

Safewater-Arise Module 1: Final Report on the “Collective action and local water management” research project (How social, organizational and institutional features of water management at the local level react and adapt to external norms and policies)

Report Title:

“Water Governance Decentralization and the setting-up of Catchment Management Agencies in South Africa:

When a social transformation agenda competes with a managerial one”

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Executive summary:

This research project initially aimed at analyzing the establishment process of catchment management agencies (CMAs) across South Africa through a comparative methodological framework. However the “*institutional realignment*” process initiated in 2007 at the national level unilaterally suspended CMAs’ establishment progress and substantially impacted the empirical work that had to be conducted. Therefore the research expanded to include more cases to study and re-focused at the same time on the post-establishment process and current functioning of two already gazetted CMAs: Inkomati and BreedeOverBerg. The research emphasized the instrumental role of irrigation boards and of organized commercial farming interests in the setting-up of CMAs. As regard the functioning of already existing CMAs, the research further concludes on one major challenge for the future of CMAs, i.e. the existence of two competing paradigms within the organization, a *managerial* one and a *social transformation* one. Hence, if economic and financial sustainability are a pre-requisite of CMAs’ existence, this managerial imperative should not be raised as its core goal. Indeed, CMAs cannot be taken as mere “*companies*”. Their governing board in particular is a political arena in the most generic sense of the word: not a world of *politics* (or of political factions) but a *polity* which arbitrates among different –sometimes conflicting- uses, and whose mandate is to ensure a socially equitable share of water resources in order to redress past inequalities in water allocation. This crucial objective has to be reflected in the governing board’s composition and in the division of tasks between the governing board and the CMA’s staff.

Research object:

The study explores the decentralization of water resources management to the river basin level in South Africa, analyzing more precisely the creation of parastatal organizations called CMAs at the river basin level. When compared to the Dutch water boards, which are very much similar to the CMAs, it is worth noticing that South Africa has demonstrated a more top-down process -from the national to the local level- in the creation of new institutions for water management, i.e. WUA and CMAs (Raven 2004) (p.4), which may prove challenging in the attempt to launch a decentralized organization that relies on grass-root involvement of water stakeholders into the process. This top-down approach is not a new trend however when we realize that the first irrigation boards in the country (in Western Cape) had been themselves forced into being by the rulings of Water Courts set in order to settle dispute between irrigating farmers (interview 34). Indeed, there is a long tradition in South Africa of governmental involvement in the setting-up of IBs. Governmental authorities strongly encouraged their creation already back in the late 19th century because it saved these authorities from getting involved in every dispute.

However with only two CMAs already existing out of the 19 that were initially planned in the National Water Act (NWA, 1998), it is obvious that this top-down institutionalization process has proven nowadays to be more problematic. Thus the research project aims at determining the reasons that explain the difficulties encountered in the implementation process of the NWA and especially the delay in establishing decentralized water management organizations, i.e. Catchment Management Agencies in South Africa.

Research Question:

What are the conditions/factors that favor or on the contrary hamper the successful establishment of CMAs?

Hypotheses:

1. The development and coverage of **irrigation boards** (IBs) within a basin is a critical factor which determines to a large extent the commercial farmers' mobilization capacity, and hence the support of a very crucial stakeholder in the process. Our hypothesis is that the most IBs in a basin, the most chance for a CMA to get support from grass-root level in its establishment process and its latter functioning.

2. More broadly, the assumption that **organized interests** in general have a tendency of influencing positively the pace of the CMA establishment process and its subsequent operations led us to consider that the more “big players” in a river basin the more chance to get a CMA up and running at the earliest time. We define “big players” in terms of strong organizational capacity. Indeed, considering the complexity of this institutional process, it was expected that areas and sectors just coming out of under-development in South Africa would have major difficulty coping with the institutional and organizational maturity that requires the launching of a CMA establishment process. Also let us specify that although organizational capacity is very often associated with big economic interests, it cannot be reduced to it. The GDP for instance does not provide a trustworthy indicator in that respect. We identified the commercial forestry, the mining sector, agri-business, the tourism interests (game farming and conservancy interests), Eskom, water service providers, municipalities considered as cities, South African Local Government Association (SALGA), and international partners belonging to international treaty obligation in terms of transboundary water management as potential “big players”.

3. An instrumental **role of DWA regional office** as a coordinator of grass-root efforts to come together and build a CMA.

Initial Methodological framework :

This research project applies qualitative research methods. It relies on inductive methods, based on field work (Beaud and Weber 1998), case study analysis (Yin 2003) and semi-conductive interviews (Blanchet and Gotman 2005). More specifically, we opted for the application of a qualitative comparative method (Przeworski 1987; Ragin 1996; Hassenteufel 2000).

Indeed, due to various constraints (financial, time, ongoing CMAs establishment progress etc), a small-N case study comparison has been retained. The idea was to compare a successful case of CMA establishment with a less successful case. For the latter, case studies that typically represent good candidates would be officially established CMAs (gazetted CMAs) that in practice are not yet functioning. Conversely, as for the former case, the Inkomati CMA was an obvious case study since it has been the first CMA ever established in RSA and so far, the unique CMA having received part of the competences’ delegation that CMAs are supposed to get from the DWA. In an initial phase of the research project, Tugela

CMA appeared to be an interesting case to be compared with Inkomati. Since the research could only be developed based on a very small-N case study (no more than two in-depth case studies), the idea was to try to come as close as possible to the strategy of comparing cases which would offer the most similarities for a starting point (similar inputs) together with the most diverging results (different outputs). Tugela and Inkomati were the two cases appearing the most suitable for applying this comparative ideal-typical method.

Surely, these two river basins display substantive differences but some of these differences were interesting characteristics as far as our first set of hypotheses was concerned. Indeed, comparing Tugela and Inkomati river basins helped contrasting our first hypothesis about the number of former irrigation boards. We assume that a dense network of former irrigation boards was a favoring factor for a quick establishment of CMA. Indeed, following that hypothesis, the more developed a water body is (the most hydraulic infrastructures along the water course it gets), the more chance for a CMA to get established in a rather advanced stage. With numerous small and short surface water courses, Tugela does not show very “*developed rivers*” – i.e. rivers with high technical infrastructures along the water courses-, and therefore it has far less IBs if any (interviews 13, 15, 20). In comparison, Inkomati Rivers were quite developed even though not the most developed ones across South Africa, and therefore it counts a lot of IBs whose role has historically been to manage among themselves the water that these big infrastructures were storing.

In addition, a second hypothesis could be tested. It has to do with the level of experience the regional office of the DWA in charge of preparing the CMA establishment has. In that respect, it seems that even though in both cases, the regional offices were officially a new creation of the Post-Apartheid regime (together with the creation of new provinces that did not always correspond to the former regional borders in the Apartheid Era), in Inkomati however the DWA staff seems to have benefited more experience as former DWA members than in the case of Tugela (KwazuluNatal province) which was granted less staff already familiar with DWA culture and know-how (interview 5).

Revised Methodological framework :

After the above described methodology was developed, a field work session in Tugela WMA in August 2010 revealed that it would be difficult to conduct such investigations in the region since the whole establishment process had come to a halt mostly for reasons exterior to Tugela institutional and organizational setting. Indeed, Tugela along with the other already gazetted CMAs had been stopped by the Institutional Realignment Process started at the

DWA national level in 2007¹. This political initiative made impossible the previously conceived comparison since the DWA regional office itself had lost track of water users and other water indirect actors that were supposed to be interviewed.

Only Inkomati and BreedeOverBerg CMAs establishment process and functioning could still be observed since they were the only two decentralized water management institutions whose progress had not been blocked by the DWA head office. Therefore it was decided to make the comparison framework evolve accordingly and a field work session in Western Cape was planned in November 2010. Although this new comparative strategy offered less contrasting potential than the one between Inkomati and Tugela, it was expected that it would still be possible to draw interesting lessons out of it. The research question had nonetheless to be adapted. We would no longer investigate the establishment process only. Or rather we would from now on expand the meaning of this establishment process which, in our understanding, consists of two equally important moments: the *pre-establishment* phase leading to a CMA being officially gazetted and a *post-establishment* phase consisting of the time-laps between an officially existing CMA and a CMA actually performing its delegated functions. Thus, the study would to a large extent try to understand the functioning of the CMAs as well.

In addition, we took the decision to open up the number of case studies. If it was no longer possible to test our hypotheses on a very rigorous basis, then one of the options was to multiply the observations based perhaps on less interviews and more superficial analysis, but on a greater number of cases from which we could derive some commonalities. In that respect, a good opportunity was offered by the designation of five priority WMAs in the National Water Resource Strategy drafted in September 2004. Indeed, according to this document, «*five catchment management areas have been identified where the establishment of catchment management agencies is urgent. These are the Inkomati, Olifants, Breede, Crocodile West and Marico, Mvoti to Mzimkulu.*»

This was representing a good opportunity for our comparative work because we could expect to have something to observe in these areas. In particular, we could infer from the priority status granted to these WMAs that they would receive enough incentives and that initiatives would be taken specifically in these areas, out of which we would be able to study potential challenges met along the way. The National Water Resources Strategy confirms that in 2003-2004, Tugela and Inkomati (along with 6 other CMAs: Usutu; Mvoti; Crocodile

¹ The institutional realignment process was a national initiative led by the Ministry of Finance. Facing the mushrooming of institutions having to report to the Minister of Water Affairs, the idea was to engage in a reflection over a possible reduction of their number. See next section for a more detailed presentation of the rationale behind the initiative.

West; Olifants; Gouritz; Breede;) had already been set up. Moreover, in KwazuluNatal the DWA regional office decided to start off with the three WMAs encompassed in the limits of its territory (Tugela, Mvoti to Mzimkulu and Usutu to Mhlatuze), and not only with Mvoti (interview 17). Consequently, five field work terrains were eventually selected: in Mpumalanga province with the Inkomati water management area (WMA); in KwazuluNatal province with the Tugela WMA and Usutu to Mhlatuze WMA; in North West province with Crocodile West and Marico WMA and in Western Cape province with the BreedeOverBerg WMA.

The integrality of the statements that we will next expose in the following sections are all based on our series of about 85 interviews, on our observations during field works on these 5 terrains and on the confrontation between information gathered from one interview to the other, from one case study to the other (re-cutting the information and being able to interpret what has not been mentioned). We mention as much as possible from where we collected the information but from time to time we had to respect the will of our interviewees who would insist on not to be cited on particular points that they perceived as sensitive information. Therefore, some points are formulated in this report without direct reference to the interview it comes from.

Factors facilitating CMAs ' establishment process: Hypotheses confirmed and hypotheses disqualified

Preliminary remarks:

First of all, before turning to a presentation of the results of our field work sessions, we would like to mention as a foreword, some difficulties encountered in undertaking empirical work, which relates to the problem of a lack of institutional memory of respondents we met through individual interviews. The high staff turn-over in DWA administrations especially imposed some limits on this work, making it difficult to meet with individuals sufficiently "clued-up" in the subject investigated. In addition, it was also difficult to conduct field work in Tugela and Crocodile West and Marico (CWM) where the momentum seemed to have been lost since the beginning of the institutional realignment process: the contact details of people who used to be part of water forums² were outdated and the memory of those who could be found back was difficult to recover after at least four years of institutional stand-still.

² Catchment Forum meetings were used in order to establish Catchment Steering committees (CSC) whose main composition was the major water users and interest groups in the river basin. This took place prior to the formal establishment of CMAs.

Secondly, considering the small number of cases compared, it is important to emphasize again that we could not really *test* our hypotheses, but at least the depth of our interviews and diversity of interviewees' profiles (see appendix for a detailed presentation of people interviewed) ensured a sufficient robustness for the conclusions drawn.

Thirdly, judging what went wrong by comparing CMAs' establishment process between one another is not an easy task considering the fact that the national process of **Water Sector Institutional Realignment** put most of these initiatives on hold unilaterally, irrespective of the advancement progress of most of the different establishment's initiatives. The analysis of this institutional realignment process is beyond the scope of this study. Indeed its dynamics would deserve a study on its own. For now, let us briefly mention that this process encompassed a reviewing of the whole water sector institutional framework, including "*mandates, functions, governance, structure and accountability*" of the "*water services institutions that are created and governed by DWA*", and "*to align these with the regulatory and service delivery mandate of the Minister of Water Affairs*". Since water is an exclusive national competence unlike agriculture for instance which is both a provincial and a national prerogative³, it was believed that more strategic thinking was needed, especially after the recent experiences of mismanagement demonstrated by water boards and water service providers at the local government level. An explanation related to power issues cannot be excluded however: indeed the mushrooming of parastatal institutions could have been perceived as threatening ANC's ability -as a centrally-organized political party- to control a sector and to be in a position to implement its policies. This is easy to understand when one realizes that competences have not even been transferred from national to regional already-equipped offices of the same institution, therefore *a fortiori* to delegate functions to a new body, would create quite expectedly some resistance.

As a consequence of the institutional realignment process, a moratorium was imposed on most of the gazetted CMAs, except for two of them: Inkomati and BreedeOverBerg. The fact that BreedeOverBerg was retained as the second gazetted CMA which will benefit more attention and support seems to be reflecting much more a change in DWA priority WMAs than the state of advancement of BreedeOverBerg CMA (BOCMA) as compared other areas (interview 80). Therefore, the meaning of the end result (effective establishment of CMA or not) should be taken with caution, and it is better in any case to analyze the establishment *process* than just the *end point* (interview 5). Having said that, since CWM WMA was at some point foreseen by the DWA as the leader in CMA's

³ The Constitution of the Republic of South Africa, Act 108, 1996, Schedule 4 Part A

establishment process⁴, and progressing at the same pace as Inkomati, it is still very interesting to compare the two and inquire why CWM eventually lost pace with Inkomati.

Finally, it is worth mentioning that we wanted to give our interviewees the opportunity to communicate their opinion on what was constituting the major driver of a “pioneering” CMA establishment process⁵. However no conclusive or concordant account about the main ingredients of success involved in the establishment were identified. Nevertheless it is interesting to note that when having to select which WMA to start with, they personally thought that factors related to the **financial and economic viability of the future CMA** were decisive variable (interviews 74 and 17). In KZN for instance, the official in DWA regional office evoked the fact that the decision was taken in his province to start off out of the three WMA with Mvoti catchment which appeared as the strongest one:

« you have strong urban structure, you have strong industries, strong municipalities, strong agriculture base, you have a system fully allocated, so you have enough users to pay and support the existence of CMA [...] Those are easier to manage, coordinate them and get revenue from [...] We have customers to support the existence of the CMA”.

Considering now Crocodile West and Marico WMA, it seems that the financial viability of the catchment was also a decisive factor to retain this WMA as a pilot area. Indeed, the river basin is characterized by the strong presence of the mining industry together with also part of wealthy municipalities such as Johannesburg and Pretoria within the catchment (interview 69).

However, these factors did not prove to be that decisive considering the fact that the CWM CMA is still not up and running, even though CWM could appear at some stage back in the early 2000s to have caught up with the advance that Inkomati had taken by then and even to be competing with it so as to be the first CMA in the country (interview 69). Similarly, KZN province used to be one of the leading provinces in terms of CMAs establishment process with an establishment process which started around 2000s. However, here too, this early start did not lead to a successful -i.e. complete- establishment.

Instrumental role of organized agricultural interests:

⁴ considering its situation in the economic hub of the country and the fact that water demand was growing there

⁵ Let us specify that each time we use the terminology “pioneer” or “early” to characterize some CMA establishment processes, those terms have to be understood relatively, i.e. in relation to other CMA establishment processes and not in absolute term.

Having mentioned these potential limits and the cautiousness with which our results should be taken, it appears quite clearly though that **the role of commercial farmers** has been confirmed as a **critical element in the establishment process of CMAs (Inkomati; BOCMA; CWM)**. Either from the very start or along the way, it seems to have played a major role in facilitating an earlier establishment of CMAs. In contrast, the active role of other identified “big players” such as Eskom or the mining sector for instance could not be demonstrated in the preliminary phase of the establishment process. In CWM area, mining representatives were reported missing quite a few water forums meetings (interviews 72, 70, 76). The best evidence of Eskom not being especially instrumental in the setting-up of a CMA can be found in the comparison between Inkomati river basin and upper Vaal river basin. Eskom is heavily present in both basins, however despite the importance of Upper Vaal and the fact that it is a water-stressed catchment, no CMA or proto-CMA was given birth in Upper Vaal contrarily to Inkomati. The major difference between the two basins seems then to be that in one case, irrigator farmers are numerous (Inkomati), but not in the second (Upper Vaal) (interview 83).

More precisely, it seems that beyond the presence of mere farmers, it is the existence of irrigation boards (IB) which is crucial in the Inkomati catchment. Indeed, it is where we can notice the structuring and organization of the irrigation activity into IBs that we found the most advanced or successful CMAs establishment process (see next tables).

Provinces/WMA	Nb of IBs
Northern Cape	27
Eastern Cape	13
Free State	8
KZN	31
North West	20
Western Cape	85

(sources: DWA, GIS Department, personal communication May 2011)

WMA	Nb of IBs

Usutu to Mhlatuze (KZN)	7
Tukela (KZN)	12
Mvoti to Mzimkulu (KZN)	12
Inkomati (Mpumalanga)	27
BreedeOverBerg (WC)	58
Gouritz (WC)	27

(sources: DWA, GIS Department, personal communication May 2011)⁶

According to these two tables, Inkomati in Mpumalanga and in Western Cape Gouritz and especially Breede Over Berg appear to be displaying the highest number of IBs relatively speaking.

The explanation of the presence of *organized* irrigation activity is not necessarily to be found in a stronger willingness within the farming community to engage in collective action. Here it seems that farmers did engage in collective action out of necessity, rather than out of a particular sensibility for collective action and social mobilization coming from specific farmers' personality and engagement in the first place. Indeed, it is much more the presence of external conditions that explains the level of commitment in these collective institutions: collective action in the irrigation sector would be a response to a particular landscape and climatic conditions, and/or a particular history outside the farming sector per se.

In that respect, as a winter rainfall area, Breede over Berg had a lot of dams and schemes already coming from late 19th Century to the extent that IBs are said to lay "*back to back*" covering there the whole region. When an area is concerned with summer rainfalls, like for instance in KZN, there is no need for such big infrastructures and therefore no need for IBs to manage them. Indeed, in this province, only individual dams have been built over time.

⁶ These figures are only partial. We could not find complete and consistent information concerning all the provinces. Moreover these figures about the number of IBs does not sufficiently inform us on the strength of the IB (the number of members it represents, the scope of tasks undertaken, the water works that may belong to some of them, the money that the IB can rely on based on the water charges it can levy etc) which would have given us a better indication about the extent to which irrigated farming is "organized" within this or this WMA. For instance in the upper Mvoti catchment, one of our interviewees mentioned right away that his IB was just a "*low key*" one: never any works belonging to the IB (no dam built); very basic administrative fees (very small levy); no asset as a board (interview 15)

For these privately financed and privately owned infrastructures, only registration at DWA is compulsory, they are not controlled by IBs or WUAs like the irrigation farmers of other areas with fewer rainfalls throughout the year (interviews 15, 20, 26).

In contrast, as a dry area with little summer rainfalls, Inkomati had to “*develop*” its rivers in order to allow for agriculture expansion in that region. On the contrary, the level of collective management of water resources in the absence of IBs is very low in most parts of KZN as a result in particular of different climatic conditions. In addition, another challenge in KZN lies in the fact that there is an extensive portion of the territory concerned by tribal land clearly demarcated from the rest and obeying to its own institutional arrangements.

The hypothesis on the other big players’ role disqualified:

Apart from these IBs, other big players role was not confirmed: by deduction, we can say that Eskom did not play an instrumental role otherwise it would have done it as well in Upper Vaal where its presence is also very strong (interview 64). As a strategic user, Eskom is less impacted by a demand pressure over the water resources anyway. In drought periods, its needs will be catered for in priority.

The commercial forestry sector seems to have played an important role at the WUA level – especially with the Elands River Catchment WUA, one out of the two new WUAs already running in Inkomati. However this involvement appeared to be related to a more personal commitment of the representative of the forestry sector to the objective of sustainable water resource management than to be a real mandate emanating from organizations in this sector. Considering now international players, it seems that international treaty obligations in terms of transboundary water was not the most critical point for Inkomati, otherwise Usutu to Mhlatuze CMA would have been established too because of its obligation to transfer water to Swaziland. Here again it seems that more importantly it is the presence of South African irrigation farmers having resettled across the border in Mozambique (interview 81) which matters –the same relocation phenomenon could not be observed across the border in North KZN-.

As for conservation interests it seems that there was no real active involvement in CMAs establishment efforts, only a broad support to the initiative. More generally, SANpark organization usually does not invest much outside the boundary of natural reserves (personal communication with an expert of CMA establishment process, University of KZB, Pietermaritzburg), apart from a few exceptions like the involvement by the Kruger National Park in the technical Crocodile River Operating Committee (CROC) committee investigating real-time water flow measurement. Tourism industry also has a strong interest in making

sure that water resources are preserved. However it does not weight as much economically as the mining sector which is a bigger employer in any case, and so far as an indirect water user and polluter remains not so much involved in water resource management.

In most areas under this study, local governments seemed to be facing other major challenges regarding water service delivery, preventing them from participating more deeply into upstream decision-level regarding water resource management. The fact that there are prospects in BOCMA to transfer water from the river basin to Cape Town as part of the National Water Resources Strategy (interview 34) could have been a decisive point in selecting this WMA as a priority region. Yet during our field work in the area nothing confirmed the specific role of Cape Town municipality in the establishment process. Moreover, in other river basins like Mvoti or CWM where powerful municipalities are present (Durban; Pretoria and Johannesburg), this does not seem to have made any difference so as to obtain a hastily establishment process. Idem for emerging farmers since the land reform is experiencing heavy backlogs.

Factors facilitating CMAs 'continued post-establishment process

Commercial farmers' interested commitment:

It is also worth questioning what prompted a change in the attitude of commercial farmers and IBs towards CMAs institutions over time. Indeed, as Brown and Woodhouse notice, IBs first attitude towards the 1998 NWA was about showing strong reluctance:

“The IBs felt that DWAF forced through the proposal without “people on board” [...], it was “bulldozed through” [...] Commercial farmers, seemingly in a powerful negotiating position, being the largest water users with the best knowledge of the resource situation feel that they are inadequately represented and thus do not see the CMA process as having legitimacy. The source of money to maintain the CMA operations, after an initial one-off allocation from central government, will be the Water Resource Management Charge (WRMC). As the largest water user, commercial farmers have potentially considerable financial leverage over the CMA process. As a protest against what they see as “Taxation without representation” [...], most of the IBs contacted were withholding payment of the charge.” (Brown and Woodhouse 2004) (p.44)

Indeed, as the authors rightly emphasize: *“it is important to recognise that established patterns of water use are already based on local management systems, albeit ones that have historically favoured only a minority of the population. It is clear that for existing local water management agencies, such as the Irrigation Boards, the reform of water management is*

perceived as taking power from local to central level [...]many IBs see the CMA process as a centralisation of power” (Brown and Woodhouse 2004) (p.46 and 49)

Over time however, IBs and irrigator farmers started to see the benefits they could get in adhering to CMAs. With the NWA switching from riparian rights to the government as the new custodian of water resources, water allocation and licenses have now to be issued by the ministry. A lot of commercial white farmers perceived the new DWA staff as less favorable to their interests and because of this new distrust towards the administration, thought about the CMA as a potential alternative to circumvent the alleged bottleneck noticed at the DWA level when it comes to granting permits to white farmers (interviews 13, 29, 30,31, 32, 76).

Another potential advantage linked to the setting-up of the CMA was mentioned by another interviewee. According to a board member representing industry and mining, currently there is a new proposed approach pertaining to water use tariff determination and collection that could be experimented in Inkomati. With the delegation on new powers to the ICMA this responsibility will soon be transferred to Inkomati CMA. The tariff price would be set at a stakeholders meeting in a bottom-up approach based on the budget of the business plan approved at the meeting by stakeholders. In that respect, it was pointed out that Eskom as about one of the major water users in the WMA who use about 100 million m³ of water per annum should be in a position to say what it wants for the money paid and as such could demand that there requests are put in the business plan (interview 64). This provision could interest the other stakeholders as well who could also think that by setting the price themselves, they will be able to hold the ICMA accountable for its performance. This complaint about being compelled to pay a substantial water charge to the DWA without the DWA feeling indebted in return to the tax payers for delivering services (such as removing alien species; constructing weirs; putting flow meters and monitoring points in rivers etc) is widespread among commercial farmers nowadays (interview 71).

Finally, another benefit of setting-up a CMA from the commercial farmers’ perspective can be found in the prospects for establishing a river flow monitoring system together with staff of the ICMA. Indeed, IBs have a strong interest in being able to determine water availability in rivers. This is necessary to anticipate future droughts but it is also being used in order to operate the ecological reserve⁷ through a real-time monitoring software that can be more

⁷ According to the 1998 Water Act part 3 which deals with the Reserve, the Reserve “[...] consists of two parts - the basic human needs reserve and the ecological reserve. The basic human needs reserve provides for the essential needs of individuals served by the water resource in question and includes water for drinking, for food preparation and for personal hygiene. The ecological reserve relates to the water required to protect the aquatic ecosystems of the water resource.”

precise than the devices and techniques used by the DWA to determine it (Interview 13). This tight collaboration between IBs' information systems and one ICMA's highly-qualified staff member has been experimented in the Crocodile sub-catchment. It has enabled a win-win situation to occur within the so-called "CROC committee": since in most of the cases the refined ecological reserve is recalibrated in a less drastic way, irrigators can quite happily end up being less restricted on their water abstractions. Other advantages can also be mentioned: cost-wise, IBs which highly needed these information concerning water availability in rivers were better off by pooling their efforts and means and "commissioning" the ICMA to do the job; ICMA staff can gain critical information that used to be centralized at the IBs' level exclusively and demonstrates that it can perform a task that even the DWA was not able to undertake till now.

 **A supporting role from agri-business: ensuring a collaboration between commercial and emerging farmers**

Agri-business and especially the sugar cane industry in Inkomati has been confirmed to have played a supporting role on the side of agricultural organized interests, preparing the ground for a smoother collaboration between commercial and emerging sugar cane growers. This role played by the sugar cane industry was not instrumental in the establishment process of the Inkomati CMA per se but it has the potential to play a major role in the CMA post-establishment process, especially by easing the relationship between emerging and commercial farmers, a relationship that could potentially become rather contentious in the future, therefore undermining the functioning of the CMA governing board.

Transvaal Sugar Limited (TSB)⁸ is a sugar cane processing industry installed in the Nkomazi region –located within the Komati sub-catchment (one of the three Inkomati sub-catchments)-. TSB has a record of being very active in the organization of a strong collaboration among its raw product suppliers, i.e. between black emerging cane growers and white commercial ones. TSB's involvement can be explained by a combination of factors pertaining among other things to the pace of land reform implementation. The Nkomazi is situated in an area of former tribal land. A land claim process covering 10,000 Ha could therefore be completed quite quickly thanks to the fact that despite the huge proportion of territory concerned, only one claimant –the traditional authority- was involved in the procedure, which was subsequently facilitated⁹. Arable land exploited by white sugar cane

⁸ a wholly owned subsidiary of Remgro– a diversified company listed on the Johannesburg Securities Exchange in South Africa

⁹ The land reform covers a three-tiered approach: first there is the land restitution whose aim is to return land that was taken away forcibly from black people during apartheid, or to provide those affected with financial compensation; there is the land redistribution process which aims to equitably share resources by transferring

growers had to be redistributed to emerging black farmers. Located in the area where TSB mill operates, this was causing a big challenge to the company whose objective is to be able to secure the tonnage it needs in order to maintain its profits. Indeed, as one of our interviewees put it *“a mill interest is simple: the way a mill works is very capital intensive, if the mill is running 100%, you make a lot of money, if production drops to 70%, it is just going under, there is no profit left any more, because fixed costs are taking all your profits. So you have to get above 70%, otherwise you have to close the mill.”* (interview 50). It is not very clear what prompted this pro-activeness: perhaps because of the existence of a sugar cane supply contract between the former farmer and the mill, it is possible that TSB was not able to get away with this contract once the farm was bought out, but either way TSB felt that the company had no other choice but to get involved in the transition from commercial to emerging sugar cane estates, for instance by requesting commercial farmers to train the new comers, by easing the relationship between the two groups within the mill, or within the irrigation board in which TSB staff holds some responsibilities¹⁰ so as to make sure the collaboration between the two groups would be smooth (interview 50). In other words, TSB got involved in all the relevant activities in order to make sure that emerging cane growers would succeed in taking over the commercial farm. Here we see a virtuous circle effect, the redistribution of land national policy triggering the strong involvement of the sugar cane industry in the sugar cane growers’ affairs and interactions within the Komati area.

The pro-active role of TSB –despite the triggering role of the land redistribution reform– should not be downplayed however. Indeed, this tight involvement and collaboration with the different profiles of sugar cane growers was not displayed in the Usutu to Mhlatuze WMA however despite similar conditions, i.e. an area concerned with massive redistribution of sugar cane land to the dispossessed black community. The sugar cane industry is dominated there by the Tongaat-Hulett company. Unlike TSB, Tongaat-Hulett did not want to get involved and facilitate the transition from sugar cane land farmed by commercial irrigators to land farmed by emerging sugar cane growers despite the fact that here too the sugar cane industry is very much concerned with securing its supply to the mill. No joint venture with the black farmers for instance was created. It was alleged that the culture of the two sugar cane companies was differing quite substantially with TSB being closer to farming activities and understanding pretty well that growing sugar cane could not be improvised and that it would require a lot of accompaniment and training for new comers. On the contrary, with a more corporate culture within Tongaat-Hulett Tongaat-Hulett

land from white to black people so that the land ownership share of black people is increased; there is the tenure reform which aims to enhance the tenure security of vulnerable people, such as workers and their families residing on private commercial farms as well as people living in the former homelands.

¹⁰ TSB director used to be the chairperson of the Komati River IB

managers have a tendency to be more remote from farming realities and thus did not anticipate the difficulties that land redistribution to emerging cane growers in their area could provoke for their business. *In fine*, Tongaat-Hulett did not adopt the same pro-active role towards the farming community as in the TSB case.

Challenges facing the CMAs' functioning

Based on our observations of two CMAs –ICMA and BOCMA- we will consider first the challenges facing CMAs and related to internal functioning, then we will expose the challenges related to a lack of coordination across institutions.

Internal functioning of CMAs

We could have expected some tensions between emerging farmers and commercial ones, considering the fact that redistribution of water allocation to the benefit of new comers in the farming sector could potentially be done at the expense of already-established farmers. Yet, it seems that so far there is no need to consider the option of curtailing on commercial farmers' former water rights, among other things because new comers in the sector are still not really numerous. Nevertheless, apart from this potential difficulty that seems to have been circumvented so far, other challenges relate to the composition mode of CMA's governing board:

- **Composition mode of the CMAs' governing board**

One major difficulty concerns the determination of which stakeholders should be represented in the governing board. For instance, considering the political game surrounding water service delivery (water board etc), one has to be aware of the necessity not to amalgamate water board and municipalities/water services authorities. Illustrating such political stakes, we could observe in KZN the refusal of an Inkata Freedom Party-run district municipality to get a water board controlled by DWA and more broadly by a national government ruled by the ANC (interview 25). This national-local politician conflict can also be seconded by a more strictly local politician battle among competitors from the same political party like it is the case in Mpumalanga province and Bushbuckridge municipality in

particular. Bushbuckridge water board is indeed suffering from financial difficulties caused by the reluctance of Bushbuckridge municipality to pay all its debt to the water board providing bulk purified water to the municipality which then has to reticulate it to domestic users. This reluctance is not linked to financial difficulties coming from the municipality only but to mistrust between the two organizations, the municipality perceiving the governing board of the water board whose members are appointed by the DWA minister as political competitors in their constituency area (interviews 44, 46). Moreover, Bushbuckridge water board also complains about the unfair strategy that the Mbombela municipality is allegedly using against itself, again making use of the financial weapon in order to get rid of the water board and preparing the terrain for the privately-owned water service delivery company¹¹.

Therefore, in order to avoid confusing different interests there is a need to get a different seat for each of these different interests (water boards and municipalities) within the governing board. Ignoring this kind of stakes and in general misjudging the actors' configuration and play could lead to substantial problems like the ones experienced in Crocodile West and Marico during the water forum phase. At first both emerging and commercial farmers, but also competing agricultural associations etc were amalgamated under the common label of agricultural interests, but this proved to have a counter-mobilizing effect on the different participants at this early stage of CMA establishment process, therefore delaying the whole process (interview 72).

Besides these difficulties concerning the *generic composition* of a governing board, there are other difficulties related to the designation of *individuals* incarnating the representation of such and such stakeholders group. It seems that very often the designation of such personalities has been the occasion for political games to interfere into the process here as well. It was particularly striking in our observation of the CWM case and the ICMA. In that respect, these political games can correspond to stakes pertaining to various dimensions. First, there is the one related to representation proportion with the objective of making sure that the majority within the governing board will be granted to former disadvantaged groups or on the contrary to former benefiting portions of the population (interview 70). Besides this racially-based kind of politics, there is sometimes another political dimension expressing itself and that is linked to politics, i.e. to political parties. The intent of political parties here is to ensure that their specific representation together with their particular policy agenda will be supported within the governing board. Finally, there is a dimension attached to the political clientele. By nominating personalities that are closed to one's political party network, the idea here is not to defend particular policy priorities but to reward the faithfulness or allegiance of individuals to the political network. This last possibility is particularly detrimental to CMA's specific mandate since these individuals do not have any particular interest in the objectives to be achieved by the CMAs. However, the second type is

¹¹ the municipality is in contract with - *Silulumansi-Sembcorp*- (interview 11)

also impeding on the progress of the CMA mandate which cannot be linked to the evolving policy agenda of a particular political party. Indeed the CMA specific mandate constitutes a national priority already adopted and applicable to all citizens. Lastly, the struggle of either previously advantaged or disadvantaged groups to control the governing board composition is problematic in order to secure the balanced representation that is needed for the CMA to get the relevant stakeholders' interests represented and to be able to see its policies being implemented. Moreover, some specific areas like in Mpumalanga for instance have inherited from the past political regimes a particular way of dividing and segregating the black communities into neighboring but separate tribal territories. As a result, division between ethnic groups located on the same perimeter and for our concern, sharing the same river basin is higher than in other places also characterized by former territorial segregation in South Africa. This feature has produced long-lasting effects which still impact on the way political life is conducted in the region, not so much because of the authority still granted to the traditional leaders by their "subjects" but because of the attachment to the use of a specific language that distinguishes these different ethnic groups. Although it does not often openly acknowledge it, the ruling party for instance recognizes the necessity of accommodating these ethnic sensibilities in the way it conceives its electoral campaign and strategy in the region (interview 61). Talking about the necessity to ensure a wide diversity of interests represented within the governing board, this aspect needs to be reflected as well in the composition of the governing board in order to facilitate the feeling of belonging of the river basin inhabitants towards the CMA institution. However, according to one of our interviewees, it seems that probably because of a lack of awareness this important dimension has been largely overlooked in the selection of the ICMA next governing board adopted by the advisory committee and recommended to the Minister for future appointment (interview 64).

The selection of the governing board members is therefore a sensitive operation to conduct, one that should deserve the biggest attention in order to avoid some of the traps mentioned above. The easy way out in order to escape the politics involved in the appointment of governing board members seems to be trying ignoring the political dimension of the governing board arena ("political" here in the sense of "polity"). However we believe this is a mistake: the CMA cannot escape this political –broadly defined- dimension if it wants to be able to treat the issues it will have to face as we will see in the next sections. In that respect, favoring competence over representativeness as it seems to be the case for the list selected by the Inkomati advisory committee for the renewal of the CMA governing board is problematic (interview 64).

- **Commitment and accountability of the governing board's members:**

The composition of the CMA governing board is a crucial element that should be easing the commitment of its members to the task to be achieved within the CMA. Considering the complexity of water issues, governing board commitment is largely depending upon the capacity of its members to participate into the discussions from a technical perspective. In that respect, it has already been mentioned several times that some stakeholders in particular benefit from substantial discursive advantages in the debate : *“Well resourced stakeholders, such as forestry, mining, sugar and metropolitan municipalities have demonstrated their superior leverage through effective scientific, economic and legal advice, leaving marginalised groups such as emerging farmers behind. Efforts should be directed towards balancing the scales of knowledge equity.”* (Asnar and Hansen 2009), p.8). The current functioning of ICMA is confirming this feature with commercial farming, electricity production and tourism interests’ representatives (to mention just a few) dominating the exchanges while Historically Disadvantaged Individuals representative, Civics representative, and informal settlements’ representative in particular have a tendency to remain rather passive (interviews 43 and 51). This alleged passivity may be linked to a low level of confidence –that we could also observed (interviews 37, 39, 51)- due to lower levels of knowledge on water resources and to a great extent differences in educational levels among board members.

Nevertheless, this passivity mentioned several times during our interviews in the Inkomati catchment is especially striking when compared to empirical literature on the broad consultation phase prior to the CMA official establishment. Indeed Anderson evokes the fact that : *“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.”* (Anderson 2005), p.5). This statement contrasts very much with the current situation that we observed during our field work in Inkomati river basin in which no such tension could be observed. This should be an encouraging statement if we could attribute it to the pacification of the relations among various stakeholders and to a social learning process on how to exchange in a constructive way over difficult issues. However it seems that it is much more attributable to the fact that stakeholders’ representatives are not always engaging with the major challenges facing water resources management in the river basin and have a tendency to overlook the crucial stakes that should be debated within the CMA. Indeed, it seems that the lack of tensions is best explained by the fact that contentious subjects are avoided within the governing board meetings even during strategic discussions like the one over the CMS drafting. Such a gap between stakeholders’ preoccupations and their representatives raises the question of representativeness of the governing board members and their legitimacy to voice the concerns of the population that they are supposed to be speaking on behalf of and being accountable to. To combat such problems, continuous efforts have to be dedicated to the

training of governing board members –as well as staff like in the EU-funded training initiative with the Dutch Groot Salland water board- so as to ensure proper empowerment and to circumvent having any intimidated member not daring raising its voice during meetings.

Apart from the necessity for all the governing board members to level up to the technical knowledge required in order to actively participate into the discussion, we found counter-productive the decision taken by ICMA governing board to self-allocate a stipend almost amounting to a salary to its members. Indeed, the prospect of receiving a salary out of one's participation into the governing board gives very bad incentives. The Crocodile West and Marico water forums process illustrate that point particularly well. Indeed, according to several of our interviewees, *“once people realized they wouldn't get paid, they disappeared, the consultation process had to start all over again, amounting to big delays in the establishment process of the CMA and to the exasperation of other members”* (interview 72).

The prospects of getting paid for participating in the process tend to attract the wrong candidates for stakeholders representation. Making things clearer about money prospects from the very start could help avoid these misunderstandings and delays in the selection of truly motivated participants in the consultation process. Even for population categories struggling with the necessity to make a decent living, participating into the CMA governing board cannot be perceived as a way to get a revenue. On the contrary, it has to be considered as a volunteer work. As a consequence, only a small stipend covering extra-costs of participation to 4 meetings/year (transport expenditures; food expenditures etc) should be allowed like in the case of BOCMA. This is a way of preventing any conflict of interests between members who could be tempted to censor their (constructive) critical thought about the CMA's agenda or to be overtly laudatory about CMA's program of actions because of their fear to undermine the organization that ensures their very subsistence.

- **Sharing of responsibilities between staff and governing board:**

Another difficult challenge is linked to the necessity to ensure a proper sharing of responsibilities between CMA's governing board and its staff. As a preamble, we should emphasize the importance for a CMA to be able to rely on qualified staff. In that respect, it is obvious that the demonstration of specific competence held by certain ICMA staff members tremendously accelerated the process of functions delegation to ICMA. Indeed, a well-capacitated CMA that can prove that it can operate without the help of external consultants is a critical advantage. No doubt that in the ICMA case, the fact that ICMA could draft a CMS in-house without external support was an element of trust between ICMA and the DWA minister encouraging her to eventually agree on a first set of delegated functions.

Nevertheless, without downplaying the importance of the supporting staff competency, one should be clear about the division of tasks between CMA decisional body –governing board- and CMA’s officials whose role is to execute the measures adopted by the governing board only. Therefore, its responsibility is to assist the governing board in the performance of its tasks, not to take over it. In particular, the drafting of the CMS cannot be undertaken for its most part by the staff leaving the governing board to only register options that have been put on the agenda by another body, here the CMA staff. In that respect, conversely to what was exposed by one interviewee, the CMS is not a mere “*practical document*”, positioning itself very “*far away from politics*” (interview 13). Indeed, the NWA mentions that a CMS will include for instance a water allocation plan and that it must set principles for allocating water to existing and prospective users, taking into account all matters relevant to the protection, use, development, conservation, management and control of water resources (see chapter 2 part 2, NWA).

Several reasons can be mentioned that explained why it is not satisfactory to let the CMA officials take priority over the governing board discussion on the matter, one of them being the potential structural bias of the staff towards commercial farming already mentioned in the literature (Brown and Woodhouse 2004), p.14), i.e. the fact that CMA officials’ job security depends on financial resources that will be mainly provided –at least in the early stages- by the commercial farmers¹². Consequently, in order to avoid any conflicts of interest, political decisions such as the ones enclosed in a CMS have to remain under the responsibility of the governing board as indicated in the Law.

Regarding the CMS drafting, the approach evoked by BOCMA comes closer to the procedural steps that are supposed to be followed. BOCMA staff did not take for granted that the governing board should be the only media through which the different stakeholders groups can express their opinion. Therefore it was both water forums and a reference group (composed of 18 members, some of them belonging to the governing board as well but not only) who are currently writing the CMS. It is not the unique responsibility of the governing board. Indeed it is conceived as a bottom-up process in which the CMA must get inputs from grass-roots organizations, then leaving the governing board with the final approval. In contrast, the approach followed by ICMA was getting closer to a top-down process in which the idea for the CMA is just to go back to stakeholders so that it “*can educate people*” (interview).

To restate into details the CMS drafting process in Inkomati, let us mention that the in-house drafting of the Inkomati CMS was a responsibility that was given to the Water Resource Planning and Programmes unit of Inkomati CMA. It was done in such a way that

¹² So far the Inkomati CMA has two funding sources: first a parliamentary allocation which comes from government coffers and second, external funding that comes from the donor community.

first the executive manager of the planning unit had to buy into the board the idea of drafting the Inkomati CMS in-house. The governing board agreed and gave consent to the planning unit to go ahead with the idea. Subsequently, the planning unit developed the Inkomati CMS to its final logical conclusion by building on the status quo report that was produced by consultants who were initially engaged by DWA to draft the CMS for the Inkomati CMA.

Yet, the approach chosen by BOCMA with a clear division of tasks between the governing board “*giving overall direction of the company*” and “*the officials who are doing the operational work*” is not without posing problems itself. This idea of the governing board “*not zooming-in and only having a helicopter view, nothing very detailed*” whereas “*the staff has to put into technical and sensible wordings [...] the strategic direction given by the board*” (interview 26) is not completely satisfactory. Indeed, it tends to ignore the fact that technical decisions are seldom neutral and always involves a political dimension (Lascoumes and Le Galès 2007). Therefore, the technical part cannot be left to the staff alone, but the governing board must also check on this aspect. Furthermore, the duty and function of the staff is also to tell what the technical implications of a decision are, therefore putting the governing board in a position to take an informed decision. In a sum, if we advocate for a proper sharing of responsibilities between CMA staff and governing board, this cannot take the form of a division between strategic direction on the one hand and technical application on the other hand since we know that this division and categories are not that clear-cut in reality. The CMA’s staff should strive to stay the mere executing body of the governing board decision and not to get involved in the decision-making process, only to bring its technical insights up-stream in the decision-making process so as to make the deliberation of the governing board more informed. Again the technical translation of decisions taken by the governing board cannot be differed to downstream decision-making only, i.e. the implementation phase whose responsibility is given to the CMA’ staff.

- **Two competing paradigms ruling the CMAs: a *managerial* one and a *social transformation* one**

We make the hypothesis that one possible explanation for such a mix of roles between the staff and the governing board is related to the confusion over the ultimate identity of a CMA. Indeed, granting CMA officials too many actual responsibilities leads to minimizing the political dimension of the CMA mandate. Again, what we mean by “political” here has little to do with “political party politics” but refers much more to the “polity” dimension of the

term, i.e. a reference to an arena for debate and confrontation of opinions in which different interests and positions have to be accommodated. Considering the challenges facing the CMAs –one of which being in a near future about issuing licenses and presiding over water (re)-allocation issues-, this dimension should not be downplayed. Indeed, numerous works mention the fact that inequalities are still vivid almost two decades after the end of Apartheid. In rural areas for instance, it takes the form of territorial overcrowding and land deprivation resulting from the Apartheid era. Against this background, access to water displays the most striking inequalities of all the policy sectors: white, large-scale farmers, consumed as much as 95 per cent of water for irrigation while smallholders, mainly black farmers, share the remaining 5 per cent (Schreiner and Van Koppen 2002; Cullis and Van Koppen 2007). Considering the stakes involved, the water sector appears as a very symbolic issue in the struggle to redeem the past and rebuild the Nation around the achievement of a successful water policy reform. In that respect and in order to remedy identified backlog in the implementation of the redistributive agenda, the Water Allocation Reform (WAR) Strategy of 2008 states that by 2014, 30% of allocable water should be to the benefit of Black people. By 2024 the target is 60%, of which half should be under control of black women.

In this struggle for social transformation, not only will critical functions be partly delegated to CMAs like the one about water (re-)allocation, but the CMA will have to figure out some unresolved dimensions within the Act. Indeed, the redistributive objective is not the only agenda to which is committed the CMAs: the NWA contains other principles that seem to be difficult to reconcile with one another. For instance, the Act talks about the need to address both the issue of equity and at the same time the economic issue of water productivity. According to this latter principle, people demonstrating the most productive uses of water should retain their user' rights meaning that existing lawful water users who are making efficient use of water and contributing to socio-economic growth would not be curtailed. How, in a water scarce country, this principle is going to be accommodated with the objective of enabling a more equitable access to water resources or with the objective of alleviating poverty in rural areas where people engage in subsistence agriculture, remains unanswered. Movik (Movik 2009) is rather pessimistic about the outcome of the confrontation of such principles and argues that in practice *“the existing users [are the ones] entrenched, and the case for redistribution to historically disadvantaged individuals (HDI) [is] tightly tied to their potential for economic productivity”* (p.11). Other authors (Schreiner, Van Koppen et al. 2002) also underline the apparent incompatibility of these NWA objectives and emphasize the need for specifying in particular the economic concept: quoting Perry *et al.* (Perry, Rock et al. 1997), these authors recall that following one of Dublin main principles (1992), the statement that water should be treated as an economic good has *“the virtue of being sufficiently vague to allow agreement, while leaving the implied operational content – over which there may be strong disagreement – unstated”*. Schreiner *et al.* continue:

“Instead, as Perry et al (1997) argue, the issue is not whether water is an economic good as it is, but what kind of economic good water is, a private or public and social good, and hence which values govern analysis and decision-making. Proponents of water as a private good define its value as the maximum amount that the user would be willing to pay for the use of the resource. The distribution of water should be determined by the overriding value (and not more than a value) of the consumer’s sovereignty on a free market “ (p.133). Finally, emphasizing how much this conception is at odds with the current social transformation agenda of the NWA, they advocate for a paradigm shift in the implementation of the NWA moving away from the “conventional water management paradigm” (p.133).

In any case, solving the uncertainties and approximations of the NWA Act implies having a political debate within the CMA that the application of mere managerial recipes within the CMA cannot provide. Since those objectives do not come as straightforward as we could have expected, running a CMA cannot be considered as a purely managerial task. On the contrary, these competing objectives need an adequate and open deliberation and arbitration. This is a very demanding process that requires engaging with the political dimension and abandoning this conception of the CMA as a mere “company”, a terminology that has often been used by several of our interviewees (interviews 26, 64, 17). Likewise, the use by several of our interviewees of the term “customers” to designate the water stakeholders (Interviews 17 and 64) reveals the particular mind set in which is perceived the work of a CMA. We believe this plays against the objective of ensuring social transformation in the water sector.

To some extent, it seems that this “company” vocabulary has to do with the concern about the financial sustainability of the CMA organization. However, if securing its economic sustainability is an important pre-requisite of the capacity of a CMA to fulfill its mission, yet it cannot pass as its ultimate goal. Indeed, it remains that the prime focus of the governing board is to ensure the “integrated water resource management”(Schreiner, Van Koppen et al. 2002) (p.139), a task that involves among other things to look at water (re-)allocation and water scarcity management.

Therefore, in order to address this social transformation agenda, one has to conceive of the CMA as a political arena, not as a private and/or technical organization whose *raison d’être* is to deliver services for its “clients”. For this reason, a careful selection of the governing board is needed both to avoid selecting passive/non-dedicated members to its political agenda as well as to avoid the easy solution which would be to select governing board members based on their sole competence, i.e mere experts of water issues who do not benefit from a political legitimacy within the group they will represent¹³.

¹³ The approach that has been proposed by the Inkomati advisory committee for the renewal of the governing board

Likewise, the request from particular sectors which hold a representation in the current governing board, to set the water charge fees in a bottom-up approach, based on the willingness to pay of the water stakeholders is problematic from the same viewpoint. One of our interviewee (interview 64) claimed that under the new approach, if water users were prepared to pay an increase in the water tariff, it will have to be based on what the CMA can deliver to them, like if they were CMA's mere clients. Yet the idea of decentralizing water governance at the river basin level and asking the various stakeholders to participate into the decision-making has been conceived of in order to better adapt decisions to the local context and not to give the opportunity to these stakeholders to redefine the national water policy agenda so as to suit their particular needs. Here stakeholders have to respond to national objectives, they are not supposed to be only seeking their own individual interests. This remark is even more important when stakeholders perceive themselves as *clients* of these organizations and when the risk of capture of these organizations by particular stakeholders is high like in our case.

Policy coordination across institutions

- **DWA regional offices' future role**

Finally throughout our series of interviews we could sense some concern coming from the members of DWA regional offices (RO) about their role and duties in this new organizational architecture. Officially RO's function is to help "*coordinate and facilitate the decentralization process*" (interview 17), and a lot of them claim having played an instrumental role in the early establishment of a CMA in their responsible territory. This leadership role at the inception of CMA's establishment process has often been disputed by other actors being interviewed, but what seems to be more problematic today is the attitude of a number of ROs towards CMAs even in the most advanced establishment and delegation processes. Apparently if it were there at the beginning of the process, the support of RO seems to have decreased over time. This has not so much to do with the redefinition of its missions that this former "*hydrocracy*" (Molle, Mollinga et al. 2009) has to assume¹⁴. Indeed since 1998

¹⁴ For Molle et al., hydrocracies refer to powerful state water bureaucracies created in the late 19th century across the world: "*Because of the financial failure of private enterprises and various national objectives, the states [...] stepped in and endorsed the role of (large-scale) developer of water resources. Imbued with the fresh legitimacy of technical marvels (high dams, electricity, etc) and the presumably unlimited power of science, inspired by the mission to tame nature and make the deserts bloom, hydraulic bureaucracies were created to take up the challenges of flood protection, hydropower generation and large-scale public irrigation. These bureaucracies had their secular priesthoods, acting in the name of the common good and in tandem with*

the ministry and its regional offices have had to undertake a couple of reforms which saw the institution at first grow to encompass forestry, water service delivery, environmental affairs with a massive transfer of staff to the organization to a return to a more normal size for the organization however with only a minor part of its personnel corresponding to previous engineering tasks. Therefore to some extent the institution is now used to go through important transformations and has proven to some extent its resilience so far. However what seems more problematic in the present context is the feeling of being deprived of any responsibility left. Some of our interviewees mentioned their fear of being considered as no more than a mere “*post-office*” between the two decisive institutions that are the DWA national office and the CMAs, understanding that in the longer run their institution is threatened just because cost-wise having three institutions performing tasks that used to be performed by only two of them will appear eventually problematic to the Legislator (interview 65). With staff member of another RO, we could feel that his perception of the future situation would also be a “*either-or*”, either there will be a regional office or there will be a CMA (interview 74). Moreover, the perceived job-insecurity attached to the CMAs for which nobody knows as yet if they will be financially sustainable organizations does not motivate the RO staff to make the choice of being transferred to CMAs. Against this background, it is not surprising that most of the CMAs governing board mentioned the fact that RO staff always finds various excuses not to delegate functions to CMAs, using according to our CMAs’ members undeserved allegations of under-performance.

Therefore, in order to fight this reluctance and distrust towards CMAs, there is a need to clarify the future role of DWA Regional offices in this new institutional context.

- **The DWA not preparing the ground for the implementation of the social redress agenda**

The challenges facing the CMAs in their attempt to fulfill their mandate seem to be reflected in other institutions interacting with the CMAs. Indeed, some difficulties pertaining to the implementation of the social transformation objective of the NWA emanate from the DWA as well which proves to experience some problems with the necessity to be moving away from the *status quo* and putting the CMAs well on track to pursue their social redress task. Let us take for instance the case of water re-allocation, which is an objective of the NWA. This objective is part of the “*compulsory licensing*” process –i.e. the necessity for all water

politicians and national leaders. Not a single drop of water should reach the sea without being put to work for the benefit of Man: the 'hydraulic mission' was born.” (p.332)

uses to get a water use *authorization* from the DWA-, which can only take place after a validation/verification process of “existing lawful water uses” has been completed. Our case studies in Usutu and in CWM suggest that DWA had the opportunity to curtail without too many difficulties or costs involved some of the previously tolerated water uses by commercial farmers, but decided not to seize that opportunity.

First it is important to acknowledge the complexity of the first step in the process, i.e. the validation/verification process, one reason for such a complexity being that there is a knowledge gap between farmers or IBs and the DWA: indeed IBs are careful not to display especially to the DWA information they possess. Therefore very often the DWA civil servants experience an information deficit in front of IBs (interview 13). Actually, sometimes even IBs themselves do not know what were the legally registered water rights under the previous Water Act—not all farmers were belonging to an IB- and in general there are a lot of uncertainties surrounding previously authorized water rights. In cases for which IBs do not want to share the data that they own, DWA services have to use Landset satellite images and to run models used by the department of agriculture as well as data concerning crops and land surfaces (information about evaporation; rainfalls; climate; soil type; water required for each type of crop etc) in order to come to an estimation of these former water rights. With this broad estimation -which can never be 100% accurate-, DWA can have a good guess and a good starting point from which to negotiate with the farmers what has been their real use of water in the past.

Yet the discussion can stumble against two other contentious points. One has to do with an “anomaly” of the former water Act regulating water uses on an hour and Ha basis, something that is linked to the fact that lawyers rather than hydrologists were ruling the water Courts that imposed this measure in the past. One of the new objectives of the DWA is to convert these authorized Hectares into authorized volumes in order to give better clarity about water uses¹⁵. However this provision is still challenged by some farmers.

A second contentious matter between commercial farmers and DWA lies in the different interpretation that is given to the rule that defines the so-called “qualifying period” for determining existing lawful water uses. Indeed, while farmers talk about their water *rights* (interviews 13, 30, 31, 32, 76), in contrast DWA only talks about “existing lawful *uses*” following in that way the new Act terminology. The whole rationale behind determining “existing lawful uses” through a process of verification/validation is not for the DWA to grant people with definite rights. Indeed, such rights have been abolished with the public

¹⁵ Indeed, depending on the pumping and spreading device used for irrigation, very different volumes can actually been consumed for irrigation from one farmer to another even though they were granted the same Ha and Hour rights for irrigation. These Ha and Hour references are not precise enough, they do not say anything about the volumes of water actually used.

trusteeship of nation's water resources under the custody of the Minister of water affairs¹⁶. Nevertheless, this change in the juridical situation (abolition of water rights) can give rights for the irrigators to financial compensation in case of potential cut-backs during the compulsory licensing process (see point 22 (6 and 7) chapter 4 of the NWA). We understand that if DWA wants to be able to adequately compensate irrigators in cases there would be a decrease between previous water uses (under the 1956 Act) and new authorized water uses as the result of the next step –compulsory licensing-, it needs to know what were these previous legal uses.

In addition, the objective behind the verification/validation process is also to have some clarity about what volumes of water were actually used under the previous Act. Indeed, very often water rights were over-estimated in the past just to give the farmer some comfort and sufficient room for coping with potential future need –by that time the water needs of only a minority was recognized, so the issue of scarcity was not on the agenda yet-. Against this background, DWA works under the principle of “*use it or lose it*”, i.e. the fact that according to the law the only existing lawful water uses that are supposed to be recognized are the ones used two years before commencement of the new national Act, meaning between 1996 and 1998. Therefore, this validation/verification process is an operation that intends to determine whether or not there has been some discrepancies between the declared rights and the right to water actually used. The idea with this “*use it or lose it*” principle is obviously to try to find an easy way to cut back on over-allocated rights. Accordingly, if for whatever reason, some water rights claimed by farmers were not used during that qualifying period, then they are deemed to be denied by the DWA. Since these rights have not been effectively used, it means that taking them away will not impact on the farmer current economic activity. However, in practice, it seems that DWA staff is very seldom taking advantage of these grey areas to negotiate some cut-backs with the farmers. Indeed, one of our interviews (interview 83) reveals that DWA's attitude is very much accommodating with commercial farmers' interests who did not use their rights during the qualifying period: their rights are not necessarily denied despite the fact they did not use it during the qualifying period.

This feature is especially striking in the Mhlatuze catchment where a process of compulsory licensing is under way. This catchment has been selected as a priority zone for compulsory licensing because it has the reputation of being a water-stressed catchment but at the same time, it is a well-known fact that this water-stressed situation is principally virtual. Indeed, it is typically a river basin in which water rights have been over-allocated to the point that the catchment is now referred to as a “*paper stressed catchment*” (interview 65). Here again, even though the qualifying period only showed 40% of effective use of existing lawful water

¹⁶ The only rights that the NWA recognizes now are linked to the Reserve : basic human needs and the ecological reserve

uses, a compromise was reached that recognized up to 60% of farmers' former "quotas" (interview 65). Yet this catchment had been especially selected to conduct the first compulsory licensing process with the purpose of cutting back on water demand on paper (interview 83). This could have been the perfect opportunity to cut back on more water quotas without almost any dispute and to provision them for future demand and redistribution, but instead DWA decided to secure the future needs of commercial farmers, following what DWA used to do prior NWA promulgation¹⁷.

In some cases, this could be explained by the fact that in government water controlled irrigation scheme, a tariff was worked out based on the quotas, and in order for the ministry to secure the income and sustain the maintenance of the dams and schemes, you cannot reduce too much the water quotas unless you raise water tariff. However it is clear that this does not concern most of the situations.

Likewise, it is symptomatic to note that apart from Mhlatuze catchment compulsory licensing has so far been foreseen only in regions where there are suspicions of a lot of illegal water uses (illegal connections) like in Upper Vaal. Thus, in the two pilot regions, compulsory licensing does not seem to be about implementing a redistributive agenda. The rationale behind appears to be much more about one of maintaining a status quo that continues benefiting commercial farmers.

Finally, we could have mentioned several other challenges regarding across sectors' coordination with institutions which are located outside the water sector, such as for instance the coordination between CMAs' responsibilities and urban development, mining sites opening or progress of the land reform. Although the absence of such coordination is a real impediment to the smooth functioning of the CMAs, nevertheless we could not delve into these subjects within the time limit of this study.

Conclusion and Recommendations

¹⁷ In their chapter, Schreiner *et al.* (2002, op.cit.) mention the fact that "*in the Mhlatuze basin, around 10% of the people, typically the most affluent, use 99% of the available water resources*". (p.129)

Considering the difficulties encountered in conducting the study, we have both investigated CMAs' establishment process and post-establishment one, studying the current functioning of two of these CMAs. The conclusions that we have drawn and the subsequent recommendations that follow are not meant to discourage. On the contrary, our intention is not to minimize the challenges facing these new institutions and we hope that our criticisms are seen as constructive ones. However, we would like to address a few warnings.

First we have been observing a tendency both at the DWA level and at the CMAs' level, to defend the status quo and to forget about the mandate that considered water a laboratory from which experimenting on social inequalities redress. If the water reform is to be elevated as South Africa symbolic endeavor for social transformation and nation rebuilding, then the CMAs should stop looking at themselves as mere management organizations instead of political arenas.

For these reasons, the selection of the governing board members is a particularly crucial operation. The level of the expectations and the high technical character of debates related to water issues do not leave a lot of room for maneuver, nevertheless these remarks should not lead to a selection on the basis of prior competence only. We believe that continued training can help overcome these difficulties. Therefore the first selection criterion remains that a legitimate candidate to the accession to the governing board should be a committed leader of the particular group or stakeholders one's represents within the governing board. Moreover, in order to discourage people interested in the CMAs for the wrong reason, no salary should be granted to the governing board members 'participation to CMAs' meetings.

Second, we did not only study the current functioning of two CMAs but also the establishment process of five of them. However drawing lessons for other CMAs establishment process based on a few cases is tricky. Indeed, for instance it is difficult to transpose BOCMA experience to other establishment processes because of the advantages the Western Cape province benefited from: a better capacitated DWA regional office because of the fact that due to the high quality of life in the province, the most qualified staff wanted either to stay in Cape Town or to move to Cape Town; the Western Cape is composed of a majority of rich white farmers, as the result the social composition and challenges are different in this part of the country and the social transformation challenge although still substantial, less acute compared to the rest of the country. In areas where there are a lot of inherited inequalities, the challenge for a CMA is bigger.

Nevertheless, in most of our cases we notice that drivers for an accelerated process of CMA establishment were bringing us back to commercial farmers' role. Having passed a first

moment of reluctance -just like with WUAs¹⁸-, in our case studies they took initiatives in order to ensure a prompter CMA establishment. For this reason, and despite their positive role in the reform implementation process, one's has to be vigilant about the role played by commercial farmers in these CMA in order to avoid any possible dependency of the CMA organization upon these particular stakeholders. Early works already evoked the risk of "capture" of these new institutions by vested interests (Woodhouse 1995). In BOCMA, commercial farming managed to secure four seats to themselves through different portfolios, raising the issue of the balance among different interests within the CMA. Moreover, in Inkomati since in some cases municipalities rely on some of the IBs ' infrastructures in order to abstract water (e.g. Mbombela municipality), we can infer that an indirect influence from IBs members towards particular municipalities can develop out of these making the municipality' representatives the objective ally of IBs' members.

It is especially important to pay attention to this kind of risk since disadvantaged communities have had a tendency over the past to be suspicious towards the CMA organization: in the participatory process (water forums) for instance, many of them got the impression that the CMA establishment process was an initiative delaying their long-awaited opportunity to access water (interview 6).

In cases where commercial farming interests did not manage to go all the way through with the CMA establishment process like in CWM, it is the level of heterogeneity among the agricultural sector but not only, that is to be blamed. From that viewpoint, ICMA was fortunate enough to not be exposed to this disparity among the farming community – most of the farmers are involved in the same kind of production¹⁹ and depend upon the same water resource while in CWM water comes from different sources-. The homogeneity factor in Ostrom's work (Ostrom 2000) is a well-known prerequisite conditioning the possibility of designing bottom-up institutional arrangements for governing common-pool resources –for instance CMA institution-.

¹⁸ The transformation of IBs into WUAs raises problems linked to the absence of compulsory membership; the absence of any possibility to levy fees in order to be able to operate; and finally, the complexity of determining how to charge new users –some of these new water users recognized in the 1998 Act do not use any volume of water (e.g. nature conservation interests)- since there is no available method to do so (the former billing method used by IBs was linked to water consumption by irrigators).

¹⁹ The predominant irrigated crop in the Sabie and Sand sub-catchments is citrus. Commercial forestry activities are rife in the high rainfall escarpment catchments of the Upper and Middle Crocodile and Kaap catchments. The predominant crop in the Upper and Middle Komati catchments is maize, with sugar cane being the main crop in the Lower Komati and Lomati catchments (sugar accounts for over a third of the land irrigated in the whole Inkomati basin). (sources: ICMA 2010).

Natural conditions play a role in this establishment process. We already mentioned climatic conditions as an explaining factor of the presence or absence of IBs: meteorological factors push farmers to collective action to solve conflict and struggle against water resource depletion in dry climate context. However, it is worth noticing that natural conditions in themselves do not determine the pace of CMA's establishment. Indeed, Usutu is a water scarce river basin just like Inkomati: this water-scarce situation even motivated the prioritization of the area for experimenting the first compulsory licensing process in the country. Yet it is much more the combination of both social/historical factors and natural ones which can provide the most satisfactory explanation of quicker establishment process in South Africa. In that respect, we could mention as a typical intertwined process the fact that the electricity crisis that South Africa could experience in a near future, could rescue the water scarcity crisis since the skyrocketing price of electricity in the country is now discouraging commercial farmers to over-irrigate their crops (Komati sub-catchment). It makes Eskom an indirect ally of water scarcity management since it is installing pump and flow meters for free in farming estates since the company wants people to pump less at peak hours.

List of Abbreviations

ANC: African National Congress

CMA: Catchment Management Agency

CMS: Catchment Management Strategy

CROC: Crocodile River Operating Committee

CWM: Crocodile West and Marico

ER: Ecological Reserve

HDI: Historically Disadvantaged Individuals

IB: irrigation board

KZN: KwazuluNatal

NWRS: National Water Resource Strategy

RDM: Resource Directed Measure Division (DWA)

RO: Regional Office (of DWA)

SANparks: South Africa National parks

TSB: Transvaal Sugar Limited

WAR: Water Allocation Reform

WMA: water management area

WUA: Water User Association

List of interviews

✚ Inkomati field work session 1 (June 2010):

<u>interview</u>	<u>organisation</u>	<u>position</u>
<u>1</u>	ICMA (staff)	Governing board secretary
<u>2</u>	DWA regional office	Chief director + regional head
<u>3</u>	ICMA (staff)	Water use division executive manager /acting CEO
<u>4</u>	Mbombela municipality	Water services Head officer
<u>5</u>	DWA regional office	Former chief director
<u>6</u>	ICMA Governing board member	Governing board chairperson (Representative of SALGA Limpopo, treasurer of SALGA Limpopo, chairperson of Bushbuckridge Water Board –january 1999-feb. 2010-; Limpopo province Department of finance; former chairperson of the South African association of water utilities -association of water boards-)
<u>7</u>	ICMA Governing board member	civics representative/ SiluluManzi-Sembcorp water supplier (international private company reticulating water for Nelspruit municipality) employee

<u>8</u>	ICMA Governing board member	conservation interest representative
<u>9</u>	ICMA Governing board member	Mpumalanga province Tourism and Parks Board representative
<u>10</u>	ICMA (staff)	Institution and participation division officer
<u>11</u>	ICMA Governing board member	Bushbuckridge Water Board representative, director of water services
<u>12</u>	ICMA Governing board member	Informal settlement /HDI representative/ Bushbuckridge municipal councilor (ANC)
<u>13</u>	ICMA Governing board member	Commercial agriculture representative/ IB chairperson and member for over 40 years

 **Tukhela field work (August 2010):**

<u>interview</u>	<u>organisation</u>	<u>position</u>
<u>14</u>	Forestry SA	Environmental consultant
<u>15</u>	Upper Mvoti IB	chairperson
<u>16</u>	Department of agriculture and environmental affairs (KZN province), Tugela ferry	Head officer

<u>17</u>	DWA regional office	Catchment management service, manager
<u>18</u>	DWA regional office	Water quality management/ecological reserve officers
<u>19</u>	Tugela Ferry municipality	Mayor (IFP)
<u>20</u>	KZN Water forums ' participants	IB chairperson (Mvoti catchment)
<u>21</u>	IB (Mvoti catchment)	member /irrigator
<u>22</u>	The Siyazisiza trust	Rural development/ agricultural project facilitator and trainer
<u>23</u>	Tugela Ferry irrigation farmers association	Chairperson + treasurer+ board member
<u>24</u>	Tugela Ferry WUA	Chairperson + members
<u>25</u>	Uthukela water (water board)	Managing director

 **BreedeOverBerg field work session 1 (August 2010):**

<u>interviews</u>	<u>organisation</u>	<u>position</u>
<u>26</u>	BOCMA (staff)	Manager

 **BreedeOverBerg field work session 2 (November 2010):**

<u>interviews</u>	<u>organisation</u>	<u>position</u>
<u>27</u>	CMA governing board	HDI representative/emerging farmer

<u>28</u>	CMA governing board	Environmental and conservation division (city of Cape Town), officer
<u>29</u>	CMA governing board	Industry and business representative, commercial farmer
<u>30</u>	CMA governing board	Commercial agriculture (surface water-non scheme) representative, governing board chairperson, former municipal councilor
<u>31</u>	CMA governing board	Commercial agriculture (groundwater) representative
<u>32</u>	CMA governing board	Commercial agriculture (surface water scheme) representative
<u>33</u>	CMA governing board	Commercial agriculture (surface water-non scheme) representative, governing board chairperson, former municipal councilor
<u>34</u>	DWA regional office	CMA Manager, Former BOCMA governing board member
<u>35</u>	Provincial government (Western cape)	Integrated environmental management, head officer
<u>36</u>	CMA governing board member	Environmental NGO representative
<u>37</u>	CMA governing board member	Potential Agriculture Water Use by Emerging Farmers' representative
<u>38</u>	Department of agriculture	Water economist

	(Western Cape province)	
<u>39</u>	CMA governing board member	Civil society representative
<u>40</u>	ANC local branch (Swellendam)/ Water forums participants	President+ secretary+treasurer
<u>41</u>	Environmental consultant	Former DWA regional office (Western Cape) high-rank official
<u>42</u>	DWA regional office	Chief director

 **Inkomati field work session 2 (February 2011):**

inter view	Organisation	Position
<u>43</u>	ICMA	Board Secretary / Legal Advisor
<u>44</u>	Bushbuckridge Municipality	Operational & Maintenance Manager
<u>45</u>	Dept. of Agric & Rural Dvpt & Land Admin	Chief Engineer
<u>46</u>	Bushbuckridge Water Board	Acting Director Water Services Division + 2 officers
<u>47</u>	SALGA	Programme Manager
<u>48</u>	SAPPI / Water User Association	Environmental Manager (SHEQ)
<u>49</u>	DWA Regional Office	Head officer
<u>50</u>	TSB/KNP/ Irrigation Board	Director TSB Sugar ; former Lomati IB chairperson
<u>51</u>	Civics organization	ICMA Governing Board Member
<u>52</u>	HDI/Bushbuckridge municipal Councilor	ICMA Governing Board Member
<u>53</u>	Komati River Irrigation Board	Chairperson
<u>54</u>	Mpakeni Tribal Authority	Chairperson of Local House

55	ICMA	Acting CEO
56	Dinglidale Irrigation Scheme (Emerging Farmers)	Chairperson
57	Sabie-Sand Farmers Association (Emerging Farmer)	Chairperson
58	Dept of Environment (Nelspruit Environment Center)	Environmental Officer
59	Dept of Environment (Environmental Impact Assessment Unit)	Environmental Impact Assessment Officer
60	Baberton Mines(Fair view mine)	manager
61	Businessman /former politician	Former CEO Inkomati CMA
62	Inkomati CMA	Executive Manager Cooperate & Finance
63	Ehlanzeni District Municipality	Deputy Manager Water & Sanitation
64	Eskom	CMA Governing Board Member (industry, power generation and mining repr

 **Usutu to Mhlatuze field work (March 2011):**

<u>interviews</u>	<u>organisation</u>	<u>position</u>
65	DWA regional office	Compulsory licensing/ ecological (quantitative aspect) senior officer
66	KZN wildlife	Ndumo reserve, environmental n
67	Mhlatuze Amanzi (water board)	CEO
68	Irrigation forum	Chairperson, commercial sugar c grower, former Tongaat-Hulett employee

 **Crocodile West and Marico field work (March 2011):**

<u>interviews</u>	<u>organisation</u>	<u>position</u>
<u>69</u>	Aurecon Group	Environmental consultant (water resource management), former consultant on the CWM CMA establishment process
<u>70</u>	Rustenberg municipality (TLC) Water services	Former manager/ CWM water forum member
<u>71</u>	Warmbath IB	Chairperson
<u>72</u>	Hartbespoort conservancy	Chairperson/ CWM water forum member
<u>73</u>	North West water suppliers authorities	Former manager
<u>74</u>	DWA regional office (Gauteng)	CMA manager
<u>75</u>	RDP water (Madidi)	Representative/ Water forum participant
<u>76</u>	IB/WUA (Magaliesburg)	Member, commercial farmer
<u>77</u>	ANC local branch (Soshanguve)	Representative/water forum participant
<u>78</u>	RDP water (Brits)	Representative/ water forum participant
<u>79</u>	Magalies water board	Managing director

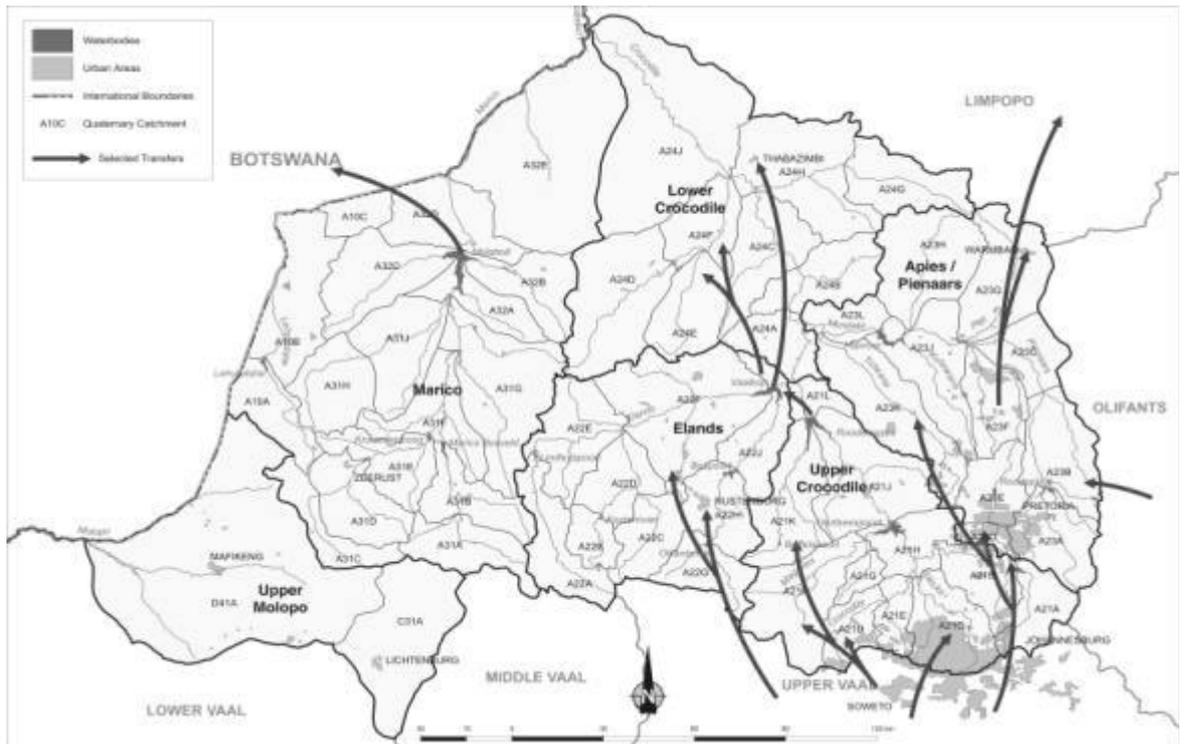
 **DWA interviews (Pretoria field work) :**

<u>interview</u>	<u>organisation</u>	<u>position</u>
<u>80</u>	DWA national office, water management, Institutional	director

	oversight and governance	
<u>81</u>	DWA national office, Resource Directed Measures (chief directorate), Surface water reserve requirement	Assistant director
<u>82</u>	DWA national office, Resource Directed Measures (chief directorate), resource requirement	director
<u>83</u>	DWA regional office (Gauteng), Water resource management (Upper Vaal)	Deputy director

Maps of Catchment Management Areas

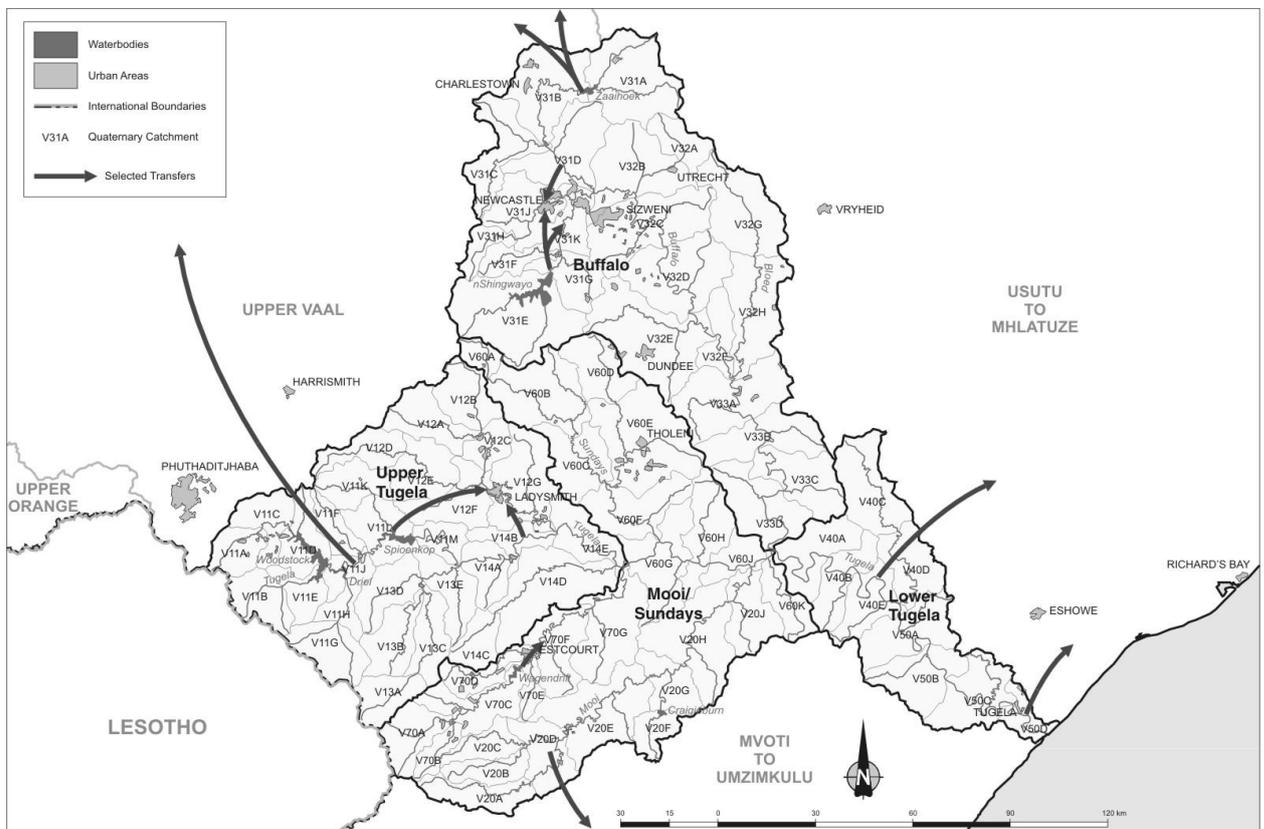
Crocodile West and Marico River Basin :



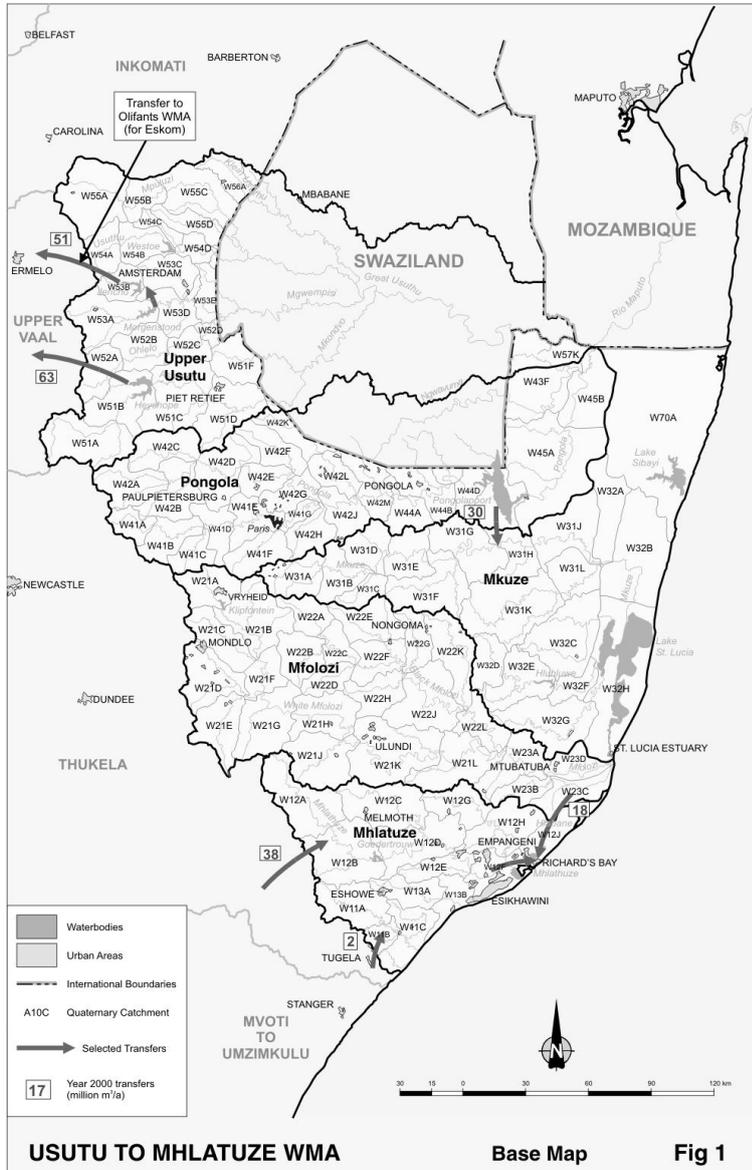
Inkomati River Basin :



Thukela river basin:



 **Usutu to Mhlatuze river basin:**



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