OPEN DATA BAROMETER - AFRICAN EDITION REPORT

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Open Data Barometer — African Edition

Open data Readiness, Use and Impact in Africa[1]

The Open Data Barometer – African Edition aims to uncover the true prevalence and impact of open data initiatives in the African continent. It analyses regional trends, and provides comparative data on governments and countries using an in-depth methodology. Covering 29 countries[2] in this special African Edition for the Africa Data Revolution Report, the Barometer ranks governments on their readiness for open data initiatives, as well as the use and impact that open data is having on business, politics and civil society.

This chapter is only intended to be a summary of the most striking findings in our African Barometer research. The full data and methodology are available online, in order to support further secondary research and inform better decisions into the progression of open data policies and practices in the continent.

Methodology

The Open Data Barometer – African Edition seeks to repeat the analysis from previous Barometer editions following the International Open Data Charter Principles, with some methodological revisions and adaptations to the specific African context developed in collaboration with our regional OD4D network partners:

- African Open Data Network (AODN)
- Francophone African Community of Open Data (CAFDO)
- Access to Knowledge for Development (A2K4D) center at the American University in Cairo.

The Barometer measures open government data readiness through three components: (1) **Government**; (2) **Citizens and Civil Society**; and (3) **Entrepreneurs and Business**. We are

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[1] This report is intended to be a chapter of the forthcoming Africa Data Revolution Report.

[2] The countries covered are: Algeria, Angola, Benin, Botswana, Burkina Faso, Cameroon, Chad, Côte d'Ivoire, Congo, Egypt, Ethiopia, Ghana, Kenya, Madagascar, Malawi, Mauritius, Morocco, Mozambique, Namibia, Nigeria, Rwanda, Senegal, Sierra Leone, Somalia, South Africa, Tanzania, Togo, Tunisia and Uganda.

not measuring readiness to start an open government data initiative, but rather readiness to secure positive outcomes from such an initiative. Each of these groups are important for a successful OGD initiative. As Tim Berners-Lee has observed, open data *"has to start at the top, it has to start in the middle and it has to start at the bottom"*. On the other hand, measuring open data impact is notoriously difficult. Establishing a solid causal connection between open data and particular social and political changes is clearly beyond the scope of a survey such as the Barometer. However, for the purpose of the Barometer, claims made in credible sources concerning possible **uses and impacts of open data** are a useful proxy indicator for areas in which impact may be occurring, and to allow for initial comparison between countries.

The research is based on peer-reviewed expert survey responses between May and July 2018, asking trained country specialists to respond to a number of detailed questions about the open data situation in their specific countries following the detailed research handbook indications. Each question invited either a yes/no response or a quantitative response on a 0-10 scale, with detailed scoring guidance and thresholds provided. Researchers also provided justifications and citations for all scores. Responses were peer-reviewed, re-scored where required, and cross-checked by the research coordination and quality assurance team.

Our Research Findings

As a first conclusion we can say that progress in the African continent is slow overall. While some governments are advancing towards data openness, that remains the exception, not the rule. East and West regions in the African Union are most advanced, followed closely by the South. Many countries in North Africa have fairly strong commitments but are lacking almost all other elements necessary for success. Lastly, the Central region is clearly falling behind all others on almost every single indicator in our analysis.
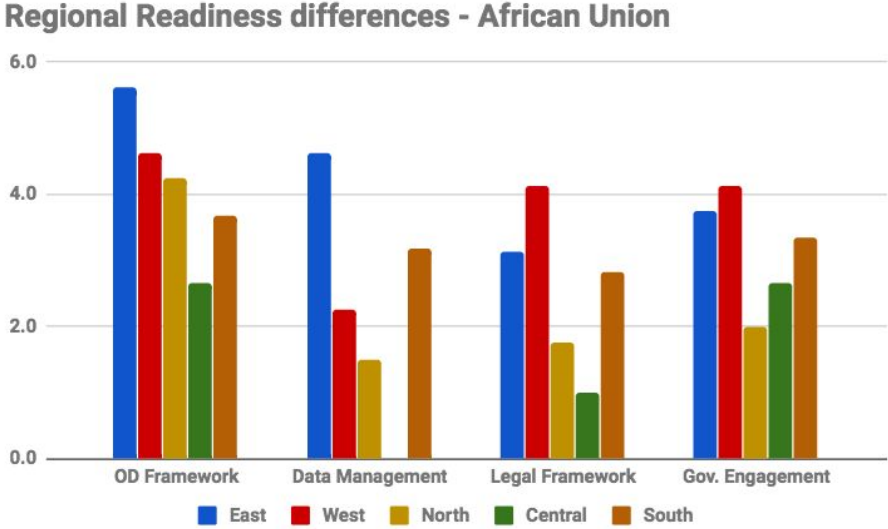

Figure 1: Comparison on open data readiness among the different African Union region.

Most governments we have measured still lack any kind of comprehensive guidelines, technical standards, and management procedures for their (open) data. Government-wide strategies or policies are too often only considered once open data initiatives have already been in place for some time. This is not only happening in Africa. It is also a global issue that we also found in all other world regions — including the most advanced countries. Open data is not yet entrenched in law in the continent, and the legal frameworks supporting it are either incomplete or directly absent. Implementation and resourcing are also very weak.
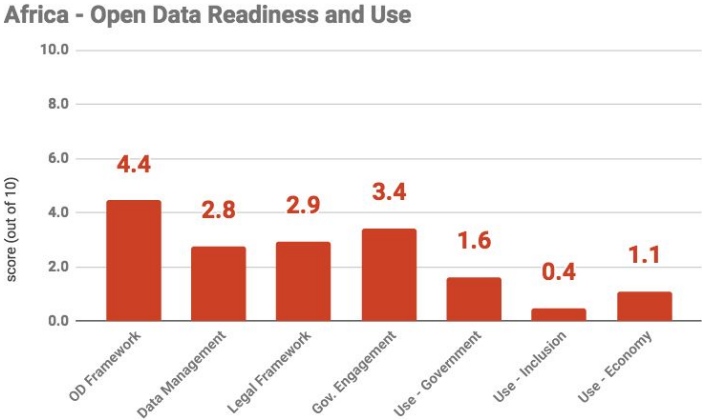

Figure 2: Average open data readiness and use scores for Africa.

Additionally, we didn't find any stand-out performer in Africa. This makes Africa the only global region without a clear local open data champion. Ghana, Kenya, Nigeria, South Africa, Tanzania and Burkina Faso, all looked ready to assume such role at some point in recent years, but ultimately the data shows that the performance of these countries has been erratic over time. A possible reason for this is that governments in the region usually require external support to start with their open data initiatives, and that support may not be aligned with the needs expressed by African governments in the long term. Governments in the continent are still too technically and financially dependent on third-parties for creating and sustaining the initiatives.

Finally, very few open data initiatives in the continent actively promote inclusion and equity. Our researchers found some evidence that open data is contributing to government transparency and the creation of new businesses, but little or no evidence that it is contributing to social inclusion — whether by enhancing excluded groups' access to public services or increasing their participation in policy decisions.

Open Government Data initiatives in Africa

Governments need to develop teams, strategies, action plans and policies in support of their implementation of open data. Strategies will typically be high-level plans focused on the particular long-term goals, actions and resources required for success, while action plans and policies will define specific courses of action adopted to guide decisions towards implementation.

We found that governments in Africa frequently have commitments to increase government transparency and release open data, but that these commitments are usually vague and lack high-level political backing. Countries that are Open Government Partnership (OGP) participants[3], such as Morocco and South Africa, usually connect their open data commitments with their national OGP action plans. For other countries, such as Sierra Leone, their only reference is the World Bank Open Data Readiness Assessments (ODRAs). However, there is almost no evidence of any documented national open data policies or strategies that articulate processes, responsibilities and timelines in the continent. Those few that are available have usually been in a draft stage for years and were never officially published, promoted, endorsed or formally adopted. Such is the case of Nigeria, Rwanda, Tanzania or Uganda, for example. Others like Ethiopia are currently developing their strategies.

The number of governments in the region releasing their national data catalogues keeps increasing, with eight out of every 10 countries maintaining a reference catalogue of some kind. However, sometimes governments do not remain in control of their own data portals when third-party providers or other external partners manage them, such as in the case of the Open Data for Africa repositories. In such cases, when external support for the data portal management ends, there is a high probability that the portal will die. Nevertheless, data portals from National Statistics Offices (NSOs) remain the most frequent and reliable data sources available. Government-run open data initiatives and teams are also becoming more frequent, for instance, in Morocco, Burkina Faso and, more recently, Mauritius. Still, those rarely have the human and budgetary resources to be sustainable over the long term and are generally too dependant on external development resources from international multilateral organisations, such as the World Bank or the United Nations. This dependency means that in a large number of cases, open data initiatives are discontinued when external resources are no longer available. That has been the case for Ghana on two occasions, and also in Kenya.
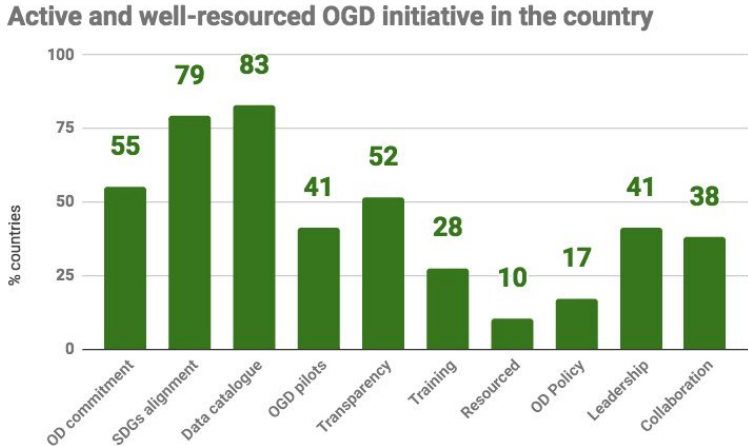

Figure 3: Percentage of countries fulfilling various well-resourced OGD initiative indicators in our study.

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[3] OGP members in our study are: Burkina Faso, Côte d'Ivoire, Ghana, Kenya, Malawi, Morocco, Nigeria, Sierra Leone, South Africa and Tunisia. Tanzania withdrew in June 2017.

One can also start to find some small-scale sectoral pilot programmes by different government agencies to promote the release of government data online. The most frequent are the Extractives Industry Transparency Initiative (EITI) — where almost a half of countries implementing the standard are in Africa — and budget transparency projects, such as in Tunisia. Our research also finds frequent alignment (8 out of every 10 countries) between the national development plans and the Global Sustainable Development Goals (SDGs) — which could contribute to better data policies and practices in the middle term. However, that alignment is happening at different levels, with some countries trying to map their existing development plans to the SDGs while others have actively built their plans in alignment with them.

Interestingly, we also found that when governments want to exchange experiences and technical expertise with other countries or organizations, the absence of clear references in the continent means they generally go to international forums such as the Open Government Partnership (OGP), the International Open Data Charter, or the Global Open Data for Agriculture and Nutrition network (GODAN).

Data Management and Publication approach

When releasing data, regardless of whether they could be considered strictly open or not, this should be done in an uniform way across all agencies and departments to help people to use and understand them. Data also needs to be fully described, as appropriate, to help users to fully understand the data.

Our research shows that countries in Africa typically lack even minimal narrative descriptions of published data (present in only ⅓ of the countries studied). Very basic core metadata elements are relatively frequent (⅔ of the countries), usually including *dataset names, formats, and publication* and *update dates*. However, such metadata is not standardised across government, and machine-readable metadata is more scarce (40%). Single and exhaustive (open) data inventories are not present in any government agencies. The alternatives for available data formatting options are very limited as well, with PDF documents and XLS(X) spreadsheets being by far the most common.

In general we could say that there are no public data guidelines and standards for the publication of (open) government data, with the only exceptions coming from National Statistics Offices. We found that NSOs are the only bodies that apply consistent information lifecycle management practices, ensuring that data is being kept regularly updated. In a couple of cases — in Algeria and Ethiopia — even historical copies of datasets are preserved.
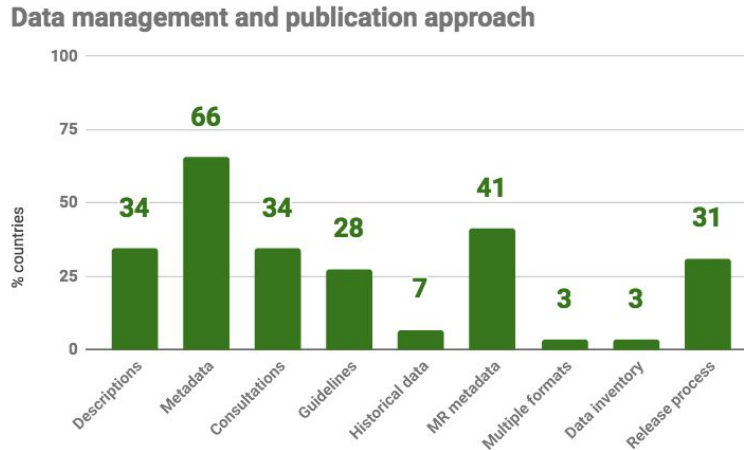
Figure 4: Percentage of countries fulfilling various data management and publication indicators in our study.

When public consultations on user's data needs and preferences are conducted, those are usually done using very basic online feedback systems where it is not clear if requests are actually being addressed. Nevertheless, we did find some more interactive approaches, such as in the case of Tanzania or Rwanda, where governments have been requesting more direct feedback at collaborative workshops.

Legal Framework: Data Protection and Right to Information

Data protection and Right To Information policies and frameworks are key elements for supporting a "data openness" culture in a government. Together they can help to make more data available, while protecting individual rights to privacy. However, we found that weak or absent data protection and right to information laws across the continent is the norm. In a number of countries, legislation has been under debate for several years, often by different governments, but ultimately never turned in to law. For example, data protection bills in Kenya (2013) and Uganda (2015) and right to information acts in Ghana (1999) and Botswana (2010).

According to our research, legal or regulatory policy frameworks to promote data protection are not working well in practice. In a large number of cases these exist only in some form of general and undefined policy statements as part of the country Constitution or some national ICT and electronic communications policies. In cases where a dedicated framework is in place, several key elements that make data protection frameworks strong are usually missing — such as the right of choice and consent; the right to access and correct; or the right to redress. Furthermore, in only 28% of countries we found procedures to ensure data is always anonymised prior to publication — a step required to ensure sensitive, personally-identifiable data is removed.
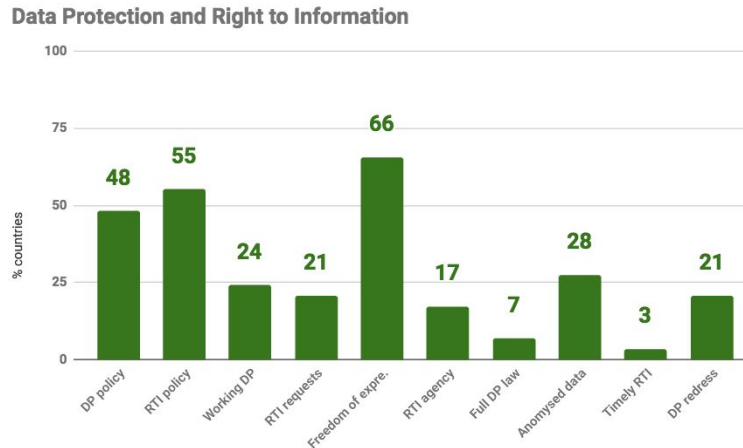
Data Protection and Right to Information

Figure 5: Percentage of countries fulfilling various data protection and right to information indicators in our study.

Equally, strong right to information laws and frameworks are largely absent, with some exceptions such as Sierra Leone, Tunisia, South Africa, Kenya, Ethiopia and Malawi. Even in some of those cases where the legal framework is in place, they are not really "effective" — with a lack of dedicated agencies to deal with information enquiries leading to unactioned requests for information, limited recourse for cases that are refused, slow response times, and poor quality information when it is provided.

On the positive side, freedom of expression is more broadly respected in our sample group of countries by protecting those who use government data and information to identify corruption or criticize governments.

Government Engagement with the rest of Stakeholders

Effective campaigns for open data need to be composed of civil society organizations, data technologists, informational professionals, computer experts, academia and ordinary citizens who advocate for greater access to government data.

There is clearly an emergence of active civil society groups in most countries in Africa (9 of every 10) who are demanding more transparency from government: Handeka in Angola; Afrynipe in Botswana; iHub in Kenya; Marocviz in Morocco; Ntatenda in Mozambique; Data Wazi in Rwanda; Tacid Network in Tunisia; Social Watch in Benin; Dataforces in Togo and dozens more — as well as other cross-country communities such as the Open Knowledge Network, Code for Africa or OpenStreetMaps, which are all very active in the continent. All these organisations are working with government data and promoting a culture of data innovation through the development of visualizations and applications and the organisation of competitions, hack days and informative sessions. Some of these organisation go one step further and are contributing to government data with original data they directly collected — for example A2K4D in Egypt; Akvo in Burkina Faso; IHI in Tanzania and OpenUp in South Africa. Moreover,

international organisations such as the African Development Bank and the Red Cross also make contributions.

These activities are frequently coming from developer communities and other civil society groups with no government support at all. In the few cases where government is directly involved (less than 20%), support is usually very limited. Furthermore, the government shows few proactive efforts towards engagement with civil society on data openness, frequently only through general consultations when new data policies are being developed or when introducing new major statistical surveys. Financial or functional incentives from government to create new services or support innovative activities such as funding schemes, incubators or open data boot camps are rare, with some remarkable exceptions to imitate by others, as for example the Tanzania Data Lab or TechMousso in Côte d'Ivoire.
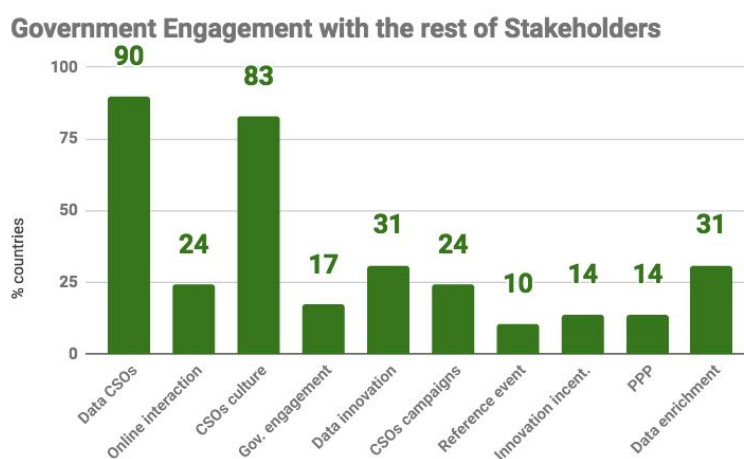

Figure 6: Percentage of countries fulfilling various government engagement indicators in our study.

Some examples of coordinated civil society campaigns calling for more (open) government data or working with governments to promote data openness and create value could be found around different key governance fields such as elections in Burkina Faso; water and sanitation in South Africa; public procurement in Nigeria and the Coalition for the Right to Information in Tanzania. Public-private partnerships to support the release of (open) government data and maximize impact through effective use and data collaboratives are rarely explored. The few examples we found typically involve other multilateral, international organisations such as the World Bank, the Open Data Institute or the United Nations.

Finally, we also found that, in the absence of any other regular national open data events — beyond the regional African Open Data Conference and the Francophone Africa Open Data Conference — the Open Data Day is playing an increasingly important role as an annual community meeting point. It serves not only as a forum for the discussion of the status of data publication and availability in the different countries, but also as community coordination and advocacy milestone. There were 80 different registered events in the African continent for 2018

— 16 of those supported by [the Open Knowledge International mini-grants scheme](#) — from a total of 400 events globally. This reinforces our perception of a vibrant and promising data-driven community.

Open Data Use and Impact in Africa

The ultimate goal of opening government data is to drive positive change in our lives. Open data could lead to improvements in government efficiency, effectiveness, transparency and accountability in a number of ways. It can also lead to more inclusive policy making and government services, as well as having an impact on the economy in a number of ways.

However, our analysis shows that use and impact of open data in the continent is still quite limited and focused mostly on increasing government transparency and accountability, as well as fostering entrepreneurship using open data to build new businesses.

For instance, open data in Kenya helped citizens and data journalist to [acquire information about government](#) job vacancies, government tenders, and other government procedures; contributed to [battle Ebola outbreak](#) and promoted [transparency at the district level](#) in Sierra Leone; was a key enabler of the [fight against corruption](#) in Botswana; played an important role in [planning, mitigation, and preparation for natural disasters](#) in Malawi; advanced transparency in the [mining sector](#) and the exploitation of other [natural resources](#) in Congo; demonstrated to be an efficient tool in [tracking mining revenues](#) in Ghana; improved [reliability and accessibility of health services](#) in Kenya and responded to the public demand of greater [accountability for the school system](#) in Tanzania.

On the economic side, [disclosure of government oil revenues in Nigeria uncovered vast discrepancies](#) between what the government has received and what they should have received, and [doubled government's revenues from mining](#) in Ghana after revealing a very low tax regime for mining companies. A number of data-related startups and companies are also starting to flourish as data availability increases. Some examples are: [Farmerline](#) and [Esoko](#) in Ghana; [Data Science](#) in Kenya; [Korbitec](#) in South Africa; [Reboot](#) and [OroData](#) in Nigeria and [Eduweb](#) in Kenya. Data journalism is another sector which is benefiting from open data. [The Citizen](#) in Tanzania and [NewsPlex](#) in Kenya are both good examples of this.

On the other hand, the use of open data for the inclusion of marginalised groups in policy making and accessing government services is undeveloped. A very few use cases could be found in the dimension, such as uncovering [problems in access to clean water](#) in Burkina Faso; identifying [low-income areas](#) in Kenya or raising [awareness about the level of inequality](#) in Nigeria.

The Barometer Recommendations

Our study finds that African governments still have a long way to progress on open data readiness, use and impact. The following recommendations outline specific actions that, according to our research, could contribute to advancing the African open data agenda while addressing some of the key challenges in the region:

Build an open data knowledge network for the continent: A space where governments and all other stakeholders in the data ecosystem could regularly share and exchange experiences and technical expertise between them. Such network should also facilitate the connection and engagement with other international open data efforts — including reference open data pioneers, multilateral organisations and multi-stakeholder collaboration and advisory groups, such as the Open Data Charter or the Open Government Partnership — to ensure that the particular needs and vision from Africa are always represented in the global discussions and standards.

Ensure sustained, meaningful engagement: Greater levels of cooperation between governments, funders and civil society advocacy groups are required to initiate sustainable, long-term initiatives and projects that deliver on open data promises. Governments and civil society need to collaborate. Governments must embrace a *publishing with purpose* approach, consult citizens and data intermediaries and give top priority to opening up the data that will help them get what they really want and need — better public services, more transparency, and accountability. To make open data work for people, governments need to communicate openly and take advantage of the vibrant and growing civil society community to understand what data they want and how they can use it to improve services and governance.

Let the continent take ownership of their own open data initiatives and projects: Donors need to continue providing funding, training and support for African countries in order to build internal capacity and close the data gap — not only providing initial support and assistance to get the ball rolling, but also helping developing countries to tackle and overcome long-standing barriers of low connectivity, weak data management infrastructures, poor legal foundations and scarce skills that limit open data achieving scale. In that process African governments and citizens should remain in control of their projects from the initial planning stage to the end. Any support provided should be totally aligned with the needs expressed by African governments and citizens.

Our global long-term policy recommendations could also contribute to improvement as the different initiatives keep advancing on their open data journeys.