

Assessing Gaps in Indicator Availability and Coverage

PREPARED BY MEGAN CASSIDY, SDSN

June 23-24, 2014

INTRODUCTION

As the international community begins to define the goals and indicators that will shape the post-2015 development agenda, a concurrent discussion on the progress made in data availability and how best to bridge some of the most pressing gaps in international data availability and coverage is needed. The push to achieve the Millennium Development Goals (MDG) has resulted in significant improvement in the data available on MDG indicators since 2000. But challenges in data availability and coverage remain. After more than ten years, nearly a third of MDG indicators lack data for more than half of the countries.¹ As the focus of the post-2015 goals broadens, so too will the gaps in data availability without concerted intervention.

Over the same time period, the increasing demand for high-quality, real-time data across industries has resulted in the creation of innovative technologies and tools for data collection and dissemination. This presents a unique opportunity for the international statistical community to reflect on the existing deficiencies in data availability and reporting and to identify the indicators and available tools best positioned to bridge that gap.

This paper highlights some of the existing gaps, as well as patterns in data availability and reporting, to help fuel that discussion, and is organized around two core metrics: *data availability* or *data coverage* (used synonymously), which refer to the collection of a given indicator or set of indicators in a country, and *reporting frequency*, which refers to the time lag between reported data points for a given indicator. These metrics are applied with respect to the content focus and the geographic distribution a given set of indicators.

¹Chen, Shuang, Francois Fonteneau, Johannes Jutting, Stephan Klasen. "Towards a Post-2015 Framework that Counts: Development National Statistical Capacity." *Paris21*. Discussion Paper No. 1, Nov. 2013.

METHODOLOGY

The information presented is the result of an exploratory exercise to assess the data currently available in international repositories on proposed dimensions of sustainable development. Data are only as useful as the ability of decision-makers to act on them. Therefore, this exercise simulated the experience of a researcher or policy analyst in ascertaining relevant country-level data points for a suite of indicators.

The Core and Tier 2 indicators and accompanying goals proposed in the Sustainable Development Solutions Network's (SDSN) report *"Indicators for the SDGs"* were used to structure this exercise. For each indicator presented in the report, with the exception of indicators listed as "to be developed", we consulted a number of major international data repositories to see how frequently the indicator had been collected over the past twenty years and for which countries data points were available. A full list of the data repositories consulted for this exercise is provided in Annex 1, and a complete list of the countries and territories included is available in Annex 2. The data were limited to aggregated and reported country-level data points. Therefore, indicators that may have been included in the initial data collection, such as those in a household survey, but were not aggregated and reported are excluded from this investigation.

It is important to note that this is an exploratory investigation and reflects only the data that is currently available in international databases. Micro-data and independent outputs from national statistical agencies were necessarily excluded from this investigation. As such, the information presented should be interpreted thoughtfully. Nonetheless, this investigation sheds light on a number of key questions:

- What content areas are well represented in existing data collection systems? Which are not?
- How does data availability differ between countries, regions, and World Bank income groups?
- Which countries are under-represented in international data repositories? Why?
- How does the frequency of reporting vary by content area and geographic region?

DATA AVAILABILITY AND REPORTING BY CONTENT AREA

The content areas that are best covered by existing data reflect the development priorities of the last decade. While gaps remain in MDG indicator coverage, the consensus around the MDGs proved to be a broadly unifying force for the statistical community and great improvements were made in the collection of relevant indicators. As the conversation has shifted in the lead up to 2015 from an explicit focus on poverty alleviation to a more holistic perspective of what it means to achieve sustainable development as a country, new gaps in data availability have emerged.

Table 1 provides an overview of the data availability and frequency for selected indicators put forth in the SDSN Indicator Report. Indicators are color-coded to reflect the percentage of countries with at least one reported data point for the indicator. Indicators in red demonstrate the lowest level of data availability, with less than one-third of countries reporting even a single data point for the indicator. In contrast, indicators in green have at least one data point in more than two-thirds of countries. For those indicators with at least one-third of countries represented, the reporting frequency is also provided.

There are several pronounced patterns presented in Table 1.

- MDG indicators or revised MDG indicators have a much higher level of data availability as compared to non-MDG indicators

- In particular, health indicators have a high level of data availability and a high reporting frequency as compared to other indicators
- Among the content areas with the lowest data availability are environmental and biodiversity indicators, urban-specific indicators, and governance indicators
- Indicators that cannot be collected through household or facility-based surveying are also under-represented in the available data
- There is significant variability in reporting frequency across indicators, and it does not appear to be correlated to a particular content area

Table 1: Data Availability and Reporting Frequency for Selected Indicators

PROPOSED GOAL	POTENTIAL ILLUSTRATIVE INDICATOR	AVERAGE REPORTING FREQUENCY
GOAL 01: End Extreme Poverty including Hunger	1a Proportion of population below \$1.25 (PPP) per day	3.71
	1b Prevalence of stunting in children under five years of age	5.37
	1b Proportion of population below minimum level of dietary energy consumption	1.01
	1c Refugees and internal displacement caused by conflict and violence	1.71
	1c Percent of UN Emergency Appeals and funds for UN Peacebuilding delivered	-
GOAL 02: Promote Economic Growth And Decent Jobs within Planetary Boundaries	2a GNI per capita (PPP, current US\$ Atlas method)	1.05
	2a Share of informal employment in total employment	-
	2a Aerosol optical depth (AOD)	-
	2a Consumption of ozone-depleting substances	1.16
	2c Met demand for family planning	8.84
	2c Contraceptive prevalence rate	5.30
GOAL 03: Ensure Effective Learning for All Children and Youth for Life and Livelihood	2c Total fertility rate	0.98
	3a Proportion of children receiving at least one year of a pre-primary education	1.38
	3b Primary completion rates for girls and boys	1.61
	3b Secondary completion rates for girls and boys	-
	3c Percentage of young people not in education, training or employment	-
GOAL 04: Achieve Gender Equality, Social Inclusion, and Human Rights	3c Tertiary enrollment rates for women and men	1.55
	4a Percentage of children under 5 whose birth is registered with a civil authority	13.92
	4a Compliance with recommendations from the Universal Periodic Review and UN Treaties	-
	4a Proportion of seats held by women and minorities in national parliament	1.73
	4a Ratification and implementation of key ILO labor standards and compliance in practice	-
	4b Gini Coefficient	4.37
	4c Prevalence of women 15-49 who have experienced physical or sexual violence by an intimate partner in the last 12 months	-
4c Violent injuries and deaths per 100,000 population	4.33	
GOAL 05: Achieve Health and Wellbeing at all Ages	4c Percentage of referred cases of sexual and gender-based violence against women and children that are investigated and sentenced	-
	5a Out-of-pocket expenditure on health as a % of total expenditure on health	1.23
	5a Percent of children receiving full immunization as recommended by WHO	1.06
	5b Neonatal, infant, and under-five mortality rates	1.06
	5b Maternal mortality ratio and rate	6.88
	5b Healthy life expectancy at birth	1.06
	5b HIV prevalence, treatment rate, and mortality	3.67
	5b Incidence and death rates associated with malaria	4.01
5b Incidence, prevalence, and death rates associated with TB	1.07	
5b Probability of dying between exact ages 30 and 70 from any of cardiovascular disease, cancer, diabetes, or chronic respiratory disease	8.36	

	5c Percent of population overweight and obese	10.40
	5c Current use of any tobacco product (age-standardized rate)	6.57
	5c Harmful use of alcohol	1.07
GOAL 06: Improve Agriculture Systems and Raise Rural Prosperity	6a Crop yield gap (actual yield as % of attainable yield)	-
	6a Crop nitrogen use efficiency (%)	-
	6b Annual change in forest area and land under cultivation	1.04
	6b Annual change in degraded or desertified arable land (% or ha)	-
	6c Percentage of rural population using basic drinking water	3.82
	6c Proportion of rural population using basic sanitation services	3.94
	6c Mobile broadband subscriptions per 100 inhabitants in rural areas	1.16
GOAL 07: Empower Inclusive, Productive and Resilient Cities	7a Percentage of urban population with incomes below national poverty line	5.06
	7a Proportion of urban population living in slums or informal settlements	11.89
	7b Percentage of urban population using basic drinking water	3.77
	7b Percentage of urban population using basic sanitation	3.86
	7b Proportion of urban households with weekly solid waste collection	-
	7b Proportion of urban households with access to reliable public transportation	-
	7b Mobile broadband subscriptions per 100 inhabitants in urban areas	1.16
	7c Mean urban air pollution of particulate matter (PM10 and PM2.5)	15.4
	7c Percentage of wastewater flows from point sources treated to national standards, by municipal and industrial source	-
	7c Urban green space per capita	-
	7c Losses from disasters in urban areas, by climatic and non-climatic events	-
GOAL 08: Curb human induced climate change and ensure sustainable energy	8a Share of the population with access to modern cooking solutions (%)	8.18
	8a Share of the population with access to reliable electricity (%)	11.28
	8a Availability of a transparent and detailed deep decarbonization strategy	-
	8a Total energy and industry-related GHG emissions by gas and sector (tCO2e).	2.97
	8a CO2 intensity of the power sector (gCO2 per kWh)	1.02
	8a CO2 intensity of the transport sector (gCO2/vkm)	1.01
	8b Net GHG emissions in the Agriculture, Forest and other Land Use	-
	8c Implicit incentives for low-carbon energy in the electricity sector	-
GOAL 09: Secure Biodiversity and Ensure Good Management of Water, Oceans, Forests and Natural Resources	9a Ocean Health Index (national index)	-
	9a Red List Index (by country and major species group)	-
	9a Area of forest under sustainable forest management as a percent of forest	-
	9b Ocean Health Index (regional index)	-
	9b Proportion of fish stocks within safe biological limits	-
	9b Red List Index (for Internationally Traded Species)	-
	9c Proportion of total water resources used	5.43
	9c Publication of resource-based contracts	-
	9c Publication of all payments made to governments under resource contracts	-
GOAL 10: Transform Governance and Technologies for Sustainable Development	10a Country implements and reports on System of Environmental-Economic Accounting (SEEA) accounts	-
	10a Perception of public sector corruption	-
	10a Assets and liabilities of BIS reporting banks in international tax havens	-
	10b Domestic revenues allocated to sustainable development as percent of GNI	-
	10b Official development assistance (ODA) and net private grants as percent of high-income country's GNI	1.05
	10b Official climate financing from developed countries that is incremental to ODA (in US\$)	-
	10b Percent of ODA, net private grants, and official climate finance channeled through priority pooled multilateral financing mechanisms	-
	10b Private net flows for sustainable development at market rates as share of high-income country GNI	-
	10c Researchers and technicians in R&D (per million people)	2.63

GEOGRAPHIC DISTRIBUTION OF DATA

Much in the way that content-specific data availability has reflected the development agenda over the past decade, the geographic distribution of data also demonstrates an alignment with the MDGs, including a pronounced focus on developing countries in the major international data repositories. Figure 1 and Figure 2 show data coverage and frequency of reporting, respectively, for the countries included in the investigation.

As demonstrated in Figure 1, developing countries actually outpace developed countries in coverage of the proposed indicators. Of the indicators proposed in the SDSN Indicator Report, the majority of sub-Saharan African countries have more than half already represented in their nationally reported statistics. In fact, of the 198 countries included in the investigation, Ghana has the most indicators with at least one data point reported, with 64% of the proposed indicators currently or previously collected.

In contrast, North America and Western Europe have relatively low coverage of the proposed indicators in international repositories as compared to sub-Saharan Africa, Latin America, and parts of Asia. However, it is likely that this can be attributed to a low level of reporting in international databases among developed countries, not necessarily to a failure to collect the given indicators.

Perhaps of greatest concern is the low overall coverage of the proposed indicators globally. On average, only 46% of the proposed indicators have been or are currently being collected, presenting a significant challenge to the international statistical community.

Figure 1: Percent of indicators with at least one data point reported in each country

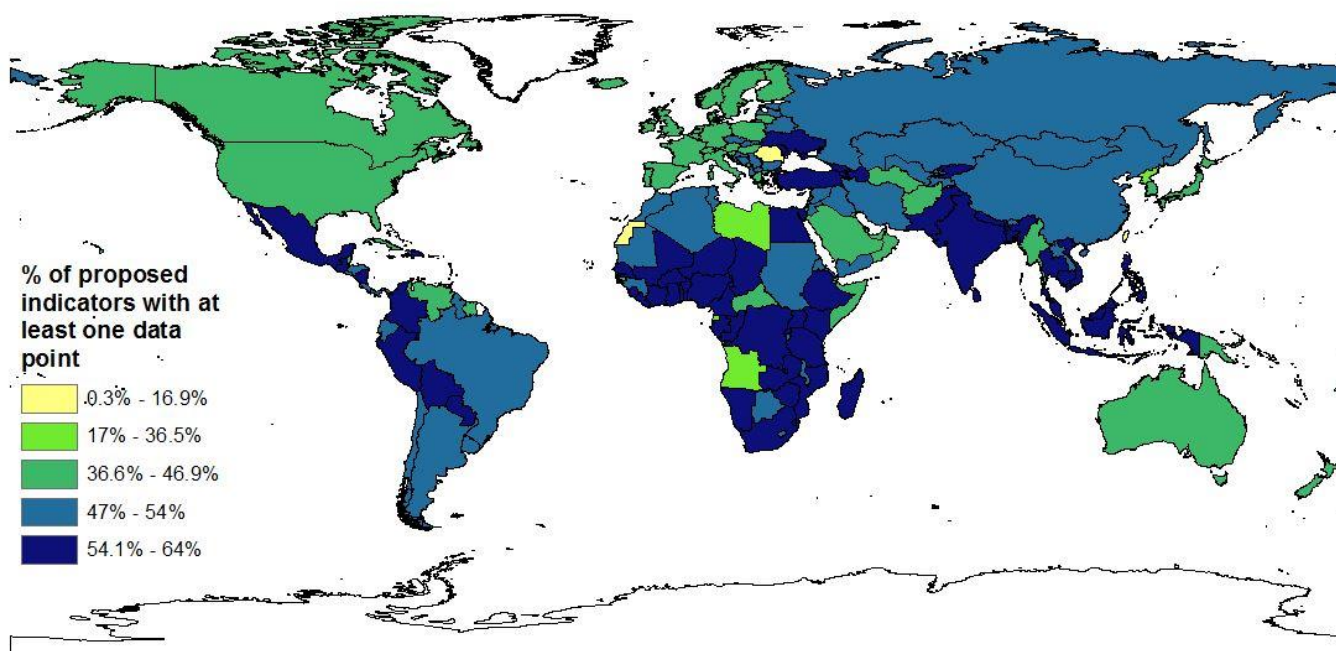
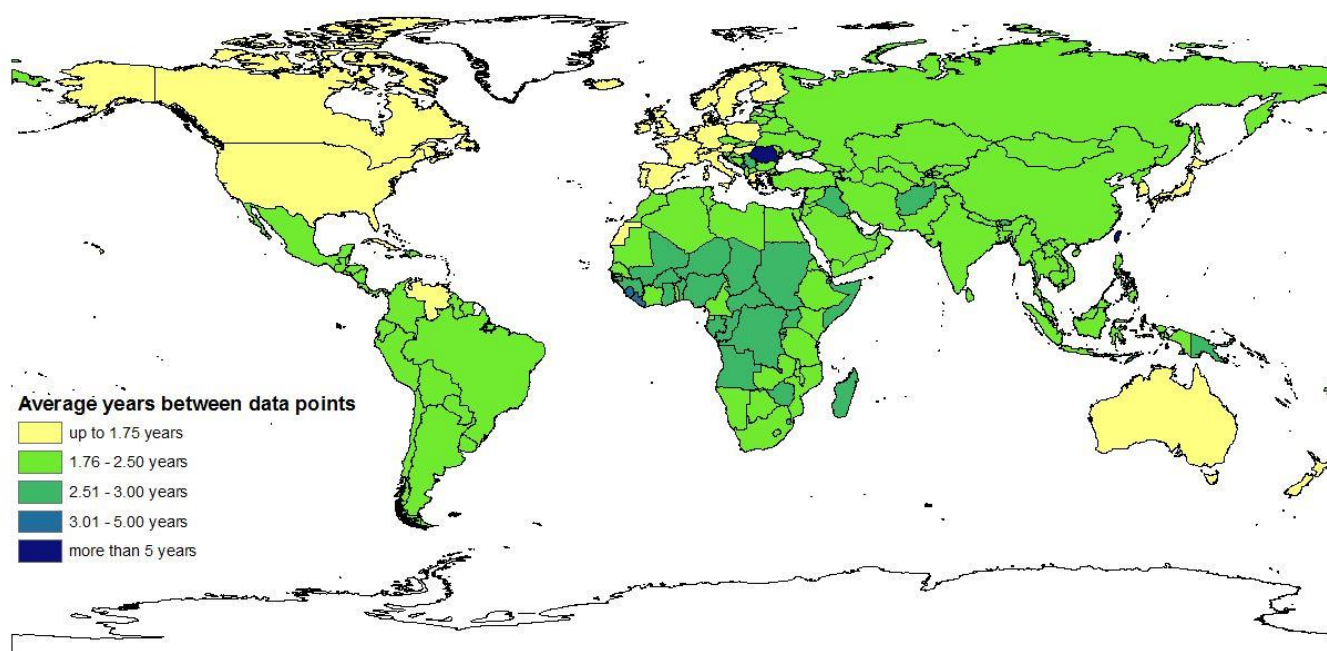


Figure 2 presents a slightly different picture; providing the mean lag in years between reported data points among the indicators that are collected in a given country. Whilst coverage of indicators is higher among developing countries, the frequency of data collection still favors the developed countries. It is important to note that this figure is not weighted by the number of indicators covered. Therefore, a country may collect data on a relatively small percentage of the proposed indicators, but it may do so at more regular intervals.

While the global average is 2.1 years between data points, with significant variation by indicator, North America and Western Europe lead the rest of the world, with averages well under two years for the indicators collected. At 2.6 years averaged between data points, sub-Saharan Africa ranks lowest in reporting frequency.

Figure 2: Average number of years between data points reported in each country



The same inverse relationship between data coverage and reporting frequency holds true across World Bank Income Groups (see Table 2). Higher income countries, particularly those that are non-OECD, have low relative data coverage but much lower lag time between data points. Conversely, low and lower-middle income countries demonstrate some of the highest levels of current data coverage, but have not been able to collect data with the same frequency as their higher-income counterparts.

Table 2: Average percentage of indicators represented and reporting frequency, by region and World Bank Income Group

	Average Percent of Indicators Represented in Reported Data	Average Reporting Frequency
REGION		
East Asia & Pacific	39.8%	2.35 years
Eastern Europe & Central Asia	47.7%	2.48 years
Latin America & Caribbean	46.8%	2.06 years
Middle East & North Africa	42.0%	2.05 years
North America	42.0%	1.69 years
South Asia	53.4%	2.43 years
Sub-Saharan Africa	52.1%	2.63 years
Western Europe	39.0%	1.81 years
WORLD BANK INCOME CLASSIFICATION		
High Income (OECD)	43.7%	1.70 years
High Income (non-OECD)	36.6%	2.02 years
Upper Middle Income	44.9%	2.42 years
Lower Middle Income	50.0%	2.38 years
Low Income	49.4%	2.60 years

CONCLUSION

The availability and coverage of indicators aligned with the MDGs shows the success of this agenda in improving overall data availability. Nevertheless, there are still sizeable data gaps, most notably on new issues likely to be measured under a broader post-2015 framework. As the discussion shifts from a poverty alleviation focus to a broader sustainable development focus and from an emphasis on developing countries to the active engagement of the entire world, the post-2015 goals and indicators and how they are collected need to similarly evolve. The MDGs galvanized the international statistical community around a fixed set of goals and indicators, resulting in a marked improvement in indicator availability, and a similar effort is needed in the lead up to 2015 to ensure continued improvement in data collection, reporting, and dissemination as well.

ANNEX 1: INTERNATIONAL DATA REPOSITORIES CONSULTED

World Bank World Development Indicators	http://data.worldbank.org/data-catalog/world-development-indicators
UNStats MDG Monitoring	http://mdgs.un.org/unsd/mdg/Default.aspx
FAO Stat	http://faostat.fao.org/
ILO Stat	http://www.ilo.org/ilostat
WHO Global Health Observatory	http://apps.who.int/gho/data/?theme=main
World Bank Financial Inclusion Database (Global Findex)	http://data.worldbank.org/data-catalog/financial_inclusion
DHS StatCompiler	http://www.statcompiler.com/
UNICEF Global Databases	http://www.unicef.org/statistics/index_countrystats.html
World Bank EdStats	http://data.worldbank.org/data-catalog/ed-stats
UNEP Environmental Data Explorer	http://geodata.grid.unep.ch/
UNICEF Child Info	http://www.childinfo.org/
World Bank GenderStats	http://data.worldbank.org/data-catalog/gender-statistics
World Bank Worldwide Governance Indicators	http://data.worldbank.org/data-catalog/worldwide-governance-indicators

ANNEX 2: COUNTRIES AND TERRITORIES INCLUDED

Data from a total of 198 countries and territories were included in the investigation.

Afghanistan	East Timor	Liechtenstein	Serbia
Albania	Ecuador	Lithuania	Seychelles
Algeria	Egypt	Luxembourg	Sierra Leone
Andorra	El Salvador	Macedonia	Singapore
Angola	Equatorial Guinea	Madagascar	Slovak Republic
Antigua and Barbuda	Eritrea	Malawi	Slovenia
Argentina	Estonia	Malaysia	Solomon Islands
Armenia	Ethiopia	Maldives	Somalia
Australia	Fiji	Mali	South Africa
Austria	Finland	Malta	South Sudan
Azerbaijan	France	Marshall Islands	Spain
The Bahamas	Gabon	Mauritania	Sri Lanka
Bahrain	The Gambia	Mauritius	State of Palestine
Bangladesh	Georgia	Mexico	St. Kitts and Nevis
Barbados	Germany	Micronesia	St. Lucia
Belarus	Ghana	Moldova	St. Vincent and the Grenadines
Belgium	Greece	Monaco	Sudan
Belize	Grenada	Mongolia	Sudan
Benin	Guatemala	Montenegro	Suriname
Bhutan	Guinea	Morocco	Swaziland
Bolivia	Guinea-Bissau	Mozambique	Sweden
Bosnia and Herzegovina	Guyana	Myanmar	Switzerland
Botswana	Haiti	Namibia	Syria
Brazil	Honduras	Nauru	Taiwan
Brunei	Hungary	Nepal	Tajikistan
Bulgaria	Iceland	Netherlands	Tanzania
Burkina Faso	India	New Zealand	Thailand
Burundi	Indonesia	Nicaragua	Togo
Cambodia	Iran	Niger	Tonga
Cameroon	Iraq	Nigeria	Trinidad and Tobago
Canada	Ireland	Norway	Tunisia
Cape Verde	Israel	Oman	Turkey
Central African Republic	Italy	Pakistan	Turkmenistan
Chad	Jamaica	Palau	Tuvalu
Chile	Japan	Panama	Uganda
China	Jordan	Papua New Guinea	Ukraine
Colombia	Kazakhstan	Paraguay	United Arab Emirates
Comoros	Kenya	Peru	United Kingdom
Democratic Republic of the Congo	Kiribati	Philippines	United States
Republic of the Congo	North Korea	Poland	Uruguay
Costa Rica	South Korea	Portugal	Uzbekistan
Cote d'Ivoire	Kosovo	Qatar	Vanuatu
Croatia	Kuwait	Romania	Venezuela
Cuba	Kyrgyz Republic	Russia	Vietnam
Cyprus	Laos	Rwanda	Western Sahara
Czech Republic	Latvia	Samoa	Yemen
Denmark	Lebanon	San Marino	Zambia
Djibouti	Lesotho	Sao Tome and Principe	Zimbabwe
Dominica	Liberia	Saudi Arabia	
Dominican Republic	Libya	Senegal	