

SUSTAINABLE RURAL TRANSPORT IN SOUTH AFRICA: ANIMAL DRAWN CARTS

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1. INTRODUCTION

In South Africa the transportation problems faced by developing rural communities on a daily basis are real and substantial. Mobility and access to basic social services and the economic mainstream come at a high social and economical cost. *(ICSTD, 2005)*

Whereas 50 per cent of the population of South Africa is rural, the rural area contains 72 per cent of those members of the population that are poor. *(ICSTD, 2005)* More than 60 per cent of rural households in South Africa have no access to public transport. Public transport is not available to them or too far away to access.

In South Africa the government developed a national strategy regarding transport to guide the delivery of rural transport infrastructure and services. This strategy is aimed at developing a balanced and sustainable rural transport system by supporting local infrastructure and services.

Rural transport implementation plan is strengthening our public and private transport systems by complementing it with alternative modes of transport such as cycling and animal drawn carts and intermediate means of transport. *(ICSTD, 2005)*

2. AIM OF THIS ESSAY

The aim of this essay is to identify the sustainability of animal drawn carts in the rural communities, as a tool to improve rural transport in South Africa, referring to the research of development in design of animal drawn carts in South Africa.

3. BACKGROUND

Animal drawn carts have a long history in South Africa, to many South Africans today, accustomed to motorised transport and mechanised agriculture, animal traction and the use of animal drawn carts, wagons and farm implements seems to belong to another era (*Animal Power, 1995*). Only one hundred years ago, the ox-wagon was one of the most important means of transportation and the wagon-building industry one of the largest. Horses, mules, donkeys and oxen were widely used for riding, packing and traction purposes on farms, industry and by the military (*Animal Power, 1995*).

4. ANIMAL DRAWN CARTS

Interdesign 2005, with its theme of "Sustainable Rural Transport" took place in Rustenburg in the North West Province of South Africa from 3 to 16 April 2005, in conjunction with the SABS Design Institute. (*ICSTD, 2005*)

The main objective of this workshop was to use focus design projects to provide solutions to problems facing developing communities. Involving rural communities in the area, and using local manufacturing facilities and materials, the designers worked in groups focusing on animal alternative modes of transport, bicycles and tricycles. (*ICSTD, 2005*)

Designers visited the villages of Mathopestat, Syferbult and Pitsedisulejang to get insight as to the standing of animal drawn carts in the communities and to obtain information on the existing animal-drawn cart.

One of the focus areas of the workshop involved the expertise of five artisans from Kuruman who make donkey carts for a living. They worked side-by-side with the designers to produce viable concepts. (*ICSTD, 2005*)

The group of designers identified the following problems with regard to the existing carts, namely:

- Women and children's needs were not considered in the design of the carts.
- There are few carts that are safe.
- Very few carts have brakes that work.

- Carts do not comply with any legislation.
- Heavy carts and badly made harnesses are harsh on the animals.
- The economics of introducing manufactured carts into this market has not been thoroughly considered. **(ICSTD, 2005)**

The designers focused on three areas of the design of the carts namely, harnesses and hitching, low-capacity carts and high-capacity carts. The designers found new and cheaper ways to make harnesses. They also developed designs for a low-capacity cart that would use one or two donkeys and carry one or two people or a small load, as well as high-capacity carts for up to six people or heavier load. **(ICSTD, 2005)**

The different types of cart prototypes have been manufactured, and will be tested.

5. PUBLIC AND POLITICAL VIEWS

World-class designers to focus on sustainable rural transport. “Designers from around the World will join South African designers for two weeks in Rustenburg in April this year (2005) to address design problems surrounding sustainable rural transport”.

“Designers are looking for sustainable alternative modes of transport for rural areas considering that the rural households in South Africa say that public transport is not available or too far away to access, learners traveling to school and the time spent traveling. The designer will focus on the different areas of rural transport technology”.

Donkey carts get a boost, Cobus Coetzee, 5 July 2004. “The 2.5m donkey cart pilot project was a huge success in the Mogalakweng district municipality in the Waterberg district last year and will now be introduced across the province, said provincial transport spokesperson Phuti Mabelebele” (Limpopo Department of Roads and Transport). The carts owners will be taught how to take care of the animals and how to ensure that their carts are roadworthy. Cart operators are encouraged to wear white shirts or reflector jackets.

“ Standaarde nou vir donkiekarre gestel”, Amand Visser, Volksblad, 18 July 2003. “ O die donkie (kar) is ‘n wonderlike ding..... veral in NoordWes. Die rede is hiervoor is

“private spesifikasies” vir die bou daarvan wat pas deur die Suid-Afrikaanse Buro van Standaarde (SABS) afgehandel is”.

The standard for the development of the carts is set to ensure the safety of children and transport of the children. The **MEC for Transport in the North West Province** said that the development will ensure that the carts will become cost efficient and reliable for the rural communities.

Budget Speech by the late Abdulah M Omar MP, Minister of Transport, to the National Council of Provinces, Cape Town, 21 May 2002. The minister discussed the problems and the status of rural transport and the development of it. The minister acknowledged that rural transport has been neglected in the past because of lack of strategic guidance in rural transport.

The Minister declared that in the next few months, the department will roll out the non-motorised transport (NMT) program in the Kgalagadi and Botlhabela presidential rural modes.

Address by MEC, Mr Jerry Thibedi, during the Public Transport Month activity on roll-out of animal drawn cart pilot project which promotes non-motorised mode of transport as a safe, reliable and affordable mode of transport for rural-based communities, Loselong Village, Taung, 19 October 2006. The MEC stated that “non-motorised transport is cost effective, safe, user-friendly and very environmentally friendly. Efforts to improve the traditional animal drawn cart and promote the usage thereof in the North West began in 2002, with the department’s commissioning of the Free State Technikon, with the approval of South African Bureau of Standards (SABS), to develop standardised proto-type animal drawn carts with certain specification for the province”

There will be standards set for comfort and safety features for the animal drawn carts. Three types of animal drawn carts are developed. The MEC said that the key element of the strategy is to explore the feasibility of the inclusion of animal drawn carts into the main stream of public transport in areas where this mode presents itself as an ideal.

The public (media) and politicians agreed that rural transport in South Africa has many problems. The problem of sustainable transport in rural communities is transport that is

cost efficient and reliable. The politicians are starting to take action on how to solve the problems associated with rural transport. The project in South Africa to develop sustainable transport by using animal drawn carts is being supported by both the politicians and the public.

6. POLICY, STRATEGY AND LEGISLATION DOCUMENTS

Several documents include rural transport strategies which are required by the National Land Transport Transition Act (Act 22 of 2000). These documents include:

- Integrated Development Planning (IDP)
- Rural Transport Strategy for South Africa
- National Land Transport Strategy Framework (NLTSF)
- Local Economic Development (LED)
- Moving South Africa, The Action Agenda
- Inter and Sustainable Rural Development Programme (ISRDP)

7. PROFESSIONAL LITERATURE

7.1 Developing Animal Traction Technologies in Bolivia

Report of the mid-term review of Proyecto Mejoramiento Traccion Animal-PROMETA undertaken in Cochabamba, Bolivia from 12-24 October 1998 by Professor Paul Starkey. Professor Paul Starkey is from the Animal Traction Development at the University of Reading.

The PROMETA is a DFID-funded research project. It aims to improve livestock productivity, by selecting and evaluating technologies relating to animal traction equipment, animal health and management, and soil and water conservation systems. **(Boliva, 1998)** PROMETA is now evaluating several technologies including plows, a high-lift harnessing system, a ripper tine and animal-drawn cars with brakes. **(Boliva, 1998)**

The research project looks at different equipment to be used with animals for example in the transport sector, transport of goods and people. The technology of animal-drawn carts is under development.

The Project provides a good example of what can be achieved. The project will in the long run have a significant impact on the target communities, impact on crop and livestock productivity and rural livelihoods.

7.2 Local Transport Solutions in Papua New Guinea

Report on the options for animal power and intermediate means of transport, prepared by Professor Paul Starkey. Professor Paul Starkey is from the Animal Traction Development at the University of Reading.

The report describes the state of transport in Papua New Guinea. The report covers, inadequate transport in rural communities, local transport solutions and the potential for animal power. Professor Paul Starkey gives examples of the successful promotion of local transport in Africa and the lessons learned. (*Papua, 1995*)

Professor Paul Starkey also looks at other modes of transport for example bicycle, motorcycles and cars. He makes recommendations on the transport problems faced by Papua New Guinea provide solutions for the way forward.

7.3 Animal Traction in South Africa: The present situation

The report was compiled by the joint efforts of Prof. Paul Starkey, Dirk Hanekom, Trevor Lake, Dr. Geof Meikle, Funiwe Jaiyesimi-Njobe, of the Traction Development at the University of Reading and the Agricultural Mechanisation Directorate, Department of Agriculture, South Africa.

It reports on the present situation on animal usages in South Africa. It looks at different parts of South Africa and the different types of animals that have been used for different work in farming and the transport of goods and people.

7.4 A Historical Perspective on Animal Power use in South Africa

The report was written by Bruce Joubert of the Faculty of Agriculture, University of Fort Hare, South Africa. It reports on the usages of animal power in the history of South Africa. It includes topics such as:

- When animal power was first used.
- For what it was used.
- The type of animal power equipment, ploughs, carts and wagons that were used, and so on.

It gives a brief insight into the role that animal traction has played in the past with a view to emphasising the need of capturing as much of the old experience, skills and technology as possible so that it can be retained and incorporated in the animal traction development of the future (*Animal Power, 1995*).

8. CONCLUSION

As rural communities are developing, the bigger the rural transport problem in South Africa will become. South Africa needs to look at alternative modes of rural transport. The traditional transport methods, horse, donkey and animal drawn carts must be researched and developed.

By developing and upgrading animal drawn carts, South Africa will equip the women and children to provide for themselves in the rural communities. The animal drawn carts can be used to transport goods and people to markets, schools, clinics, and other destination now being accessed by foot.

Due to the increasing cost of fuel in South Africa, the rural communities would find it difficult to afford the cost of a fuel driven mode. In South Africa's rural areas most of the people living there are farmers and own animals, horses, donkeys and cows that can be used to plough, transport goods and people.

South Africa should develop cost efficient and sustainable animal drawn carts for use in rural areas. More research should be done on the development of animal drawn carts, harnesses for animals, treatment of animals, and so on. The research being done in South Africa is in the right direction and must continue.

9. REFERENCES

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