



CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 THE EMPHASIS OF THE STUDY

Throughout this study, emphasis was placed on the following aspects:

- the role and function of local government institutions in terms of water provision and the development of water supply in rural settlements;
- the water supply situation in the two rural settlements of Makoko and Phameni in the Nsikazi district of Mpumalanga;
- the water utilisation practices of the residents of Makoko and Phameni as influenced by the water supply situation; and
- the influence of the water supply situation in Makoko on the quality of life of the residents of Makoko.

5.2 CONCLUSIONS

5.2.1 Local government system

The new structure of local government as dictated by law since 1994 does exist within Makoko and Phameni, but the practical functioning thereof is problematic.

The fact that the Nsikazi district was formerly part of the homeland of KaNgwane contributes to the district's disadvantaged status in terms of infrastructure (water supply) and the development of local government institutions. Areas that formed part of South Africa's former homelands are singled out in political documents as being in need of political and infrastructural development. This problem is further exacerbated by the lack of political management capacity within the local government councils of these former homeland rural areas, due to the political transition process of the South African local



government system since 1994, which is not yet clearly understood by these new local government councils.

The policy of the Department of Local Government dictates that RC's should operate under the authority of DC's to provide a temporary political "haven" for these developing and inexperienced councils. This "haven" creates the opportunity for RC's to build their capacity in terms of political management, thus empowering those involved in managing rural government institutions (see Sections 2.9.2, 2.9.3).

Throughout Chapter Two, political documents are cited, giving a theoretical account of the functioning of local government institutions with specific reference to infrastructural development, in this case, the development of water facilities in rural areas (see Section 2.9). The prescriptions for the functioning of local government institutions indicate that to develop the water supply systems of rural areas successfully, the needs of residents of rural settlements in terms of their water supply must be determined and successfully met. This will, according to the legislature, ensure residents' satisfaction with their water supply system and create trust in the local government institutions.

The practical functioning (or lack thereof) of these local government institutions (in Makoko) creates a number of problems that delay the realisation of the functioning of these institutions prescribed by law.

5.2.2 Communication

The researcher's multitude of interviews with officials of DWAF, the local RC and PSC members indicated that the main problem delaying the completion of development projects in rural settlements such as Makoko and Phameni is insufficient communication between, and within the different local government institutions. This specifically refers to communication between individual members of a local government institution, such as the PSC, as well as between local government institutions and the residents of the settlement represented. Examples and repercussions of inadequate communication are discussed in Section 2.10.



In seeking reasons for the inadequate communication within the local government system of rural areas, the following must be borne in mind: communication necessitates technology, but the most basic form of technological communication, namely the telephone, is not something that inhabitants of rural settlements such as Makoko and Phameni have easy access to. In Makoko, only a handful of residents have telephones. The residents who do not have telephones usually make use of the telephones of the few people who have phones, hoping to get messages. This form of communication creates obvious problems, when, for example, the neighbour might not find the person for whom the message is meant right away, and later forgets the details of the message. As mentioned in Section 2.10, this is often the reason why PSC members are not present at all meetings of development projects.

5.2.3 Capacity and experience

Inadequate communication between residents in a settlement and the local government institutions that represent them is the result of the members of such institutions' inexperience in managing such tasks. As was explained in Section 2.10, the members of Makoko's PSC change with every new development project. Thus the experience that PSC members have gained in terms of conveying information about development projects to the residents and conveying the residents' needs and suggestions to the DC and engineers involved is lost to any further project teams. So is the knowledge in development management which is built up through experience.

The quantitative and qualitative research of this study suggested that the residents of small rural settlements such as Makoko and Phameni are not fully aware of the role and function of a local government institution such as the PSC. The residents are, however, aware of which of their fellow residents are members of a government institution such as the PSC. In other words, residents identify with fellow residents whom they know and trust rather than with impersonal institutions. Therefore, not having permanent members on a committee such as the PSC creates confusion amongst the residents with regard to whom they can approach with questions and suggestions on development projects.

Having permanent members on such a committee would ease communication between residents and their representatives and create more stability for all parties involved in the development process. It would also enhance trust in the abilities of such permanent bodies.

5.2.4 Water supply

The main water sources within Makoko and Phameni are the Sabi River (via the reticulation network of the Northern Nsikazi Bulk Water Scheme), boreholes, natural springs and rainwater. Of these five water sources, the residents of the two settlements perceive boreholes to be the most trustworthy water source in terms of assurance of supply and hygiene. Boreholes are, however, not necessarily the most favoured source in terms of accessibility and application.

The residents' knowledge of what a water reticulation system can offer when it operates on a permanent basis creates negative perceptions towards boreholes. Residents realise that a successful tap system is more convenient and less time-consuming than fetching water from other water sources such as boreholes. Therefore, the fact that queuing and walking far distances are always associated with fetching water from boreholes makes borehole water less popular than Sabi River water, because the latter has the potential of being more convenient in the form of individual stand taps. This notion prevails even though the reticulation system from the Sabi River to Makoko and Phameni causes a lot of frustration to residents and yields only a fraction of the volume of water it is designed to yield. A tap system which offers a reliable water source within an acceptable distance from residents' homes is an attractive concept and is considered preferable to walking to a borehole, waiting in a queue, and the physical effort involved in pumping the water and then having to carry it home. The incidence of private connections is directly linked to this. As mentioned in Section 3.2.2, the primary reason why residents install private connections is to have water nearby.



The residents furthermore express a feeling of exasperation towards the government department responsible for the reticulation system, because residents believe government is not interested in solving their water supply problems. Residents are left feeling they have to fend for themselves. Nor do they contribute financially to the maintenance of the system. Residents respond negatively to the idea of a water tariff, indicating that if the government expects them to pay for water, they must firstly receive employment from the government.

The fact that private connections do not fulfil the expectations of the residents causes frustration because, although money was spent on private connections, residents are still compelled to make use of the old system of boreholes, which takes up a considerable amount of time each day.

The fact is that the water supply problem of a settlement can only be alleviated on a permanent basis with the co-operation and support of its residents. At present, the residents seem to be unwilling to lend their support to, and co-operate in salvaging the water supply of their settlement, because they continue to install private connections, and are unwilling to pay for their water supply. As explained in Section 4.6, the residents have, in their opinion, well-founded reasons for not wanting to pay for their water supply. The residents' reluctance to pay is partially due to their limited knowledge of the operation of a water reticulation system, but one can argue that the residents of Makoko and Phameni do not take responsibility for the fact that their private connections to the bulk water supply line is a contributing factor to the problems they experience with the water supply in Makoko and Phameni.

5.2.5 Payment for water

The question is whether the residents will ever be willing to pay for their water supply. The primary explanation of the residents' unwillingness to pay is their cosmological perception of water as a product of nature and therefore not something that has to be paid for. The fact that this cosmological perception is the residents' main argument for their



unwillingness to pay is evidence that there is a fundamental difference between the value judgements of the government and that of the residents. The traditional cosmological value judgement prevails because people genuinely think in this manner and not because it is financially expedient to think this way. The handful of residents who are willing to pay for their water supply accept that operating a water reticulation system and a water purification system costs money. This suggests that there is potential for all residents to grasp the necessity of making a financial contribution to one's own water supply.

A further factor influencing the residents' unwillingness to pay is uncertainty about the costs involved. As residents have never paid a water tariff, they do not know what to expect. Their fears include the fear that they might not be able to afford the water needed for washing clothes or making bricks, as these two chores use a lot of water.

It is imperative that information in this regard should be passed on to residents. Residents need to be eased into the concept of paying for water supply. The best way to initiate this process is to include a course on the technological functioning of a water supply system in the school curriculum as this information can then spread to the different households in the settlements via the children. The financial implications of having a water system must also be explained. The most important aspect of such a course must be to explain what the average cost of water per household per month in Makoko, for example, would be and what contribution these payments would make to the maintenance of the water supply system. In other words, it must be explained that the residents themselves will benefit from paying for their water reticulation system, because the water system will be secure and trustworthy.

Information about the functioning of a water supply system would furthermore contribute to the residents' understanding of the implications of private connections on the settlement's daily quota of available water. The researcher is convinced that the majority of the residents of Makoko do not realise the limiting effect that private connections have on the available volume of water per day, because they do not understand how the system works. Therefore, disseminating information on the technical operation of a water supply



system is the first step towards obtaining residents' cooperation during water development projects that include the repair and prevention of private connections.

A further suggestion on this matter is that the concept of **paying for water** should be reformulated to **paying for the water reticulation system**. It must be explained that no one in South Africa pays for *water*, but in reality people pay for the **installation and maintenance of water reticulation systems**. The fact that people pay according to the amount of water they use is a mere formulation of a system for calculating a payment. People who use more water use the reticulation system more, therefore they pay a higher amount of money. The answers of the 33% of respondents who reacted positively to the question of payment for water in the questionnaire (see Section 4.6.3), support this suggestion.

5.2.6 Quality of life

Chapter Four indicated that the residents of Makoko perceive their quality of life to be influenced negatively by the settlement's water supply situation. However, the question remains whether their quality of life will improve if they have improved access to water.

The fact is that the residents do not necessarily have too little water at their disposal per day but rather that they do not have easy access to water. The boreholes in the settlement yield enough water to provide the residents with more than the RDP minimum volume of 25 litres per person per day, but not within the RDP minimum distance of 200 metres from stands (see Section 2.9.6).

The residents feel that the hours spent on fetching water each day reduces the time they can spend on daily activities that increase their quality of life, such as cultivating vegetable gardens and studying, which are both perceived as gateways to increased income. Residents also say that upgrading the water supply system would improve the yield of vegetable gardens and therefore the household would have more vegetables to sell and thus have a higher monthly income. Schoolchildren and tertiary students would



also have more time to spend on their studies, which, according to the residents, increases their potential of obtaining a job that pays a good salary.

As mentioned in Section 2.10, the four different water development projects planned for Makoko will upgrade the water supply via the reticulation system to the RDP minimum standard. The result of this would be that residents would no longer have to walk to boreholes and stand in queues to fetch water for the household. The residents would need to walk a maximum distance of 200 metres to a communal water tap and receive water from the outlet daily at a flow rate of 15 litres per minute (see Section 3.2.1). The influence of private connections on this system is, however, not taken into account in these projections.

However, an improved water supply is not in itself enough to improve the residents' quality of life. The aspects of everyday life that, according to the residents, influence their quality of life, are all activities the success of which depends on the actions of individuals. For example, easier access to water will surely create more time and mean less effort to cultivate vegetable gardens, but the quality and quantity of the yield of vegetable gardens depends on the farmer as individual. Additional personal effort in getting water to the vegetable garden, for example using animal traction, is surely the first step to solving the problem of irrigation. The same can be said for education. Residents say that less time spent on fetching water means more time spent on studying, but the academic success of a student surely depends more on the diligence of the student than on the effect of external factors.

Consequently, residents' improved quality of life is dependent on their own increased efforts in the activities that influence their quality of life, together with improved facilities such as water supply. It must therefore be concluded that an improved water supply creates the potential for a higher quality of life, but that the realisation of that dream remains in the hands of the residents themselves.

Whether the residents' ideals regarding the enhancement of their perceived quality of life due to improved water provision will be realised, is a question that can only be answered

when the activities of the residents of Makoko in respect of their own efforts in enhancing their quality of life are studied after the upgrading of the water supply.

5.2.7 Difference in value judgements

An important conclusion derived from the research is that there is a lack of agreement between the government's philosophy regarding water supply development and the reality of the management thereof.

The South African government's development policy is based on a western philosophy focusing on individualism. This implies that each individual South African citizen is expected to play an active role in his or her own development. In other words, it is the perception of the government that every citizen of South Africa has the right to water at the minimum standard set by the government. Parallel to this vision, each individual citizen has the obligation to pay for the service of providing water via water supply systems. This philosophy is based on the assumption that all individuals whose lives are affected by development projects (for example, water supply) are in favour of development, since development is equal to progress.

By contrast, the residents of Makoko's perceptions are that they have the right to the infinite consumption of water because water is and always has been provided by nature.

As to the residents' perception of water supply development, the time spent with the residents of Makoko has convinced the researcher that the general perception is that development equals improvement, but does not necessitate change. It has to be borne in mind that the residents of rural settlements such as Makoko have had very little exposure to the "outside" modern world and those who have are mostly the younger generation (see Section 4.6). Consequently the residents are at ease with that which is familiar and are sceptical towards anything new that takes them beyond their so-called comfort zone.

This does not mean that the residents respond negatively to all aspects of development. In the case of water supply development, the residents of Makoko are eager to receive



water by means of a reticulation system (improved water supply). A water reticulation system represents a major improvement in water supply and subsequently also influences their water utilisation practices in general (obtaining water is less time-consuming and more water is available). The important point is that everything that comes with a water reticulation system is beneficial to the residents' lives and daily routines, except one major change, namely paying, and paying for water services is perceived to have a potentially negative impact on the manner in which they can make a living.

In other words, the residents embrace development (improvement), as long as it does not necessitate too much sacrifice (change) in return. That which development offers, such as more water, and which the residents actively feel makes their lives better, is readily accepted. But, those changes which development necessitates and that the residents perceive as a burden, such as having to pay for a better water supply, might never be accepted, even if carrying the burden means enjoying the benefits of development (improvement).

One could conclude that, because of this attitude towards the context implicit in the concept development as it is generally understood by government, it may be that the residents of Makoko are not desperate to improve their water supply because they are not prepared to make sacrifices for that change. Thus the following question now arises: If the residents are not desperate for an improved water reticulation system, why do they proclaim that their quality of life is affected negatively by their current water supply status? Why are they so sure that an improved water supply will have a positive effect on their quality of life?

One could conclude that the residents have been exposed to the benefits of a water reticulation system and have learnt that their daily lives would be easier if they had access to an improved water reticulation system. The reasons for wanting an improved water reticulation system might therefore not be related to the enhancement of quality of life at all. It might just be a question of convenience rather than a question of necessity. It must be borne in mind that the residents of Makoko have never had access to a water



reticulation system. Only now, when they are exposed to the benefits of it, do they realise that their quality of life could be improved by it. In the light of this, they perceive their current way of life to have a lesser quality than it could have with improved water technology, that is, if such technology is trustworthy.

A point that must be borne in mind is that development in the former homelands was implemented in such a manner that government provided and at the same time was also responsible and accountable for any services rendered. This historical situation has created a perception among residents of the former homelands that the government will always provide services. This perception, coupled with the African principle of “*ubuntu*”, further clouds the issue of responsibility for development, because government is still perceived as provider, albeit within a totally new paradigm.

Politicians currently in power have promised that they will enhance the quality of life of all South Africans, as the so-called legacy of Apartheid did not. The fact is, however, that the government just does not have the funds to keep its promises. Moreover, rural communities do not easily grasp the principle that the country's money can be “used up”. They therefore wait and hope that the government will provide services, because the government “knows” that the rural communities cannot be expected to pay for services because the rural poor have always been down-trodden and discriminated against.

So what must be done to solve the problem that the residents are not willing to pay for improved water supply and the fact that the residents reduce their own daily water supply by installing private connections? There are two alternatives. One is that the water service authorities of rural areas can continue to “turn a blind eye” to the installation of private connections and continue to delay solving the problem of the residents’ unwillingness to pay, thereby letting the problem reach enormous proportions, with the entire population of South Africa suffering the consequences.

The other alternative is to “convince” rural residents to pay for their water supply, however small their contribution might be. Anthropological literature states that the aspect of culture that changes most slowly and with most difficulty are value judgements



(see Section 1.5.1). For rural residents to be willing to pay for water supply, a change or at least a shift in their value judgements is essential. It is obvious that to achieve this shift will be a long and difficult task. The best way is to tackle the process through the provision of information (see Section 5.2.5). If rural schools start this process now, a change in the negative attitude towards paying for a water reticulation system may only be present within one generation.

In the end, there are certain realities in life which not even cultural determinants can ignore. One of these is the fact that one has to pay for pipes if one wants water at home. It is, however, also clear that the official local authority institutions will have to take more responsibility in respect of the installation and maintenance of water supply systems. If this level of authority does not take responsibility, it means that provincial government departments have to work directly with communities at the local level. This is an impossible situation, as such departments just do not have the capacity to do this. Local government officials are, after all, representatives of their own people and should take responsibility for the development of the infrastructure their people need. They should then also take responsibility for receiving payment for the services they provide to their people.

5.2.8 The position of the *sikhulu* and the indigenous authority system

It has been observed during the research that developers such as engineers tend to underestimate the powerful role and influence of the traditional leaders of a settlement, in other words, the *sikhulu* and his councillors, over their people. Due to the establishment of local government institutions through which development projects are facilitated, the involvement of the *sikhulu* and the indigenous authority in the development process becomes a matter of secondary importance to developers. The researcher observed this to be a point of concern.

As a matter of courtesy, most developers do inform the *sikhulu* of their goal and of their presence in the settlement. However, developers never really involve the *sikhulu*



throughout the entire development project. This might be due to the developers' belief that the onus rests with the *sikhulu* to involve himself when he feels it is necessary. The fact remains, however, that, in most cases, the *sikhulu* expects the developers to keep him informed of all activities taking place in his tribal area.

The point that needs to be made here is that when one is dealing with a difficult issue such as local unwillingness to pay for water supply services, success might be more easily achieved when approaching the residents through the correct and accepted channels of indigenous authority. This means that the message stating the importance of paying for one's own water reticulation system should come from the *sikhulu* and not from the engineer. When trying to convince residents to pay for water reticulation systems, would it not be easier to reason with them if their *sikhulu* echoed the developers' sentiments?

This obviously means that the *sikhulu* must be convinced that he and his people will benefit from changes brought about in their lifestyles by being responsible for their own water reticulation systems, and therefore paying for the installation and maintenance of such a system which is to their benefit.

5.2.9 Future research possibilities

As mentioned in Section 1.5, this study was done from 1997 to 1999. The South African government's policy regarding water supply and water services underwent a transformation process during this time. The *White Paper on Water Supply and Sanitation* of 1994 developed into the *Water Services Act* (Republic of South Africa 1997). Later the *National Water Act* (Republic of South Africa 1998) was also published. According to spokespersons from DWAF in Pretoria, the basic principles of water supply remains the same in the *Water Services Act* (Republic of South Africa 1997) as the policy described in the White Paper of 1994, which was referred to in this study.

Nevertheless, the new *Water Services Act* (Republic of South Africa 1997) defines the South African government's policy on water supply and provides a "regulatory framework for water services institutions". The new *National Water Act* (Republic of



South Africa 1998) provides “a fundamental reform of the law relating to water resources” and describes the new policy of water resources management which aims for sustainable use of water for the benefit of all.

These two Acts thus represent the government’s strategy for providing water services in South Africa. The current government focuses on rectifying the uneven distribution of the national water resource and on providing equal access to water for all South African citizens.

Future research can therefore focus on evaluating the success of the implementation of these new policies in rural areas. Such research studies can make a valuable contribution to water services institutions by pointing out aspects of the legislation that are problematic within rural areas and by helping to smooth out such problems.

Examples of such future research themes could include the following:

- The policy of water payments needs a lot of ground level evaluation in order for it to be implemented successfully. Research focused on answering questions such as “Can rural residents pay for water?” will shed light on this controversial issue. Water vendors are a common phenomenon in some rural areas in South Africa, which obviously implies that in some cases rural residents can and do pay for water (or rather, the service of providing it).
- Water payment studies can be complemented with research focusing on **demand responsive development** of water supply. Such studies could research the specific aspects of water needs among rural residents answering questions such as “How much water does one rural household **need** per day?” and “What water sources do they **want** to use?”. Costly bulk water meter systems providing purified water might not be the only option for water supply development. Small dams providing unpurified water for activities like cultivating vegetable gardens might be a cheaper and less time-consuming option for alleviating water shortages.



- Local government can benefit from research studies focused on ways to incorporate rural residents in decision-making structures such as Catchment Management Forums. Making rural people part of the whole development process is the first step towards demand responsive development.

Such intensive studies evaluating DWAF's progress can help the department to reach its goal of "Some for all, forever"!