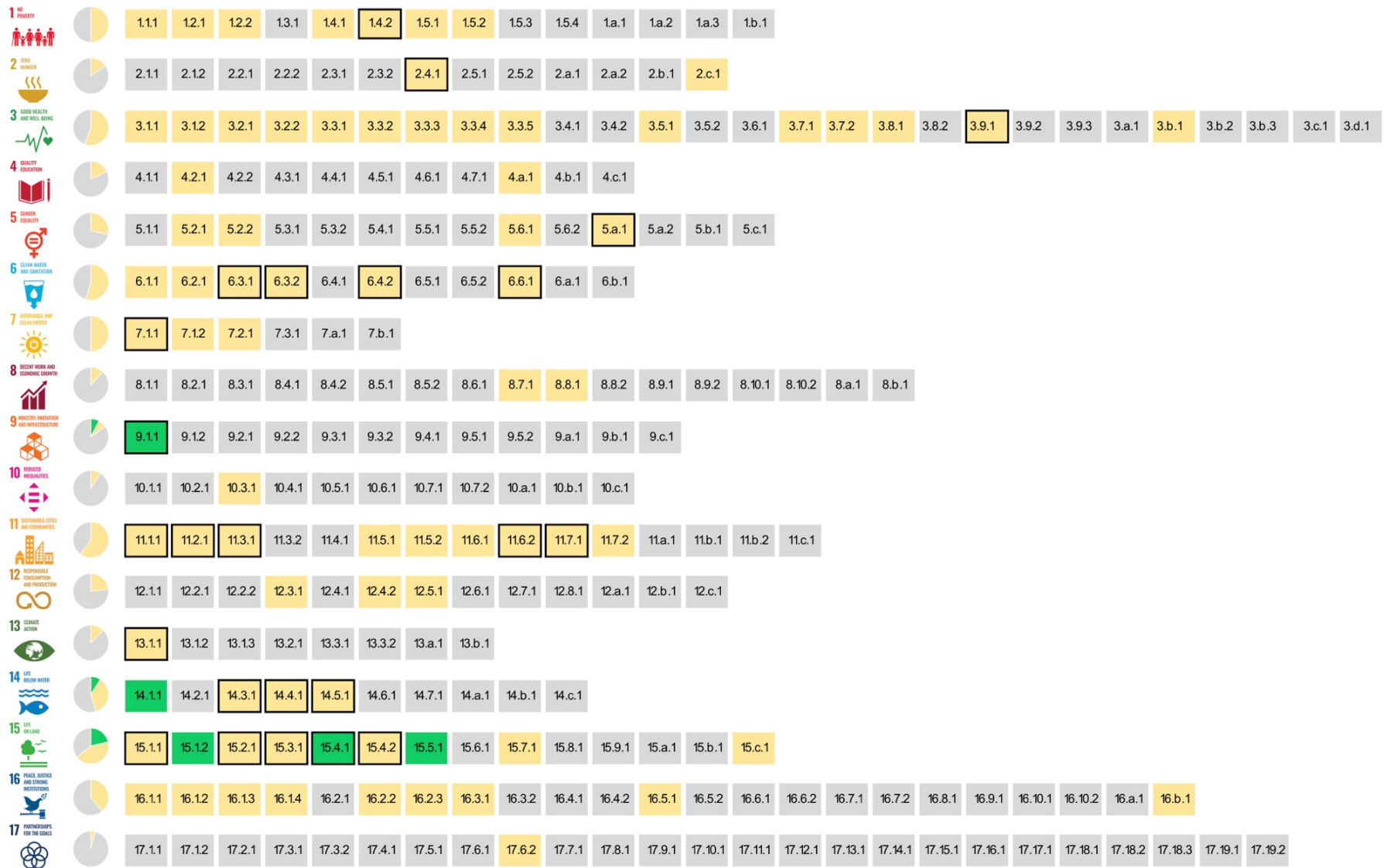
Data underpin good decisions

Measuring Progress Towards achieving the environmental dimension of the SDGs' found that 68% of environment-related SDG indicators do not have enough data to assess progress.



Greatest contribution from citizen science to the SDG indicator framework would be in environmental SDG indicators.

Results



The SDG indicators where citizen science projects are ‘already contributing’ (in green), ‘could contribute’ (in yellow) or where there is ‘no alignment’ (in grey). The overall citizen science contributions to each SDG are summarized as pie charts. Black borders around indicators show the overlap between citizen science and EO, as identified by GEO (2017)

eBird

- eBird collects 850 million observations in 10.8 million locations worldwide
- 15.1.2 Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type;
- 15.4.1 Coverage by protected areas of important sites for mountain biodiversity

Litter Intelligence


Sustainable Coastlines



Picture Pile

Total Score: 294
Weekly Score: 0
Sorted: 0.01768%

Do you see deforestation over time?



Before After

No Yes

Report Tanzania

Maybe ↓


Menu

These buildings have been destroyed. The correct answer is 'Yes'. 55 Points to Rank 5
Rank: 0

Do you see damaged buildings?

Continue

Picture id: 851685



Before After

Haiti

Maybe ↓

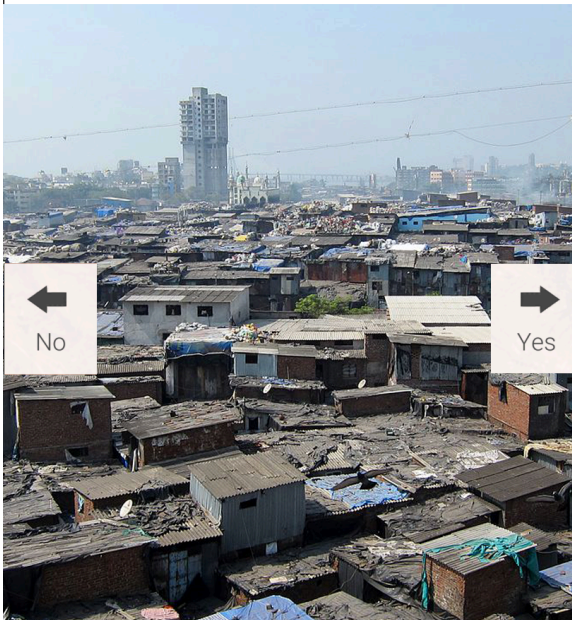
Menu

Watch 24 cards in 6 days, 12 hours, 29 minutes

Score: 126
4%

Do you see a slum?

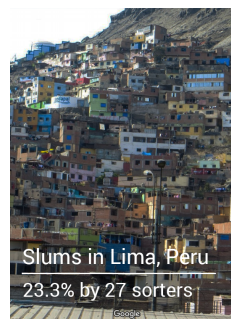
(Swipe to correct side)



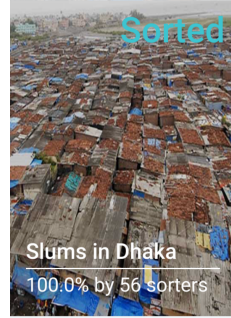
No Yes

Maybe ↓

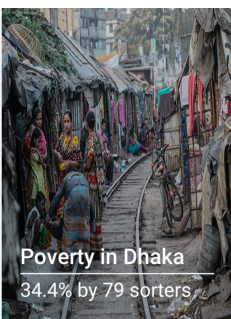
Menu




Slums in Lima, Peru
23.3% by 27 sorters



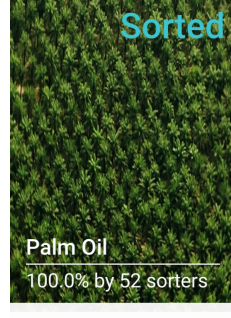
Sorted
Slums in Dhaka
100.0% by 56 sorters




Poverty in Dhaka
34.4% by 79 sorters



Sorted
Palm Oil in Asia
100.0% by 55 sorters



Sorted
Palm Oil
100.0% by 52 sorters



Sorted
Night Lights
100.0% by 184 sorters

Sorted

FreshWaterWatch

Fieldwork conducted by FreshWater Watchers



Source: Earthwatch Institute

6.3.2 - Proportion of bodies of water with good ambient water quality

FreshWaterWatch has a global water quality database based on the contributions made by 8,000+ citizen scientists for more than 2,500 water bodies.



Global Mosquito Alert.

A new citizen science initiative that is leveraging networks of scientists and volunteers for the global surveillance and control of disease-vector mosquitoes.

[Learn more](#)



3.3.3 Malaria incidence per 1000 population

Way Forward

- Building awareness and sharing experiences on the use of citizen science for the SDGs;
- Developing case studies or success stories where citizen science data have been used in innovative ways by NSOs;
- Identifying criteria for ensuring data quality or data quality assurance procedures;
- Integrating citizen science into the methodologies of SDG indicators

Citizen Science for the SDGs – Ghana Project



International Institute for
Applied Systems Analysis



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SDG CoP: UN Sustainable Development Goals and Citizen Observatories

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The WeObserve SDGs and Citizen Science Community of Practice (SDGs CoP) is an open platform for citizen science/citizen observatories and the SDGs.

Our aim is to connect citizen science practitioners, National Science Centres, National Science Offices (NSOs) and government officials; UN and other international organizations; and the broader data and stats communities to share and exchange knowledge, ideas and resources on how to demonstrate the value of citizen science data and impact for SDG achievement.

SDGs are a roadmap to achieve a healthy, prosperous and fair future for all. Achieving the SDGs requires informed decisions that are based on accurate, timely and comprehensive data. Even though data availability has improved over the last decade, there are still major gaps in information and knowledge for guiding policy formulation and implementation. New innovative approaches to data collection, such as citizen science/citizen observatories, which is very broadly defined as public participation in scientific research, can contribute to SDG monitoring. In addition, citizen science could also help mobilize citizen action and

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Recources

- [Glossary](#)
- [Inception report](#)
- [Citizen science and the United Nations Sustainable Development Goals, Nature Sustainability](#)



SDGs Resource Center

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Thank you!

- **Dilek Fraisl**, Jillian Campbell, Linda See, Uta Wehn, Jessica Wardlaw, Margaret Gold, Inian Moorthy, Rosa Arias, Jaume Piera, Jessica L. Oliver, Joan Maso, Marianne Penker, Steffen Fritz and Libby Hepburn

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