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Changing the Course of History? Contextualising the Adoption and Implementation of Water Policies in Ghana and South Africa

Wolfram Laube

Abstract

Many African countries have seen the passing of new water laws. Reflecting international discourses on IWRM, they put the use, management and value of water in an eco-systemic perspective, while they reflect the Dublin principles with regard to issues such as efficiency, sustainability, equity and the participation of stakeholders – particularly women. Nevertheless, within different ecological, economic and political contexts, these reforms develop different dynamics and outcomes. This article will discuss examples from Ghana and South Africa in order to show how the adoption and the implementation of water policies have to be understood as contextually embedded. Negotiation processes around water reforms are historically contingent and shaped by the particular political and economic history of a given country and the way resources have been negotiated and allocated within it. These patterns give little leeway for independent developments in the water sector. While the principles of IWRM have been adopted quite easily in Ghana and South Africa on the policy level, the process of their implementation, especially with regard to public participation in decision making processes is problematic because of contextual factors. While the implementation of general water sector policy is forestalled, neo-liberal economic principles of resource management and service provision are that largely shape the everyday politics of water are implemented, often without participative approaches, but with lively civic engagement.

Keywords: Africa, water policy, political economy, IWRM, reform implementation

1. Introduction

Since the late 1980s various African countries have been undergoing substantial water reform processes. Many water reforms addressed specific water sectors and had the objective to reorganise the management and financing of urban and rural water supplies as well as small- and larger-scale irrigation systems. In rural areas, sectoral reform processes usually focussed on the community based management of resources (CBRM) and the involvement of beneficiaries in the financing, operation and maintenance of water supply and irrigation infrastructure. These measures were to raise the involvement and sense of ownership of beneficiaries and to curtail the power of inefficient and often corrupt water bureaucracies (Vermillion, 1999; Deverill et al., 2002). In urban areas donor-driven policies often led to efforts to privatise urban water supply systems, which had the potential to be profitably run by (often international) private companies (Bayliss and Hall, 2000).

These 'demand-driven' policies were said to ensure the efficient and sustainable management of water resources and infrastructure. But it seems not to be accidental that these approaches became en vogue at a time, when indebted governments, not only throughout Africa, were forced into Structural Adjustment Programmes (SAPs) that aimed at the cut of state subsidies for various (water) sectors and the retrenchment of (water) bureaucracies.

The experiences with the community-based management of rural water resources and infrastructure have been mixed (Bruns and Meinzen-Dick, 2000; Vermillion, 1997), many irrigation reform programmes were politically contested and the privatisation of urban water supply systems remains hotly debated (Balanyá et al., 2005; Estache, 2005).

But apart from sectoral reforms, quite a number of African countries have engaged in water reforms that may have larger scope. Roughly, since the mid-1990s the governments in countries like Ghana, Zimbabwe or South Africa have enacted new water laws that are based on the paradigm of Integrated Water Resources Management (IWRM).

IWRM has become the reigning water resource management paradigm since it raised attention in the UN-conferences in Dublin and Rio in 1992. Since 1993 it is the main approach underlying the World Bank 'Water Sector Policy' and it is actively promoted worldwide by the bank as well as organisations such as the Global Water Partnership (GWP) and the World Water Council (WWC). The concept of IWRM tries to balance liberal economic thinking and environmental concerns with participatory management strategies that are meant to enhance the socially acceptable and equitable allocation and management of water resources within the hydro-ecological unit of a river basin (GWP, 2000). Today IWRM has, especially within the 'development industry' and among water sector professionals, developed into a 'sanctioned discourse', which basic premises and assumptions are taken for granted (Allan, 2003). But the concept is increasingly scrutinized. IWRM has been shown to be an inherently western concept that does not necessarily reflect the priorities and needs of the countries of the south (Allan, 2003). Whether water should indeed be regarded as an economic good remains hotly debated and it has been questioned whether river basins, as they cut across administrative and international boundaries are indeed the right management units. Furthermore, and it often remains unclear how potentially competing economic, environmental and socio-political objectives are going to be prioritised and negotiated (Laube, 2005). Especially, the way, in which IWRM is translated into national water sector policies and nationally, regionally and locally implemented, has been the focus of critical studies. These processes are inherently political and embedded in highly specific bio-physical, historical, socio-economic and political environments and need to be analysed in this perspective.

The discovery of the political: reinventing the wheel in the water sector?

The 'discovery' of the political nature of natural resource management, or better resource allocation and governance, does not really come as a surprise. The way human populations make use of their natural environment at different levels of technological development has been seen as a main driving force of

the institutional and political development of human societies in general. Property rights and the political means to protect them – thus the political nature of natural resource governance have figured prominently in social science since the early evolutionist, functionalist and structuralist theories (Durkheim, 1893/1984; Marx and Engels, 1846; Morgan, 1877). Wittfogel (1957) assumed that specific forms of social order (oriental despotism) developed due to the necessities of large-scale irrigation- and water management. Research regarding the resource policies of colonial regimes has pointed to their instrumental role in the establishment of patterns of political control and economic exploitation (Chanock, 1985; Meillasoux, 1975). In the water sector, researchers have studied the effects of irrigation expansion' or the provision of domestic water supplies (Bates, 1981; Scott, 1985; Wade, 1988) and emphasised the political nature of development initiatives regarding water resources since long.

In the water sector this evidence has been largely ignored. The sector is often controlled by technocratic water bureaucracies, which for the better part of the recent history – and in many countries of the South until to today – were engaged in a 'hydraulic mission' (Allan, 2003). Water bureaucrats often believe in the manageability of water resources through technical as well as social engineering. In their view water can be produced and controlled by technical means, while human behaviour can be controlled through rules and regulations and steered through economic incentives. Water bureaucracy tend to use de-politicising discourses of water resource management — as opposed to water resource governance or allocation – to legitimate top-down planning and implementation approaches that are said to be driven by physical preconditions and technical necessities.

However, within the IWRM-discourse issues such as water governance (GWP, 2003a) and socially acceptable resource allocation (GWP, 2003b) have gained considerable ground and the debate revolving around the promotion and implementation of IWRM in developing countries is increasingly emphasising the political nature of water policies. But despite the fact that the idea of IWRM now encompasses issues like water governance and the social aspects of water allocation, it can be questioned whether it is meeting the required "technical, social and political conditions to effectively influence the course of history" (Molle, 2006).

Like other internationally promoted legal prescriptions (Dezalay and Garth, 2002), the legal implementation of which is enforced through expert consultations, international organisations, loan conditionality and economic as well as political pressure, water reform processes are often earmarked by simplistic and instrumentalist perceptions of the legal implementation process and the translations of policy into practice (Moore, 1978; von Benda-Beckmann, 1989). The transformative power of legal impositions and the political will of governments to enforce their implementation are often overestimated and the impact of the socio-economic, political and cultural context of implementation is often underrated. In many African countries factors such as a limited enforcement power of the state, the influence of strategic groups, interdependent asymmetries of economic capital, political power and knowledge, political clietelism and corruption, plural sources of authority and legitimacy, as well as countervailing cultural norms are some of the factors that can easily contravene or transform legal interventions (Azarya and Chazan, 1998; Chabal and Daloz, 2006; Evers and Gerke, 2009).

The failure to acknowledge the political character, contextuality and complexity of water sector reform processes leads to the adoption of simplistic recipes for participation. Tool-box-approaches of IWRM seem to imply that – given that certain precautions for the inclusion of disadvantaged social groups (ethnic and religious minorities, the poor, and women) are taken – civil participation in public decision making processes in the water sector can be organised, regardless of the state of the wider political economy in any given country. But in the water sector, like in other development sectors, there is mounting evidence that participatory approaches do little to enhance civic control over planning and decision making processes and do not help to assert local needs and the rights of economically as well as politically marginalized parts of the society. They often rather help to legitimise the hegemony of powerful interest and to de-politicise the struggle over (water) resources (Cooke, 2001; Ferguson, 1990). Furthermore, neo-liberal water management approaches that focus on the economic value of water often contradict local norms and values pertaining to the access and distribution of water resources (Eguavoen, 2008; Laube, 2007).

While these are not particularly new insights, they should shape the way in which implementers plan and researchers engage with water sector reforms. Implementers and researchers should not only focus on the water sector as such, but base their analyses and planning on concepts such as the semi-autonomous social field (Moore, 1978). This would allow focusing on the water sector without ignoring its 'embeddedness' in a particular historically contingent ecological, economic cultural and socio-political context. Contextual approaches have been frequently argued for with regard to common pool resources (Berry, 2001; Cleaver, 2002; Harriss, 2003) and in the debates about land reform programmes in Africa (Benjaminsen and Lund, 2002; Moore, 1998). These arguments for the contextualisation of natural resource management have had considerable influence. The World Bank, for instance, has revised its policy with regard to land reform programmes in Africa to cater for the need to better adapt land policies to the particular context of implementation (Deininger, 2001). But although the World Bank is also one of the main proponents of IWRM, these arguments have not had much influence on practices in the water sector. The sectoral organisation of many development and government agencies seems to hinder learning processes, thus lessons learned in land reform processes worldwide have not been integrated into the IWRM mainstream (Laube, 2005).

In the following sections, I will examine how politics of policy making and implementation unfolded in two different African countries, Ghana and South Africa, and which impact water policies had on the 'everyday politics of water'. It will be shown, how processes of water policy making as well as implementation were determined by the particular socio-political configuration in Ghana and South Africa. Instead of changing the course of history, water reforms largely reproduced or even reinforced already existing patterns of the countries' political economy, while sectoral reform approaches (domestic water supply and irrigation) largely reflected neo-liberal development paradigms.

2. Ghana: Donor-Driven Water Reform Processes in Slow Motion

Ghana, after two decades of political turmoil, military regimes and economic decline, has embarked on a path of political stabilisation and economic recovery since the 1990s (Sandbrooke and Oelbaum, 1997; Smith, 2002). The country has undergone four rounds of democratic elections and seen the democratic change of governments in 2000 and 2008. Furthermore, decentralisation has led to the creation of partially independent and democratically elected District Assemblies, which have large responsibilities but limited funds and capacities for the development of their respective districts (Asibuo, 2000; Inanga and Osei-Wusu, 2004). Since the economic collapse of the country in the early 1980s the country has very much followed the economic prescriptions of the Bretton Woods institutions. The Economic Recovery Programmes, as Structural Adjustment Programmes were called in Ghana, have led to the freeing of formerly fixed foreign exchanges rates, the cessation of the state control of agricultural production and marketing, the privatisation of a large number of state corporations, severe cuts in governmental subsidies and the retrenchment of the state bureaucracy. While the national economy has largely recovered under these policies they have had substantial social costs, especially for the urban population and former state employees, and have contributed little to alleviate rural poverty (Songsore, 2001). After the conservative National Patriotic Party (NPP) took over government in 2001, it continued to follow neo-liberal economic prescriptions, seeking debt cancellation under the Highly Indebted Poor Country (HIPC) initiative and implementing the Poverty Reduction Strategy Programmes (PRSP). The neo-liberal economic policies that have been, albeit sometimes reluctantly, followed are strongly reflected in the recent reforms of the water sector.

Water Resources in Ghana

Ghana is well endowed with water resources. However, mean annual rainfall considerably varies spatially. Whereas the South-Western part of the country receives up to 2000 mm per annum, the coastal plains and the Northern parts of the country receive only between 800-1000 mm of total annual precipitation. Rainfall varies in between years as well as seasons and can be considered erratic and unreliable (MoWH, 1998: 5-9). The total annual runoff of Ghana amounts to 54.4 billion m^3, 39.4 billion

m³ (68.6%) of which result from precipitation in Ghana (MoWH, 1998). The estimated water demand for the year 2000 totalled 1112.9 million m³ (see Tab. 1), which was just above 2 % of the available surface water resources, not taking groundwater into account. Therefore, water demand in comparison with available water resources is rather small.

Tab 1: Consumptive Water Demand 2000 in Million m³

	Domestic/Industrial	Livestock	Irrigation	Total
Volta basin	139.28	25.90	565.07	730.25
South-Western basin	140.85	3.00	40.11	183.96
Coastal basin	183.42	3.00	12.27	198.69
Total	463.55	31.9	617.45	1112.90

(MoWH, 1998)

But the country's water demand is growing. The population is increasing and the Ghanaian government has embarked on an ambitious economic recovery programme. The Vision 2020 (Government of Ghana, 1995), which aims at transforming Ghana into a mid-income country by the year 2020, will put further pressure on Ghana's water resources (see Tab. 2).

Tab.2 Projected Consumptive Water Demand in 2020 in million m³

	Domestic/Industrial	Livestock	Irrigation	Total
Volta basin	271.62	63.40	3605.29	3940.31
South-Western basin	295.55	5.60	460.85	762.00
Coastal basin	369.87	5.80	48.28	423.95
Total	937.04	74.8	4114.42	5126.26

(MoWH, 1998)

The annual consumptive water demand is projected to almost multiply fivefold until 2020. Industrial, domestic, and the demand on water for livestock, is believed to more than double, whereas the highest increase in water demand, by a factor seven, is expected in the irrigation sector. But this increasing demand still does not seem too large for the available water resources, since it does not even exceed 10 % of the total annual runoff of the country. These data create the impression of water abundance. However, seemingly small variations in precipitation result in large changes in the amount of runoff. These fluctuations in runoff frequently cause droughts and agricultural losses especially in the Northern part of the country. Furthermore, these fluctuations threaten the hydropower production in Ghana (van Edig, 2002a). Ghana is highly dependent on hydropower and the two hydropower stations at Akosombo and Kpong satisfy more than 80 % of its electric energy consumption. Due to low water levels of the Volta Lake, hydropower production has suffered in 1997/1998, 2002/2003 and 2006/2007. Energy crises hit the country hard with frequent power cuts and huge losses for the Ghanaian economy (van Edig, 2002b, McCaskie 2008: 327). Population growth and economic development leading to rising water demand, as well as already existing seasonal, regional and sectoral water shortages, uncontrolled pollution and the inefficient management of drinking water supplies are factors that turn general water abundance into spatial, temporal and sectoral water scarcity. It is this scarcity, especially of safe drinking water supplies, that has led to major reform efforts in the water sector.

The Water Reform Process in Ghana

In Ghana codified water law was introduced in 1906, when the 1903 River Ordinance (CAP 226) of the British colonial government was enacted. The ordinance was meant to regulate water uses for other than domestic purposes, but did not have any practical impact. The riparian doctrine that regulated access to water at local level largely prevailed. The ordinance remained valid until 1996 but was superseded by several sectoral enactments (WRC, 1999:4). Successive Ghanaian governments regulated various aspects of water resource utilisation, water supply, resource conservation and data collection through a number of laws and acts, which addressed the performance of individual water sectors and involved six different

ministries and ten different government agencies with partly overlapping responsibilities (Laube and Giesen, 2005).

Current sector reform processes date back to the 1970s and started in the drinking water sector. By then, the drinking water supply systems of Ghana's major towns and cities, often constructed during the late colonial times, had been deteriorating. Only up to 60-70% of the demand could be served, and the Ghana Water and Sanitation Corporation (GWSC) was facing severe operational and financial difficulties. GWSC could not maintain the existing infrastructure, and failed to expand infrastructure to meet the demands of an ever growing urban population (Laube and Giesen, 2005). Therefore, the Ghanaian government together with the World Bank and various bilateral donors launched the Water Sector Rehabilitation Project (WRSP) in 1990. This project, during which course 140 million US$ were invested, rehabilitated or enlarged over 100 water supply systems. However, even this effort did not result in enhanced efficiency. Demand coverage was still below 70 % and the overall efficiency of urban systems was around 40 % in 1997 (MoWH 2002). Therefore, the Ghanaian government, pressed by World Bank, IMF and some bilateral donors, started restructuring the water supply sector. In line with the results of reports and business framework studies (Halcrow & Partners Ltd, 1995; London Economics and John Young & Associates, 1999.; Louis Berger SA, 1998),commissioned by the donors and carried out by international consultants, a cost recovery and privatisation approach was favoured.

To create favourable conditions for the privatisation of urban water provision, the GWSC was privatized (now GWCL) and the GWCL relieved of the responsibility for the non-profitable rural and small town water provision. The Community Water and Sanitation Agency (CWSA) was put in charge of the demand-driven and community-based management of rural and small town drinking water facilities (Fuest, 2006). Water prices where also increased by 95% in 2001 (ISODEC, 2002).

The drinking water reform process also instigated the reform of water legislation as a whole (Water Resources Commission Act, Act 522 of 1996). In the situation prior to the reform all riparians had the right to abstract and make use of water adjacent to their land. This legal situation posed a disincentive to possible investors, as claims to raw water resources would have been insecure. Therefore, it became apparent that the need to create an overall supervisory body for the countries raw water resources existed. This led to the design of a new organizational and legal framework for the water sector. The Water Resource Commission (WRC), the central regulatory agency for water resources, responsible for the implementation of IWRM in Ghana, was created when the Ghanaian Parliament passed the Water Resource Commission Act in 1996 (GoG 1996, Act 522). This act rendered ineffective all pre-existing riparian water rights and vested the property and control of the all water resources in the President. On behalf of the President, the WRC is charged with the responsibility to regulate and manage the use of water and to co-ordinate any policies regarding Ghana's water resources.

The WRC started its work in May 1998 and a WRC secretariat was established. A commission, consisting of representatives of various governmental water agencies, public environmental agencies, public research institutions, as well as representatives for traditional authorities, NGOs and women (1 each) was also created. Initially, the WRC focussed on political and legal issues pertaining to the coordinated management and centralised allocation of Ghana's water resources. The focus on policies and the strategy to co-operate with major water user agencies and relevant ministries have been essential to consolidate the WRC's role in the water sector. However, the whole process of policy formulation, legal drafting and the constitution of the WRC hardly involved water users or NGOs, but was heavily skewed in favour of members of the existing state water) bureaucracy. Even the non-institutional members of the WRC were hand-picked by the WRC Secretariat and the Ministry of Works and Housing.

In 2001, Water Use Regulations (L.I. 1692, 2001), which form the basis for the registration and permission of raw water use throughout the country, have been enacted. Prices for different water uses vary between water sectors and the scale of water use. Water user agencies, such as water and irrigation companies, will be billed regarding their water use (van Edig 2002a: 83). Private persons and corporations have to register their water uses unless water is only abstracted by manual means. If water use exceeds domestic needs and the requirements of small scale agriculture, a water use permit has to be obtained. Registered water uses and permits are to be compiled in a National Water Register (L.I. 1692, 2001). However, serious efforts to identify major water users and to bill their abstractions have

been only made in four out of the ten Ghanaian regions. The registration of minor water uses has not been attempted.

Also in 2001, the WRC drafted a National Water Policy. However, this policy, despite the fact that it has been considerably reworked in 2005, had only been adopted by the Ghanaian Parliament in late 2008.

In order to develop approaches for the local implementation of IWRM, the WRC has started three implementation pilot projects in the Densu (2002), White Volta (2004) and Ankobra (2007) river basins, which are supposed to develop integrated basin water management plans that will be the bases for the sectoral and regional allocation of water in an integrated national water management plan (WRC, 1999). However, equipped with little staff and resources, the basin offices still have a long way to become fully operational.

With support of the Danish International Development Agency (DANIDA), attempts towards stakeholder participation were made, both in the discussion about the new water policy on the national level and in the two pilot basins. Nevertheless, the approach towards stakeholder participation remained lukewarm. In preparation of the draft water policy in 2001, only two public forums where held, with no follow-up taking place. However the re-drafting of the national Water Policy in 2005 involved considerably more stakeholder participation as the process was driven by donors and international agencies such as the Institute for Water Management (IWMI) and allowed for input from civil society organisations. The installation of sub-basin commissions was preceded by single stakeholder workshops, to which mainly regional representatives of the organisations already represented in the WRC and some district authorities were invited. While the workshops were meant to provide the room for discussion and for local adaptations of the WRC approach, they largely amounted to public hearings during which the WRC's institutional suggestions were adopted. Critical issues such as sectoral and regional water allocations were hardly discussed. At least, they provided a forum in which regional particularities and water problems could be discussed with the WRC.

Contextualising the Ghanaian Water Reform Process

A number of factors can be identified, which have a crucial impact on both the politics of policy making, implementation and the everyday politics of water. The creation of the WRC in Ghana and the adoption of the IWRM principles (MoWH, 2001), has been the result of global prescriptions developed by the Bretton Woods Institutions and major donor countries involved in the Ghanaian water sector. The creation of the WRC was mainly promoted by the World Bank in an attempt to create conducive conditions for the privatization of urban water suppliers. The reform process was neither driven by Ghanaian stakeholders nor did it follow public demand. The low priority water issues have on the national political agenda can be deducted from the way the national water policy has been treated. Drafted in 2001 and re-worked in 2005 the policy has only been adopted in late 2008.

The water reform process was driven and funded by the international donors and the policies reflect global prescriptions, such as IWRM. Yet there is little commitment to fully implement these policies. Despite the fact that stakeholder participation is a central element Prior to the reform process, various water sector agencies – with the exception of the Volta River Authority (VRA) that controls the huge Volta Lake – mainly focussed on hydraulic infrastructure. Holistic water resources management was not attempted and – as one may argue - not even needed. A comprehensive hydrological monitoring system and crucial data with regard to surface as well as groundwater resources (Laube and Giesen, 2005)were also missing. Water resources were mainly governed according to local institutions.

Traditional norms still play an important role all over the country. Surface water is often perceived as common property, often held in trusteeship by chiefs or spiritual leaders. Chiefs and priests enforce local rules governing water resources by threatening perpetrators with spiritual or social sanctions, sometimes in co-operation with local administrative or political bodies. One of the central traditional rules is the `riparian doctrine´. Most Ghanaians believe that those who own land adjoining water bodies have the right to use this water to their discretion. However, they do so without being able to effectively exclude others from resource access, since use rights are usually not exclusive. In most communities, for instance,

it is morally unacceptable to deny others access to drinking water, and denial might cause severe conflicts (Laube, 2007:253-55).

While these institutions still carry a high degree of legitimacy, traditional authorities frequently compromise the interest of those they represent in order to gain economic or political advantages. In many areas traditional rules are loosing their binding character as Christianisation and/or the secularising effects of modernity affect the local believe system. Still, the Water Resources Commission Act represents a fundamental break with the pre-existing social norms and the vesting of all water resources in the President essentially amounts to a legal dispossession of riparian right holders.

However, it can be doubted whether the government has the political will to push the full implementation of the new water law. Given the precarious political balance in Ghana, consecutive governments highly depended on the support of traditional leaders and the rural electorate for continued tenure (Laube, 2007; Nugent, 1995; Rathbone, 2000). The implementation of the new legislation would reduce these groups' control over local water resources it could create substantial opposition, any government would try to avoid. Therefore, thirteen years after its enactment, the water law has not been implemented widely. On the contrary, the WRC is insufficiently funded and mostly acts in the arena of national policy making and in hydro-political negotiations with the other riparian countries of the Volta Basin. While the WRC Secretariat in Accra is relatively well endowed with resources, the pilot basin offices have a rather provisional character. The implementation of the water use regulations and the development of water management plans at the basin level are therefore pending.

The allocation of insufficient budgets is a clear indication of the lack of political will to promote the implementation of the water policies. Unable to effectively establish its own basin-level bureaucracy, the WRC intends to draw the District Assemblies (DAs) into the water reform process. But the DAs lack capacity, resources and staff to implement water use regulations (Laube, 2005). Furthermore, decision makers at the district level lack the incentives to implement regulations that seem to deprive their clientele as well as powerful traditional authorities of the access to and control over water resources, and would entail additional administrative costs without offering immediate benefits.

Although a lack of political will, power and resources make the implementation of the new water laws very slow, this may affect the everyday politics of water. Local agencies for the registration of water uses do not exist, and registration procedures are widely unknown, costly and complex. Therefore, poor, rural, and uneducated members of the Ghanaian society are not registering their water uses. Thereby, they run the risk of being ousted from access to vital water resources as wealthier and better educated actors can claim access to the water they use. Therefore, the registration process might lead to conflicts, when actors try to register competing claims. Similar conflicts occurred during land titling exercises in Ghana and elsewhere, during which the interest of the rural poor were bypassed (Berry, 1993; Kasanga and Kotey, 2001; Lund, 1998; Moore, 1998).

But not only at the local and basin level reform implementation is proving problematic. At the national level the WRC is also facing problems to fulfil its mandate. It's power is compromised by powerful actors with vested interests. Many water sector agencies have accepted the responsibility of the WRC, registered their water uses and are represented in the commission. However, this is only partially true for the VRA. The VRA is in charge of the management of the Volta Lake, which covers almost one third of Ghana's landmass, the hydropower plants at Akosombo and Kpong producing up to 90 % of the countries electricity, as well as of the Volta River Transport Company. The VRA is one of the most influential agencies in Ghana and has opposed the idea to share political power with the WRC. Unable to overrule the VRA, the WRC has effectively ceded its claim of responsibility for the Volta Lake. Instead, the VRA functions as the basin commission for the Volta Lake - largely without the interference of other stakeholders. The WRC's control over water resources and its power to negotiate water conflicts is also limited with regard to the powerful gold mining companies operating in Ghana. Because gold mining largely contributes to the GDP and is the major earner of foreign exchange in the country, the mining companies have a strong political leverage. While the mines consume and pollute enormous amounts of water and alter the hydrology of whole sub-basins, the mining companies are only willing to cooperate with the WRC to a limited degree. As long as the mining companies pay for their raw water abstractions the WRC seems to tolerate their environmentally disastrous activities and disengages from conflicts that frequently occur between the mining companies and the local population of the mining areas, although

the settlement of water-related conflicts is clearly the WRC's responsibility. Nevertheless, in 2007, the WRC has started a new basin pilot project in the Ankobra Basin, one of the areas with most intensive mining.

The WRC's ability to effectively implement the new water law is severely compromised at all administrative levels. The WRC lacks essential data for the management of water resources, and has little political backing, restricted resources and limited enforcement power. At the same time it is faced with vested interests in the countries political economy.

Therefore, the implementation of the new water policies and the vision of IWRM in Ghana are rendered unrealistic. What is rather troubling is the fact that the new water law allows for the reallocation of water rights in whatever national interest. Given the fact that the stakeholder involvement has only partly been institutionalized in the water sector and that vested interests in the political economy seem to be driving sectoral policies, it remains to be seen whose interests are served when it comes to important decisions in the hydro-political realm and the sectoral priority setting that will take place, if national and regional water plans are ever developed.

3. The South African Case: Dealing with Scarcity and Mitigating Inequality

The recent history of South Africa was earmarked by dramatic political changes. Prior to 1991, the country was run by a white oligarchy under the apartheid system in which the white minority pursued policies of racial segregation and oppressed and exploited the black majority of the population. Blacks were also deprived of the access to vital natural resources such as land and water. International pressure and increasingly well organised opposition of the black majority within South Africa and from the neighbouring 'frontline' states, spearheaded by the African National Congress (ANC), led to the adoption of a provisional constitution and first multi-racial elections won by a 'government of national unity'-coalition under the leadership of the ANC in 1994 (Ross, 1999). In 1997, a new constitution was adopted and the ANC continued to control the government after the elections in 1999.

Despite these drastic political changes, the country continues to suffer from the socio-economic legacy of the apartheid regime and the uneven distribution of wealth and natural resources. South Africa is still among the countries with the largest income inequality worldwide, and access to natural resources is still largely skewed along racial lines. That the poor have not benefited from economic growth can be seen from the fact that South Africa's Gini coefficient rose from 0,68 in 1991 to 0,69 in 1996 and to 0,77 in 2001 – one of the highest rankings worldwide(HSRC, 2004).

The aim to overcome these injustices figures prominent in the constitution and in sectoral reform programmes. However, the ANC-government tries to balance the need to redress racial inequalities with the requirements of growth-oriented, neo-liberal economic policies that prohibit large-scale redistribution of resources. A point in case is the way in which private property rights (especially in land) has been dealt with. While, in the negotiations surrounding the drafting of the new constitution, the ANC proposed major land redistribution, the World Bank has been able to steer the process towards the acceptance of existing property rights (Heinz Klug in Dezalay 2002). Accordingly, the new land legislation emphasises the need for land re-allocation through market mechanisms, such as the government-assisted purchase of white-owned land by members of the black majority. However, this policy has done little to redress racial inequalities in land ownership and the transfer of property rights lacks far behind expectations (Manji, 2001).

The neo-liberal orientation of economic policies could also be seen in the Growth, Employment and Redistribution (GEAR, 1996) Program that was developed under the guidance of the World Bank and the IMF to deal with South Africa's fiscal problems. The programme focussed on the cut of government subsidies for various sectors and on the privatisation of state services and enterprises. While it contributed to economic growth, it constrained the extension of social (water) infrastructure and the participation in economic growth for the historically disadvantaged parts of the South African society. It

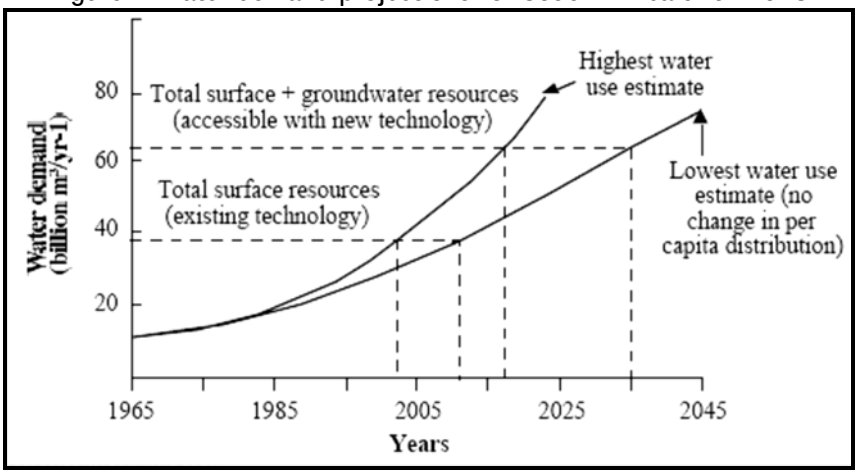
also led to the adoption of disastrous cost recovery policies in the water sector (Schreiner et al., 2002; Wellman, 1999; Conca, 2006).

South Africa's Water Resources

South Africa is a semi-arid country with an average annual precipitation of 475 mm. Due to high evaporation losses, only 8.6 % of the rainfall becomes available as surface water and one sixth of the country does not have any significant surface runoff. The interannual rainfall variability is high and droughts frequently occur. The groundwater resources of the country are relatively limited (Walmsley et al., 1999). South Africa faces great water management challenges, as large parts of the population and economic activities are found in regions with limited surface and groundwater resources. Therefore, massive water infrastructure has been developed at considerable environmental cost(ibid.). The country has more then 500 large dams, a number of inter-basin water transfer schemes and projects for the transfer of water from neighbouring countries are on the way (Conca, 2006: 356ff). For mainly agricultural purposes thousands of smaller dams have been privately developed. Despite these efforts, the demand on the available water has reached the limits of water availability in eleven out of the nineteen water management areas (Conca 2006:318) and the demand is projected to further increase.

Water in South Africa is not only scarce, but access to water is also extremely unevenly distributed among water users belonging to different social groups. The capture of water resources was an integral part of the oppressive and exploitative politics of the apartheid system (Turton and Meissner, 2002). It is estimated that in 1994, when the ANC took over power, 12-14 million blacks in the rural areas were without access to safe drinking water and 20 million were lacking access to sanitation (Schreiner et al., 2002; Conca 2006: 421). In the irrigation sector, a minority of white large-scale farmers monopolised 95 % of the irrigated land while black small-scale farmers benefited only from 5 % of the agricultural water used. The exclusion of black farmers from the use of water for agricultural purposes aggravated the condition of rural poverty that already prevailed in the so-called homelands, where the resettlement of blacks had resulted in overpopulation and the degradation of the natural resource base (Ross, 1999). Insufficient access to safe drinking water entailed diseases, high cost for health. The child mortality among the black population of South Africa was exorbitantly high and the extra care that needed to be given to sick children put additional pressure on women in the homelands, who were already engaged in agricultural production and household-reproductive activities. Women and children also had to provide the labour necessary to fetch water. Moreover, the deprivation from water also had drawbacks on small scale enterprises, cultural practices and the psychological wellbeing of the rural black population. Therefore, water reforms in South Africa did not only have to address water scarcity and rising demand but also to mitigate water-related inequality and poverty.

Figure 1 Water demand projections for South Africa until 2045



Source: Turton et al., p.55, 2002 after Ashton, 2000[1]

[1] These numbers reflect a large population increase. Due to the disastrous effects of HIV/AIDS in South Africa, the population is rather shrinking and the increase in demand may be less.

The Water Reform Process in South Africa

The first South African water law was developed when Dutch settlers started to settle in the Cape colony in the second half of the 17th century. The basic principles of this law were that the state (initially the Dutch East Indian Company) was the dominus fluvius of all rivers and water bodies of the colony. However, this only applied to the main water bodies of the country, since all water bodies and rivers that run dry during the course of the year, as well as groundwater, were declared private property of the respective landowners. This water law remained valid until the Water Act of 1912 was enacted by the British colonial government (Tewari, 2001). Under the new law the riparian water rights of landowners were recognized and water courts became increasingly important and professionalized. Water law changed again when increasing domestic and industrial water demand started to compete with the massive use of water for irrigation. The Water Act of 1956, while continuing to acknowledge private water rights and existing riparian rights, again positioned the state as dominus fluvius, and the Department of Water Affairs (formerly Department of Irrigation) grew in importance as it could declare "government water control areas" (Conca, 2006: 319-322). Although water boards consisting of water users were created to manage local water resources, water became increasingly controlled by the water bureaucracy.

In 1994, immediately after the end of apartheid, the new government expressed the need to reform the country's water sector and to redress its inherent inequalities. The Department of Water Affairs and Forestry therefore started a nation-wide water policy review process, when it published a series of water policy papers for public discussion. Additionally, comparative studies of international water laws were undertaken to come up with 'best principles for integrated water management' and during the drafting process of the National Water Act (1998) international experts were consulted. However, international organisations such as the World Bank and the FAO as well as bilateral donors exercised considerable influence on the policy process and the adoption of the IWRM principles (De Coning, 2006). However, some aspects of IWRM in South Africa can be seen as a process that had already started under the apartheid regime. Following severe droughts and faced with an ever growing water demand the DWA initiated a comprehensive assessment of South Africa's water resources in the 1970s. The DWA also started to emphasise the economic value and cost of water and switched from supply to demand management in the 1980s. While interaction processes with water users were instigated, they had a purely top-down character and environmental concerns were given low priority (Conca, 2006: 325ff).

In the 1990s the debate about the new water policy was open and nationwide hundreds of fora were held in order to incorporate the views of as many stakeholders as possible. The result of this process was the promulgation of the National Water Act (Republic of South Africa, 1998) in 1998 (De Coning, 2006). The act abolished pre-existing private water rights and the government has become the custodian of all water resources. The new water law promotes saubsidiarity and the DWAF is to organise stakeholder-driven Catchment Management Agencies (CMAs) and Water User Associations (WUAs). However, all water use has to be authorised by the government which issues either licenses, general authorizations or, for minor uses, permissions. Water use licences are issued for up to 40 years, but can be revised.

Existing lawful water rights are recognized, although those that date back to the apartheid era are supposed to be changed into licenses, if enough water is available. Licenses for historically disadvantaged water users are supposed to be treated with priority and the DWAF now also manages water resources and supervises the provision of water supplies in the former homelands. To finance its activities and to promote efficient water allocation, the DWAF has developed a system of water use charges.

The 1998 National Water Act clearly reflects the principles of IWRM. It promotes the integrated management of surface and groundwater, the decentralisation of water management, demand management and the user-financing of water management, public participation and community involvement, and a switch from administratively defined water management areas to river basin management by CMAs. Furthermore, a National Water Reserve – governmentally guaranteed water rights for basic human needs and for ecological purposes – has been created (Conca, 2006: 346).

A particular feature of the South African legislation is the strong emphasis on the reallocation of water resource in order to 'redress the inequalities of the past based on race and gender'. For this purpose

'compulsory licensing' has been introduced as the legal tool that allows for the reallocation of water from high-volume users to deprived water users. The DWAF has the right to initiate 'compulsory licensing' in areas where the distribution of water rights is largely skewed. If this is done, compensations have to be paid (Republic of South Africa, 1998; van Koppen, 2001: 9-10).

However, the implementation of the reforms has been rather slow. Since the promulgation of the National Water Act not much progress has been made with regard to the implementation of IWRM as well as the reallocation of water resources and the mitigation of water inequalities. By 2006, none of the 19 CMAs that were to be created in the different water management areas was operational and it is estimated that it may take up to 2018 until all CMAs are in place. No compulsory licensing had been undertaken and it is likely that it will be tested in pilot-basin before it will be widely implemented. Nevertheless, until 2006 none such pilot was underway (De Coning, 2006). However, most of the countries large-scale water users have been registered and the necessary database for water management and reallocation thus created.

Contextualising the South African Water Reform Process

The control of water resources has been a central element of social control and an important issue in the power struggles in South Africa since the 17th century. Changes in water law frequently reflected changing political and economic interests. While early water law was merely an extension of the law that settlers were used to from Europe, it was the ideology of white supremacy that allowed for the appropriation of the land and water resources of the black population. When the British promulgated the Water Act of 1912, they acknowledged the riparian water rights granted under the early water law to appease the large Boer landowners in the aftermath of the Boer war. The Water Act of 1956 clearly served the interest of the white minority as the riparian rights of white landowners were recognised while an increasingly powerful state bureaucracy managed the remaining water in the 'public' interest. The consequences of South African water policy were the racial inequality with regard to access to drinking water and the monopolisation of water for irrigation by white farmers.

Given the political and economic importance of water resources, it is clear that the change in power that came along with majority rule had to have an impact on South Africa's water sector. The most pressing issues were the reorganisation of the rural water supply system and the provision of reliable water resources to the large black minority. Furthermore, the racist water bureaucracy had to be restructured and the unequal distribution of water rights redressed. The National Water Act in 1998 reflects the underlying political agenda in various ways. The National Water Reserve provides for the government-guaranteed provision of basic human water need and thus acknowledges a human right in water. Furthermore, 'compulsory licensing' and the prioritisation of the needs of historically deprived persons provide the instruments to curb racial inequalities. Especially, with regard to the provision of rural water supplies to and for the black majority, the new government embarked on ambitious programmes. Initially, the programmes had enormous successes and safe water was provided to roughly 6.5 million people between 1994 and 2001(Schreiner et al., 2002). However, due to costly techniques and non-transparent planning and pricing strategies many beneficiaries refused to pay and destroyed meters, and in a short time 50-90% of the systems suffered from interruptions in supply or even broke down (Wellman, 1999).

The widespread reallocation of water resources was forestalled by political realities and economic interest. This failure must be understood in the general context of economic policy and has partially to do with the influence that international donor agencies were able to exercise during the drafting of the constitution. The last apartheid government and the World Bank were able to convince the ANC that pre-existing private property rights should be recognized in the new constitution (Heinz Klug: 2002). Therefore, the reallocation of property rights in natural resources entails the payment of compensations. Although the responsible Minister did not want to include the payment of compensations for the reallocation of water rights in the new water law, he was forced to do so, as the (white) agricultural lobby in South Africa was able to prove that uncompensated reallocation was unconstitutional (de Lange, 2001). Therefore, the large-scale reallocation of water resources in South Africa would entail immense costs that neither the government nor potential beneficiaries would be able to bear. And even

though the water act provides for the reallocation of water resources without compensation — for the National Reserve and to rectify over-allocations of water and unfair water use — this option has not been taken (van Koppen et al., 2002). This is partly due to the fact, that the National Reserve does not guarantee the productive use of water resources in small-scale agriculture. Therefore, black smallholders are deprived of the legal means to claim access to irrigation water without having to pay compensation.

However, water allocation reforms remain on the political agenda. Water issues continue to have highest priority for large parts of the electorate (the large rural black constitute 50 % of the population) and the government has to somehow cater for their demands in order to stay in power (Turton and Meissner, 2002). However, a discussion paper published by DWAF in 2005 remains vague. While inequalities are lamented the paper tries to balance concerns for equity with the need for economic growth and investor security (Department of Water Affairs and Forestry, 2005: 3-5). Only basins under 'water stress' are liable for compulsory re-allocation, but even here economic benefits and the water use efficiency of different uses are to be considered, and alternative options such as supply development, water conservation, demand management and the promotion of water trading have to be explored before existing lawful uses can be curtailed (ibid.:15).

Seemingly, the white agricultural elite of South Africa still exercises important influence, and is backed by major donors – the British DFID, for instance, is sponsoring the water allocation policy process to "develop alternative approaches to water allocation in South Africa" (ibid.: 1). Thus the participation of black farmers in the benefits of irrigation remains forestalled. On the contrary, the neo-liberal agricultural policies of the government hit the black irrigation farmers hardest. The removal of government subsidies for farm inputs and irrigation infrastructure led to the collapse of many smallholder irrigation schemes (Schreiner et al., 2002).

While the process of policy formulation was extremely participatory, the DWAF has been reluctant to part power with stakeholders in the implementation process. On the one hand, the reluctance to allow high degrees of participation may result from the fact that the new policies are often implemented by those who executed apartheid in the water sector (van Koppen et al., 2002). On the other hand, the old water bureaucracy is met with poor black stakeholders whose ability to participate in decision making processes on an equal footing can be doubted. Examples from water and irrigation boards that were reorganised into Water User Associations after the enactment of the new law show the difficulties inherent in the attempt to bring stakeholders from different racial backgrounds together (Manzungu, 2002; Swatuk, 2004). Given the history of the country – the pending inequalities and the potential threat of compulsory reallocation – an atmosphere of mistrust and the lack of a culture of dialogue between the races makes it difficult to develop cooperative structures for the management of water resources (Lévite et al., 2003). If involved at all, stakeholders are often overburdened with responsibilities while they lack organizational scope, necessary capacities and access to crucial information about the state of water resources (Manzungu, 2002)(Chikozho, 2006). Furthermore, small-scale water users that are still fighting to get access to basic domestic water services, lack the interest to engage in basin-wide water politics. These factors contribute to a situation, in which existing power structures reproduce in the newly established organisations.

The DWAF also has implementation problems in the rural countryside as it lacks the resources and mandate to establish local water bureaucracies. In the local arena, democratically elected Local Governments are – at least nominally – responsible for domestic water supplies, sanitation, flood control and the development of water resources for small scale agriculture (van Koppen et al., 2002). But especially, in the former homelands the power of Local Governments is contested by traditional authorities who exercised control over the subjects and resources of their territories under the apartheid system (Mamdani, 1996). Although their power has been confined, their command over resources remains unabated (Ntsebeza, 2002). Since the access to water is largely depending on the access to land, the chiefs are able to control the local allocation and management of water resources to a large extent. In the former white areas, white municipality leaders often remain more powerful than the Local Governments and are thus also able to exercise considerable influence on the management and allocation of water resources (van Koppen et al., 2002).

Especially at the local level, legal pluralism prevails. The new legal regime has been enacted, but the recognition of existing lawful uses and the continuing influence of traditional authorities and white

elites ensures that some of the institutions of apartheid remain in place. At the same time, local norms and values with regard to water resources are still important in the black rural areas (Chikozho, 2001). Regarding water as a common property, these norms often provide effective frameworks for the protection as well as sharing of resources. However, these local norms become undermined, if new organisations and the registration of water rights are promoted or when water pricing is introduced in the process of water reforms.

4. Conclusion:

This article describes the politics of policy making and policy implementation within the context of water sector reforms in Ghana and South Africa. In both countries the global politics of water and the promotion of IWRM by international expert networks, international institutions and major donor organisations have resulted in the integration of this water resource management paradigm in the countries water sector policies. But while the principles of IWRM are enshrined in the new legislation implementation lacks behind and current patterns of water management and allocation follow historically established patterns of political power and economic interest.

In Ghana the process of policy formulation was clearly driven by the World Bank – as it was part of the agenda to privatise the country's urban water supply systems – and was earmarked by a limited degree of public participation. Since the Water Resources Commission Act is in place the government has made only little effort to effectively implement IWRM in Ghana. The newly created water bureaucracy is inadequately funded and lacks the staff and equipment to fulfil its tasks countrywide. While the implementation of IWRM and water regulations should be promoted through basin pilot projects these projects make only little headway and adoption of the new National Water Policy took more than six years. While the implementation of IWRM is in slow motion, it is impossible for the WRC to live up to its responsibilities, when it engages with powerful interest groups such as hydropower or mining companies. Water issues lacking priority on the political agenda, the WRC is largely confined to awareness raising activities, the registration and billing of major water users and, quite successfully, in transboundary negotiations in the Volta basin. The implementation of its policies at the local level is supposed to be organised through district assemblies, which lack the capacity, funds and interest to promote IWRM. Thus, large parts of the population are not aware of the new legislation and traditional norms and practices de facto continue to dominate water management and water allocation in large parts of the country. The lack of political will to effectively implement the new legislation can be at least partly understood by a reluctance of the government to confront the politically powerful rural electorate and traditional authorities, whose rights to and control over water resources has been effectively omitted through the new legislation.

The low degree of public participation in water policy processes as well as in the pilot basins raises doubts about the way in which water resource decisions are going to be taken in future, especially, if it comes to competition for water between the hydropower and the irrigation sectors in the Volta Basin. Climatic changes and environmental degradation have led to the rapid expansion of irrigation in the northern parts of Ghana. But the Ghana largely depends on electricity provided by hydropower and irrigation expansion feeds on the water resources available for the generation of electricity at the Akosombo and Kpong hydropower stations. An active reduction of the area under irrigation seems to be out of question – because of the important political role of the rural northern electorate and the lack of enforcement power of the state – government support for the expansion of irrigation could well be reduced, with severe consequences for the Ghana's North.

In South Africa, the influence of donors, international organisations and experts was also apparent during the water reform process. Nevertheless, some of the principles of IWRM had already been adopted or at least conceptualised in South Africa, due to the water scarcity and frequent droughts the country encounters. In South Africa, because of the political transition the country was undergoing, the high degree of public attention to policy processes in general and the high priority of water issues for the rural black, the water policy process was highly participatory.

The resulting legislation is highly ambitious in its quest to redress historical inequalities, install a human right to water and to guarantee an ecological reserve. Nevertheless, the politics of implementation are problematic. The DWAF, largely with the same staff which organised the capture of water resources by the white minority during the apartheid era, has remained the most powerful actor in the water sector and has even extended its responsibilities into the former homelands. While it officially promotes the decentralisation of water management, this process is difficult to organise as stakeholders with extremely different levels of power, access to wealth, degree of organisation and knowledge are supposed to collaborate. In the face of the extreme inequalities with regard to the access to water, a deeply engrained distrust between the races and a lack of a culture of dialogue, the decentralisation of water resource management is delaying and the reallocation of water resources pending.

As a (unintended?) consequence – apart from the provision of drinking water supplies to a substantial part of the rural black population – the status quo is maintained. The DWAF remains the powerful actor in a sector that is still earmarked by horrendous racial inequality. Apart from the problems of organising participatory and decentralised water resource governance, the DWAF has problems with the local implementation of IWRM as it lacks reliable local partners. As many responsibilities with regard to water lie with the Local Governments, which are not yet effectively functioning, legal pluralism prevails and institutions and power structures that emanate from the apartheid era still prevail.

In Ghana and South Africa the situation prior to the reform processes was very different. Ghana is rather water abundant and (seasonal and sectoral) scarcity can be mainly explained by a lack of infrastructure and a high degree of mismanagement in the water sector. Furthermore, the country was lacking a powerful water bureaucracy and mandates as well as responsibilities were highly compartmentalised. While a riparian doctrine prevailed the mainstay of the country's water resources was not used. Inequalities with regard to the access to water occurred mainly with regard to access to improved domestic supplies between rural and urban, as well as between wealthy and poor urban areas. In South Africa, water was scarce and the water sector was reined by a powerful bureaucracy that organised the capture water resources by the white minority. Nevertheless, both countries – more or less under pressure of donors and influenced by the global water discourse – adopted the same water management principles as engrained in the IWRM doctrine. In both countries, because of different reasons, the adoption of new water legislation has done little to alter the situation with regard to the management and allocation of water resources throughout the country.

In South Africa, the government tries to strike a balance between the demands of the black majority, the liberal and growth-oriented economic policies, and the pressure of the World Bank and bilateral donors. Like in the case of land reforms, the most pressing issue, the unequal access to water resources for productive purposes remains unresolved. While a large effort is put into the organisation of stakeholder participation in WUAs and CMAs they only seem to legitimise a continuation of the status quo until alternatives to the reallocation of water resources can be developed.

In Ghana, the adoption of IWRM was clearly a donor-driven process, without much stakeholder consultation, and the government as well as the public, despite some rhetorical commitment, do not put to much emphasis on its implementation. Generally it could be argued that the country is still engrained in the 'hydraulic mission' and the development of hydraulic infrastructure is given priority over IWRM. While at the national level the Water Resource Commission is in place, its influence on decisions in areas of large political and economic interest is negotiable.

In both countries, the politics of policy making were contingent on the particular situation the countries found themselves in at the point of decision making. The dependence on international support led to situations were external pressure and advice – in Ghana direct pressure on the reform process, in South Africa on governmental policies in general – led to the adoption of new water sector policies. The politics of implementation are more or less a reflection of the power structures and the economic interest that prevail in the country overall. The adoption of IWRM has done little to change these. In both countries, powerful interest groups are able to shut themselves of from attempts to deal with their vested interest and continue to capture resources. Furthermore, the ability of governments and water bureaucracies to implement water policies locally is severely limited by the absence of effectively working local government structures and the prevalence of competing (neo-) traditional institutional frameworks.

As the way water policies are implemented more or less reflects the general political, social, economic context in which the implementation is taking place, one sometimes wonders why so many resources are squandered on the promotion of participatory approaches, while (international) pressure and advocacy to really implement it is low. While international NGOs, scientists and activists may have been able to enter part of their agenda into the IWRM discourse and the official water policies, it is rather neo-liberal economic paradigms that also form part of the IWRM-paradigm that become implemented. Both in Ghana and in South Africa, the privatisation or private management of urban water supply systems has been promoted by the World Bank and bilateral donors and at least partially implemented under their pressure. Furthermore, the user pays principle has been adopted.

The promotion of stakeholder empowerment is often shied away from by international donors as it is regarded as interference with internal affairs and the imposition of culturally inappropriate norms. But the promotion of neo-liberal economic policies seems to be neither of both of them, although it frequently opposes local political interests and cultural. Interestingly, in both countries these policies were promoted without major stakeholder participation. Nevertheless, or should I say therefore, they created a large and partially successful opposition. The success of civil engagement against water privatisation and the failure to create participative IWRM, could be partly interpreted as an expression of the rural/urban and subject/citizen divide that forms part of the legacy of colonialism (Mamdani, 1996), but also throws a light on the way in which participatory approaches silence opposition.

However, the politics of the water policy process as well as the politics of implementation in both countries bear clear witness to the fact that both processes deviate from toolbox approaches of IWRM. The politics of policy making and the politics of implementation in any given social context (local, regional, national, international) clearly depend on the historically contingent way in which water resources have been managed and allocated and vested interests that are prevailing in the political economy of the given context. These factors determine which of the many aspects of IWRM are prioritised, if any at all, and which influence the implementation of water policies has for the everyday politics of water. Instead of “changing the course of history” the way IWRM and other water sector policies become adopted and implemented seems to rather follow the path of history. Further research into that nexus could eventually contribute to the formulation of water sector policies that are designed for specific contexts of implementation, rather than toolbox approaches and might,especially in the African context, provide the impetus to abstain from comprehensive and costly water reform programmes that have little impact on the ground.

Bibliography:

afrol. 2002. Ghana obtains debt relief [Online]. Available by afrol www.afrol.com/News2002/gha004_hipc.htm (verified 25.08.03).

Allan, T. 2003. IWRM/IWRAM: a new sanctioned discourse? SOAS, London.

Ashton, P. 2000. Southern African Water Conflicts: Are they inevitable or preventable? In: H. Solomon and Turton. A.R. (eds.) Water Wars: Enduring myth or impending reality? Durban: ACCORD.

Asibuo, S.K. 2000. Decentralization and Capacity Building in Ghana. Africa Insight 29:8-15.

Azarya, V., and N. Chazan. 1998. Disengagement from the State in Africa: Reflections on the Experience of Ghana and Guinea, In P. Lewis, ed. Dilemmas of Development and Change. Westview Press, Boulder, Col.

Balanyá, B., B. Brennan, O. Hoedeman, S. Kishimoto, and P. Terhorst. 2005. Reclaiming Public Water: Achievements, Struggles and Visions from Around the World. Transnational Institute and Corporate Europe Observatory.

Bates, R.H. 1981. Markets and States in Tropical Africa University of California Press, Berkley.

Bayliss, K. 2001. Water privatisation in Africa: lessons from three case

studies [Online] http://attac.org/fra/toil/doc/psiru03.pdf. (verified 22.02.).

Bayliss, K., and D. Hall. 2000. Privatisation of water and energy in Africa. Public Services International Research Unit, University of Greenwich, London.

Benjaminsen, T.A., and C. Lund. 2002. Formalisation and Informalisation of Land and Water Rights in Africa: An Introduction. The European Journal of Development Studies 14:1-10.

Berry, S. 1993. No condition is permanent: the social dynamics of agrarian change in Sub-Saharan Africa University of Wisconsin Press, Madison.

Berry, S. 2001. Chiefs Know Their Boundaries. Essays on Property, Power, and the Past in Asante, 1896-1996 James Currey, Oxford.

Bruns, B.R., and R.S. Meinzen-Dick. 2000. Negotiating Water Rights: Introduction, In R. S. a. B. R. B. Meinzen-DicK, ed. Negotiating Water Rights. Intermediate Technology Publications, London.

Chanock, M. 1985. Law, Custom and the Social Order: The Colonial Experience in Malawi and Zambia Cambridge University Press, Cambridge.

Chikozho, C. 2001. Restructuring the Commons: Water reforms in Southern Africa in the context of global water resources management paradigm shifts. Center for Applied Social Sciences, University of Zimbabwe, Harare.

(ed.) 2006. Paper presented at the11th Biennial Conference of the International Association for the Study of Common Property, Bali, Indonesia. June 19 – June 23, 2006.

Cleaver, F. 2002. Reinventing Institutions: Bricolage and the Social Embeddeness of Natural Resource Management. The European Journal of Development Research 14:11-30.

Cooke, B. and U.Kothari 2001. Participation: The New Tyranny? Zed Books Ltd, London.

Davenport, R., and C. Saunders. 2000. South Africa: A Modern History St. Martin's Press, New York.

De Coning, C. 2006. Overview over the water policy process in South Africa. Water Policy 8:505-528.

de Lange, M. 2001. Water policy and law review process in South Africa with a focus on the agricultural sector, In P. P. Mollinga and A. Bolding, eds. The Politics of Irrigation Reform. Sage Publications, New Delhi.

Deininger, K.a.H.B. 2001. The Evolution of the World Bank's Land Policy, p. 407-440, In A. D. e. a. Janvry, ed. Access to Land, Rural Poverty and Public Action. Oxford University Press, Oxford.

Department of Water Affairs and Forestry. 2005. A Draft Position Paper for Water Allocation Reform in South Africa: Towards a Framework for Water Allocation Planning. Discussion Document, Pretoria.

Deverill, P., S. Bibby, A. Wedgwood, and I. Smout, (eds.) 2002. Designing Water Supply and Sanitation Projects to Meet Demand in Rural and Peri-Urban Communities. Loughborough University, Water, Engineering and Development Centre, Loughborough, U.K.

Dezalay, Y., and B.G. Garth, (eds.) 2002. The Production, Exportation, and Importation of a New Legal Orthodoxy. University of Michigan Press, Ann Arbor.

Durkheim, E. 1893/1984. The Division of Labour in Society The Free Press, New York.

Chabal, P. and Daloz, J.-P. 2006: Cultural troubles, politics and the interpretation of meaning.

London: Hurst.

DWAF. 2002. National Water Resources Strategy:Summary. Department of Water Affairs and Forestry, Pretoria.

Eguavoen, Irit. 2008 The Political Ecology of Household Water in Northern Ghana. Hamburg: LIT.

Evers, H. D. and S. Gerke.2009 Strategic Group Analysis. Pp. 19. Bonn: ZEF.

Ferguson, J. 1990. The Anti-Politics Machine: "Development," Depolitization, and Bureaucratic Power in Lesotho Cambridge University Press, Cambridge.

Fuest, V. 2006. Policies, Practices and Outcomes of Demand oriented Community Water Supply in Ghana: The National Community Water and Sanitation Programme 1994 – 2004 LIT, Hamburg.

Government of Ghana. 1995. Ghana-Vision 2020. Presidential report, Accra.

GWP. 2000. Integrated Water Resources Management. TAC Background Paper. Global Water Partnership, Stockholm.

GWP. 2003a. Effective Water Governance. Technical Background Paper 7. Global Water Partnership, Stockholm.

GWP. 2003b. Poverty Reduction and IWRM. TEC Background Paper. Global Water Partnership, Stockholm.

Halcrow & Partners Ltd. 1995. Consultancy Services for the Restructuring of the Water Sector - Final Report - for the Republic of Ghana Ministry of Works and Housing, Accra.

Harriss, J. 2003. Contextualising the commons: a note on the study of culture, power and institutions [Online]. Available by LSE Reserach Online http://eprints.lse.ac.uk/archive/00000485 (verified 03.02.06).

HSRC. 2004. Fact Sheet Poverty in South Africa. Human Sciences Research Council, Pretoria.

Inanga, E.I., and D. Osei-Wusu. 2004. Financial Resource Base of Sub-national Governments and Financial Decentralization in Ghana. African Development Review 16:72-114.

ISODEC. 2001. Water Privatisation in Ghana? An Analysis of Government and Worldbank Policies. ISODEC, Accra.

ISODEC. 2002. Report Of The International Fact – Finding Mission On Water Sector Reform in Ghana, Accra.

Kasanga, K., and N.A. Kotey. 2001. Land Management in Ghana: Building on Tradition and Modernity. International Institute for Environment and Development, London.

Laube, W. 2005. Vision und Wirklichkeit: Die Umsetzung des IWRM und die Erfahrungen mit Landrechtsreformen in Subsahara-Afrika, In S. Neubert, et al., eds. Integriertes Wasserressourcen-Management (IWRM). Ein Konzept in die Praxis überführen. Nomos, Baden-Baden.

Laube, W. 2007. Actors, Structures and Institutional Change. External Interventions and the (De-) Institutionalisation of Local Resource Regimes in Northern Ghana. LIT, Hamburg.

Laube, W., and N.v.d. Giesen. 2005. Ghanaian Water Reforms: Institutional and Hydrological Perspectives, In P. Wouters et al., eds. Hydrological information in water law and policy: current practice and future potential. Kluwer.

(ed.) 2002. International transfer of river basin development experience: Australia and the Mekong Region.

Lévite, H., N. Faysse, and F. Ardorino. 2003. Resolving water use conflicts through stakeholder participation: Issues and examples from the Steelpoort basin in South Africa.

London Economics and John Young & Associates. 1999. Ghana Urban Water Supply: Demand assessment and willingness to pay study – Progress Report, London.

Louis Berger SA. 1998. Increased Private Sector Participation in the Urban Water Sector, Final Business Framework Report, Paris, France.

Lund, C. 1998. Law, Power and Politics in Niger. Land Struggles and the Rural Code LIT Verlag, Hamburg.

Mamdani, M. 1996. Citizen and Subject. Contemporary Africa and the Legacy of Late Colonialism Princeton University Press, Princeton.

Manji, A. 2001. Land reform in the shadow of the state: the implementation of new land laws in Sub-Saharan Africa. Third World Quarterly 22:327-342.

(ed.) 2002. 2nd WARFSA/WaterNet Symposium: Integrated Water Resources Management: Theory, Practice, Cases, Cape Town. 30-31 October 2001.

Marx, K., and F. Engels. 1846. Die Deutsche Ideologie. Band 3:Die wirkliche Basis der Ideologie. Dietz Verlag, Berlin/DDR.

McCaskie, Tom. 2008 The United States, Ghana and Oil: global and local perspectives. African Affairs 107(428):313–332.

Meillasoux, C. 1975. Femmes, grenieres et capitaux F. Maspero, Paris.

Mensah, K.B. 1999. Water Law, Water Rights and Water Supply (Africa). Ghana - study country report. Department for International Development, Silsoe.

Molle, F. 2006. Planning and Managing Water Resources at the Basin Level: Emergence and Evolution of a Concept. Comprehensive Assessment Resarch Report 16. IWMI, Colombo, Sri Lanka.

Mollinga, P., and A. Bolding, (eds.) 2004. The politics of irrigation reform. Contested policy formulation and implementation in Asia, Africa and Latin America. Ashgate, London.

Moore, S.F. 1978. Law as Process Routledge & Kegan Paul, London.

Moore, S.F. 1998. Changing African Land Tenure: Reflections on the Incapacities of the State. The European Journal of Development Research 10:33-49.

Morgan, L.H. 1877. Ancient Society. Researches in the Lines of Human Progress from Savagery through Barbarism to Civilization MacMillan and Co, London.

MoWH. 1998. Ghana's water resources : management challenges and opportunities Ministry of Works and Housing, Accra.

MoWH. 1999. Water. Comrehensive Development Framework. Ministry of Works and Housing, Accra.

MoWH. 2001. Ghana Water Policy. Draft. by Water Resources Commission, Accra.

MoWH. 2002. Water Sector Restructuring in Ghana (Including Private Sector Participation). The Dicision, the Framework, The Issues. Ministry of Works and Housing, Accra.

Ntsebeza, L. 2002. Decentralisation and Natural Resource Management in Rural South Africa: Problems and Prospects. Programme for Land and Agrarian Studies, University of the Western Cape. South Africa., Cape Town.

Nugent, P. 1995. Big Men, Small Boys, and Politics in Ghana: Power, Ideology, and the Burden of History Pinter, London.

Pauw, J. 2003. Metered to Death: How a Water Experiment Caused Riots and a Cholera Epidemic [Online]. Available by Centre for Public Integrity http://www.publicintegrity.org/water/report.aspx?aid=49 (verified 22.02.).

Platteau, J.-P.a.A.A. 2002. Participatory development in the presence of endogenous community imperfections. Journal of Development Studies 39:104-136.

Rathbone, R. 2000. Nkrumah and the Chiefs. The Politics of Chieftaincy in Ghana 1951-1960 James Currey, Oxford.

Republic of South Africa. 1997. Water Services Act. Office of the President, Cape Town.

Republic of South Africa, a. 1998. National Water Act, Vol. Government Gazette. Vol. 398. Office of the President, Cape Town.

Ross, R. 1999. A Concise History of South Africa Cambridge University Press, Cambridge.

Sandbrooke, R., and J. Oelbaum. 1997. Reforming Dysfunctinal Institutions Through Democratisation? Reflections on Ghana. The Journal of Modern African Studies 35:603-646.

Schreiner, B., B.v. Koppen, and T. Khumbane. 2002. From bucket to basin: A new paradigm for water management, poverty eradication and gender equity, In A. R. Turton and R. Henwood, eds. Hydropolitics in the Developing World: A Southern African Perspective. African Water Issues Research Unit (AWIRU), Pretoria.

Scott, J.C. 1985. Weapons of the Weak. Everyday forms of Peasant Resistance Yale University Press, New Haven and London.

Smith, D.A. 2002. Consolidating democracy? The structural underpinnings of Ghana's 2000 elections. Journal of Modern African Studies 40:621-650.

Songsore, J. 2001. The Economic Recovery Program/Structural Adjustment Program; Its Likely Impact on the Distant Rural Poor in Northern Ghana, p. 207-222, In Y. Saaka, ed. Regionalism and Public Policy in Northern Ghana. Peter Lang, New York.

Swatuk, L.A. 2004. Political Challenges to Sustainably Managing Intra-Basin Water Resources in Southern Africa. Drawing Lessons from Cases. Okavango Research Centre, University of Botswana, Maun, Botswana.

Tangri, R. 1999. The Politics Of Patronage in Africa. Parastatals, Privatization and Private Enterprize James Currey, Oxford.

(ed.) 2001. Paper presented at the International Conference of the International Water History Association, Bergen, Norway. 10-12th August.

Turton, A.R., and R. Meissner. 2002. The hydrosocial contract and its manifestation in society: A South Africa case study, In A. R. Turton and R. Henwood, eds. Hydropolitics in the Developing World. A Southern African Perspective. African Water Research Unit, Pretoria.

van Edig, A., S. Engel and W. Laube. 2002a. Ghana's Water Institutions in The Process of Reform, In S. N. e. al., ed. Reforming Institutions for Sustainable Water Management. German Development Institute, Bonn.

van Edig, A., W. Laube and N. v. d. Giesen. 2002b. Internationale und nationale Wasserkonflikte: Institutionelle und rechtliche Hintergründe der Wassernutzung des Volta-Flusses am Beispiel Ghanas, p. 75-94, In G. Menz. e. al., eds. Wasserkonflikte in der Dritten Welt, Vol. 15. Johannes-Gutenberg-Universität Mainz, Mainz.

van Koppen, B., N. Jha, and D.J. Merrey. 2002. Redressing racial inequalities through water law in South Africa: Interaction and contest among legal frameworks. International Water Management Institute, Africa Regional Program, Pretoria, South Africa.

Vermillion, D.L. 1997. Impacts of Irrigation Management Transfer. A Review of the Evidence. IWMI, Colombo, Sri Lanka.

Vermillion, D.L.a.J.A.S. 1999. Transfer of Irrigation Management Services. FAO, Rome.

Vidal, J. 2005. Flagship water privatisation fails in Tanzania. UK firm's contract cancelled amid row over supply [Online] http://www.guardian.co.uk/hearafrica05/story/0,15756,1491600,00.html (verified 22.02.).

von Benda-Beckmann, F. 1989. Scape Goat and Magic Charm. Law in Development Theory and Practice. Journal of Legal Pluralism 28:129-148.

Wade, R. 1988. Village Republics: Economic Conditions for Collective Action in South India Cambridge University Press, New York.

Walmsley, R.D., J.J. Walmsley, and S. M. 1999. National State of the Environment Report - South Africa. freshwater systems and Resources [Online]. Available by Department of Environmental Affairs and Tourism http://www.ngo.grida.no/soesa/nsoer/issues/water/index.htm (verified 06.03.).

Wellman, P. 1999. Sustainability of South Africa's 'water miracle' questioned [Online]. Available by Water Policy International. The Water Page http://www.africanwater.org/documents.htm (verified 07.03.).

Wittfogel, K. A. 1957. Oriental Despotism – A Comparative Study of Total Power. New Haven, CT: Yale University Press.

World Bank. 2006a. World Development Indicators Database. Ghana Data Profile [Online]. Available by World Bank http://devdata.worldbank.org/external/%5C%5Cwww.worldbank.org/data/dataquery.html (verified 06.03.).

World Bank. 2006b. World Development Database: South Africa Data Profile [Online]. Available by World bank http://devdata.worldbank.org/external/%5C%5Cwww.worldbank.org/data/dataquery.html (verified 04.03.).

WRC. 1999. Strategy Document (1999-2003). Water Resources Commission, Accra.

WRC. 2002. Integrated Water Resources Management in Ghana (IWRM) Hallel, Accra, Ghana.

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