

Engaging disadvantaged communities: Lessons from the Inkomati CMA establishment process

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South Africa is currently establishing 19 basin-level governing-bodies called Catchment Management Agencies (CMA's). CMA's are responsible for implementing South Africa's new water management approach that aims to foster economic development and poverty eradication, while maintaining the ecological integrity of the system. The first CMA was established in the Inkomati catchment area in March 2004 and the minister, based on the recommendations of the advisory committee, will soon appoint a governing board. The Inkomati CMA was established after seven years of public participation and stakeholder negotiations. Based on an analysis of the participatory process to draft the Inkomati CMA proposal, this paper outlines specific challenges that lie ahead for the Inkomati governing board and the successful implementation of the Inkomati CMA. The paper identifies specific ways to engage disadvantaged communities in the CMA process.

Keywords: Catchment management, public participation, integrated water resource management, empowerment, disadvantaged communities, rural water allocation

Introduction

Integrated Water Resource Management (IWRM) has been promoted heavily in the policy arena.¹ At the World Summit on Sustainable Development held in Johannesburg in 2002, the international community called for all countries to “develop integrated water resource management and water efficiency plans by 2005, with support to developing countries” (Global Water Partnership Technical Committee, 2004). There is general agreement among policy makers, researchers, and water managers that sustainable, integrated water resource management must be done at the level of the river basin or catchment.² (Merrey, 2003). Jaspers (2003) considers the institutional arrangements required to implement integrated water resource management and identified stakeholder participation as a “crucial issue,” without which water resources planning “is highly ineffective.” Many countries have reformed their policy environment to include an emphasis on stakeholder participation and basin-level management.³ Moving these concepts beyond policy to implementation is the real challenge, particularly in the developing world and the few successfully case studies of IWRM, known to date, are “in rich countries with strong institutional capacities and well-educated publics” (Merrey, 2003). The notion of success in IWRM is also problematic as there are as many measures of success as there are stakeholders at the table. In the developing world, a key criterion for successful IWRM should be the degree to which the approach empowers disadvantaged and marginalized communities to foster poverty eradication and the equitable distribution of natural resources.

South Africa's new water management paradigm could, if effectively implemented, represent a unique approach to IWRM for the benefit of disadvantaged communities. The three main aims of South Africa's approach, introduced under the National Water Act (Act 36 of 1998) and Water Services Act (Act 108 of 1997)⁴ are to address the inequalities of racial and gender discrimination, link water management to economic development and poverty eradication and ensure the ecological integrity of the resource (Schreiner et al, 2002). South Africa is currently establishing 19 basin-level governance bodies, called Catchment Management Agencies (CMA's) that will be responsible for implementing this approach. The initial functions of the CMA are planning, co-coordinating, and promoting public participation in water management. These functions can be expanded to include setting and collecting water use charges, and issuing water licenses (Schreiner et al, 2002). Public participation and community representation are legally required throughout the process of establishing and running CMA's.

The first CMA in South Africa was established in the Inkomati catchment area in March 2004 and the minister, based on the recommendations of the advisory committee, will soon appoint a governing board. The Inkomati CMA was established after seven years of stakeholder engagement and political negotiations. The CMA process involved an extensive public participation process to draft a proposal that outlines the details of water management in the Inkomati area as well as agreement on the structure and functions of the CMA. The participatory process faced many challenges because it needed to engage disadvantaged communities in complex decisions over scarce water resources. These decisions needed to be made with equal participation from more empowered and knowledgeable water users, such as commercial agriculture. Based on an analysis of the participatory process to draft the Inkomati CMA proposal, this paper outlines specific challenges that lie ahead for the Inkomati governing board and the successful implementation of the Inkomati CMA. The analysis is based on fieldwork conducted between August 2000 and January 2001. The fieldwork involved interviews with 62 stakeholders that were involved in the participatory process.⁵ The findings of this paper draw specifically on the results of interviews conducted with disadvantaged communities.⁶ In this context, disadvantaged communities include historically disadvantaged sectors, such as emerging commercial farmers,⁷ subsistence farmers, tribal authorities and community-based organizations and local governments working in poor areas. Before discussing the challenges, the paper provides some contextual information on the Inkomati Catchment Management Area and the participatory process to draft the CMA proposal.

The Inkomati Catchment Management Area

The Inkomati Catchment Management Area is defined in government notice No 1160, published in the gazette on 1st October 1999. The area is located in the province of Mpumalanga, with a small section falling into the Northern Province. The Inkomati River system is an international system, originating in South Africa, flowing partly through Swaziland, and then traversing Mozambique before flowing into the Indian ocean near Marracuene (DWAF, 2000). The area consists of three sub-catchments: the Komati, the Crocodile, and the Sabie-Sand. Integration of these river systems only occurs in Mozambique, at the confluence of the Komati and Sabie, and so without inter-catchment transfers there is little hydrological connection between these three sub-catchments (Brown and Woodhouse, 2004). Within the catchment there are numerous stakeholders with an interest in water management. These include: agriculture, forestry, energy, mining, industry, conservation, local and provincial government, civil society, tourism, recreational fishing, emerging commercial farmers, traditional leaders, and water boards. Irrigated agriculture is the most important economic activity and the main consumer of water (Woodhouse and Hassan, 1999). The present population is estimated to be 1.85 million, fifty percent of which have poor access to drinking water and sanitation facilities (DWAF, 2000). Certain areas in the catchment, such as the Nkomazi region, are considered over-allocated “in which no more water allocation licenses will be granted” (Brown and Woodhouse, 2004). Limited water supplies are preventing socio-economic development and the expansion of commercial agriculture and water supplies for disadvantaged communities. This makes water allocation a sensitive and politically charged issue.

Participatory process to draft the Inkomati CMA proposal

The process to establish the Inkomati CMA began in 1997 and was conducted through the regional office of the Department of Water Affairs and Forestry (DWAF), with assistance from local consultants. The process began before the implementation of the new Act and was initially focused on establishing institutions that were representative of all water users. With the drafting of the new Act, the process evolved to focus on the development of a proposal for the establishment of the Inkomati CMA. Separate public participation processes were first conducted in each of the three sub-catchments until October 1999. The three groups were then brought together to form the Inkomati Reference Group. Based on the meeting minutes, administered by the DWAF, a total of 54 meetings were held in the three sub-catchments and seven meetings were held for the combined Inkomati Reference Group. In September 2000, the reference group submitted a final proposal for the establishment of the Inkomati CMA to the Minister of Water Affairs and Forestry. DWAF requested changes to the format of the proposal and it was resubmitted in October 2001. The reference group has not met since September 2000 and there has been “little activity” on the proposal for more than two years. In February

2004 the new advisory committee met for the first time and on the 30th March 2004 the Inkomati CMA was launched, in time for the 2004 general election (Brown and Woodhouse, 2004).

The advisory committee has submitted recommendations to the Minister for the establishment of 14 people on the governing board. In terms of the Act the “size and composition of the CMA Governing Board is recommended by the Advisory Committee, while the individuals are nominated by the institutions representing the various interests identified for representation” (Pegram and Bofilatos, 2005). According to Pegram and Bofilatos (2005), the proposed governing board represents the main existing water users, balanced by the interests of emerging and prospective water users, particularly historically disadvantaged individuals, the rural poor and women. The interests of the rural poor are represented by 4 seats on the board. The advisory board has done well to deliberately design a governing board that seeks to give voice to disadvantaged communities. However, based on the participatory process to draft the CMA proposal the governing board faces many challenges that need to be overcome before disadvantaged communities will actually benefit from the CMA. This paper outlines some of these challenges.

Challenges to engaging disadvantaged communities

Legitimate representation

Based on the experience of the participatory process, obtaining legitimate representation from disadvantaged communities is a huge challenge. Compared with established networks amongst white commercial farmers, disadvantaged communities have weak networks of emerging commercial farmers and subsistence farmers, with less knowledge and experience in water management. Furthermore, representatives from networks such as the Mpumalanga African Farmers Union (MAFU) are disempowered because they do not have the capacity to feed information back to their sectors. “How do you expect a person without resources to feedback to people? To feedback to people, you need communication networks. ... First of all he has no car. How does he go to places, arrange meetings and call people together?” (Inkomati Reference Group Member). In addition, some representatives attended meetings to obtain the transport compensation or free lunch provided by DWAF. “Some will actually get to the meeting and from the start of the process to the end they never open their mouths to speak. They just go, sit, eat, claim money, and go home. And you wonder if these people actually represent the interests of the communities?” (Inkomati Reference Group Member). The location of some meetings created additional challenges as some were held “somewhere in the suburbs, where you can’t expect somebody with a taxi to reach” (Inkomati Reference Group Member).

The governing board has only nominated the sectors to be represented and not the individuals who will sit on the governing board. These nominations will come from the sectors themselves. The governing board calls for one individual to represent existing agriculture by historically disadvantaged individuals and one for potential agricultural water users by historically disadvantaged individuals (Pegram and Bofilatos, 2005). Obtaining the correct people to represent these sectors effectively is a huge challenge and will only be achieved if resources are placed into expanding the effectiveness and capacity of organizations such as MAFU. Additional resources are also required to expand and strengthen Water User Associations in the region.⁸

Obtaining representation in the area is further challenged by the fact that the Inkomati Reference Group has not met since September 2000 and there has been little activity during 2002 and 2003. This will create difficulties in re-engaging stakeholders as “many stakeholder contact details have changed and several representatives, particularly industry, have left the area” (Brown and Woodhouse, 2004). Many stakeholders have also experienced “participation fatigue” and may not be willing to attend and participate in more discussions on the CMA. Engaging these stakeholders will require additional effort and resources.

Raising public awareness

An effective public outreach campaign is a crucial component of a participatory process, especially in areas that do not have established networks and representative organizations across all sectors. Good public awareness creates opportunities for all voices to be included in the process, leading to good and accountable representation. Public Awareness in the CMA process was particularly weak. One stakeholder believed that if you were to “make a random survey” few people in disadvantaged communities would have any knowledge of

the CMA. Brown and Woodhouse (2004) refer to a recent survey of CMA awareness, commissioned by DWAF. The survey involved ten focus groups with 6 to 8 representatives from urban and rural black populations, in every case respondents had no knowledge of the CMA.

The participatory process should include a focused campaign that uses media and outreach campaigns to inform the general public and to assist in obtaining a representative body that fairly represents all water users. An informed public and media also play a crucial role in keeping representatives accountable. This “western” model of representation is much more difficult to implement in an African context because electronic communication infrastructure is not well developed. Mediums, such as internet and television, used extensively and cheaply in rich countries are not available to inform the public. It is therefore very difficult “to create the kind of public awareness of the large river basin issues that is found in water-scarce basins in rich countries” (Molden and Merrey, 2002, p. 153). Solutions that are tailored to the African context are needed. After an extensive survey, Houston et al (1999) showed that radio is the best medium to reach disadvantaged communities in South Africa. An Inkomati reference group member suggested that “radio, children at school, church announcements” are sometimes more effective ways of reaching disadvantaged communities than through leaders because “in the communities you will find self-start leaders who are only trying to create an image for themselves.” Public awareness campaigns require resources to be effective and the governing board will have to consider creative ways to engage and inform diverse water users, particularly as it begins to develop the catchment management strategy.

Creative and accessible communication

Effective participation from disadvantaged communities requires more than just getting the parties to the table, but involves a sensitivity to the type of communication strategies that will empower and engage all sectors. Brown and Woodhouse (2004) comment that “effective representation is not achieved simply by black stakeholders being physically present in meetings. Rather it is achieved through their active involvement in discussions.” The communication style of the meetings during the participatory process often disempowered stakeholders who were not familiar with technical terms. “Sometimes they will put figures and calculations on the screen and [some] black communities will go out without understanding anything. Even other communities will go out without understanding anything and then people just get frustrated” (Inkomati Reference Member). In general, the meetings consisted of presentations from consultants and DWAF officials with opportunity for discussions and feedback on the concepts in the draft CMA proposal. The meetings did not provide enough opportunity for two-way communication from consultants to stakeholders. One tribal authority member felt that they “did not have permission to speak,” while an emerging commercial farmer complained that “they did not have time to listen to stories. ... If they come to us they bring their own agenda.”

The range of cultures involved in the process requires diverse opportunities for interaction and communication between participants. The meetings usually focused on technical exchanges of information, which disempowered many sectors unfamiliar with this mode of information exchange. Le Baron (2002) emphasises the importance of creativity to bridge gaps between cultures. She discusses the importance of finding tools that overcome conflict and to develop the capacities for relationship and a fluency in creative processes. These approaches help respond to conflict with resourcefulness, spontaneity, and ingenuity. Fieldtrips are a good example of a more creative space for natural interaction between stakeholders and were used by stakeholders in the Sabie-Sand catchment with some effect. “It is much easier when you bring somebody to the place because there is a much more relaxed atmosphere. In the meetings you just look at each other. ... If I were to improve on the process, I would have started off with that. Get all the people to know the sectors, just to get everyone on board and start building a little bit of a team feeling” (Inkomati Reference Member).

The governing board will need to find creative ways to combine different communication styles across the sectors. The traditional “western meeting format” may not meet the needs of all sectors and opportunities will need to be found to share stories in a more informal space.

Accurate and reliable information

During the participatory process there was a lack of clarity on important data such as the water balance (reconciliation of water requirements and water availability) for the 3 sub-catchments. This created tension

between stakeholders as each sector blamed the other for water scarcity and over-allocations. Much of the confusion was linked to a lack of transparent data on water allocation for previous homeland areas, commercial farmers and new agricultural schemes.⁹ The Ecological Reserve determination was also not available during the process and so it was difficult to calculate how much water was available for allocation. A participatory process for water management should “include a comprehensive joint fact-finding process, whereby the participants jointly describe what information they need to make a decision” (McGinnis et al., 1999). The stakeholders would have engaged in more effective and productive discussions if they had been provided with accurate information throughout the participatory process. The process needs to be as much a search for a definition of the problem as a search for the problem’s solution (Forester, 1998). To reach agreement on a suitable institution to address water management issues stakeholders need to work from a common understanding of present water management issues so that they could build an institution that can address these challenges.

Since 2000, DWAF has confirmed that there is a negative water balance in all but the Sand sub-catchment and that no more water licences will be issued in the area because it is considered a “closed” catchment (Brown and Woodhouse, 2004). However there is still a lack of clarity on water scarcity in certain regions, such as the Nkomazi district. To make informed decisions the governing board will need to feel confident that water use information is transparent and verifiable. DWAF’s water use verification exercise involving digital imaging and positioning technology is a critical component of the decision-making for the CMA (Brown and Woodhouse, 2004) but it is highly likely that certain sectors will question the validity of the data based on the amount of misinformation that has been communicated to them in the past. DWAF will need to clearly and transparently explain the process of collecting and verifying the data so that it is accepted by all sectors.

Implementing a common vision

The participatory process did not generate a common vision amongst stakeholder on the function of the CMA. Some believed the CMA would maintain current water licensing but simply provide more funding for water management costs, while others believed the CMA would be a vehicle to aid the plight of the poor by providing water licences to emerging commercial farmers. Much of the confusion can be attributed to the fact that this was the first CMA process in the country and DWAF was embarked on a learning process. However, DWAF officials at both regional and head office needed to be more conscientious in conveying consistent information to stakeholders and consultants. One reference group member commented that at one meeting they were given “different message from two people at head office on the same day.”

Through the participatory process many stakeholders from disadvantaged communities were given the impression that the CMA process was delaying their access to water. One of the lead facilitators in the process commented that the emerging commercial farmers were “easily manipulated” into supporting any institution because “their need is to get water rights and to get development... It does not matter what structure is in place, they just want results.” Many emerging commercial farmers felt that there was “nothing [in the final proposal] from the emerging farmers.” At the final reference group meeting a number of emerging commercial farmers strongly objected to the final proposal and requested a separate caucus outside of the general meeting. The proposal was finally allowed to move forward provided that there was a separate process initiated to address their concerns about water access and allocation. Based on the lack of activity in the CMA region over the last two years, it is unlikely that such a process has been comprehensively followed-up on. As discussed in the previous section, although the CMA may have some role in addressing water allocations the current delays are due to factors beyond the CMA process. Disadvantaged communities who were not familiar with the complexities of water allocations wanted to move the process forward and were reluctant to allow any of their concerns and question to delay the process. Governing board members from disadvantaged communities may have developed unrealistic expectations on how the CMA will meet their needs and could easily become impatient in the process of developing a catchment management strategy. Balancing the importance of long-term planning for water management with the need to address the urgent, and understandably impatient, concerns of the poor will be a significant challenge for a pro-poor governing board.

DWAF will need to assist the governing board in developing a common vision of how the CMA will function to benefit all water users. The formulation of the common vision does not have to follow a formal process of searching, but it should follow a conversational model, allowing participants to create new meanings together

(Forester, 1989). This issue is critical in keeping all stakeholders at the table. Building this common vision involves a common learning experience, not a one-way flow of knowledge from government and technical experts to the stakeholders. All participants will need to become active learners in the process.

Facilitation and conflict resolution skills

To facilitate the participatory process DWAF hired an engineering consultancy firm and an environmental management consultancy firm. A non-profit rural development organization active in the Sabie-Sand area facilitated the process in the Sabie-Sand catchment. Overall, stakeholders from this Sabie-Sand sub-catchment were noticeably more trusting of the facilitators and more supportive of the entire process than stakeholders from the other two sub-catchments. This supports the importance of using facilitation expertise from organizations that are trusted within local communities. Many stakeholders were also more comfortable working with DWAF staff than the hired consultants as some believed the consultants were just in it for the money. Unfortunately, the few DWAF staff members that were involved in the process from 1997 to 2000 have left the Nelspruit regional office, leaving a loss of institutional memory on the CMA process.

The team of facilitators were strong in their hydrological knowledge of water management but did not have sufficient skills to engage and empower disadvantaged communities and to coordinate a complex public participation process. More emphasis needed to be placed on building a team of facilitators that have expertise beyond just the technical aspects of water management. Dorsey (1987) commented that “participants in water resources management often have serious weaknesses in these interaction skills, and that as a result, mechanisms for co-operation and conflict resolution fall short of their potential” Schreiner et al (2002) support this comment and acknowledge that “many of the DWAF staff currently involved in the development of CMA’s are by training and experience, technical water management professionals, mainly scientists and engineers.” Facilitators of the CMA process need to develop skills to run complex participatory processes, including skills in conflict resolution, negotiations, and facilitation.” These skills cannot come from consultants alone, because of the “temporary and ad hoc nature of their involvement” (Schreiner et al, 2002).

Conflict is an inherent feature for many marginal groups who are seeking to redress injustices in resource distribution. Although “confrontation could lead to violence, avoiding and shunning conflict can be equally dangerous” because misunderstandings or confusion can simply escalate into more intense conflicts as the number of people involved and the problems multiply (Buckles and Rusnak, 1999). An important addition to the suite of skills required to deal with the inevitable conflicts that lie ahead is the ability to model and promote active listening amongst sectors. “In a world where people do not listen to one another, there can be no collective mobilization or organizing, no collective social or political life” (Forester, 1989, p. 118). In addition, “western traditions of conflict management need to be balanced with the systematic study of local practices, insights, and resources used to manage conflict. Diverse, local insights and methods are critical sources of innovation” (Buckles and Rusnak, 1999). For the CMA process to work, DWAF will need to focus significant attention on understanding local approaches to conflict resolution and resource distribution. Practitioners will need to “bracket” their “own cultural definitions of equality, and ask questions about local understandings of equality and reciprocity” (Buckles and Chevalier, 1999).

Building consensus

Each of the three sub-catchments is a separate hydrological unit within South Africa, with different socio-political contexts and economic drivers. The proposed governing board is made up of sectoral representation with no seat on the board specifically assigned to geographic representation for the sub-catchments. The 14 seats on the board are at the upper limit of DWAF size guideline, making it difficult to include geographic representation. However, this does create difficulties in encouraging board members to see beyond their sectoral perspectives.. The advisory committee emphasised the importance of balancing geographic representation across the whole catchment area but the board will also need individuals who are responsible for considering how decisions will affect each of the sub-catchments. Consensus will only happen when stakeholders are able to see beyond their narrow sector to understand that decisions need to be made for the whole catchment or sub-catchment.

Power imbalances

Although the proposed governing board provides a strong voice for the disadvantaged communities these communities continue to face significant power imbalances, in knowledge and expertise, compared with established commercial agriculture. As Brown and Woodhouse (2004) comment, “commercial farmers and irrigation boards are in a potentially strong negotiating position to influence the future direction of CMA because they possess the most detailed knowledge of water use by agriculture.” During the participatory process commercial agriculture often threatened to withdraw from the process as they felt their concerns were not being address. They were particularly concerned with the pricing strategy that was perceived as an additional cost for a service that they felt was unnecessary. Commercial agriculture does have considerable financial influence over the future of the CMA as they are the largest water users and therefore contribute most significantly to the recently implemented Water Resource Management Charge (WRMC). The WRMC will eventually be the funding support for the CMA. Currently, most irrigation board are withholding payment of the WRMC (Brown and Woodhouse, 2004). The proposed governing board recommends only one place for commercial agriculture and while one should not be able to “buy” more seats on the board through the level of financial contribution, it does place the CMA in practical difficulties if it is unable to keep established agricultural willingly involved.

Without significant effort to engage commercial agricultural it is likely that they will either withdraw entirely from the CMA process or the sector will be become deeply fractured with only a small minority of commercial farmers contributing to the process. Brown and Woodhouse (2004) confirm that the concerns raised by commercial farmers in interviews in 2000 are still apparent. Their interviews, conducted in March 2004, clearly showed that “Commercial farmers were deeply unhappy about the CMA and its implications.” This is a concern for the viability of the CMA. Buckles and Rusnak (1999) argue that “although in many settings marginalized groups must be empowered to undertake problem analysis and formulate strategies for negotiation, change will only come about if the powerful are moved to act on the causes of marginalization, inequity, and mismanagement. The conditions, and related pressures, needed to accomplish this movement are not well understood and rarely studied.” To make catchment management work and to truly empower the poor, the water sector in South Africa needs to build techniques to transform the most powerful actors to understand the needs of the poor and marginalized. This issue is often overlooked amongst competing research agendas. An analysis of power dynamics within powerful water sectors would make a valuable contribution to South Africa’s water management discourse and would require a combined effort from DWAF, research institutions and water management practitioners.

Conclusion

The complicated socio-political issues at play in the Inkomati, as well as the fact that this was the first CMA in the processes to be initiated, have created opportunities to learn improved techniques to engage disadvantaged communities in IWRM. As Pegram and Bofilatos (2005) argue, ultimately the success of the Inkomati CMA will depend on the calibre of the individuals nominated to represent the interests and their ability to voice the needs of rural and poor communities. In addition, these individuals will need to see beyond sectoral interests to build a common vision for catchment management; to see the importance of raising public awareness and establishing effective local representative bodies; and to use creative methods of communication based on reliable and transparent sources of information. To assist in the process, DWAF will need conflict resolution expertise drawn from local knowledge and experiences. Drawing from an anthropological perspective on conflict in natural resource management, Buckles and Chevalier (1999) conclude that “what matters in the end is that there be adequate understanding of how power differentials, local and institutional, play themselves out in particular situations of environmental conflict management.” The challenges that lie ahead for the Inkomati CMA are likely to occur in other catchment processes in South Africa and DWAF will need to apply these principles as it seeks to establish a further three CMA’s over the next year.

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Notes

1. Integrated water resource management is defined as the management of surface and subsurface water in a qualitative, quantitative and environmental sense for a multi-disciplinary and participatory perspective. There is a focus on the needs and requirements of a society at large with regard to water at the present and in the future, thus aiming at maximum sustainability in all senses (Jaspers, 2003).
2. The terms, river basin, watershed and catchments can be used interchangeably. The term watershed is used predominantly in North American literature while, catchment is used in South Africa, Australia and New Zealand. A watershed/catchment is defined as an area of land bounded by topographic features of height that drains waters, through a stream and its tributaries to a shared destination. A watershed also captures precipitation, filters, and stores water and determines its release. Watersheds vary in size. Every waterway (stream, tributary, ect) has an associated watershed, and smaller watersheds join together to become larger watersheds.
3. Some of these countries include Zimbabwe, Indonesia, Tanzania, Australia, South Africa, Mexico, Turkey, Sri Lanka, and the European Union under the new Water Framework Directive.
4. National Water Act is generally concerned with the management and supply of water, while the Water Services Act specifically deals with the regulatory framework for the supply of water and sanitation by local authorities to their respective areas and to set out conditions under which these are supplied to consumers (Glazweski, 1998).
5. For more details on the research methodology and fieldwork see Anderson (2000).
6. Of the 62 interviews conducted, 18 interview were conducted with individual involved in the process who directly represented disadvantaged communities. In addition three group discussions were held with emerging farmers from Kanyamazane, with emerging farmers from Mzinti and with a tribal authority in Bushbuckridge.
7. In the participatory process the term emerging farmers was used to describe historically disadvantaged farmers that are trying to become established as commercial farmers. Some emerging farmers disliked this label as it presumed that they were not farmers, dismissing them as subsistence or dry-land farmers. In this paper the term emerging commercial farmers will be used to describe this sector.
8. Water User Associations will operate at the local level and are essentially associations of individual users who wish to undertake water-related activities for their mutual benefit (Geldenhuys, 1997).
9. Brown and Woodhouse (2004) provide a detailed explanation of these difficulties.

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