

## Mapping the innovation infrastructure and innovation enterprises in the Sarah Baartman District

### Introduction

This briefing note aims to provide insights on the extent of the availability of infrastructure that supports or is relevant for innovation in the Sarah Baartman District.

### What is innovation infrastructure?

Innovation infrastructure refers to the physical and organisational structures and facilities that are required for the creation of new knowledge, competency building (education and skills), as well as the diffusion and exploitation of innovation.

Innovation infrastructure includes basic infrastructure (roads, energy, and water), knowledge infrastructure (schools, colleges, universities, research institutions, innovation hubs, living labs, and libraries) as well as information, communication and technology networks (smart grids, broadband and wireless networks) which the innovation actors need to flourish.

Mapping has been conducted for the following:

- Availability of innovation infrastructure
- Location of profiled innovators
- Accessibility: distance matrix maps
- Shortest route maps

### Methods

Primary and secondary techniques were used in mapping the innovation infrastructure and enterprises in the Karoo. Mapping innovation infrastructure and enterprises in the Karoo consisted of firstly using the existing geospatial information and imagery of the municipalities that were accessed from sources such as the office of the surveyor-general, planning units of municipalities, government departments, and the South African National Space Agency (SANSA), among others. Participatory methods, together with observation methods, were used to identify and include information that is excluded from the mainstream or official maps. The identified key innovation infrastructure and innovative enterprises were then visited to acquire GPS coordinates to add to and verify those already obtained from other sources.

### Distribution of innovation infrastructure

Figure 1 shows the spatial distribution of key innovation infrastructure in the Sarah Baartman District. Most of the road network in the District are gravel roads. While the railway is considered a backbone of the economy of the small towns in the District, it is in a state of dilapidation, partly because of neglect. The Sarah Baartman District's head offices are located in the Nelson Mandela Bay Metropolitan in Gqeberha (former Port Elizabeth). In addition to the public libraries in the metro, there is also a number of higher learning institutions, such as the Nelson Mandela University, Varsity College, and Port Elizabeth College, among others. However, the two local municipalities that were profiled (Beyers Naude and Blue Crane Route) do not have access to much of this infrastructure.

### Location of profiled innovators

Most of the innovative enterprises were mainly located in the urban areas, in the proximity of key infrastructure such as major roads, schools, ICT centres, and libraries. The blue dots (showing innovators) often seemed to overlap with the red dots (showing infrastructure) on the maps.

This emphasises the importance of infrastructure and market potential in stimulating innovation activities. It is concerning that some of the innovators are located far from urban centres or innovation infrastructure, bringing into question the long-term sustainability or potential growth of these innovative enterprises.

### Distance to economic hub

Regarding the distance of the innovation enterprises from Somerset East, the findings showed that a significant proportion (44%) of the mapped enterprises were located within a radius of 50km from the main hub (Somerset East). The map shows that 32% of the innovators, which is the lowest in comparison with other Districts, were situated over 50km away from the main hub. Most of the innovative enterprises were around the two main towns in the District, Graaff Reinet and Somerset East. Very few innovators (25%) were based within a radius of 10km of the main economic hub in the District.

### Shortest route to economic hub

The general observation for the mapped enterprises was that most of the innovative enterprises were located far from their main economic hubs in the Districts. Therefore, they must travel long distances (in most instances over 100km) to the main economic hubs within their respective Districts. The map also shows that of the two local municipalities that were mapped in the District, the innovators were located within a radius of 175 km of the hub (Somerset East). Innovators situated in the south-eastern side of the main hub had the shortest distance to the main hub (5 km), followed by those from the eastern side (32 km). Innovators located in the western and northern parts both travel the longest distance of 175 km to reach the main hub.

### Summary of key insights

The Sarah Baartman District is characterised by basic infrastructure that is concentrated around the main towns, and some that are far from urban centres, making it difficult to access. The District has higher learning institutions such as the Nelson Mandela University, Varsity College, and Port Elizabeth College. However, the two local municipalities that were profiled (Beyers Naude and Blue Crane Route) do not have access to much of this infrastructure.

### Suggested citation:

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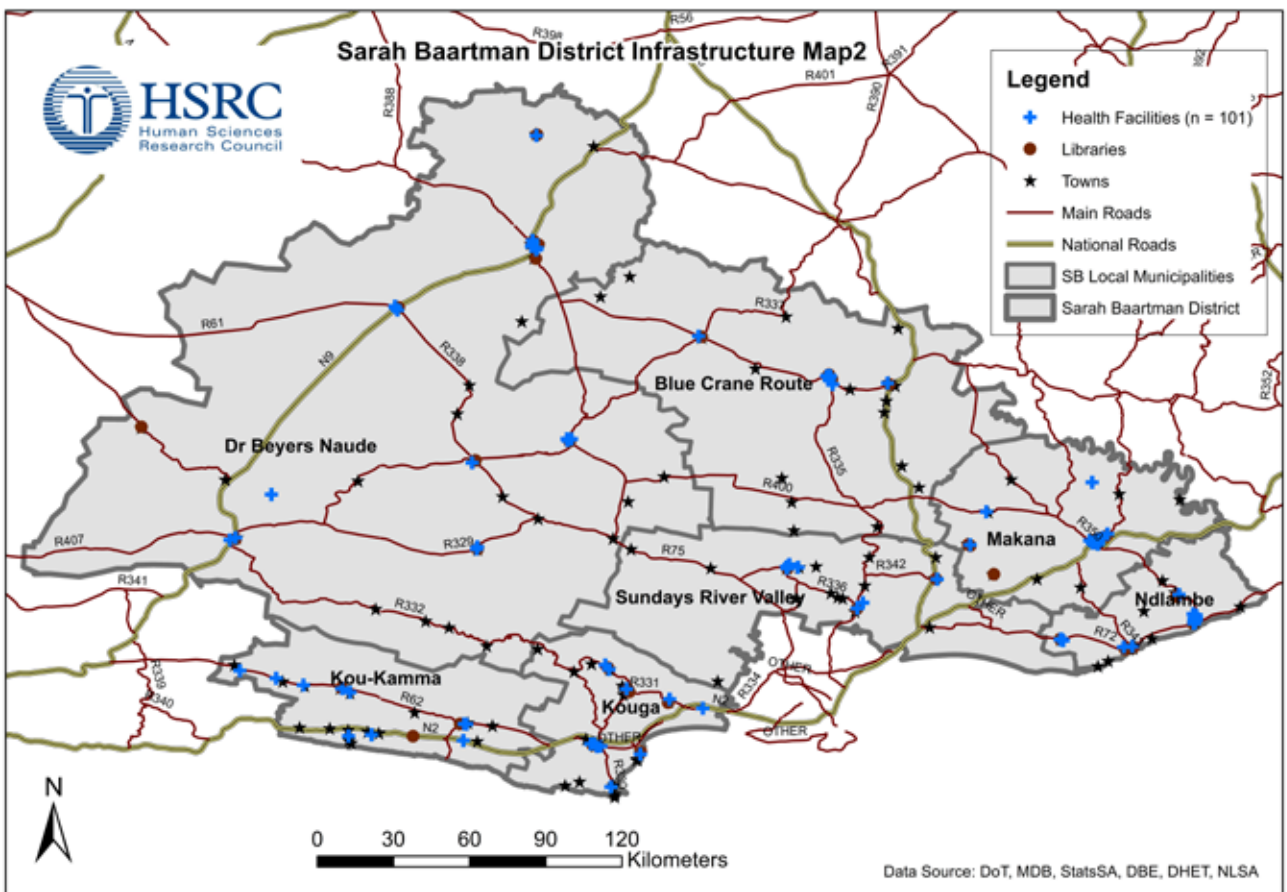
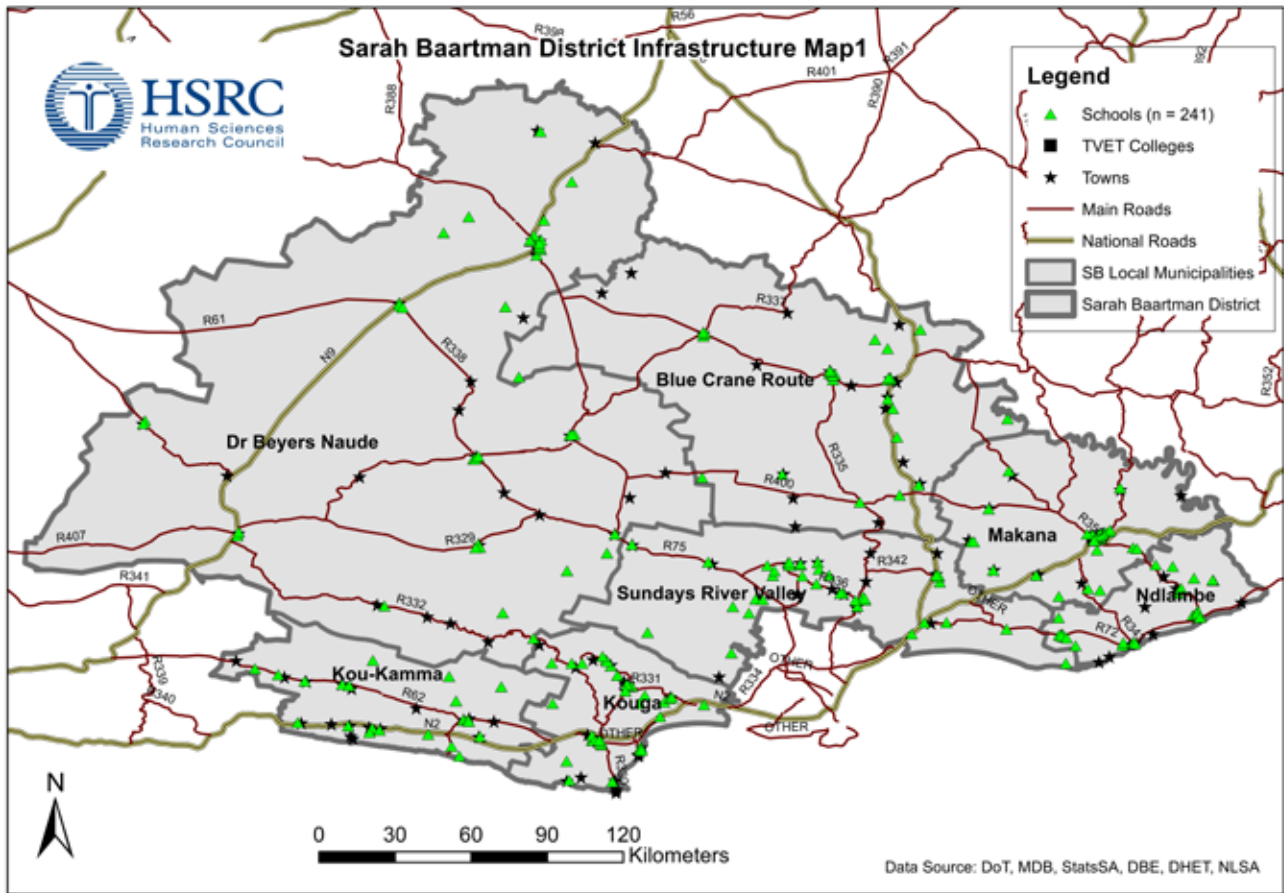


Figure 1: Spatial distribution of innovation infrastructure