

025

Donors and investors

Fernando Perini and Michael Jarvis

Key points

- Open data programming and funding is becoming more mainstreamed across sectors, but progress is uneven. Many donors have focused particularly on open data for anti-corruption initiatives, journalism and media, national statistics, extractives, international aid and disaster relief, government finance, and agriculture.
- Open data has become a global and diverse movement. Investments in open data have happened on multiple continents, targeting a variety of stakeholders, but more should be done to make their collective impact more coherent.
- A global infrastructure to support a somewhat fragmented open data community has begun to emerge, including elements of a global agenda, coordinated investment mechanisms, measurement, and global and regional events.
- There is a need for substantial new and joint investments among open data funders, and donors in general, especially to meet cross-cutting needs that are hard for any one project, organisation, or donor to address alone.

Introduction

Ever since government and civil society actors first started calling for greater openness in government data, donors have played an important role in supporting the expansion of the open data community. They have helped to convene a multiplicity of actors to explore how best to produce, publish, and use open data, and their contributions have provided seed funding for entrepreneurs to test the waters with riskier and more innovative initiatives. Some have even opened their own data and championed open data as part of government reforms. Donors have commissioned and supported research on open data that has helped to articulate emerging outcomes around the world and have supported the case for future investment, as well as more coordination among the range of donors interested in the advancement of open data.



That said, we should not overestimate the importance of donors. Public and private donors represent just one part of the financing ecosystem for open data. For-profit actors, governments, and civil society groups investing their own resources have been critical in scaling open data applications around the world. Nonetheless, donors can and must play a key role where there is a lack of incentive for the private sector to provide investment, most notably, in providing support for the development of public goods that often underpin open data impacts. This might include supporting standards development to enable interoperability and investing in the necessary guidance on how to use and manage open data to maximise its public use and value.

As the open data movement emerges from its first decade, it is an appropriate time to assess whether donors' contributions, using their money and influence, have succeeded in building a more resilient, inclusive, and coherent global open data movement. To that end, this chapter reflects on the role that international donors have played as stakeholders in developing the global open data ecosystem. Donors are frequently considered external actors to any cause, taking rational investment decisions based on clear evidence of impact. However, when we look back at the nascent open data movement, the causal relationship between open data and its intended benefits has rarely been well-defined, taking on instead what Weinstein and Goldstein have categorised as a "big tent approach".¹ What constitutes success is often only broadly articulated and evidence of impact is usually scarce. Donors have, therefore, had to take more of a leap of faith on the potential impact of open data when they invest in its many different agendas.

In order to substantiate this reflection, we have made a preliminary attempt to map the social network of donors supporting open data within specific communities or sectors. In addition to their financial resources, donors may also operate as knowledge brokers and connectors within sectors. Digging into this donor "view of the world" can also be useful in identifying some of the perceived achievements and challenges that may affect the broader community. Accordingly, we have extracted some lessons learned from several recent reports, as well as discussions with and among donors, in order to identify some of the challenges faced by donors and explore the potential for motivating ongoing support moving forward.

This chapter focuses on both public and philanthropic donors, particularly those that are internationally active (perhaps overly reflective of the missions of the authors' own institutions, an international development research organisation and a donor collaborative that prioritises effective data use).² This chapter does not attempt to cover the whole ecosystem of open data investment nor the data publishing activities of donors themselves.³

What are public goods that merit donor support and investment?

There is much talk currently of data infrastructure and the potential for confusion over terminology. For the purposes of this chapter, data infrastructure refers to "public goods" that would enable quality data to be easily shared, combined, and accessed by different users (see also Chapter 18: Data infrastructure). In particular, we refer to elements of data infrastructure that could and should be the focus of donor support and investment.

The International Open Data Roadmap, the result of a community collaboration at previous International Open Data Conferences in 2015 and 2016 highlights many calls for action in the development of a global infrastructure.^{4,5} Examples include:

- Development of norms and data standards and their support systems, such as the reconciliation of organisational identifiers and open source data cleaning tools.
- Innovative solutions and research on the state of open data, such as the Open Data Barometer and the Open Data Index.
- Capacity-building activities in government and civil society, particularly in less developed economies, where the capacity for long-term investments is smaller and building initial human and social capital is crucial to sparking change.

Investment in these foundational activities for effective data use may not generate sufficient revenue to attract private sector investment; therefore, public and philanthropic investments are needed to help build a more robust and open data ecosystem.

Exploring the network of funding and support

There is no comprehensive way to track all funding for open data initiatives. As just one small element of the investments made by government, not-for-profits, or the private sector, it is likely that most of the support for open data initiatives is invisible to traditional official indicators and international mechanisms that track funding. In recent analyses related to “data for development”, such as the Organisation for Economic Co-operation and Development’s (OECD) 2017 *Data for development* report⁶ and the Global Partnership for Sustainable Development Data’s (GPSDD) 2016 report on the state of development data funding,⁷ investment in open data is acknowledged, but it is impossible to disentangle it from broader investments in statistical capacity building, information and communications technology (ICT), innovation, open science, and other categories. Investment “bundling” limits our understanding of which investments are dedicated specifically to open data efforts.

However, there are a few select tools to draw on that offer some useful detail. For example, grants data published to the 360Giving Standard can be searched by keyword. A search in the GrantNav database using the keywords “open data” reveals 51 grants provided by eight different funders based in the United Kingdom.⁸ A search using the same keywords on the International Aid Transparency Initiative (IATI) database identifies 360 projects from 52 publishers.⁹ However, it is unclear how many of these projects are explicitly open data projects or if they simply include “open data” in filenames or boilerplate text. As an investment in open data is not considered an explicit development area by the OECD or IATI, it is hard to track the amount invested in open data as part of larger investments. Digging into the data does highlight the different ways donors associate projects with open data, although the subset of real open data projects may be under one hundred records.

Thus, given the limited availability of quality data on open data investment, we turned to the environmental scans developed for each of the chapters in the State of Open Data project to try

to understand how donors support the global open data community. These environmental scans have identified key funders for each sector, region, and stakeholder group. We have used this input, corrected the underlying data to create Figure 1, and complemented the analysis with interviews with key actors, a qualitative review of available IATI data, a review of recent programme evaluations, and a review of the initial drafts of other chapters in this book.

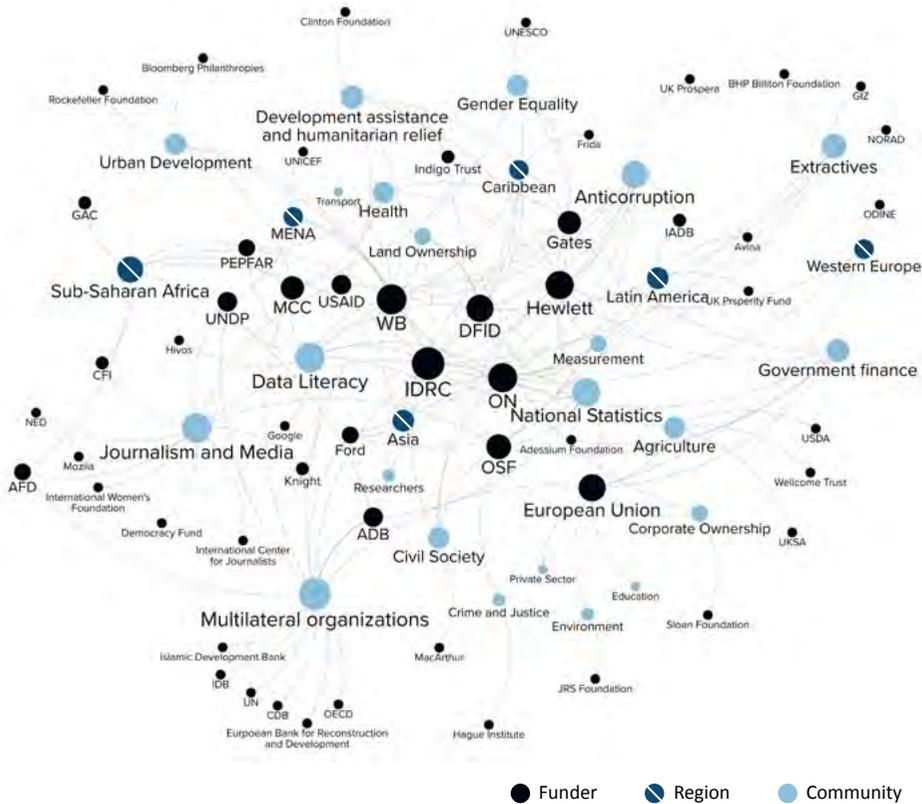


Figure 1: Network analysis based on State of Open Data environmental scans
 Note: The graph above illustrates thematic areas, related funders, and the links between them identified by an analysis of State of Open Data environment scans.¹⁰

This approach builds on snowball sampling methodology¹¹ frequently used in social network analysis. While this may still be a limited view, this type of network topology can help to understand the community, offering some insight into the complex relationship dynamics in an emerging field. There are some limitations to this approach. For example, it does not provide information on the intensity (i.e. total dollar amounts) of the investment made. Thus, donors that make small investments in many sectors and regions are more likely to be central (more networked) than donors that make larger investments in specific countries or issue areas. The International Development Research Centre (IDRC) is an example of the first type of donor. The Millennium Challenge Corporation collaboration with the President's Emergency Plan for AIDS Relief (MCC-PEPFAR), a USD 21.8 million partnership that created the Data Collaboratives for

Local Impact programme, is an example of the latter. The analysis shown in Figure 1 offers only a partial view of the funding commitments made over the last decade, not a dynamic view of what is currently in play today. It does not tell us what constitutes core funding support to organisations or about project-specific funding. Being able to gauge core funding amounts would be useful in assessing the flexibility that open data-focused organisations might have in directing resources toward changing or evolving priorities.

So what can this network analysis tell us about resilience, diversity, and coherence within the open data ecosystem? Three key areas of insight are outlined below.

Assessing the ecosystem: Potential metrics

How can we assess resilience, diversity, and coherence of the open data ecosystem? In developing the analysis in this chapter, we have drawn upon the following outline metrics:

- Resilience – an increase in the number of donors contributes to the resilience of a specific community.
- Diversity – a diverse data ecosystem requires donors supporting different types of stakeholders and communities in different regions.
- Coherence – the presence of central actors (donors and organisations with more connections) and established coordination mechanisms.

Resilience: Open data is becoming more mainstreamed into key sectors

Figure 1 shows a total of 55 donors funding 28 different communities of practice in the open data space. Funding covers a range of open data-related issues from standards development and capacity building by both government and civil society to work on strengthening ICT and data systems.

The network analysis shows that there have been some core players funding the open data community and ecosystem, including basic infrastructure and practice; however, there is also a growing list of new donors supporting open data as part of their specific sector programming. This is a positive sign in terms of creating a more sustainable financing base for open data.

If we hypothesise that a diversity of donors increases the resilience of a specific community at the international level, we can group the sectors according to three categories: low resilience (less than three donors), medium (three to five donors), and high resilience (more than five donors).

- The first group, with less than three donors, includes crime and justice, environment, education, and transport. Some communities could not identify any international donor support, as is the case of open data for Indigenous communities. While there are a range of examples and cases in these sectors, we could argue that donor support for these topics remains relatively weak.



- The communities working on open data in relation to gender equality, health, urban development, and corporate ownership were able to identify between three and five donors. Potentially, these sectors could be seen as emerging communities in the open data movement. Their modest but growing presence in international events, such as the International Open Data Conferences in Madrid and Buenos Aires, would support this claim.
- The sectors which could identify more than five donors include open data for anti-corruption, journalism and media, national statistics, extractives, international aid and disaster relief, government finance, and agriculture. As can be observed in international events and in the related chapters in this publication, these open data communities also tend to have better articulated priorities, existing or emerging standards, stronger community coalitions, and more evidence to date of effective results.

Across these different groups, there is much that donors and communities could learn about how to better mainstream open data into the different sectors, how progress has been achieved, and how it can be sustained. There is no question that many communities have developed specific partnerships and alliances to catalyse social change which are, in turn, more successful in attracting multiple donors (e.g. the Global Open Data for Agriculture and Nutrition (GODAN) and Open Contracting Partnership (OCP) networks).

Diversity: Open data is an increasingly global and diverse movement

In order to examine whether donors have supported open data with a specific emphasis on inclusiveness, we explored two dimensions: geographic presence and programmatic modalities.

There is some indication that there are emerging patterns for how donors and communities operate within the different global regions with at least three donors in each region and up to seven in Sub-Saharan Africa. Open data activities may target evidence-based policy-making to advanced democratic governance, economic development, and other objectives specific to particular sectors. This has allowed local, national, and regional open data communities to emerge with different priorities in order to serve multiple agendas and simultaneously adjust to cultural differences.

The data also indicates that there is a range of donors focusing on specific stakeholders. Many donors, particularly multilateral organisations, tend to target governments. Others focus on civil society organisations and broader data literacy efforts. A smaller number of donors fund researchers and standards development or have an explicit interest in private sector activities.

Preferences for funding particular stakeholders often align with donor modalities. Multilateral and bilateral donors are set up specifically to provide support to governments. Private philanthropic organisations are best structured to support civil society directly. All have ways to support specific research agendas. Finding ways to leverage the comparative advantages of different donors is important in considering the sustainability needs of the open data ecosystem as a whole.

While the overall picture may sound positive, it is important to note that there are plenty of blind spots and gaps in support in terms of geographies, themes, and sectors, reflecting the fact that donors have specific preferences and constraints in terms of the types of actors and modalities needed to deliver their particular programmes. For instance, some multilateral organisations have specific constraints related to time-bound support to governments in low-income countries. Too many development projects require longer-term support, leading to investment cycles, which cannot be sustained by one investor. The past decade has seen more than its fair share of funded initiatives that failed to gain traction, often leaving behind “white elephant” data portals which cannot be maintained or supported locally. Also, a focus on the creation of new global organisations has led to greater fragmentation within the broader open data community. Northern-based organisations have been involved in many donor-supported activities in the Global South, but, in most cases, the global expansion efforts of Northern open data organisations have failed to sustain long-term engagement in developing countries.

Like other funded movements, the open data field has not been immune to the effects of donor-skewed priorities and the potential duplication of efforts. Yet, there is still the potential to find smarter approaches. Clearly, lone actors cannot support the needs of the entire open data value chain. Therefore, rather than devolving toward a simplistic supply versus demand-side framing, there is a growing recognition that investment needs to be coordinated to create functioning data ecosystems.^{12,13} Donors need to understand how open data interacts with contextual variables and be able to adjust their decision-making processes to specific sectors or regional settings.¹⁴

As the sector matures, funders, alongside other stakeholders, will play an important role in “connecting the dots” and even exploring what kind of consolidation might be useful and/or practical. They will also seek to clarify comparative advantages among different stakeholders focused on open data efforts. Leading open data and governance data groups began one such exercise in spring 2018 with support of the Hewlett Foundation and the Transparency and Accountability Initiative (TAI). Better coordination could increase effectiveness and free up donor funds to focus on those areas for which there is no market alternative, but which are still vital to the open data ecosystem.

Coherence: Key elements of the global open data infrastructure have emerged

In order to discuss coherence, we have reviewed reports and conducted interviews with the central actors identified in our network analysis. IDRC, Omidyar Network, the World Bank, and the Hewlett Foundation were identified as donors with more than ten connections to different sectors or communities of practice. Given their greater relative centrality, they are in a position to play a significant role in building an open data infrastructure that can spread good practices across regions, sectors, and stakeholder groups. See box, What are donors learning? A moment of introspection, which identifies some of the documents and processes reviewed during this research.



What are donors learning? A moment of introspection

Several funders of open data efforts have been providing support in the field for a decade, if not longer, and this has provoked some reflection on progress to date. Some have gone as far as to commission evaluations of their investments in open data:

- The World Bank has been a key leader and investor at the multilateral level and recently published a review of its investments over the past five years.¹⁵
- IDRC, the host of the Open Data for Development (OD4D) Network, a programme jointly funded by IDRC, the Department for International Development (DFID), the World Bank, and Global Affairs Canada, recently published an evaluation of the programme¹⁶ and a management response.¹⁷
- Omidyar Network is a leading investor in open data investment among philanthropic funders and recently commissioned an evaluation of its decade of investments in open data.
- The Hewlett Foundation has not put out a specific publication reviewing its open data portfolio, but it is currently supporting a collective reflection by several open data organisations through the TAI. Arguably, Hewlett investments have been primarily thought of in terms of fiscal governance rather than open data, supporting global norm-setting bodies, including the Extractive Industries Transparency Initiative (EITI),¹⁸ Global Initiative for Fiscal Transparency (GIFT),¹⁹ the IATI,²⁰ and Open Contracting Partnership (OCP).²¹

Building the field?

Do steps toward resilience, diversity, and coherence of funding add up to field building around open data? In this section, we look back and look forward to assess progress to highlight the remaining challenges still to be addressed in establishing ongoing support for open data activities.

The need for greater coordination

As the open data community has grown and become more diverse, calls for coherence across fragmented efforts have mounted from donors and practitioners alike. Over the years, there have been a number of efforts to coordinate agendas and reduce duplication in the open data field. One indicator of this is the increasing popularity of global open data events, which focus on providing opportunities for networking and collaboration. For example, the first International Open Data Conference (called the Open Government Data Conference for its first edition) took place in 2010 with no more than 50 people, while the last edition, in 2018, brought together more than 1 600 participants.

Efforts toward greater strategic coordination across the regions and sectors that make up the open data community have increased over the last few years. For instance, in June 2013, a number

of leading open data organisations announced the establishment of the Global Open Data Initiative (GODI),²² which aimed at “developing, finding and sharing tools, guidelines and lessons relating to policy, institutions, and activities that governments can use to build successful open data initiatives.”²³ While the aim was to become an authoritative voice for the sector, the initial plans for GODI did not receive funding support from donors and the initiative eventually disappeared.

A few months later, in September 2013, the World Bank announced the Partnership for Open Data,²⁴ a collaboration with the Open Data Institute²⁵ (ODI) and Open Knowledge International²⁶ through a grant from the World Bank’s Development Grant Facility.²⁷ In October 2013, backed by a grant from IDRC’s OD4D initiative, the World Wide Web Foundation, and the Government of Canada announced the establishment of the Open Government Partnership’s (OGP) Open Data Working Group.²⁸

In order to avoid duplication, the Partnership for Open Data merged into IDRC’s OD4D Network, creating a multi-donor programme to support key initiatives for the open data community. The Network also became the host of the International Open Data Conference (IODC) and refined its programmatic strategies based on the Roadmap that was produced as a result of community engagement at the IODCs in 2015²⁹ and 2016.³⁰ The Roadmap ultimately led to OD4D support for the development of the Open Data Charter and the open data measurement initiatives, such as the Open Data Barometer and Open Data Index, as well as grassroots open data initiatives across the Global South that sought to build open data capacity and local expertise.

Activities organised by OD4D and by TAI have started to build fora to encourage more dialogue among donors; however, we have yet to see an effective donor coordination mechanism emerge that might help better address coordination gaps among key donors in the field.

Looking to the future, there are still some questions about the coherence of the global open data agenda. Has a lack of coordination among some of the core donors or a shared strategic long-term vision, led to a proliferation of pet donor-funded projects and concepts? Or are we simply seeing the results of a “let a thousand flowers bloom” approach? While specific donors have articulated their strategy, it can be argued that funding decisions are not made in the context of a coherent forward-looking vision for an efficient open data ecosystem or to meet the specific needs of a range of open data sectors and communities.

Taking into consideration the future priorities of key donors, we can observe some developing trends. For instance, IDRC, through OD4D, has emphasised the establishment of a network of regional initiatives with lighter coordination at the global level using the IODCs and regional events as key tools. The World Bank has increasingly prioritised their work with the OGP and GPSDD, which still touches open data in many different ways. Omidyar Network has backed the establishment of the Open Data Charter as a new organisation, which is focused on updating its principles based on emerging trends in open data.

Some argue that the amount of duplication among the main international actors is too significant, and, as donor funds have not increased, there is still room for further consolidation. The recent agreement established between OD4D and the OGP³¹ to advance a more coordinated agenda should be welcome news to the open government and open data communities. The acid test, however, will be whether this unlocks more opportunities for coordinated support of the open data agenda or simply shifts donor coordination priorities yet again.



Amid mainstreaming, who funds cross-cutting open data issues?

Subsidising the cost sharing of field-wide public goods may not be feasible for a donor looking at leveraging open data in a particular sector or region. For example, if a donor wants to target an open data initiative to improve domestic resource mobilisation in Francophone West Africa, are they likely to assume a responsibility to fund the international infrastructure that enables the interoperability of the relevant datasets? Probably not, even if they come to realise the need for such interoperability.

Much of the progress that has been achieved in recent years in terms of global and regional coordination may be in jeopardy as donors look to mainstream open data into specific sectors and country operations. This trend will be exacerbated if open data is no longer the “shiny object” that attracts donor attention. New data-related issues will compete for funding, including big data, research data, data privacy, and data for the Sustainable Development Goals. Should funders try to align these competing themes? Will they each pick a different area to focus on or will they shift to a broader framing of “data funding” within which open data is just one integrated element?

Donor modalities: An orphaned donor agenda

Open data can be relevant to a whole host of programmatic objectives for donors, including evidence-based policy-making, democratic governance, economic development, and a range of social and/or sector issues. This potential to serve multiple agendas may lead to a real ownership challenge within donor organisations, as well as their grantees.

There is a risk that open data is everyone’s agenda and, therefore, no one’s. It is rare for donor organisations to have a programme officer or team lead explicitly for open data. Typically, engagement with open data-related issues gets spread across several different thematic units (e.g. agriculture units support GODAN, governance units support transparency and anti-corruption data initiatives, and science units support open research data). Sometimes, responsibility may be bundled with broader ICT infrastructure investment teams. This diversity of “homes” for open data within funder organisations may have hindered the sharing of tested donor approaches. It is harder to support development of a nascent field without a sufficient or coherent pool of champions on the donor side and among practitioners.

Conclusions

This chapter has provided some reflections on the impact of donors on the development of resilience, diversity, and coherence across the open data ecosystem as a result of their efforts over the past decade. Examining a network analysis of how donors fund different open data activities and communities, and taking into consideration recent reports from key donors, we can draw several conclusions.

- Open data is becoming more mainstreamed into sector-specific funding, but progress is uneven among sectors. A few sectors, such as anti-corruption, agriculture, and data journalism, have built a greater diversity of donors, while others experience challenges to secure ongoing support.
- Open data is increasingly a more global and inclusive movement, but much remains to be done. Different donors have supported different communities in different regions, and many programmatic modalities have been developed to accommodate the need to support different stakeholders. Nevertheless, many blind spots and coordination challenges exist due to the complexity of building a functioning global data infrastructure.
- Some of the core infrastructure for the open data field has been created, including a network of global, regional, and national events, common principles, capacity-building resources, peer networks, and measurement tools. However, donors may be moving away from open data in general to focus more on sectoral issues or other emerging issues that might more directly articulate impact. This can potentially jeopardise any achieved coherence to date within the global open data community.

What can donors do to build more resilience, diversity, and coherence in the open data community? There are a wide range of potential actions, such as better tagging open data grants through IATI or other reporting instruments or increasing the sharing of funding strategies and lessons learned at key events (e.g. the annual IODC and regional meetings) to create opportunities for donor collaboration. More substantive progress will require a shared sense of field needs and moving beyond the current “loose touch” approach to cross-donor coordination. There is a strong need for substantial new and joint investment among open data funders and donor organisations in general. Donors need to explore more targeted investments in the core building blocks of the data ecosystem, including civil registration and vital statistics systems (CRVS), censuses, surveys, and analytical and leadership capacity in the field. Considering the significant experience within the community and the range of open data projects and initiatives to date, there is now a foundation to build upon, but it may start to erode without new investment. Greater coherence among donors will support increased alignment with regional and country priorities, help to avoid duplication, fill funding gaps, and contribute to an overall strategic approach in consideration of different programme priorities and funding methodologies.

Further reading

Acevedo-Ruiz, M. & Peña-López, I. (2017). *Evaluation of the Open Data for Development program*. Ottawa: OD4D Network. http://od4d.net/wp-content/uploads/2017/05/OD4D-Final-evaluation-report-v2_31-May.pdf

Boyera, S. & Iglesias, C. (2014). *Open data in developing countries: State of the art*. Partnership for Open Data. https://docs.google.com/document/d/1FMyfLu-jouL7j7Pw0kEwUn_B07aZ9IX3vIFGqPO0gX0/edit

Carolan, L. (2017). *Mapping open data for accountability*. Washington, DC: Transparency and Accountability Initiative and the Open Data Charter. http://www.transparency-initiative.org/wp-content/uploads/2017/06/taiodc_draft_data4accountabilityframework.pdf

Global Partnership for Sustainable Development Data. (2016). *The state of development data funding*. Washington, DC: Open Data Watch. <https://opendatawatch.com/wp-content/uploads/2016/09/development-data-funding-2016.pdf>

World Bank Group. (2017). *World Bank support for open data – 2012–2017*. Washington, DC: World Bank. <https://openknowledge.worldbank.org/bitstream/handle/10986/28616/120801-WP-P133276-PUBLIC.pdf?sequence=1&isAllowed=y>

About the authors

Fernando Perini coordinates the Open Data for Development (OD4D) programme for Canada's International Development Research Centre. OD4D works with global open data advocacy organisations and a network of regional partners committed to the creation of locally driven and sustainable open data ecosystems in developing countries. You can follow Fernando on Twitter at <http://www.twitter.com/fperini>. Learn more about OD4D at <http://od4d.net>.

Michael Jarvis has over two decades of experience working on global good governance, openness, and corporate responsibility. He is the Executive Director of the Transparency and Accountability Initiative (TAI), which works specifically to help donors improve grant-making practices in order to boost collective impact. You can follow Michael on Twitter at <http://www.twitter.com/michaeljarvisdc> and learn more about the TAI at <http://www.transparency-initiative.org>.

How to cite this chapter

Perini, F. & Jarvis, M. (2019). Open data stakeholders: Donors and investors. In T. Davies, S. Walker, M. Rubinstein, & F. Perini (Eds.), *The state of open data: Histories and horizons* (pp. 367–380). Cape Town and Ottawa: African Minds and International Development Research Centre. <http://stateofopendata.od4d.net>



This work is licensed under a Creative Commons Attribution 4.0 International (CC BY 4.0) licence. It was carried out with the aid of a grant from the International Development Research Centre, Ottawa, Canada.

Endnotes

- 1 Weinstein, J. & Goldstein, J. (2012). The benefits of a big tent: Opening up government in developing countries. *UCLA Law Review*, 60(38). <https://www.uclalawreview.org/the-benefits-of-a-big-tent-opening-up-government-in-developing-countries/>
- 2 The International Development Research Centre, <https://www.idrc.ca/en> and Transparency and Accountability Initiative, <http://www.transparency-initiative.org/>, respectively.
- 3 It should be noted that donors are also open data publishers and aggregators. They publish to dedicated portals and many support and adhere to the implementation of the International Aid Transparency Initiative and other data standards. In this chapter, we do not focus on donors as publishers. The focus is on how donors, particularly international donors, support different open data communities and priorities.
- 4 IDRC. (2015). *Enabling the data revolution: An international open data roadmap. Conference report*. Ottawa: International Development Research Centre. <http://1a9vrva76sx19qtvg1ddvt6f.wpengine.netdna-cdn.com/wp-content/uploads/2015/09/IODC2015-Final-Report-web.pdf>
- 5 OD4D (Open Data for Development) Network. (2016). *IODC 16: International Open Data Roadmap*. Ottawa: OD4D Network. <http://od4d.net/roadmap/assets/files/report-iodc-2016-web.pdf>
- 6 OECD. (2017). *Development co-operation report 2017: Data for development*. Paris: Organisation for Economic Co-operation and Development Publishing. <https://doi.org/10.1787/dcr-2017-en>
- 7 Global Partnership for Sustainable Development Data. (2016). *The state of development data funding*. Washington, DC: Open Data Watch. <https://opendatawatch.com/wp-content/uploads/2016/09/development-data-funding-2016.pdf>
- 8 <http://grantnav.threesixtygiving.org/>
- 9 <http://d-portal.org/ctrack.html?search=open%20data#view=main>. D-Portal provides a view of all IATI data by recipient country or publisher that is comparable with the latest OECD Development Assistance Committee's (DAC) Creditor Reporting System (CRS) data.
- 10 An interactive version of the network chart, with access to the underlying data, is available at <http://bit.ly/2Qm5FT9>
- 11 *Wikipedia*. (2018). Snowball sampling. https://en.wikipedia.org/w/index.php?title=Snowball_sampling&oldid=856893462 [accessed 27 December 2018].
- 12 Open Data Watch. (2018). The data value chain: Moving from production to impact. <https://opendatawatch.com/publications/the-data-value-chain-moving-from-production-to-impact/>
- 13 Carolan, L. (2017). *Mapping open data for accountability*. Washington, DC: Transparency and Accountability Initiative and the Open Data Charter. http://www.transparency-initiative.org/wp-content/uploads/2017/06/taiodc_draft_data4accountabilityframework.pdf
- 14 Davies, T. & Perini, F. (2016). Researching the emerging impacts of open data: Revisiting the ODDC conceptual framework. *The Journal of Community Informatics*, 12(2). <http://ci-journal.org/index.php/ciej/article/view/1281>
- 15 World Bank Group. (2017). *World Bank support for open data – 2012–2017*. Washington, DC: World Bank. <https://openknowledge.worldbank.org/bitstream/handle/10986/28616/120801-WP-P133276-PUBLIC.pdf?sequence=1&isAllowed=y>
- 16 Acevedo-Ruiz, M. & Peña-López, I. (2017). *Evaluation of the Open Data for Development program*. Ottawa: Open Data for Development Network. http://od4d.net/wp-content/uploads/2017/05/OD4D-Final-evaluation-report-v2_31-May.pdf
- 17 Faruqi, N. & Federico, B. (2018). *Management response to the evaluation of the Open Data for Development program*. Ottawa: International Development Research Centre. <https://idl-bnc-idrc.dspacedirect.org/handle/10625/56937>
- 18 <https://eiti.org/document/eiti-open-data-policy>
- 19 <http://www.fiscaltransparency.net/>
- 20 <https://iatistandard.org/en/>

- 21 <https://www.open-contracting.org/>
- 22 <http://globalopendatainitiative.org/>
- 23 GODI (Global Open Data Initiative). (2013). Announcing the Global Open Data Initiative. <https://web.archive.org/web/20140301110448/http://globalopendatainitiative.org/2013/06/12/announcing-the-global-open-data-initiative/>
- 24 World Bank. (2013). New Partnership seeks to bring benefits of open data to developing countries. World Bank press release, 18 September. <http://www.worldbank.org/en/news/press-release/2013/09/18/new-partnership-seeks-bring-benefits-open-data-developing-countries>
- 25 <https://theodi.org/>
- 26 <https://okfn.org/>
- 27 <http://documents.worldbank.org/curated/en/829141468329986040/World-Bank-support-for-global-and-regional-initiatives-under-the-Development-Grant-Facility-DGF-compendium-of-DFG-programs>
- 28 <https://www.opengovpartnership.org/>
- 29 IDRC (International Development Research Centre). (2015). *Enabling the data revolution: An International Open Data Roadmap. Conference report*. Ottawa: IDRC. <http://1a9vrva76sx19qtv1ddvt6f.wpengine.netdna-cdn.com/wp-content/uploads/2015/09/IODC2015-Final-Report-web.pdf>
- 30 OD4D Network. (2016). *IODC 16: International Open Data Roadmap*. Ottawa: Open Data for Development Network. <http://od4d.net/roadmap/assets/files/report-iadc-2016-web.pdf>
- 31 Perini, F. (2018). Open government partnership and the open data for development network join forces to support open data initiatives around the world. *Open Government Partnership* [News post], 10 May. <https://www.opengovpartnership.org/stories/open-government-partnership-and-open-data-development-network-join-forces-support-open-data>