

NEFOUND POWER: CASE STUDY OF AN INSPIRATIONAL PROJECT IN THE BAVIAANSKLOOF



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1. Introduction

This paper highlights some of the technical and social aspects of a small rural community project completed during 2002 in the Baviaanskloof (Eastern Cape). The aim of this paper is to highlight the importance of rural electrification in South Africa today.

The missionary settlement of Zaaimanshoek originally developed around a missionary church and school. It is approximately 70km from the nearest small town namely Willowmore where the Baviaans Municipality is situated. The Baviaans Municipality incorporated the Zaaimanshoek area into their municipal area after the 2000 restructuring of local government boundaries and is now responsible for providing basic services to the community.



There are approximately 40 informal houses built around the formal church and school building. The houses are mostly constructed of a reed and clay combination

with only a few brick and zinc units. No formal roads are laid out in the area but distinctive vehicle tracks have been established over the years.

Only recently have pit latrines been installed through a provincially funded project and running water will be installed in the near future. Pumping of water is now made possible by the presence of electricity in the area.

2. The Project - Technical

The project was awarded to the lowest tender, namely Adenco Construction, after an open tender process

The scope of the project included electrification of the following:

- 1 school hall
- 1 office - principle
- 6 class rooms
- 42 house connections
- 10 street lights
- 1 pump station supply point

In addition to the above a vending machine had to be installed on site in order to facilitate the sale of electricity. This facility is managed by Baviaans Municipality and is serviced weekly.

2.1 Design

In terms of the design the following were applicable:

MV/Bulk:

- a new 5km 11kV spur line was built by Eskom
- single transformer 100kVA point located centrally
- bulk metering for the account of Baviaans Municipality

LV/Reticulation

- ADMD = 2kVA
- Standard pre-payment metering and ready board on steel back plate
- Overhead bundle conductor
- Airdac overhead connections
- Connections limited to 20A

Buildings

- Class rooms, office and hall equipped with single tube 5ft fluorescent fittings
- Class rooms, office and hall equipped with single socket outlet
- Single central prepayment meter point for school

Street lighting

- 70 W HPS IP66 fittings - back entry on 250mm long spigot clamped directly onto the pole
- Not separately metered
- Supplied from central control box at bulk supply point

The design is therefor very basic and robust in order to minimize operating and maintenance costs.

3. The Project – Social Impact

In terms of the large number of electrification projects undertaken nation wide yearly this project is truly insignificant in terms of extent. The value of a project like this is however that it highlights the significance that projects like this have on the quality of life of people.

From the start I realized that this was a very special project. The first day that I visited the site I was amazed at the genuine nature of the people living there. As I entered the first class room, where a teacher was busy teaching approximately 20 pupils, the whole class jumped up and said “Goeie môre Meneer!”.

The anticipation and anxiousness of the people to get access to electricity was tremendous. With each site visit one could see how people are gearing up for the day they will be ‘empowered’. A very poor community that led fairly uncomplicated lives would no longer be the ‘left behind’ but they will become equals to the town people with appliances such as fridge’s, plug-in stoves and even TV’s (courtesy of a sender maintained by Baviaans Municipality).

3.1 Handing Over Concert

As one would expect from a respectable contractor (and consultant) at the end of a project there should be a braai or a social event of some sort – but not in Zaaimanshoek. Here a proper ceremony with a concert and singing is hosted by the entire community, including dignitaries such as the mayor, municipal manager, pastor, school principal, police captain, community leaders and yes the engineer and contractor.



A show was hosted depicting the impact that electricity will have on the every day live of the community. The people sang and danced and praised God for the privilege that was bestowed onto them.

The contractor made a remarked after the ceremony that this project was the most rewarding and extraordinary that he has ever done in his 20 years as a contractor.

It is when one experience a project like this that the bigger picture of what we as the engineering fraternity can accomplish in lives of ordinary people truly stand out.

4. Conclusion

The true essence of this project should be carried forward as an inspiration for all future projects that can make a difference to the lives of ordinary people.

Yes, these small remote projects are very seldom profitable for the consulting engineer.

Yes, these projects are difficult since one start from scratch.

Yes, these projects sometimes cause headaches due to unforeseen technical difficulties.



However at the end of the day we as the engineering fraternity should also realize our social responsibilities and take on these sometimes-difficult projects.

The contribution that we can have on the future of South Africa will surely be felt in years to come. Great leaders such as Nelson Mandela have risen from the rural parts of our country and we should not underestimate the value of small development projects such as this in these remote areas.