

Data Revolution Background Document

Updated August 11, 2014

Note on document purpose: This document attempts to summarize current discussions surrounding the Data Revolution. This document is neither an official position of the Hewlett Foundation, nor a comprehensive summary of the relevant activities and discussions.

Acronyms

BMGF	Bill and Melinda Gates Foundation
CGD	Center for Global Development
CRVS	Civil registration and vital statistics
DFID	UK Department for International Development
DR	Data Revolution
DI	Development Initiatives
HLP	High-Level Panel
LSMS	Living Standards Measurement Study
MDG	Millennium Development Goal
NSO	National Statistics Office
ODI	Overseas Development Institute
OWG	Open Working Group
SDG	Sustainable Development Goal
USAID	United States Agency for International Development

Key Definitions

Big Data – Large unstructured datasets which are by-products of other processes,¹ including data from the following categories²:

- Data exhaust: digital traces of human activity (Cell phone records, financial transactions, etc.)
- Online activity (Google searches, Twitter, website mining such as news headline or prices)
- Sensing technologies (satellite data, personal sensors)
- Crowdsourcing (humanitarian reporting, active soliciting of feedback through participation applications)

Goals – High-level objectives in the post-2015 framework; i.e. “End Poverty” or “Ensure Healthy Lives”

Targets – Sub-categories under goals, i.e. “Ensure every child, regardless of circumstance, completes primary education able to read, write and count well enough to meet minimum learning standards” or “Increase by x% the proportion of children, adolescents, at-risk adults and older people that are fully vaccinated”

Indicators – Metrics selected determine the success of a country toward the target; i.e. “Proportion of 1-year olds immunized against measles” or “adolescent birth rate.”

Interoperability – the ability of different information technology systems and software applications to communicate, exchange data, and use the information that has been exchanged.³

¹ Hetan Shah, "Data Revolution: Why We Mustn't Blow It," Post2015.org What Comes after the MDGs (blog), April 10, 2014, <http://post2015.org/2014/04/10/data-revolution-why-we-mustnt-blow-it/>.

² Categories developed for the Data2X project

³ HIMSS *Dictionary of Healthcare Information Technology Terms, Acronyms and Organizations*, 2nd Edition, 2010, Appendix B, p. 190.

Machine-readable – Format of data in a standard computer language (not English text) that can be read automatically by a web browser or computer system.⁴

Open Data – Data that can be freely used, reused, and redistributed by anyone⁵

Post-2015 Agenda – The discussions surrounding the end of the MDG timeframe and the development of the new agenda

Post-2015 Framework – The set of goals, targets, and indicators that will be agreed upon by the UN General Assembly

Introduction

In July 2012, United Nations Secretary-General Ban Ki-moon announced the 27 members of a High-level Panel (HLP) to advise on the global development framework beyond 2015, the target date for the Millennium Development Goals (MDGs). In May 2013, the panel submitted a report containing recommendations for the post-2015 process, including sample goals, targets, and indicators. Additionally, the HLP called for a *Data Revolution* which would be a “new international initiative to improve the quality of statistics and information available to citizens.” In the brief description of the Data Revolution, the HLP suggests that data is an effective means to achieve greater accountability of government, corporation, and civil society. Further, the HLP calls for data in the post-2015 framework to be disaggregated by gender, geography, income, and disability as a way to ensure that “no one is left behind.”⁶

The concept of the Data Revolution was widely embraced and seemed to capture the imagination of many in the development community.⁷ Many stakeholders believe that a Data Revolution has the potential to greatly improve the availability and quality of data that can be used to track progress towards the post-2015 goals, make informed decisions, and enable civil society and citizens to hold their governments accountable. Important actors, including UN agencies, foundations, governments, bilateral organizations, and civil society organizations have begun to engage in debates related to the interpretation, implementation, and governance of a DR.

Current Discussions & Interpretations

The purpose, content and potential structure of the Data Revolution is being widely discussed and debated within the development community. Conversations and proposed activities fall into three main categories: **(1) addressing data gaps; (2) improving data quality; and (3) improving data use.** These categories are not formal elements of the DR, but rather provide some informal,

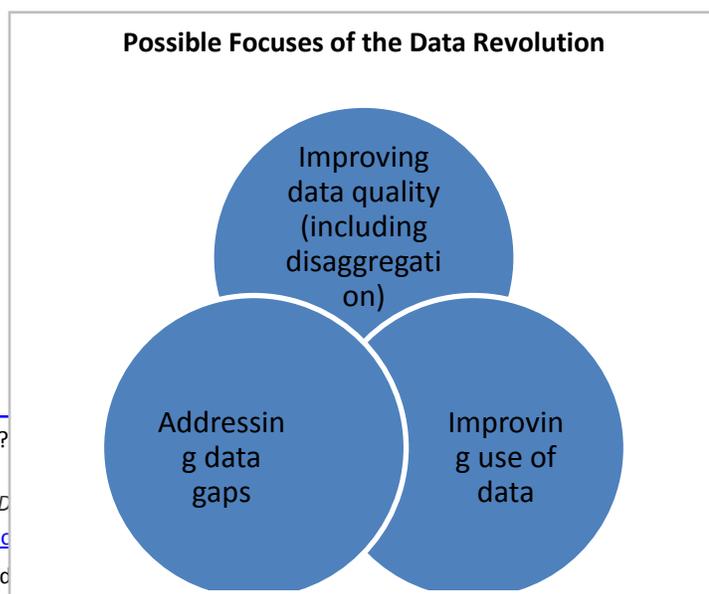
⁴ Overview of The Federal Performance Framework, 2013, p. 15.

http://www.whitehouse.gov/sites/default/files/omb/assets/a11_current

⁵ Open Knowledge Foundation, "What Is Open Data?" What Is Open Data? <http://opendatahandbook.org/en/what-is-open-data/>.

⁶ *The Report of the High-Level Panel of Eminent Persons on the Post-2015 Development Agenda* (United Nations Publications, 2013), pg. 23, <http://www.post2015hlp.org/the-report>

⁷ "Launch of a New Blog Series: What Kind of Data Revolution Do We Need for Post-2015?" <http://post2015.org/2013/11/05/launch-of-a-new-blog-series-what-kind-of-data-revolution-do-we-need-for-post-2015/>.



basic structure for understanding the conversation. The following summarizes some of the major interpretations, as well as key meetings and statements, using the above categories as a guide.⁸

(1) Addressing Data Gaps

Many of the interpretations of and discussions around the Data Revolution center on collecting more data (increased *quantity* of data) targeted for specific purposes. In some instances, the focus on increasing the quantity of data implies the use of non-traditional data collection methods.

Data for the Post-2015 Framework

The direct link between the post-2015 process and the Data Revolution is the development of a large-scale data collection process. One proposed method of post-2015 data monitoring would be a large-scale survey to monitor countries' progress against the to-be-identified post-2015 framework goals, targets, and indicators. This suggestion focuses on how progress against the post-2015 framework could include comparable, nationally representative data and enough resolution to permit disaggregation by gender, geography, etc. One specific possibility is the development of a 2015 baseline, which would allow national and global institutions to measure progress. During the World Bank/IMF spring meetings, DFID Director General Nick Dyer highlighted the need for a good 2015 baseline; further, Sabina Alkire, the Director of the Oxford Poverty and Human Development Initiative (OPHI) has written about the need and potential design of a post-2015 household survey.⁹ There is some disagreement on the level of geographic specificity that should be collected. Some, such as AidData Co-Executive Director Brad Parks, are advocating for hyper-local data that will provide details within countries,¹⁰ while others, such as the World Bank, are advocating for data that can be most easily compared among countries. Additionally, CIVICUS is launching the Big Development DataShift with an accompanying 'big development dashboard' to help citizens monitor progress and ensure compatibility among citizen-generated data.¹¹

Data Disaggregation

There is significant interest in ensuring that data is better disaggregated by gender, as well as other categories such as geography, income, or disability. The High-Level Panel report included specific reference to data disaggregation as a key tool to ensure that "no one is left behind" within the post-2015 process. Many actors are already working to address this concern as part of the post-2015 discussions and in broader discussions around the DR. For example, Data2X is working to address gender data gaps through data collection in specific areas that relate to women, as well as better disaggregation of data that is being collected.¹²

Utilizing New Technology to Collect More Data at Lower Cost

Homi Kharas, one of the authors of the High-Level Panel report, has suggested during several events that the Data Revolution should allow for collection of big data using methods that could be categorized as data exhaust or crowdsourcing categories. David Roodman, a freelance policy consultant, describes

⁸ Few other frameworks and categories have been proposed. One useful example is from David Roodman's blog post, "Interpreting the Data Revolution: Proceed with Caution (Part 1)" <http://post2015.org/2014/04/03/interpreting-the-data-revolution-proceed-with-caution-part-1/>

⁹ Sabina Alkire, "A New Household Survey to Catalyse the Data Revolution," *Post2015.org* November 21, 2013, <http://post2015.org/2013/11/21/a-new-household-survey-to-catalyse-the-data-revolution/>.

¹⁰ Brad Parks, "Do We Need a Data Revolution or an Accountability Revolution?," *Aid Data Beta* March 4, 2014, <http://aiddata.org/blog/do-we-need-a-data-revolution-or-an-accountability-revolution-4>.

¹¹ "The Big Development Datashift" CIVICUS, accessed April 21, 2014, <http://civicus.org/thedatashift/>

¹² "Data2X," United Nations Foundation, accessed April 21, 2014, <http://www.unfoundation.org/what-we-do/issues/women-and-population/data2x.html>.

this as, “exploiting new technological possibilities for monitoring impacts, outcomes, and states of poverty, through mobile phones, smart cards, and other technologies.”¹³ Haishan Fu from the World Bank also has highlighted the World Bank’s new initiative aimed at collecting Living Standards Measurement Study (LSMS) data.

(2) Improving Data Quality

Recognizing chronic shortcomings in data systems in low-resource settings, another school of thought within the Data Revolution discussions focuses on improving the quality of data that is collected, including the processes for collecting data. DFID Director General Nick Dyer has specifically called for less, better data to be collected.

Increasing Capacity of National Statistics Offices

One potential mechanism for improving data quality is the strengthening of National Statistics Offices (NSOs), described by David Roodman as “building up the domestic institutions that collect most statistics on human development.”¹⁴ Assistant Secretary General of the UN, Jan Eliasson, has specifically called for increased funding for national statistics offices. Many papers, including a report from the Center for Global Development’s Data for African Development Working Group,¹⁵ have called for increased funding for national statistic offices and domestic civil societies who are already collecting data, but require capacity support. Key actors including the UN System Task Team on the Post-2015 UN Development Agenda has exhibited renewed interest in civil registration and vital statistics (CRVS), who posited that “civil registration systems are a basic component of good governance and are essential for the production of vital statistics.”¹⁶ Rolf Luyendijk, a Senior Statistics and Monitoring Specialist in the UNICEF Data and Analytics Section, among others, have cautioned against the Data Revolution becoming top-down, emphasizing the need for this type of national focus. Further, PARIS21 is leading current efforts to support National Statistics Offices through targeted programs, as well as carrying out stock-taking to determine the potential scope of Data Revolution at country level.¹⁷

(3) Improving and Expanding Use of Data

These discussions on improving and expanding the uses of data center on both data access and use. This includes efforts to allow those outside the official statistics infrastructure, such as citizens and civil society, to take advantage of government data.

Using Data for Accountability

Within the post-2015 agenda discussions, advocacy groups are promoting a target or goal around access to data. These discussions mainly focus on governments providing financial and revenue data to its citizens as a way to curb corruption and/or increase the responsiveness of governments to citizens’ needs. Further, those promoting open data for argue that this will lead to greater accountability in achieving the post-2015 goals and targets as more accountability-focused groups will be able to make

¹³ David Roodman, "Interpreting the Data Revolution: Proceed with Caution (Part 1)," *Post2015.org* April 3, 2014, <http://post2015.org/2014/04/03/interpreting-the-data-revolution-proceed-with-caution-part-1/>.

¹⁴ *Ibid*

¹⁵ "Data for African Development," Center For Global Development, accessed April 21, 2014, <http://www.cgdev.org/page/data-african-development>.

¹⁶ *Statistics and Indicators for the Post-2015 Development Agenda*, report, Page. iv, http://www.un.org/en/development/desa/policy/untaskteam_undf/them_tp2.shtml.

¹⁷ "Post-2015: What Has Statistics Got to Do with It? (PARIS21 SPRING 2013 NEWSLETTER)," Partnership in Statistics for Development in the 21st Century, <http://www.paris21.org/node/1558>.

use of the data made available. One example of work in this area is The Engine Room, which uses and generates research on the best uses of data resources and technology for data-driven advocacy.¹⁸

Increasing Access to Data

Building on significant momentum around Open Data, other discussions within the Data Revolution focus on Open Data in the context of the G8 Open Data Charter. Under the Charter, government data is considered a public good that should be available for use by all to hold governments to account, as well as for other purposes. At consultative events, DFID Director General Nick Dyer, as well as Assistant Secretary General of the UN, Jan Eliasson, called for Open Data as an ultimate goal of the DR. Organizations such as Open Data Watch and Global Open Data Initiative are currently working to promote open data and to support open data startups around the world. The UN Statistical Commission also hosted an event on “Managing the DR,” focusing on the collaboration of governments and private sector partners to best open data sources for mutual and public use.

Who will lead the Data Revolution and how?

Part of the Data Revolution discussion refers to a “Global Partnership for Development Data.” Molly Elgin-Cossart, a Senior Fellow at the Center for American Progress and one of the HLP report authors, has provided some extensive commentary on the potential structure and purpose of the Partnership. Elgin-Cossart has suggested that the Partnership could take one of several structures, including: a single agency with a broad representative board; a network of partners supported by a small but nimble support team; a hub of thematic partnerships (e.g., education, food security) with data mainstreamed into each respective partnership; or a loose network united by common branding, objectives.¹⁹

Possible guiding principles for the DR

Several existing statements could serve as guiding principles for the DR. The Open Data Charter serves as one basis for the Data Revolution. The Open Data Charter highlights the importance of open data for government transparency and accountability.²⁰ The Charter includes five Principles:

1. Open data by Default – open data has a positive value to society and the economy and governments should publish data publically by default.
2. Quality and Quantity – high quality data is important, and governments should collaborate to ensure quality data is available
3. Usable by All – Governments must release data in a way that can be used and understood by all
4. Releasing Data for Improved Governance -- the release of open data at national and international level strengthens democratic institutions and encourages better policy-making
5. Releasing Data for Innovation – the more users of the data, the greater the social and economic benefits

In her summary of the possible design for a Global Partnership, Molly Elgin-Cossart has also provided a set of proposed principles, which are:

1. Support evidence-driven policymaking and accountability

¹⁸ The Engine Room, accessed April 21, 2014, <https://www.theengineroom.org/>.

¹⁹ Molly Elgin-Cossart, "Better Together: A Partnership for the Data Revolution [Part I]," *Post2015.org* November 15, 2014, <http://post2015.org/2013/11/14/better-together-a-partnership-for-the-data-revolution-part-i/>.

²⁰ *G8 Open Data Charter and Technical Annex*, Policy Paper, June 2013, <https://www.gov.uk/government/publications/open-data-charter/g8-open-data-charter-and-technical-annex>.

2. Inclusive participation from the public, stakeholders and policymakers
3. Encourage entrepreneurship and innovation
4. Support new and effective partnerships
5. Seek to develop a generation with the access, knowledge, and power to use data as a tool for advocacy and change.
6. Unlock value and increase impact through analysis of open data
7. Champion local and national ownership
8. Mobilize and sustain diverse financial resource from diverse sources targeting the most pressing needs

In addition, among the many commentaries about the Data Revolution (captured in the ODI post2015 blog), data specialists have proposed principles or cross-cutting priorities, including gender-sensitive data collection, interoperability, and attention to individual privacy.

Data Revolution Implications for the post-2015 Framework

Many of the interpretations above imply the need for broad changes to the way governments, international agencies, and other actors will work. A few also focus on concrete actions related in specific ways to the post-2015 development agenda. The following lists some potential implications of the Data Revolution for the framework:

a) **An open data Goal in the framework**

A goal would be the highest-level focus on open data. One proposed goal (from a paper by Development Initiatives, Global Witness, and the International Budget Partnership) is worded as “Increase access to and use of information to accelerate sustainable development (including information on budget, fiscal, natural and domestic resource),” with targets on right to information, transparency of government financial information, and universal access to mobile phone and internet coverage, among others.

b) **A Target related to open data under a governance/transparency goal**

An alternative outcome would be an open data target under a broader governance goal. The current set of Sustainable Development Goals, which is a current negotiated draft set of goals and targets for the post-2015 framework, includes the following target: “by 2020, enhance capacity building support to developing countries, including for LDCs and SIDS, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts.”²¹

c) **Gender (and income, ethnicity, age) disaggregated indicators**

Many advocacy groups are suggesting that the post-2015 framework should include indicators that are disaggregated by gender. This would encourage those monitoring progress against the post-2015 goals to measure data by gender, allowing them to see if men and women are benefiting equally from development efforts. Other advocacy groups are further suggesting that indicators be disaggregated by other categories, such as income, ethnicity, or age, which would provide additional information on those who are benefitting. *For example: Proportion of population below \$1 PPP per day (by gender, age...)*

²¹ "Outcome Document. Sustainable Development Knowledge Platform," July 20, 2014, <http://sustainabledevelopment.un.org/focussdgs.html>.

d) Better and more measurable indicators

Many groups (including the HLP) are calling for indicators that are better able to measure progress. The HLP describes this as a need for the post-2015 framework to “Be measurable, using credible and internationally comparable indicators, metrics and data, and subject to monitoring.” The Centre for Policy Dialogue and the North-South Institute through the Southern Voice Network are exploring the measurability of proposed targets so far, given the data that exists in six countries, including Canada.²² Additionally, Sustainable Development Solutions Network has published a report that identifies possible indicators that can map to the goals and targets in the OWG outcome document.²³

Issues that Require Further Exploration

In addition to the extensive discussions and debates within the DR, there are still a series of topics that require further discussion.²⁴ These issues mainly center on (1) the architecture of the Data Revolution and (2) the best methods of data use.

(1) Architecture of the DR

- How do global partners ensure that developing countries have strong ownership of the Data Revolution and shape its design?
- What is the best structure for a Global Partnership?
- How do global partners develop a governance structure for the Data Revolution that demonstrates broad acceptance of the idea while still allowing it to be “revolutionary?”
- Who and what sectors and groups of people will be included in data collection efforts? How does the Data Revolution address issues of inclusion and exclusion?

(2) Making sure data is used appropriately

- How should Big Data be addressed and used within the Data Revolution?
- How will the Data Revolution address data ethics and privacy concerns?
- How will the Data Revolution address the political nature of data?
- What are additional uses of data, including evidence-informed policymaking and academic research including evaluation?
- How can we best use the data that already exists so that we can focus our collection efforts on the data that doesn’t currently exist?
- Who provides checks and balances on public or private sector data collection and analysis?

Resources and Further Reading

Position papers/response reports

High Level Panel report:

<http://www.post2015hlp.org/the-report/>

Summary on the Data Revolution from the HLP:

<http://www.post2015hlp.org/wp-content/uploads/2013/08/What-is-the-Data-Revolution.pdf>

²² The Post-2015 Data Test, accessed April 21, 2014. <http://www.post2015datatest.com/>

²³ Indicators and a Monitoring Framework for Sustainable Development Goals, report, July 25, 2014, <http://unsdsn.org/wp-content/uploads/2014/07/140724-Indicator-working-draft.pdf>.

²⁴ The team has compiled this list from debates during Data Revolution meetings, online forums, and in-person discussions on the most common areas of debate.

Mexico Communiqué: The third draft of the Mexico Communiqué now has reference to the Data Revolution (paragraph 37):

<http://effectivecooperation.org/wordpress/wp-content/uploads/2014/04/ThirdDraftoftheMexicoHLMcommuniqué.pdf>

HLP Response by UN Global Pulse:

<http://unglobalpulse.org/HLP-data-revolution>

Managing the Data Revolution, report by the UN Statistical Commission:

<http://unstats.un.org/unsd/trade/events/2014/unsc/data-revolution.asp>

MOU between the UN, World Bank, IMF, African Development Bank, Asian Development Bank, and the Inter-American Development Bank on the post-2015 agenda and DR:

<https://blogs.worldbank.org/opendata/multilaterals-join-forces-data-post-2015-agenda>

“Now for the Long Term,” proposal for global coordination of statistics by the Oxford Martin School:

http://www.oxfordmartin.ox.ac.uk/downloads/commission/Oxford_Martin_Now_for_the_Long_Term.pdf

PARIS21 Discussion Papers: <http://paris21.org/library/discussion-papers>

Delivering on the Data Revolution in Sub-Saharan Africa, Report of the Data for African Development Working Group: <http://www.cgdev.org/page/data-african-development>

Blog posts

Blog series on “What kind of Data Revolution do we need for post-2015?” with a broad variety of positions:

<http://post2015.org/2013/11/05/launch-of-a-new-blog-series-what-kind-of-data-revolution-do-we-need-for-post-2015/>

“Donors and a Data Revolution” by Amanda Glassman, CGD, focusing on funding for statistics in developing countries:

<http://www.cgdev.org/blog/donors-and-data-revolution>

“A Data Revolution” of the People, by the People, and for the People – Not Just for Advocates” by Mead Over, CGD:

<http://www.cgdev.org/blog/data-revolution-people-people-and-people-not-just-advocates>

“An open Data Revolution, but what's next?” by Roy Trivedy UN Resident Coordinator/Representative at Papua New Guinea at UNDP, Mike Battcock Civil Society Department, DFID, posted by Oxfam:

<http://policy-practice.oxfam.org.uk/blog/2013/12/open-data-revolution>

“A Data Revolution to end poverty?” by Kenneth Okwaroh, Development Initiatives:

<http://devinit.org/data-revolution-end-poverty/>

“A Data Revolution for the post-2015 Agenda?” by Homi Kharas, Brookings Institution:

<http://blogs.worldbank.org/futuredevelopment/data-revolution-post-2015-agenda>

“Engineering the Data Revolution,” PARIS21:

<http://www.paris21.org/newsletter/fall2013/engineering-data-revolution>

Recent Meetings of Note

UN Statistical Commission on “Managing the Data Revolution”:
<http://unstats.un.org/unsd/trade/events/2014/unsc/data-revolution.asp>

PARIS21 Event “Engineering the Data Revolution”:
<http://eudevdays.eu/topics/engineering-data-revolution>,

World Bank/IMF Spring Meetings on “Talking About Data Revolution”: <http://live.worldbank.org/talking-about-a-data-revolution>

CGD “The Why, What, and How of a Development Data Revolution”:
<http://www.cgdev.org/event/why-what-and-how-development-data-revolution>

UNDP, “Dialogue: Data and Accountability for the Post-2015 Development”
<http://www.worldwewant2015.org/Data-Accountability2015>

World Bank, “The Data Revolution is Here - How is Open Data Changing the Private Sector?”
<http://live.worldbank.org/open-data-revolution>

Development Initiatives and the Office of the Mexican President, dinner at the First High-Level Meeting of Global Partnership for Effective Development Cooperation in Mexico.

IATI, OECD and the Office of the President of Mexico, “*Delivering development results through good governance, transparency and effective institutions: Open Government, civic engagement and open data as enablers of development goals*” <http://effectivecooperation.org/wordpress/wp-content/uploads/2014/04/Focus-Session-18-Delivering-through-good-governance-transparency.pdf>

PARIS21 Informing the Data Revolution Asia-Pacific Regional Workshop:
<http://www.paris21.org/event/IDR-Asia-Pacific-Workshop>

Towards a Strategy for the Data Revolution: Outcomes from the July 11-12 Experts’ Workshop:
<http://post2015.files.wordpress.com/2014/07/data-revolution-expert-workshop-outcome-document1.pdf>