R in support of civil society strengthening in the gender-based violence sector in South Africa

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1. ixpantia 2. The Relevance Network 3. Foundation for Professional Development 4. University of Oxford, Department of Social Policy and Intervention

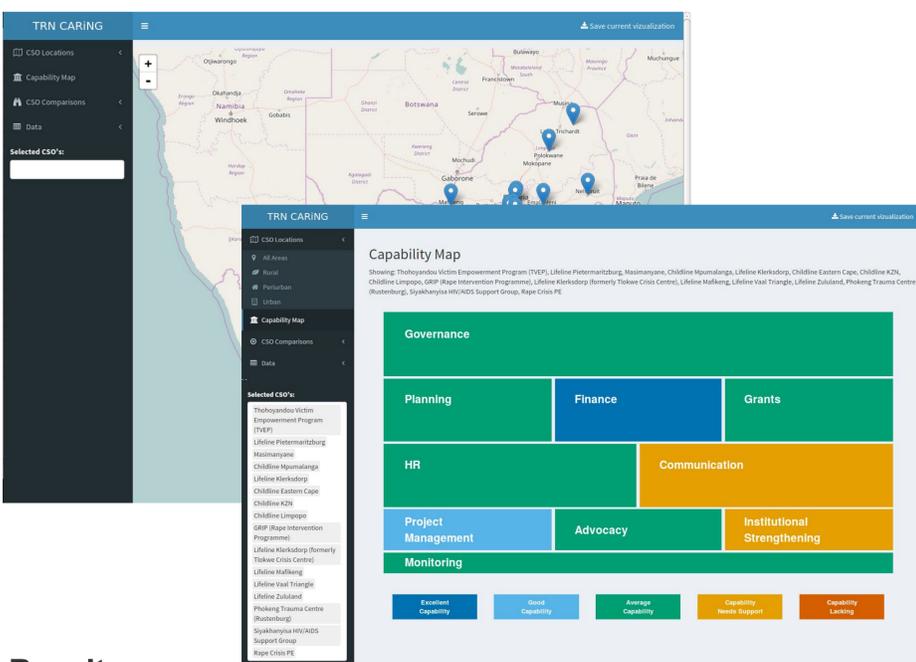| Social Development	Policy and decision making	custom graphics	Shiny	ggplot2

Background

Data-driven analyses play an increasingly critical role in social development worldwide. Evidence-generation provides insights into both gaps and best practices, which can translate into improved programming and policy decisions. The reliability and validity of evidence, however, hinges upon numerous underlying assumptions.

Perhaps the most challenging of these is the numerical and statistical literacy of those who seek benefit from rigorous social science investigations, namely stakeholders from the public and private sectors. **Leveraging the potential of rapid data analytics, coupled with the visualization of findings to make them "accessible" to lay persons, is key to countering the realities of diminished pools of social investment funds.** In short, the social development sector needs to be strengthened via programs and policies that demonstrate effectiveness and potential for scale.

Results

The evaluation of data accounted for multivariate analyses, the desire to generate custom graphics in ggplot2, and the pragmatic need to tell "stories" using visually-driven narratives informed by experts.

The synergies between these three fundamental considerations resulted in an accessible, visual mapping of individual GBV CSO capacity, as well as Principal Component Analyses that generate distance maps to align like-skilled organizations. The purpose of the latter is to support matching well-capacitated GBV CSOs with those in need of strengthening for the purposes of constructing a mentorship/mentee model nationwide.

In addition, the layered capacity of the toolset built in R, coupled with the visualizations owing to a Shiny app, supports multiple views of the data from within and across the participating GBV CSOs. This is critical to policymakers and donors alike, who require access to nuanced data interpretations to inform decisions regarding "smart" partnership, social investment, and targeted responsiveness to needs.
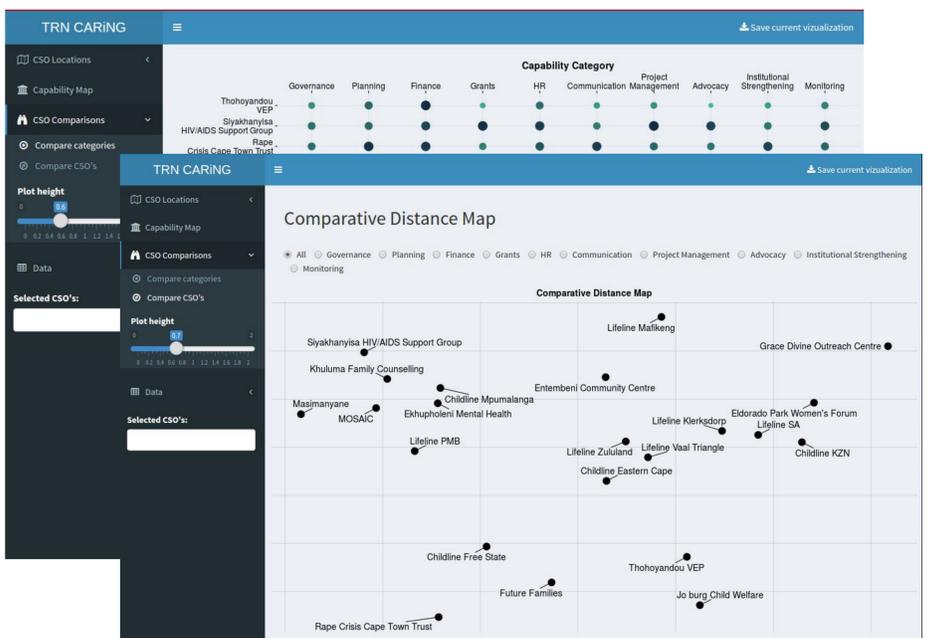

Methods

A collaboration between data scientists, implementing partners, and civil society organizations (CSOs) in the gender-based violence (GBV) sector was launched in 2016 as part of an on-going landscape analysis in South Africa. **The goal of the project was to measure the functionality of GBV CSOs across key performance areas: governance, partnership building, advocacy, monitoring & evaluation, and internal capacity.**

To collect data points that would inform robust analyses, the team constructed a web-based questionnaire using modified tools from the NGO sector tailored for GBV service providers (FANIKISHA, NGO Scorecard, and the Independent Code for Non Profit Good Governance). Responses to the online questionnaire (n=122 variables, n=24 GBV CSOs nationwide) were distilled into 10 organizational dimensions and weighted appropriately to support predictions of "sustainability".

Using the resulting scores from the focal practice areas within the data set, **the team developed a model to translate relatively complex data into visualizations and reports for two audiences: first, for those capable of performing advanced statistical inquiry; and second, for those lacking numerical literacy.**

Discussion:

The toolset available in R for these kinds of top-level capacity interrogations is excellent, as it allows for rapid iterations and translations to other practice areas while still offering enough granularity to make precise customizations were required.

Any improvement in the support given to these CSOs owing to the visual interpretations of the data can have a substantial beneficial impact, particularly in settings like South Africa where GBV rates are persistently among the highest in the world (Patience and Nondumiso 2015).

References

Patience, Mpani, and Nsibande Nondumiso. 2015. *Understanding Gender Policy and Gender-Based Violence in South Africa, a Literature Review for Soul City: Institute for Health and Development Communication.* Braamfontein, South Africa: Tshwaranang Legal Advocacy Centre.