

Data justice for development: The co-production of knowledge in Quarry Road West informal settlement

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Introduction:

This research paper focuses on the role that mapping and urban datafication is playing in supporting social and environmental justice and transformation in an informal settlement, Quarry Road West informal settlement, in Durban South Africa. Researchers from the University of KwaZulu-Natal and 'mapmakers' from Quarry Road West informal settlement have formed a five year partnership within the Palmiet Catchment Rehabilitation Project (PCRP) to co-construct a wide range of maps and data, to produce knowledge which supports social learning, the building of resilience and the upgrading of the settlement.

The researchers and the mapmakers have been producing maps, data and images together since January 2014 (see Mazeka et al., 2019; Martel and Sutherland, 2019; Williams et al. 2019; Sim et al., 2018; Vogel et al., 2016). However, the project is now at a critical point where it is important to reflect on the value of the maps and data produced in terms of how they have supported (or not supported) the transformation of the community and addressed development deficits. It is also critical to explore how the participatory community based mapmaking and data production is shaping city decision making with respect to the relocation or upgrading of the settlement.

There are 550 informal settlements in Durban comprising of 226 000 households (eThekweni Municipality, PPT, 2018). The eThekweni Municipality is unable to deliver formal houses at the scale and speed needed to address these backlogs, and hence it is increasing its existing efforts around informal settlement upgrading. The Municipality has always had a relatively progressive approach to informal housing, which is reflected in, for example, its incremental service provision programme. In 2018, Quarry Road West informal

settlement was selected as a pilot study for the iQhaza Lethu Partnership Project, which is a partnership between Project Preparation Trust (PPT), Slum Dwellers International (SDI) and the Human Settlements Unit of eThekweni Municipality. This project is funded by the European Union and will run over three years from 2018 to 2020. iQhaza Lethu aims to create a cohesive and collaborative effort towards upgrading of informal settlements, drawing on the knowledge and expertise of the municipality, NGOs, researchers and communities. Settlements selected as pilot studies will become sites of innovation and experimentation in informal settlement upgrading.

Quarry Road West informal settlement is an interesting pilot study as it is categorised as a 'deferred relocation' by the Human Settlements Unit, as it is located on a precarious and high risk site, the narrow floodplain of the Palmiet River, which is prone to flooding after storm events. It will therefore be challenging to upgrade the settlement in-situ. However, the settlement is well established, it has been in existence for over 32 years and it is not likely that it will be moved in its entirety in the near future, due to the large housing backlogs and slower delivery of formal low cost housing in the city. It is therefore critical to build resilience in the settlement and provide interim upgrading, so as to improve the quality of life of residents. The maps and data produced as part of the PCRCP in Quarry Road West informal settlement are starting to play a critical role in shaping municipal decision making at the project and more strategic level, as a result of this knowledge and data 'travelling' in to the iQhaza Lethu Partnership Project, through a boundary spanner, Bahle Mazeka.

This research paper focuses on the relationship between the mapping and data processes that have been undertaken in the community to date, and the building of state-citizen relations. It questions whether this form of knowledge production can support the upgrading of the settlement and hence achieve a higher level of resilience and social and environmental justice in the settlement. It also explores the role of boundary spanners in increasing data justice in the city. It therefore provides a critical reflection of the level of data justice achieved through the methodologies that have been developed in the settlement to date through the PCRCP and the way in which the data has travelled between the community and the municipality, informing community adaptations, as well as municipal responses. *Collaborative informal settlement action* in one of two Resilience Building Options (RBO) of Durban's Resilience Strategy (eThekweni Municipality, 2017). Outcome 2 of this RBO aims to ensure that "consolidated quantitative and qualitative community and municipal-collected

data, information and knowledge on all informal settlements in Durban are accessible to all and updated regularly". The analysis conducted for this research paper will therefore provide useful input in to the process of implementing Durban's Resilience Strategy, as well as to the iQhaza Lethu Partnership Project.

Project Description:

Aim

The aim of the paper is to examine whether the co-production of knowledge in Quarry Road West informal settlement, between university researchers and informal settlers, which has resulted in the production of maps, urban data and images, has increased data justice for social and environmental transformation in informal settlements in Durban.

Research questions

1. To explore the extent to which the maps and data produced in Quarry Road West informal settlement are shaping and re-shaping state-citizen relations.
2. To investigate how knowledge building, data production and social learning is being developed through the partnerships and governance arena that have been established.
3. To explore how maps and urban data that are co-produced can contribute to social and environmental justice and transformation of the settlement.
4. To determine if these knowledge and data production processes can be scaled up across the city, or is the process too human resource intensive and time consuming.

Background

A theoretical framework is currently being developed as part of this project, to analyse the processes of mapping and data production that have been undertaken thus far in the PCRPP and to explore the extent to which the maps and data produced have shaped and are shaping state-citizen relations; knowledge building; and transformation in the settlement. In other words, what does data-justice-for-development mean and 'look like' in an informal settlement in Durban, that forms part of a participatory governance arena that is focusing on the rehabilitation of the Palmiet Catchment and how can this be analysed and interpreted theoretically. The process of producing the maps and some of the community based data has been published in Mazeka, B., Sutherland, C., Buthelezi, S. and Khumalo, D. (2019)

Community-Based Mapping Methodology for Climate Change Adaptation: A Case Study of Quarry Road West Informal Settlement, Durban, South Africa, in Cobbinah. P.B. and Addaney, M. (eds) *The Geography of Climate Change Adaptation in Urban Africa*, Palgrave MacMillan, 10.1007/978-3-030-04873-0.

This paper therefore extends this research as it asks the critical question of what difference this data and the maps produced have made in the lives of the informal settlers and in the decision making processes of the municipality. It therefore reflects on the power of the maps to affect change. It explores the power relations within the mapmaking and data production processes, as well as in the implementation of their outcomes. It draws on political economy and political ecology to develop a theoretical framework which reflects on the socio-ecological and political relations that emerge and the outcomes of these relations in data production processes in informal settlements that interface with local government. The theoretical framework is still under construction and is being developed through a very broad literature review which includes political ecology and political economy, the right to the city, participatory mapping, participatory GIS and community based mapping, data justice, co-production of knowledge, state citizen relations (seeing like the state and governmentality), social and environmental justice, instrumental, procedural and distributive justice, governing for resilience. This needs to be narrowed down and the authors are thinking about drawing on the literature on the power of maps developed in geography (for example Denis Woods (1992) seminal work *The Power of Maps*), expanding this through the data justice literature.

Project History:

The co-production of knowledge between residents of Quarry Road West informal settlement and researchers at BEDS, UKZN has been in place since 2014. The project has now become even more critical given the devastating floods that impacted on the settlement in 22 April 2019. The data produced is now critical to disaster risk management responses.

Partners and resources:

This project is being undertaken in collaboration with Professor Richard Heeks at the University of Manchester, Manchester as part of an international research programme on 'Data Justice for Development'.

Timelines:

This project was initiated in 2014 and is ongoing. The first report on data justice for development will be completed by 14 June 2019.

Relevance and Impact to eThekweni Municipality:

This research is critical to the Municipality and its informal settlements upgrading programme as well as its disaster risk management response. The programme is supporting the efforts of iQuaza Lethu, which is a partnership programme between Human Settlements Unit, PPT and eight informal settlements in the city. It is also a core focus on the Palmiet Catchment Rehabilitation Project which is part of EPCPD's climate adaptation work.