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MARCH 2022  
No. 56

## Building Data Infrastructure in Development Contexts: Lessons from the #Data4COVID19 Africa Challenge

COVID-19 and other societal threats hamper the ability of development practitioners and stakeholders to address public needs. Bolstering society's ability to responsibly access, re-use and generate insights from data can mitigate this problem, while supporting more effective uses of limited resources. A six-month effort by Expertise France, The GovLab, and the Agence française de développement (AFD) to improve data systems across Africa for COVID-19 response provides insights on ways to achieve this goal.

The COVID-19 pandemic has posed a number of unprecedented societal threats. While the effects of the crisis know no borders, the pandemic's consequences have been felt in a particularly acute way in developing economies across the Global South. Indeed, while estimates of excess mortality show that many developing economies compare favorably to other parts of the world, the pandemic has still overburdened health systems and disrupted food supplies, increasing the risk of malnutrition. Economic estimates suggest that COVID-19 will reduce the GDP of African economies by 1.4 percent, with smaller economies facing contractions of up to 7.8 percent (Gondwe 2020).

Given that development agencies have limited resources to fight the effects of the pandemic, data can play an important role in bolstering decision-making processes. When data is available and used responsibly, it can generate important insights about what is happening, help organizations understand cause and effect, improve forecasting, and assess the impact of efforts (Verhulst *et al.* 2021). However, the major limiting factors are the amount of data and the expertise available in the ecosystem. These limitations are especially severe in least-developed countries, such as those in Sub-Saharan Africa. **However, data-driven challenges—short-term exercises where data and expertise is brought to bear on some pressing social challenge—can be useful tools for overcoming these limiting factors by, attracting data holders and practitioners to engage in rapid action to advance development goals.**

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In December 2020, the Agence française de développement, ExpertiseFrance, and The GovLab (hereafter referred to as the “challenge organizers”) launched the #Data4COVID19 Africa Challenge<sup>[1]</sup> to find ways to address gaps in the data ecosystem of developing economies. The challenge organizers invited cross-disciplinary teams (including academics, government stakeholders, and NGOs) specialized in data analysis to submit proposals for funding for innovative projects that addressed challenges associated with COVID-19. By funding these projects, the organizers hoped to both address the ongoing costs of the pandemic and facilitate the production of data that can be used collaboratively (Agence Française de Développement 2020). From a pool of 83 applicants spanning 22 countries, the challenge organizers selected seven teams to fund. Over six months, between April and October 2021, the challenge sponsors monitored and supported the teams as they unlocked new and innovative datasets and pursued research centered on informing real-world decision-makers.

This project provided insights on the design and implementation of data-driven challenges for pandemic response in Africa and in other dynamic crisis settings where traditional datasets (e.g. census data) are not readily available<sup>[2]</sup>. This paper outlines lessons learned on designing and collaborating on challenges when time is of the essence, each lesson focused on an aspect of the challenge design cycle. In addition, this paper offers recommendations for the future challenges.

## I. Lessons Learned on the Design Cycle

As with any crisis, the challenges posed by COVID-19 are serious and complex, with the direct and secondary effects likely to cascade if no action is undertaken to contain them. In designing and implementing the #Data4COVID19 Africa Challenge, the challenge sponsors remained cognizant of this fact, seeking out ways to expedite the usual design cycle. This attempt to expedite work often focused on adopting collaborative methods (e.g. assembling a group of outside experts to help review proposals, encouraging teams to support one another) or clearly structuring activities (e.g. giving teams clear timelines).

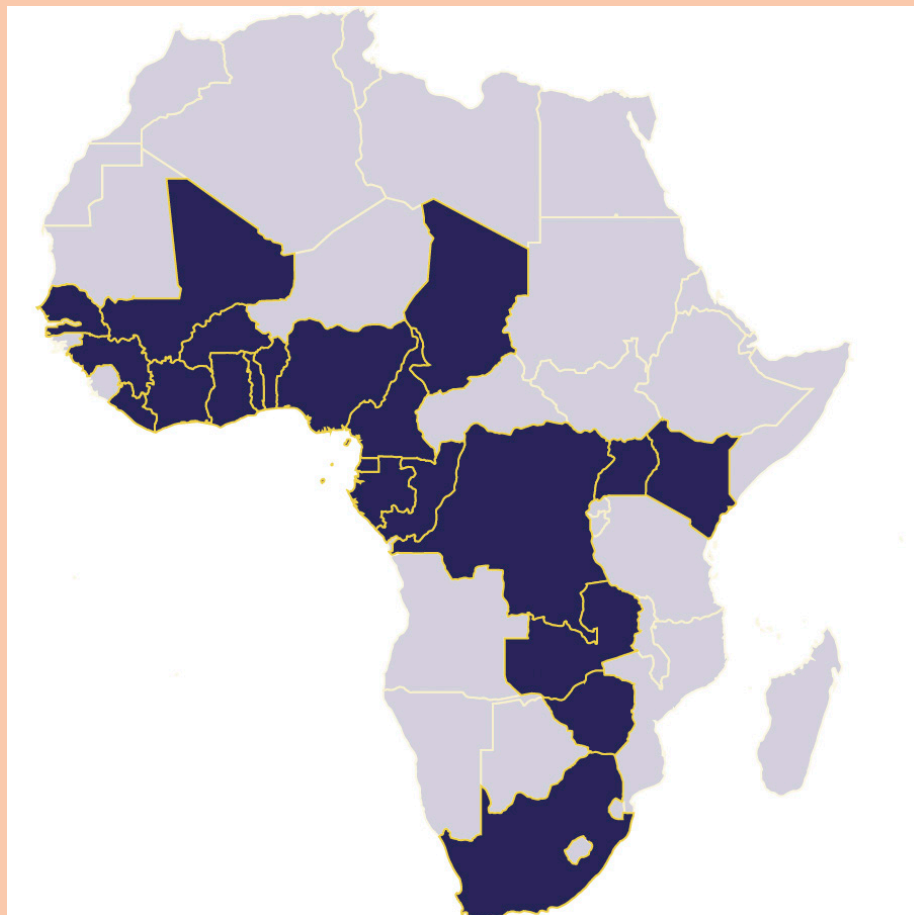
[1] The Data4Covid19 challenge was launched as part of the France “Covid-19 – Health in Common” initiative. Details on the Call for Proposals including key documents, focus domain of interest, and application form is available here: <https://datachallenge.africa/request-for-proposals.html>

[2] More information on the challenge, including the final presentations delivered by the project teams, blogs from project teams on their work, and other insights are available at <https://datachallenge.africa/blog.html>

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### Mapping of applicants by countries of origin

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Over the project period, the challenge sponsors saw how these methods influenced efforts to define focus, review proposals, plan work, and provide support to groups. The sponsors identified the following lessons for designing challenges when time is limited and collaboration is essential:

- **DEFINING THE SCOPE – Concrete Timelines and Well-Established Milestones Support Well-Defined**

**Problem Definition:** The short timeline and clearly defined scope encouraged teams to submit well-defined proposals for funding. This starting point proved useful throughout the funding period as groups had clear goals at the outset and knew when they needed to be completed. This approach proved useful in minimizing the amount of time spent on additional planning.

- **REVIEWING PROPOSALS – Outside Experts Expedite Proposal Review Process:**

The #Data4COVID19 Africa Challenge relied on an expert review board composed of 11 English-speaking and 8 French-speaking professionals familiar with both data analysis and an aspect of the COVID-19 pandemic in Africa. By giving the experts a common rubric to assess proposals, the challenge sponsors were able to ensure that each of the 83 proposals was thoroughly evaluated by at least two experts and by the challenge sponsors themselves in less than two weeks. AFD used scores and comments to present proposals internally and come to a decision on funding.

- **PLANNING – Emphasize External Collaboration to Support**

**Actionable Outcomes:** In the application criteria and in engagements throughout the project period, challenge sponsors required groups to provide evidence of support from a decision-making organization, which could act on any insights generated through the project. This principle, as well as the repeated steps taken by the challenge organizers to connect teams with decision-makers ensured that projects were not overly theoretical, but could support real-world action toward pandemic response.

- **SUPPORT – Guarantee Support Systems Run Parallel to Normal Activities:**

During the six-month period, the challenge sponsors saw firsthand the amount of work participants needed to complete. Consequently, the challenge sponsors tried to ensure that the help they offered did not distract from or complicate these tasks. Online platforms launched to support teams needed to be accessible and familiar to teams, as unfamiliar platforms would rarely be checked and not allow for inter-team engagement. Services needed to be offered in the language used by project teams to avoid creating barriers. Support not developed with a consideration for a team's existing processes and workflows was not used. The challenge placed a particular emphasis on inter-team collaboration and operated an online "Situation Room" facilitated through a social media platform<sup>[3]</sup>. While the "Situation Room" showed promise in some respects, future data challenges might rely more on simpler tools such as email.

## II. Recommendations and Additional Takeaways

Organizing, launching, and acting on a data challenge within short time frame can be difficult for both teams and organizers, as the prior sections suggest. However, there are ways to mitigate these difficulties.

In addition to the above takeaways, each of which focus on an aspect of the design cycle, we offer several additional recommendations on ways organizations can support beneficial, data-driven work based on feedback from participants and internal reflections after the conclusion of the challenge. These include:

- **SCIENTIFIC EXPERTISE – Provide Project Teams with Experts**

**to Consult:** Outside experts are integral to short-term challenges, as they can address questions that may arise in developing a project or proactively identify problems with a proposed approach. Organizations can support project teams by mapping and identifying knowledge or capacity gaps—e.g. compliance with applicable data protection regimes—and making those experts (or those institutions with the requisite data) available to teams through webinars, online messages, or other means. Ideally, these experts should be familiar with the context, aware of the challenge timeline and requirements on teams, and willing to devote their time to it.

- **PRIVACY RISKS – Proactively Train Teams on Legal and Regulatory Challenges:**

It is integral for speed not to occur at the expense of data responsibility. Teams must uphold local, national, and international standards pertaining to the rights of data subjects. They must be aware of the legal and regulatory environments in which they operate and design their projects in reference to these standards. As such, those organizing rapid challenges might seek to proactively provide teams training around these issues. Specifically, the challenge sponsors worked with legal experts to provide all participants with an overview of the European Union's General Data Protection Regulation (GDPR) to ensure that teams adhered to this legal framework and addressed data privacy concerns as they arose. It is also important to take advantage of contacts in target countries' governments and NGO communities so as to connect teams with specific information about the administrative and regulatory hurdles they must overcome.

[3] Slack platform: <https://slack.com/>

● **TURN DATA INTO DECISION INTELLIGENCE – Connect Teams with Outside Decision-Makers:** Data can be used to produce great insights into complex problems, but insights by themselves do little. It is essential that those insights be acted upon. Data intelligence needs to be converted into decision intelligence. The challenge organizers required teams to have pre-existing relationships with organizations and public authorities who could address concerns with data access that was useful and relevant to decision-makers. Teams focused on being actionable by being aware of the larger context and how their work fit into national and international responses to COVID-19. It is worth pointing out that short timelines can make it hard for groups to collaborate with those outside their cohort, as outside actors often have schedules and obligations that do not align with the challenge timeline. This problem is especially acute for those seeking publication in academic journals and those seeking to collaborate with actors in crisis settings that already have well-established data operations and workflows. For this reason, teams may seek to rely on pre-existing relationships and secure commitments prior to beginning work. Challenge sponsors also might use their existing relationships and resources to line up additional opportunities for project teams.

● **PUBLIC ENGAGEMENT – Offer Communications Support:** Outside actors—whether those be the public, local governments, or research institutions—can only support projects if they are aware of them and the value they can provide. Such awareness raising activities can be difficult for small teams working under tight constraints. As such, challenge organizers may seek to prioritize strategic communications and awareness-raising activities themselves, such as supporting public reporting, engagement with data journalists, hosting expert workshops and meetings, and fostering dialogue on social media platforms.

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### III. Data Challenges as a Tool for Practitioners

A data challenge can be an opportunity to bring together data and expertise in places where those assets are normally siloed and difficult to access. The #Data4COVID19 Africa Challenge is only one example of how data challenges<sup>[4]</sup> can motivate rapid, collaborative action on pressing problems when managed well. Several lessons can be learned from this work, including the value of short-term challenges in enabling rapid responses, the need for guidance on data responsibility, the need to foster collaborations with decision-makers, and the role of communications in enabling success.

Ultimately, though, data challenges (and data more broadly) are only one tool at a development practitioner's disposal. Practitioners must assess if a data challenge is suitable for the problem at hand, if there is sufficient infrastructure and expertise available, if useful work can be conducted in the time allotted, and if there are specific governance challenges that might complicate work. Above all else, practitioners must assess whether there are other or longer term efforts that would be more impactful. In a world with limited resources and plagued with systemic challenges like COVID-19, practitioners must understand the context in which vulnerable populations operate to produce action and yield meaningful impact.

[4] More examples of data competitions can be found in a repository for data collaboratives seeking to address the spread of COVID-19: <https://list.data4covid19.org/>

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5, rue Roland Barthes | 75012 Paris | France  
**Publication director** Rémy Rioux  
**Editor-in-chief** Thomas Melonio  
**Graphic creation** MeMo, Julie Gilles, D. Cazeils  
**Design and production** Comme un Arbre!

**Legal deposit** 1<sup>st</sup> quarter 2022 | **ISSN** 2428-8926  
**Credits and authorizations**  
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Printed by the AFD Reprographics Department

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