

# Socio-economic aspects of animal traction in South Africa

by

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## Introduction

This chapter focuses on the socio-economic dimension of the animal traction issue. The purposes of surveying the socio-economic aspects were:

- to form impressions on the status of animal traction;
- to prioritise research areas with a view to investigating constraints identified by farmers at both policy and implementation levels.

The socio-economic aspects of animal traction include those political, economic, educational and cultural factors which may help or hinder the progress of farmers who may need to use animal traction. For example, national policies may promote or discourage animal traction depending on the nature of the government's intentions.

This chapter presents the team's impressions regarding the past, present and potential future roles of animal draft power in improving the quality of life of the rural population. First, some operational terms will be defined and the aims, objectives and methods used in the survey will be re-addressed as these affect the subsequent analysis and the interpretation of observations.

## Terms and definitions

### *'Bantustan'*

Two terms, 'Bantustan' and 'farmer' are seen as operational and fundamental to the debate on animal traction. The term 'Bantustan' has been chosen here to refer to the so-called 'tribal reserves', 'homelands' or 'self-governing states' (as the proponents of the previous regime have called them). These latter three terms are euphemisms, used to hide the cruel realities of life in these parts of the country. The term 'Bantustan', on the other hand, is associated with the brutality of the policies of separate

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development and the evacuation of peoples from their territories to the 'Bantustans'. The term also captures the failed attempts of the apartheid regime to re-tribalise the African peoples. It typifies the so-called 'betterment schemes' which frustrated the people's agricultural heritage and potential. Proponents of the 'Bantustan' system started to use terms like 'homelands' and 'tribal homelands' to suggest that 'Bantustans' were the natural homes for 'developing' peoples who were 'tribal'.

The term 'Bantustan' was used by the apartheid regime to refer to the areas of land which were reserved for African resettlement in South Africa. These were similar in many respects to the 'reservations' for native Americans in the United States and elsewhere in the Americas. These patches of land were scattered throughout the country, far away from urban areas and separate from the main areas of commercial farming. 'Bantustans' were set up for the purpose of resettling indigenous peoples and were often in the more arid, non-arable and infertile parts of the country.

In accordance with the theory of separate development, the apartheid governments of the past adopted drastic legislation to separate the various African groups of people and to confine each group in its given patch of land. People of African descent were therefore separated from each other, and also from those of Asian and 'coloured' descent and (particularly) from European peoples. By so doing not only animosity was bred among the groups of peoples mentioned, but an impression was created that these 'Bantustans' were the original homelands of the respective African groups. This impression camouflaged the trauma and social disruption caused by the colonial wars and the subsequent forced removals which the previous regimes undertook in order to establish these 'Bantustans'.

The purpose of creating 'Bantustans' was also camouflaged. 'Bantustans' were created for producing and for controlling cheap African labour for the South African labour market.

They were (and still are) structured primarily as labour reservoirs rather than as agricultural production units. Despite the fact that their resident populations had never given up farming, there was almost no attempt to develop their agricultural production and marketing capabilities.

Although the 'Bantustans' had their respective local administrations, they were directly managed and governed by the central government of South Africa. The 'Bantustan' administrators had no authority to make policies, only to implement them.

These and other characteristics of the 'Bantustans' had grave implications for the sustainability of animal traction. For example, the respondents in the survey stressed that the health and life of their animals were constantly threatened by shortage of water, limited pastures and diseases. These constraints affected the choices made by farmers when deciding whether to opt for animal traction and/or mechanisation.

This brief definition of a 'Bantustan' enables reflection on what needs to be changed in these areas before the emerging farmers can increase their capacity for sustained agricultural production, regardless of their choice to use animal draft or mechanised power.

#### *Farmer*

The term 'farmer' also needs to be defined because in the past it was used to refer only to people who engaged in agricultural production for commercial purposes. People who produced for subsistence purposes were not considered 'farmers' by the previous regime. This meant that the sub-subsistence farmers in the 'Bantustans' were not entitled to receive farmers' support services and subsidies from the central government. Without such support, farmers in the 'Bantustans' could neither engage in profitable farming nor participate in the local and the national markets. As a result, these farmers (who had often benefited from animal draft power before the establishment of 'Bantustans') gradually lost their capacity to feed their families and communities. Thus rural communities became dependent on the 'commercial farmers' for their household food security.

In order to include these farmers in agricultural reconstruction at national and local levels, the term 'farmer' is used here to refer to any person who works the land for income generation

and/or for household food security. This definition is consistent with the guidelines provided by the recent draft of the 1994 Agriculture White Paper.

#### **Aims and objectives of the survey**

The aim of the animal traction survey was to visit and interview subsistence farmers in the 'Bantustan' reservations as well as agriculturalists in governmental and parastatal organisations. The purpose of the visits was to discuss issues regarding the use of animal power for plowing, planting, cultivation, transport and other operations. The reason for interviewing people was to form impressions about the current status of animal traction among the rural communities in the 'Bantustans'. These impressions were to be based on the views expressed by the respondents as well as on the general observations made by the survey team.

The objective of the survey into the use of animal power was to produce a report document to inform the South Africa Network of Animal Traction (SANAT), the relevant government departments, agricultural parastatal organisations, farmers' associations and other interested parties about the current status of animal traction in rural South Africa. The development objective of the study was to form impressions regarding the potential role of animal traction in enhancing the capacity of the rural communities towards sustainable food production and small-scale agriculture in the new dispensation. The report was also intended to provide grounds for prioritising areas of research into present constraints and to suggest areas for improvement.

#### **Methodology**

The method used was qualitative and interdisciplinary. Open-ended and random questions were used as a basis for discussions and as instruments for data collection. No questionnaire schedules were drawn up. Instead, the core team recorded whatever information the respondents presented during discussions. Some relevant probing based on the team's own observations of surrounding farming systems, animals and technologies also generated information. This approach was used to limit the imposition by the team of its own preconceptions and assumptions and to allow the respondents to choose freely what issues they wanted to address.

## Structure of the socio-economic analysis

Three timeframes are used to provide a structure for the socio-economic discussion. These periods are distinguished from each other by the respective status of animal traction. The time periods referred to are before, during, and after the construction of the 'Bantustans', ie, before the 1950s, from the 1950s to 1994, and from 1994 onwards. The rationale for choosing the first two periods was given by the farmers themselves. They reported that the status of animal traction as a technological option changed drastically after the introduction of the 'Bantustan' system.

Discussion of the first and second periods is based on the team's interpretation of farmers' observations on the status of animal traction before and after the 1950s. The third part focuses on the impressions of the team regarding the potential status of animal traction in the new South Africa. The discussion of each of the three periods is subdivided into three thematic areas: political-economic, education and training, and cultural issues.

To conclude this introduction, it is reiterated that this report presents the past, present and future political-economic, educational and cultural status of animal traction. The team observed other factors which contributed to the making of the current status of animal traction (eg, drought, complementarity issues, technology costs) and these are discussed elsewhere in this volume.

## Pre-'Bantustan' animal traction

### Political-economic aspects

According to the respondents the decade demarcating the 'Bantustan' period from the previous era is the 1950s. The introduction of the 'Bantustan' policies of the previous government began in the early fifties. Nearly all the elderly respondents recalled the 'good old days' when animal traction was the mainstay of agriculture. Both the agriculturalists and the farmers commented favourably (and sometimes sentimentally) about the prevailing use of animal draft power in olden days. In the Eastern and Western Cape Provinces respondents stressed that in the past, animal traction was used successfully. Farmers were able to meet their household food needs and sell surplus to make an income for purchasing other commodities. Although not able to specify the degree of income, farmers in Ciskei

and Transkei indicated that their communities were able to feed themselves.

The claim that farming was done on a bigger scale in the past was confirmed by the evidence of old equipment found lying about in the farmers' yards. The abundance of these implements indicated that there was a time, not so far in the past, when animal traction was used a great deal. Most of the implements showed signs that they had not been used for a long time, but some had been used to produce the previous harvest.

Farmers argued that before the introduction of the 'Bantustan' system, government intervention into their day-to-day agricultural activities was limited to expropriation of land and to taxation. People could at least breed stock and use animals to till, cultivate and plant the crops of their choice using hoes and animal-drawn implements. These activities were limited to the land areas in which they were resettled after the first forced removals, following the territorial wars.

The farmers also thought that the climatic conditions were more favourable then, but they also had more control of their natural resources such as water and forests. Most importantly, there was land available for their requirements. They harnessed these resources to produce food for themselves. The main crops produced included maize, millet, beans, peas, pumpkins, and melons. They also produced livestock (including cattle, goats, sheep and pigs) and dairy products.

When asked to share their thoughts about the current status of animal traction, the farmers said that it had declined drastically. They gave many reasons for the decline in the use of animal draft power. These are listed here and discussed in more detail in the subsequent section on the current status of animal traction.

The farmers regarded the government policies of land redistribution and reduction of animal stock per household as central to the decline of agricultural life in the 'Bantustans'. All the farmers thought that the severe drought of the late 1950s and subsequent droughts also reduced their stock and destroyed the veld. There was, however, a general consensus that government policies predisposed their cattle to the drought so that the general decline in animal traction usage was worsened. This view contrasted with opinions of many of the agriculturalists and the extension workers

contacted, who tended to regard animal traction as an obsolete technology.

### Education and training

This section addresses issues of knowledge and gender, education and images in the 'good old days'. The respondents often claimed that they had a heritage of knowledge of agriculture including pasture care and the spanning, housing and feeding of animals, especially cattle and horses. This knowledge was transferred from one generation to the next by apprenticeship methods of education and training. The younger generation worked closely with the older people learning the necessary skills. Knowledge of traditional animal health practices and remedies was also part of this heritage, and the custodians of this specialised knowledge transferred it to the next generation through the training of apprentices. Farmers sought advice from those who had received training.

The education and training process was also used to construct a gender division of labour. Although girls received some training, boys were the primary target. According to some respondents, girls were often expected to take part in spanning and use of animal drawn power when they were young. Married women were seldom expected to work with animals (although traditions did vary between areas). Indigenous knowledge of the management of natural resources was integrated into the religious doctrines of the peoples. The land or the soil, plants and trees, as well as water were regarded as the domain or habitat of the ancestral spirits. Abuse of these resources was considered an insult or disrespectful to the ancestors. The abuser risked the wrath of the ancestors.

It would appear, however, that the communities acquired some of the technical skills from the European settlers. For example, no evidence was available to suggest that the communities produced their own plowing implements apart from the hoe. The only implements found (plows, cultivators, harrows, planters) were purchased from the suppliers in the urban areas. Some yokes and harnesses were purchased, some were made locally.

Missionary education and training contributed greatly to this transfer of technical skills to the indigenous population. Missionaries included agricultural skills as a major part of the primary

and secondary school education. Animal traction was the main technology used at the time. Although missionary education tended to prepare graduates for employment in the newly settled European farms, industry and other businesses, some graduates returned to their villages and contributed these skills to the pool of indigenous knowledge.

Missionary education, however, suppressed indigenous forms of knowledge and values, especially religious ones. This distorted the general fabric of indigenous values and images of the relationship of people with the land. Agriculture became associated with negative experiences. Instead of growing food for their families, they were being trained to work for European farmers. Living in the farms under poor conditions and being ill-treated did not help the image. In missionary schools children were sent to work in the gardens as punishment for wrong doing. Africans were excluded from large-scale and profitable agriculture. Agriculture, including animal traction, acquired a stigma because of these circumstances. African graduates began looking at farming as getting their hands soiled. As large-scale farming became more and more mechanised, animal traction was increasingly looked upon as an antiquated technology.

### Cultural aspects

The African and the 'coloured' groups of farmers interviewed expressed a unanimous belief that they have a cultural heritage of animal traction using cattle. Horses were used as well, during the pre-'Bantustan' period, but not to the same extent as cattle. Use of donkeys and mules was thought to be relatively new. The introduction of donkeys was often linked to the series of droughts since the late 1950s (this is discussed later).

The African farmers were of the view that cattle, unlike donkeys, were culturally multiple-purpose animals. In addition to their role of tilling the soil and transporting harvest on sledges, they had important cultural roles. They gave the following as examples of the cultural roles of cattle.

- When a girl was getting married, cattle were used by the bridegroom's parents for dowry, for slaughter and for dairy supplies so that the children of the young couple could be well fed.

- Cattle were also slaughtered in ceremonies for marking stages of children's development and growth and their education and training programmes (eg, the school of initiation).
- Cattle were also slaughtered in religious ceremonies (eg, marking the stages of mourning).
- Cattle were also used for transportation in wedding ceremonies.
- Cattle were an investment and a form of savings which grew. As stock numbers multiplied, owners could sell or barter in exchange for other kinds of produce.
- The status of cattle owners was bestowed not merely by cattle ownership, but by the capacity to meet the needs listed above.

According to the farmers, the 'coloured', the baSotho and the Xhosa have a cultural heritage of using horses as follows.

- The Xhosa used horses for riding only. They do not appear to have adopted the use of horses to pull carts, although this was common among the European peoples.
- The baSotho on the other hand used horses primarily for transport as in riding, and also as pack animals. Unlike their Nguni counterparts, they slaughter horses for human consumption;
- The 'coloured' people used horses for both traction and transport. During the team's visit to Western Cape (Haarlem, Buysplaas and Saron) there was plenty of evidence in the form of harnesses. The residents of these 'coloured reservations' informed us that very few horses remained and that they had been replaced by donkeys which are more hardy.

As in the case of education cited previously, African communities adopted some of the European cultural traditions and integrated them into their own culture. The most explicit example of this adaptation was the popular wedding ox wagons of the pre-'Bantustan' period. The European ox-drawn wagon was used to transport the bridal wedding party (*uduli*) to the bridegroom's home. Her wedding gifts from her parents, relatives and friends were carried in these wagons. The wagons were decorated with colourful canopies made out of patchwork and beads.

At weddings there were also horse riding drills where teams of horses, up to thirty or more,

represented the bride's side, and another team of horses (more or less the same number) represented the bridegroom's side. Riders wore colourful clothes decorated with beads. The horses were also decorated and the best decorated ones won the praise of the wedding guests and became the talk of the villages for weeks thereafter. These cultural adaptations served to popularise the value of animal power. This will be taken up later when discussing the image problem of animal traction.

## **The status of animal traction in the 'Bantustans'**

### **Political-economic aspects**

#### *Decline through 'betterment'*

While most respondents thought animal traction had declined, they differed as to the reasons for its decline. Some thought it was obsolete, having given way to mechanised agriculture. 'Land hunger' was also cited as a constraint. During the second leg of the survey (North-West and Cape Provinces) agriculturalists and extension workers were more specific about the role of the central government in the decline of animal traction.

Farmers in Ciskei and Transkei claimed that the previous government first used the Bunga Councils of the 1930s and 1940s and subsequently the 'Bantustan' local administrations to suppress the agrarian lifestyle of the people and to undermine animal traction. The reduction in the amount of pasture land and in the numbers of animal stock coupled with the introduction of communal and trust land tenure systems led to the decline. However, the older generation did not give up and they continue to farm, even though the imposed conditions make farming uneconomic.

Resistance against the so-called modernisation or 'betterment' schemes of the government was fresh in the memory of people spoken to in Transkei and Ciskei. This was reflected in their support for animal power and their aspiration to restore it as a viable option. The view was that there are people who cannot afford tractors and motorised transport services, who must have a viable option. Even those who can afford mechanised systems may reduce their expenses if they combine the two. In particular, they can use animals which they may rear to milk, sell or slaughter and to provide draft power for certain activities that can follow tractor plowing, such as planting and weeding.

### *Drudgery reduction*

The present main role of animal traction is soil tillage and the transportation of water. This role is perceived by the group as a reduction of drudgery which is often shouldered by women, old people and children. For example, the drudgery of hoeing by hand in some areas visited (notably in the Transvaal provinces) was greatly relieved in other areas visited (notably in the Cape provinces) because people used draft animals to pull implements such as planters, cultivators and harrows.

In the case of transportation, it was seen that the use of animal-drawn carts or sledges relieves the burden of transporting water, firewood, manure and building materials. Carts are used to take old people to hospitals and pension collection points. They transport shopping back home across long distances which would otherwise be done on foot. People living in hilly places and on the mountain ranges use donkeys as pack animals, in some cases unaccompanied.

In almost all the places visited, perhaps with the exception of some areas in KwaZulu, donkeys were being used in greater numbers. The farmers believed that cattle and horses could not survive the drought as well as donkeys.

In all the places visited, people who have no animals of their own, will often hire animal-drawn carts to ferry water, building materials, goods, etc. The non-owners benefit from the service and the animal owners generate income from hiring the animal-powered services. Other members of the community make carts for a living. These activities contribute to the quality of life of the community as they provide affordable mobility to and from the market places for traders and consumers.

### *'Peri-urban' and 'remote rural' differences*

People in the peri-urban parts of the countryside see less of these activities. Therefore, they thought that revival of animal traction would be a step backwards. They considered that the use of mechanical options such as tractors for tilling and 'bakkies' for transport were necessary for successful farming. The poorer and more rural farmers, on the other hand, wanted tractors as well, but were also convinced that animal traction was very important for them.

Some farmers in the peri-urban areas also thought that animal traction could be used to complement tractors to sustain their farming and transport activities. They preferred tractors for plowing but often used animal traction for cultivation, planting and harrowing. Animals were also considered useful for transportation, for example of manure, harvest, wood, water, building materials and shopping.

In the more rural and poorest farm areas, on the other hand, farmers generally accepted that animal power was the only option for plowing and for transport. Cultivation and planting were sometimes done by hand.

The former group of farmers seemed to see animal traction as a complementary technology. The latter group (with no access to mechanised technology) consider that animals play a major role and are important for the very survival of their farming and transport activities. All groups said that they preferred tractors if they can be helped to acquire tractor services by the new government.

### *Labour, employment, unemployment and youth*

While the remote rural population group currently needs animal traction, the youth and able-bodied labour is tending to be drawn away from the rural areas into employment outside these areas. The absence of skilled and able-bodied persons can present a problem for animal traction users, because animal power is more labour-intensive than mechanised power.

The peri-urban environment is also not conducive to self employment and earning a living through agricultural production. Old people said that shortage of labour was one fundamental reason. The most vibrant activities observed by the team in these areas included buying and selling of consumer products produced by the viable economic systems of South Africa. Young people prefer to work in the retail stores. The commodities sold are produced by commercial farmers who use tractors and 'bakkies'.

Agricultural activity is often ruled out as a career option or income-generating activity. Families have become more and more dependent on remittances from their relatives who work in industry and the mines, as well as on pensions and other non-agricultural income. Some survive on poverty wages working on the large-scale farms, thus contributing further to the drain of able-bodied workers from the African communities. This was articulated best

by the chairperson of the African Farmers' Union of the Western Cape during a visit to Saron.

#### *Lack of viable economic systems*

In addition to the constraints mentioned above, 'Bantustans', as socio-political constructions, were never intended to be self-sustainable. Their main function was to reproduce labour for South Africa's commercial farms, industry and service markets and not for themselves. Many are too small in size to allow for viable and sustainable farming regardless of whether animal power or tractors are used. Most of the land in them is classified as 'non-arable', water supply is scarce and irrigation very limited.

The general scenario is one of overcrowding, with animals and humans competing for space. Able-bodied and skilled labour is drawn out of these areas to work on the large-scale farms and/or industry. Elderly people, mainly women, remain. Children are at school most of the working time. Most people rely more on wages earned by their relatives who are employed in industry and on the large-scale farms rather than on their own income from farming. Able-bodied people found in these areas are there because they have not managed to find jobs.

The unemployed lack the necessary requisites (ie, basic infrastructure, capital, water and support services) to utilise the limited arable land available for farming. Some of this land lies fallow and the morale of the would-be farmers is low. The 'Bantustans' are too small in terms of land space to support the labour power and animals necessary if animal traction technology is to be a viable option for local farms. Under these conditions (eg, land allocation of 0.5-3.0 ha) farming tends to be uneconomical.

Nevertheless farming has survived more as a social than an economic activity because the older generation has not been willing to give up. It hardly provides food security, let alone profit for those who undertake it. Low profitability (sometimes even negative) was often found to be the case whether farmers used tractors or animal traction. It is a general perception of the survey team that the scenario outlined above lies at the heart of the marked reluctance on the part of the younger generation to choose agriculture in general, and animal traction in particular, as a career option.

#### *Land hunger, land quality and land tenure*

Although the agriculturalists tended to introduce the problem of land hunger as a problem of over-population (animals and people) this was probably due to past government propaganda in support of its policies. However, in the course of interview sessions throughout the survey, the problem was identified as that of 'land hunger' by both farmers and the agriculturalists. It was felt that high population density, of both people and animals, contributed most to soil erosion.

In conclusion, it is noted that the issue of land hunger and poor quality of land in the areas visited is very important. It forms the basis for several recommendations relating to the restoration of effective animal traction. It is also noted that agriculture is not an economic option unless there is sufficient arable land and pastures and the necessary infrastructure (ie, water supply, electricity, roads) and support services (research, credit, subsidies). It is in this context that proposals for the revival of animal traction need to be developed—the public works programme of the Reconstruction and Development Programme (RDP).

It is the view of the middle-scale farmers that communal land-tenure systems and communal pastures are also part of the problem. These farmers argue that they do not qualify for credit if their farms are on 'communal land'. The problem of pastures was also seen as a bottleneck because farmers are not able to stock cattle-feed and when the rains come cattle are thin and hungry. This delays the start of plowing, for they have to wait for the grass to grow. The revival of animal traction is, therefore, dependent on the recommendations and implementation of the land redistribution programme. For this reason an animal traction perspective (perhaps provided by SANAT) is required as an input to the research being conducted by the Land Restructuring Programme (LRP).

#### **'Bantu' education and training**

Among the major problems observed by the survey team was the treatment of agriculture as a subject in schools, colleges and universities. One objective of 'Bantu' education has been to produce graduates who must leave their communities to seek employment in industry, on the large-scale farms and in businesses. This 'mis-education' of young people, extension

workers and farmers alike has promoted their aspirations for jobs in the cities and for using tractors as modern things. It has cast the option of self-employed farming as backward and outmoded, especially if animal power is used.

A comment on the curriculum of the 'bush colleges' and universities was forcefully expressed by the members of staff of the Tompi Seleka College in Lebowa. They made it clear that the curriculum was not based at all on the needs of the local rural communities.

Throughout the educational system, even in the 'Bantustans', agriculture was generally marginalised and neglected, and the animal traction aspect of it in particular was ignored. Contrary to indigenous education, and to missionary education to a lesser degree, 'Bantu' education prepared agricultural graduates who could only serve as assistants to 'European' agricultural extension workers, technicians and professionals. Their courses were neither related to local farming systems, nor were they sufficiently technical and mathematical to allow rapid professional promotion. Thus graduates of 'bush technikons' tended to opt for teaching careers or non-agricultural jobs.

The 'modernisation' or 'betterment' paradigm has been used to promote the idea that development inputs have to come from outside of the communities as their culture is thought to be lacking dynamism. The 'Bantu' Education Department in Pretoria planned for the 'Bantustan' Departments of Education and selected the curricula for their schools and their colleges. These curricula excluded both the indigenous knowledge and methods, and those incorporated from the missionary sector. As a result, indigenous knowledge has been, and still is, widely regarded as 'backward'. Ecological and mathematical knowledge have suffered most. People who still had this knowledge in the 'Bantustans' were seldom, if ever, consulted in relation to training and education: they were generally ignored.

In conclusion, the general state of affairs described above has given farming in general, and animal husbandry in particular, a highly biased image. Highly mechanised and commercialised farming systems (as seen on 'white' farms) are perceived as modern and good. Small-scale systems (as seen on 'black' and 'coloured' farms) are old-fashioned and bad. No attempt appears ever to have been made to discuss why some farms are large and others small, nor economic issues of scale (ie,

what mechanisation is appropriate on what size of farm).

### **Culture of animal traction under the 'Bantustan' system**

The survey team was given a strong indication that animal traction is now often the responsibility of the unemployed and the retired. The younger generation is not really interested in it. It is no longer part of the culture: it is not fun and modern. This is probably the most serious hurdle that will need to be overcome if animal traction is to play a role in development.

What makes this a serious problem is that it is the institutions rather than the youth themselves that have promoted the culture of modernisation through schooling and through entry controls in the job market. The present youth are only consumers of it. The problem is generational and it will take a generation to change mind-sets. Just as civil servants who have thought that exclusion of 'black' people was justified will have to be re-orientated, so many people in educational, training and research institutions will have to be re-orientated to animal traction as one option that should not be forgotten. Bringing forward the old culture or suggesting ways by which young people may want to participate may only produce cosmetic changes. More fundamental, long-term processes will be needed to reverse years of 'mis-education' and cultural erosion.

### **Animal traction in the new South Africa**

#### **Suggested political-economic research**

While it might be tempting to make clear policy recommendations for the way forward based solely on the team's impressions, this should be avoided. Rather there is a need to identify priority areas for more focused investigations than was possible during this relatively brief survey. Viable agriculture in general, and animal traction in particular, can only be realised in the communities if drastic steps are taken to correct the many constraints outlined above. The 'Bantustan' system needs to be overhauled and changed if household food security is to be guaranteed. The price of food that is produced and sold commercially is often well above the buying capacity of many rural and urban people. It is in this context that animal traction may become a major



contributor, by increasing the capacity of the farmers to produce food profitably for their own communities.

It would appear that research ought to be tackled at two levels.

First at policy level in order to develop new policies, having examined the weaknesses of past. For an example the 'top-down' policies of the previous governments need to be replaced by 'bottom-up' policies. This is easier said than done. Therefore there is a need to investigate what is required to make this change happen.

Secondly, the specific constraints observed by the core team need to be investigated in further detail before recommendations to relieve them are made. One of the major questions is whether the communal land tenure policies can be made compatible with the policies of banks and other credit organisations. Farmers are convinced that communal land tenure systems must go because banks do not consider communal land as security. (The case of a tomato farmer in Venda who had to work for many years in the retail business in order to raise capital to start up his career as a farmer illustrated this constraint.)

When looked at from this perspective, attempts to restore animal traction as a complementary technology need to be based on informed decision-making and planning. For example, some of the agriculturalists in Gazankulu thought that the role of animal traction in reducing drudgery would exist only until the public works programme of the RDP delivered electricity and water to the rural households. When, and to what extent, these programmes will reach which villages is a matter for speculation.

However, as has been made clear, animal power is more important to societies than just for water distribution (although this can be very important). Even after the RDP has 'delivered the goods', there may well be a need to use animal draft power, for example by women. Women have many functions in society, including child care and participation in decision making and development planning. The use of animal power to relieve the women who presently have to hoe by hand, to ferry harvest from the fields to the granaries and from there to the mills and/or local markets may well remain. This topic has to be investigated in order to make recommendations.

Bringing granaries and mills closer to small farmers may also contribute to the economic viability of rural agriculture and the marketing of products locally. The role of animal draft power is interdependent with the RDP. The success of the RDP lies in people doing things for themselves. This is the new government's strategy to repair the damage caused by the previous government's policies. Is animal traction rather than mechanisation the best way to increase the capacity of the rural people, so that they are the initiators in their development?

Another research question concerns whether animal power can be employed to increase the number of dams so that water is brought closer to the subsistence farms and vegetable gardens. This has direct implications for pumping water to the households and to the fields, increasing food security and raising the health standards in the villages. It can also provide self-ownership. If the self-driven community-based ideals of the RDP are not well-informed about the communities themselves, their needs and their aspirations, the previous wrongs in policies and in implementation may prove difficult to correct.

### **Changes in education and training**

Changes in the system of education and training are concerned with the reconstruction of the curriculum. This has implications for the value systems and attitudes of the present graduates, especially extension workers. Gender division of labour should be prioritised as a research area, with a view to reconstruction of its past and present status. Another area that needs to be investigated is the selection of various forms of knowledge in the curriculum.

The most important area for investigation with view to changing the scenarios described above is the curriculum of schools and tertiary institutions. The present curricula need to be reviewed and developed to include knowledge which exists in the communities already. This is to be done so that young people do not grow up with the idea that animal traction is backward and therefore not part of the 'modern' culture. This curriculum has to integrate both urban and rural life so that children also learn the knowledge which is part of their heritage in their own communities in addition to academic knowledge. There is also the issue of capacity building within the communities; the status of certain indigenous skills needs further

investigation, including herbal treatments and leather processing.

Since the 'Bantu' education system has effectively disintegrated already, the preconditions exist for revamping the system and establishing a new system in its place. Animal husbandry and animal traction knowledge are needed for rural transportation, tillage, cultivation, planting and harrowing, so the curriculum ought to include these. It should also include general information about credit institutions and other farmers support services.

### **Cultural change**

There is a need to revisit the sociology of the African communities and the family institution to find out which of the traditional values remain strong and which ones have changed. Neglect of the social complexity and dynamism of rural communities has led to paternalistic approaches to development and to the promotion of antiquated socio-economic systems, customs and values. The communal land and agricultural system is based on the belief that organisation of labour, production and distribution takes place collectively and according to blood ties among African groups. The African family structure is perceived by some as extended, rather than nuclear. Others argue that it is as contracted as any other family in South Africa. These values have given way to the ideals of individualism and private ownership following participation by Africans in the money economy.

Most of the people interviewed thought that dowry (*lobola*) is now paid in cash because

cattle are no longer available. Donkeys are more common than they were in the past, but they are not used as dowries. Some changes have therefore been taking place. Does this mean cattle are a thing of the past or is the use of donkeys a tactical move which could be reversed, if the grazing pressure and drought conditions improved?

What proportion of elderly people and women who remain in the rural areas receive stipends from their children and husbands? Information is needed to quantify this. Are all, or most, the people in village communities farmers or even aspirant farmers? Do they want to farm as individuals or as families? This latter question has implications for female-headed households where husbands are away working in the industrial areas. These women often have to wait for their husbands to make decisions about farming activities. To span cattle, women may perceive a need for male help, whereas to span donkeys they may not. Does this mean donkeys should replace cattle? Another interesting area of research is the tendency for some people to engage in agricultural activities which do not appear to be economically profitable. Why do they do this?

In conclusion, there are many aspects of rural and peri-urban society that need to be investigated, to allow a greater understanding of the past, present and future roles of draft animals in South African society. Clearly, some have more importance than others, and the priority issues noted in this chapter should be tackled first.