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Policies, Practices and Outcomes of Demand-oriented Community Water Supply in Ghana:

The National Community Water
and Sanitation Programme
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Veronika Fuest

Abstract

This study deals with the implications of policies of the so-called demand-driven approach of community water supply in rural and small urban areas in Ghana. In the context of comprehensive reforms in the water sector a transition of roles and responsibilities as well as the establishment of new institutions and actors were supported by numerous international donor organisations. Reorienting the water sector policies resulted, among others, in the National Community Water and Sanitation Programme (NCWSP), which started to operate in 1994. The policies directed at sustainable drinking water supply were to ensure community ownership and sustainability of facilities by beneficiary capital cost contributions, private sector participation, and cost-recovery water tariffs. After ten years of programme implementation a multilevel analysis of interrelationships between institutions, policy instruments and actors point to a variety of inconsistencies in programme planning and implementation which put the long-term sustainability of water supply at stake. Capacity and resource constraints at national, district and local levels, legal pluralism and diverging interests of the actors in the water sector were not amenable to reaching the ambitious objectives of the programme. There was a pervasive lack of knowledge bases for informed decision-taking and of coordination among aid agencies. While water supply infrastructure was in high demand, the inability or unwillingness of communities to pay their share of capital cost contributions was a cross-cutting issue of major concern. Where improved systems had been established sustainability was often doubtful because of insufficient levels of water tariffs and, concerning small urban supply systems, by ineffective management, operation and maintenance. Utilisation of the improved sources once established or rehabilitated turned out to be limited, which was due to both environmental (water quality and quantity) and socio-political factors involving issues of acceptance, 'elite capture' and equity. Ongoing reforms, particularly in the framework of the Ghana Poverty Reduction Strategy, were aiming to resolve some of the problems. The peculiar logic of the world of development aid constituted differing interests and institutional constraints among the actors, which are ultimately considered to be at the root of the difficulties observed.

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1. The demand-driven approach – a shift in paradigm

In the global context, the rural areas in Africa are considered to have the least coverage of safe drinking water supply and sanitation facilities, which, according to international consensus, contribute to the perpetuation of poverty. African governments in particular have been confronted with an ever rising demand for water in the face of dwindling supply (UNICEF 2000). The Millennium Development Goals (MDG) have given the international donor community renewed impetus to accelerate the “pace of development” of the water sector with a specific focus on supply coverage. However, since the international donor agencies started projects to improve potable water supply over 40 years ago, there has been the unresolved challenge of combining infrastructure delivery with sustainability, efficiency and effectiveness of the programmes supported.

„In general, supply driven water interventions have not succeeded in providing poor communities with sustainable water supplies. Communities who simply receive a water point, and who play a minor or symbolic role in project implementation understandably do not feel a sense of ownership of the project. As a result millions of dollars have been wasted as communities watch schemes, implemented on their behalf, fall into disrepair” (Breslin 2003:1).

Numerous reports about failures of sustainability of water supply infrastructure entailed a reorientation of policies sensitive to institutional factors. According to a growing international consensus, programmes of water supply in Africa need to be considered not just in terms of demographic growth and technical responses to an increasing need for potable water resources – the “supply-driven approach” - but in the context of a general “shift of paradigm” (Gleick, 2000) in favour of the so-called “demand-driven” approach (DDA) and policies directed at decentralising water resources management. Over the last 15 years, against the backdrop of decentralisation processes worldwide, there has been mounting support for development policies and projects that aim to transfer rights and responsibilities from central governments to more localised bodies.

The new paradigm has entailed a number of principles to organise development interventions in the water sector. It has included the concept of community-based supply systems, the concept of water as an economic good, private sector participation and a participatory approach. The need to maintain and to increase supply coverage has been considered to create more opportunity for small scale local service providers through local government financing channels. In many countries of the world, responsibilities for providing water services are being devolved from national to local levels with the objective of improving efficiency and accountability. At the same time government departments at all levels are being moved away from implementation roles to becoming facilitators and regulators. Organisations from the private and non-governmental sectors are being encouraged to fill the gap. Moreover,

there is increasing emphasis on alleviating poverty, and many donor organisations have (re-) allocated their funds accordingly (Deverill et al., 2002a; Woodhouse et al., 2004).

In theory, demand-oriented policies should include the following principles as elaborated by (Deverill et al., 2002b):

- requirement of an effective communication strategy which enables project staff to engage with communities, households and individuals;
- establishing systems for individual and collective decision-making; identifying, developing and pricing options that are based on user priorities and perceptions of value, are socially acceptable, reflect supply costs, are environmentally, technically and financially feasible;
- provision that vulnerable groups such as women and the poor are included;
- enabling people to make an informed choice of whether they want to participate in a project, of service level options, how services are to be managed and how contributions are to be managed.

According to the tenet of the DDA - at times also called "demand responsive approach" (DRA) - the communities must take the lead in water supply interventions. They have to demand improved services, play the lead role in the project, choose which facilities they want, which also involve a choice of technical options, and how they want to manage them. Local people must participate in all decision making on technologies, management systems, and payment/contribution schemes. They have to make meaningful contributions to their project in the form of cash, labour or in-kind contributions. Finally, the communities must take responsibility for sustaining their systems. A central assumption of the DDA is that user contributions will give beneficiaries a sense of ownership and a sense of value that will help to assure its proper operation and maintenance. People are assumed to have a far greater interest in maintaining a facility in which they have invested their resources such as labour and time. Further it is assumed that where communities generate their own incomes and control the providers the water supply system is not subject to the vagaries of financing from central governments (Brislin 2003; World Bank, 2003c). Since the beginning of the 1990s, the DDA has been introduced by the World Bank and other international agencies in rural and small town communities in various African countries.

Today water resources are generally considered to be no longer open to everybody's access but rather a – contextually finite - collective good that requires collective action and organisation for a sustainable and equitable use. The theoretical conditions of "good performance" in collective action and local organisation have been discussed extensively at a theoretical level, according to evidence from various research contexts. Effective collective action has been observed where resource boundaries were clearly defined, where there was capacity to exclude others from use of the resources, where the number of resource users was fewer, where the financial, transaction and opportunity costs of organising and excluding others was small, where there was homogeneity of user norms and interests, and where rules, arrangements and/or governance structures existed for defining membership and access, establishing and monitoring resource use, decision-making, and sanctioning those who violated rules (for overviews of the debate see Knox et al., 1999; Meinzen-Dick and Knox, 2001). However, there has been considerable variation, and successful "crafting" of regulation arrangements warranting equitable access among community members and the sustainability of the water source and facility seems to be a formidable challenge indeed.

Powerful development actors have tended to put great faith in the effectiveness of new formal institutional arrangements to support collective resource management. In the context of

the DDA in the water supply sector, this has resulted in the conditional creation of new organisations and institutions that are expected to be responsible for and to regulate the effective management of the facilities in question. The National Community Water and Sanitation Programme (NCWSP) of Ghana has been cited as an example of a “client-based model” in the World Development Report 2004 (World Bank, 2003c:172). This programme has officially incorporated the ‘design principles’ of the DDA.

In this study¹ available evidence about the “arena” of the NCWSP actors and institutions is analysed, highlighting the manifestations, repercussions and constraints of the DDA approach at the national, district and local levels of programme organisation and implementation. Furthermore, by presenting the case of Ghana the study wants to contribute to the general discussion about the new paradigm and its subsequent policies in the sub-sector of drinking water supply (see Woodhouse et al., 2004).

An integrated perspective needs to be taken. The community ownership and management concept, which entails group processes, definitions of rights and responsibilities, as well as issues of access to potable water and income generation, cannot be divorced from the cultural, socio-economic and micro-political setting, the physical environment and the larger political environment within which they occur. Analytical concepts from an actor-oriented approach (Long, 2001)(Giddens 1984) and institutional analysis (Acheson 1994; North 1995) are combined to capture some of the complexities of the framework, interrelationships, impact and constraints of Ghana’s National Community Water and Sanitation Programme.

The analyses presented in this paper are based on fieldwork conducted in Accra between 2002 and 2004 and a comprehensive review of available/accessible literature in the framework of the GLOWA Volta Project.² - The sub-sector of sanitation/hygiene education, of which the NCWSP is also in charge, is beyond the scope of this paper. The integration of a sanitation and hygiene component was reportedly charged with major difficulties posing a particular challenge (World Bank, 2000). Like in many other countries (Deverill et al., 2002a), in Ghana this domain has been affected by particular technical and institutional problems that will have to be dealt with elsewhere. Besides, more literature and data have been available surrounding the domain of drinking water supply (Bacho, 2001; Engel et al., 2003; MWH, 2004a; Sarpong Manu, 2001) to support the data from the interviews.

The following chapters will provide some historical insights, overviews of the actors and institutions involved in the sub-sector of rural and small urban water supply (chapters 2 and 3). Then an attempt is made to assess the outcomes of 10 years of activities under the NCWSP in terms of quantitative achievements (accessible statistics) and qualitative changes (chapter 4). The results of the NCWSP are discussed with reference to the sub-sector’s institutions and actors. Subsequently, the constraints of policy implementation are analysed and discussed at the national, district and local levels (chapter 5). Impact at the local level can be assessed by evaluating available surveys, qualitative project evaluations and preliminary research results. Naturally, a clear delimitation among institutions and actors in the water sector and in Ghana’s world of bureaucracy and politics is impossible. The links and interrelations emerge as actors and institutions are analysed in the context of the levels mentioned. Eventually, some ongoing developments and prospects of the NCWSP are presented (chapter 6). In the final chapter the

¹ I would like to express my gratitude to the German Federal Ministry of Education and Research and the Ministry of Culture and Education of Northrhine Westphalia, as well as to the Department of Political and Cultural Change of the Center for Development Research for funding my research in the context of the subproject “Institutional Analysis” of the GLOWA Volta Project. My heartfelt thanks go to all those friendly “actors” in Ghana who dedicated their precious time to my endeavour, endured my inquisitive presence, and shared their insights and knowledge with me and generously entrusted me with valuable documents.

² <http://www.glowa-volta.de>

conclusions are supplemented by reflections on institutional design and policy recommendations.

2. Problems of drinking water supply and related policies in Ghana

In the year 1990, 27% of the rural population were reported as having access to improved drinking water according to estimates by the Government of Ghana (MWH & CWSA, 2004e). Particularly in the northern part of the country, where precipitation is considerably less than in the south, the population is assumed to have suffered from shortages and bad quality of drinking water since times immemorial. Reports from the Ministry of Health indicated that a number of water-related diseases, such as diarrhoea, skin infections, intestinal worms, and cholera, were predominant in rural areas. Lack of adequate water and sanitation facilities has been considered to be the most important cause of severe illnesses. Children and women have been the most affected by such water-related diseases. The water quality was poor as the population used surface water to satisfy its needs. Lack of potable water results in heavy burden of – above all, female - household labour and low income, and out-migration to urban areas (Asante et al., 2002). The north of Ghana faces particularly serious water shortages during the dry season when natural water sources dry up. “Water hunting” and collection is a major preoccupation of the women and children. In many parts of the country women often spend more than 5 hours/day fetching water for the household, having to bridge large distances (up to 10 or even 20 km) to reach the next water source, particularly during the dry season. Water transportation responsibilities have been reported to result in stunted growth and development of children. Inadequate supply of potable water and the ensuing drudgery for women has been considered to affect their economic activities and productivity significantly (CIDA & CWSA, 2001; Bacho, 2001; CIDA & CWSA, 2003d).

2.1 History of the sub-sector of potable water supply

In pre-colonial as well as in colonial times water supply depended largely on the availability of natural surface waters such as rivers, lakes and ponds as well as on dug-outs. Wells were dug by hand through overburden and weathered rock material, they were up to 6 m deep and usually unlined. They were unreliable since they dried up in the dry season or became unusable by being caved in during the rainy season. Lining of dug wells with concrete began during the colonial era, when the use of cement was introduced for construction and other civil engineering works (Gyau-Boakye & Dapaah-Siakwan, 1999).

In the rural areas water supply has been regulated by traditional authorities in connection with land allocation practices (so-called riparian doctrine) since pre-colonial times. The management of natural resources has generally been tied to religious belief systems. In Akan culture, for example, the earth was accorded a spirit of its own, which could be helpful if propitiated or harmful if degraded. Land was inherited from the ancestors. Chiefs and priests entrusted with ensuring that ancestors and gods received proper respect, exercised control over the land and its resources to promote conditions which were beneficial to the environment and sustainable for communities (Opoku-Agyemang, 2001; MWH, 1998a). Chiefs and priests enforced a set of rules which were intended to protect the earth and regulate uses of natural resources. Surface waters were considered holy and desecration in or around them was strictly prohibited; farming was forbidden on river banks as these were considered resting abodes for

river gods. Beliefs concerning tree deities entailed demarcation of certain forest areas as sacred groves (in which no human activities were permitted), which minimised deforestation and soil erosion. In addition, certain areas were usually designated for gathering water and these areas were generally situated upstream from areas of other activities which may affect the water negatively. Finally, certain days of the week entire activities such as washing clothes, water abstraction, or fishing were prohibited. Such regulations were to make use of water and exploitation of resources therein more sustainable (MWH, 1998b). Available evidence suggests that water for human consumption has been a contested resource to a lower degree than land, trees, fruits etc...³ Access was generally free, owners of land bordering on or containing water sources beneath would neither prohibit others from abstracting water nor charge for abstraction (Van Edig, Engel & Laube, 2002). Surface water - there is some uncertainty concerning the right to consumptive use of groundwater - was considered a public good and every individual had usufructory right to its use. Customary water use principles permitted water users to take as much water as they could personally carry as long as there remained enough water for others.

Since the institution of a formal government in the 19th century social infrastructure services were introduced by colonial governments with a systematic concentration in the few urban enclaves, especially Accra, Kumasi and Sekondi-Takoradi (the "Golden Triangle"). Technical infrastructure such as roads, railways, telecommunications and ports, was provided to facilitate both the effective political control of the colony as well as the exploitation of the natural resources. Furthermore, social services such as education and health were provided under the so-called "civilising mission". Both technical and social infrastructure services were provided indirectly through the Native Authorities. They were heavily concentrated in the resource rich areas such as the mining and cash crop production areas. In effect, until today there is a skewed distribution of services between southern Ghana and the so-called resource-poor areas of northern Ghana (Bacho, 2001).

Before independence, pumps, artificial reservoirs and piped water supply systems had been introduced in the industrial enclaves, cities and settlements where the British colonists resided. In 1944 a Department of Rural Water Supply was set up by the colonial administration. In the North, it introduced some massive lined hand-dug wells in an attempt to alleviate the perennial water shortage problem in the area. Here also borehole drilling was introduced in the late 1940s, primarily to provide water supplies to the larger communities such as Tamale, Yendi, Wa etc.. In the 1950s groundwater supplies were reviewed by a consultant from the U.K., and the efforts of the Department were supplemented with contract drilling by private drilling companies. Other agencies and ministries were also involved in constructing hand-dug wells and small dams, protecting springs, and rainfall harvesting from roofs (Gyau-Boakye & Dapaah-Siakwan, 1999).

After Independence, in 1965 the public Ghana Water and Sewerage Corporation (GWSC) was established to manage the existing supply systems, including the rural point supply sources which were mostly equipped with hand pumps. In the 1970s hand-dug wells and boreholes fitted with hand pumps were introduced by NGOs and international donor organisations. However, due to a historical bias in the provision of infrastructure the Government of Ghana continued to emphasise water supply in the urban areas. A joint programme of the GWSC and the Canadian International Development Agency (CIDA) in the north was the first substantial

³ However, pastoralists' rights to water their animals particularly in the dry seasons have been reported to be a contested issue in parts of the country, see e.g. (Tonah, 2002). For contests over fishing rights see (Lentz, 2003): earth priests based their claims on the notion of an undivided spiritual domain, while Ghanaian chiefs reframed the matter in terms of modern political divisions.

attempt by the GWSC to supply improved water in rural areas. In the mid-1980s the GWSC began promoting the construction of hand-dug wells (HDW), nationwide, especially for small communities. From that point onward NGO involvement in hand-dug wells in northern Ghana boomed. CIDA was the first international agency to consider the sustainability of its supply systems by training pump technicians, and later pump management committees, in the context of a large-scale hand pump project from the 1970s onwards. Countrywide, altogether over 6.000 hand pumps were installed under various donor supported programmes, funded in particular by CIDA and the German Kreditanstalt für Wiederaufbau (KfW) (Gyau-Boakye, 1999; Osafo-Yeboah, 1998). Groundwater was considered to be the only feasible but also the most economic source of rural potable water supply, with aquifers underlying geographically large areas of the country which can be tapped at shallow depths. Well yields were considered to be adequate in many places, and groundwater was considered as having, with aquifer protection, excellent microbiological and chemical quality which require minimal or no treatment. In addition, compared to conventional treatment of surface waters the capital cost of groundwater development was relatively modest (Gyau-Boakye & Dapaah-Siakwan, 1999). Figures about total supply facilities established in rural areas by the mid-1990s vary according to different sources between 8.600 and 9.000 (cf. Karikari, 1996; WSP, 2002), with a record of coverage with drinking water supplies in the northern regions of the Upper West and the Upper East, which was estimated to be even at 88% and at 60%, respectively (MWH & CWSA, 2004e). At the beginning of the 1990s, about 1.200 of those pumps were reported to have broken down due to the inability of the GWSC to maintain them. Reported rates of coverage dropped significantly throughout that decade. This was ascribed to Ghana's economic crisis of the 1980s, "coupled with the high transaction cost of the over-centralised management system of the GWSC..." (Bacho, 2001:191).

Compared to matters of urban water supply, rural water supply matters had been neglected by the GoG, assumably for reasons of political expediency. Out of the GWSC's staff of 4.500 in 1993, fewer than 50 were reported to have dealt with rural water although the corporation was responsible for maintaining 6.600 boreholes at the time (Karikari, 1996). The systems that were introduced into both rural and urban areas after Independence continued to be more or less dependent on imported technology. In spite of massive support from international donor organisations, performance of the GWSC suffered from the problems typical of public utility providers in developing countries: lack of funds and revenue, lack of accountability and poor management of both funds and supply systems. Supply under the auspices of the GWSC was notoriously insufficient, with unaccounted-for water constantly remaining at about 50% throughout the 1990s. In addition, neither the government-subsidised operations nor consumer tariffs were based on the costs of maintenance and spare parts replacement (Water Sector Restructuring Secretariat, 2002). Where there had been no financial obligations associated with water supply on the consumers' side, there was a perception that water was to be free or very cheap. Willingness to pay for water was reported to have been low. The maintenance of hand pumps by the communities was poor, and breakdowns were frequent.⁴ The GWSC had sometimes dismantled pumps, and often repairs had ceased because communities had failed to pay arrears. Consumers resorted to drinking water from unclean sources. The situation was aggravated because the maintenance of traditional water systems had been neglected after the introduction of hand pumps. Reportedly this even resulted in a resurgence of guinea worm epidemics in northern Ghana. Ultimately, a lack of community participation was considered as the cause of poor operation and maintenance and therefore sustainability of the water projects (Karikari, 1996). - "... rural water supply systems (had) failed for no combination of the technology with the social organization including variety of factors

⁴ According to the Water and Sanitation Program, as few as 40% of the hand pumps were working at any given time (WSP, 2002).

like wrong site location, social unacceptance, lack of incorporation of community resources, lack of sense of ownership, hence the unsustainability of the facilities provided" (Yanore, 1994:136).

2.2 Reforms of the 1990s

At the end of the International Drinking Water Supply and Sanitation Decade (1981-1990) of the United Nations the coverage achieved in the rural areas with water and sanitation facilities was still poor. A decision was taken to give a key role to the local government in promoting service provision in rural water supply. This decision was encouraged by the structural adjustment of Ghana's Economic Recovery Programme (1983-1993) and supported by a number of studies and consultative workshops with so-called stakeholders, i.e. "representatives from line ministries, local government, the private sector, NGOs, external support agencies and civil society" (WSP, 2002:3). The provision of water as an economic good was seen to be a task that could better be delivered by the private sector. The so-called "supply driven" provision of water facilities was to be abandoned (WSP, 2002). The demand-driven approach in water supply was to become an element of the decentralisation of government functions that had begun in the year 1988. In 1993 a new Local Government Act was promulgated which set the framework for the transfer of urban sanitation and public health activities to the District Assemblies (GoG, 1993b). A Community Water and Sanitation Division (CWSD) was set up within the GWSC in 1994. The CWSD was to implement the new policy in the framework of the National Community Water and Sanitation Programme (NCWSP), which had been designed by the Government of Ghana (GoG) with World Bank assistance in 1993. The World Bank (IDA) financed the "First Community Water and Sanitation Programme" (CWSP-1, 1994-1999); this programme operated in four regions of the country and succeeded to involve further internationally funded projects in a more comprehensive national programme (World Bank, 2000).

Further reform measures that concerned the water sector included the establishment of regulatory bodies by Acts of Parliament in 1997/1998: the Environmental Protection Agency (EPA) to regulate developments that affect the environment and to set standards for emissions and discharges, the Public Utilities Regulatory Commission (PURC) to regulate tariffs and activities of public utilities, and the Water Resources Commission (WRC) to regulate and manage the use of all water resources in the country by means of the Integrated Water Resources Management approach. World Bank/IMF efforts to reform the water sector in general and the sub-sector of water supply in particular were preparatory measures for the privatisation of the urban water sector by involving international actors. Because private sector participation (PSP) was to be an important part of the reform process, a Water Sector Restructuring Secretariat (WSRS) was created in 1997 to guide this participation. Small town water systems, most of which were operating below capacity or not at all under the management of the GWSC, were to be rehabilitated and to be transferred to community ownership. Reforms therefore included the institutional separation ("unbundling") of the urban operations on the one hand and the small urban and rural operations on the other hand (International Fact-Finding Mission, 2002a).⁵ Towards the end of the decade the separation was completed by the establishment of new national institutions and actors: further bills were drafted and passed as Acts of Parliament, which in 1998/1999 resulted in the establishment of the semi-autonomous Ghana

⁵ For an analysis of the process of establishing public-private partnerships in the sub-sector of urban water supply see Fuest and Haffner (submitted)

Water Company Ltd. (GWCL) as a successor to GWSC and the autonomous Community Water and Sanitation Agency (CWSA) succeeding the CWSD (World Bank, 2000). The CWSA was hosted by the Ministry of Works and Housing (MWH), it became the national agency in charge of the second phase of the National Community Water and Sanitation Programme (2000 - 2009).

The programme's general objective was the provision of improved water sources in rural areas and small towns. Technically, existing rural water facilities made up of drilled boreholes fitted with hand pumps and hand dug wells were rehabilitated, where necessary. The rural and small urban piped supply systems of the GWSC/GWCL were also rehabilitated. In both types of settings the supply systems were to be transferred from the GWSC/GWCL to "community ownership" and management. In general, a sustainable operations and maintenance system was to be established by donor grants for the construction of water and sanitation facilities, technical assistance and community capacity building "to plan, implement, operate, and maintain water and sanitation facilities in an effective and sustainable manner". The participation by private companies and NGOs "as providers of hardware and software services" was to be strengthened (World Bank, 2003a). Where new facilities were provided, several technology options, which were considered to be low-cost, were offered to the communities, which decided on their preferred service level based on ability or willingness to pay: protected hand-dug wells (with bucket and rope or with hand pump), boreholes fitted with mechanical hand pumps, and piped water supply systems with pumps powered by electricity.⁶

Right from the start of the NCWSP the formal and informal private sector were to be engaged in the provision of goods and services. Widespread coverage was to be ensured through comprehensive subsidies (90-95%) for investments in small-scale water supply infrastructure. The demand-driven approach included the selection of technologies and a clear commitment by communities (and in some project areas by DAs as well) to contribute 5 % each of the investment cost. There was to be a special focus on women, as both the users of water as well as planners, operators and managers of community level systems; and promotion of sanitation and hygiene education in the delivery of water were to take place simultaneously (MWH, 1999; WSP, 2002). Local participation (decision making processes, management of local water resources and service points) were to be promoted and guided by government agencies. The responsibilities of supply investment (contributions to investment costs) and maintenance were shifted to the communities themselves, as the management of systems should take place at the lowest appropriate level (principle of subsidiarity).

Under the new policy, infrastructure projects required a redefinition of institutional roles, the creation of new actors/organisations and strengthening of "community capacities". The policy maintained that sustainability and subsidiarity were to be achieved by forming management committees for new or rehabilitated water points and piped systems: Water and Sanitation Committees for point sources and Water and Sanitation Development Boards for piped systems that were serving settlements with populations of 5.000 to 20.000 (later this limit was extended, see below). Sustainability was also to be achieved by training of mechanics and pump caretakers and by various activities of capacity building among the new actors at all levels. All the types of pumps, which had been selected under the NCWSP policy, were imported from abroad. Therefore supply chains of goods such as spare parts were to be established along with the introduction of the facilities.

⁶ The CIDA funded Water Utilization Project (WUP), which was launched in 1978 in Northern Ghana, can be considered as a predecessor of the NCWSP. WUP emphasized the community participation in the management of hand pumps and developed a system of tariff collection. However, all this still took place in the framework of the GWSC. See (Osafo-Yeboah, 1998).

A crucial part of the reform process was the transfer of small urban supply systems from the GWSC/GWCL to the CWSD/CWSA for decentralised management. The reform of the water sector was linked to the national decentralisation policy that had taken off in 1988. The official strategy was geared towards decentralisation and devolution of power from the central government to the District Assemblies, which had been established as the highest political authorities in the then 110 districts of Ghana⁷. The District Assemblies (DAs) were by law in charge of developing basic infrastructure and management facilities; they were to assume a central role in supporting community management of water resources. They were to assume responsibilities for processing and prioritising community applications for water supplies, as well as awarding contracts for hand-dug wells. During the first phase of the NCWSP the CWSA was still considered to perform as implementing agent, which was manifested in its responsibility for the major contracting exercises. In the second phase policy documents emphasised that the CWSA was meant to assume the role of a facilitator. Implementation, including the responsibility for all contracting, was to be fully delegated to the districts and communities.

The major objective of the NCWSP was increasing the “coverage” of drinking water supply, i.e. the percentage of the rural population that had access to improved water sources. “Coverage” according to the NCWSP meant that communities with a population below 500 would be provided with hand-dug wells and communities with populations between 500-2000 with boreholes. Communities with populations over 5000 were to be supplied with piped systems (MWH, 2000:12-13). The NCWSP criteria of coverage were defined as follows: “Indicators of coverage are measured by a) provision of a minimum of 20 litres per capita per day to community members, b) all year round supply from each source, c) boreholes serve 300 persons and hand-dug wells 200 persons in a community, distance to water source equals or is less than 500 meters where possible and d) community management of water facility” (MWH & CWSA, 2003b:6). The NCWSP standards quoted by actors of the programme were not always consistent, however. E.g. for small urban piped systems, a water consumption of 20-45l/day/person was assumed, and hand-dug wells were to serve 150 people (ADF, 2003).

The quantitative objectives referring to the expansion of coverage of drinking water supply were ambitious at first but were reduced in the course of the years. Various programme-related documents from the years 1999 – 2003 refer to contemporary average coverage as being at 40 % viz. 41 % and 46% (UNDP, 1999; ADF, 2003b).

In the first phase (1994-1999), water supply coverage in rural areas was to be increased from about 30% to 83 % of the rural population by the year 2008. The 83% target coverage was to be achieved by means of 15.000 boreholes, 7.000 hand-dug wells, and 1.670 rural pipe schemes (ADF, 2003: 8). In the second phase (2000-2009) the coverage target was formulated to be at 85% by the year 2009, however, according to more recent planning the target year was shifted to 2015 (MWH & CWSA, 2004e). According to the “safe water and sanitation targets” of the Ghana Poverty Reduction Strategy (GPRS), ambitions became even more modest than previously: Between 2000 and 2005 the rural population with access to safe water was meant to rise from 40 % to only 54 % (GoG, 2003c).

In 1999, about 40% of the boreholes in the country were estimated to be between 15 and 35 years old (Gyau-Boakye & Dapaah-Siakwan, 1999). Since its inception, the NCWSP included a strong component of borehole rehabilitation.

From 1994 to 2000 a total of US\$ 160.000.000 had been disbursed in the form of loans and grants by the donor agencies. These contributed 90% to the programme, the GoG 3% (to the CWSA), the DAs 2%, and the beneficiary communities 5% (ProNet, 2001), for details see

⁷ The decentralisation process entailed a continuous reorganisation of administration areas. At the end of 2004 Ghana had about 128 districts, the process of political fragmentation seemed to be still going on.

annex). In 1999 it was estimated that a capital outlay of about 1 billion dollars was needed to achieve 100% rural coverage by means of groundwater supplies (Gyau-Boakye & Dapaah-Siakwan, 1999).

At the turn of the millennium, policies of the NCWSP were redirected in the process of the development of Ghana's Poverty Reduction Strategy (GPRS). In 2002 Ghana signed an agreement with a consortium of public creditors for the provision of debt relief in accordance with the terms of Ghana's decision point under the enhanced HIPC initiative. Eligibility for this debt relief program required three years of compliance with IMF and World Bank macroeconomic and structural adjustment policies. The GPRS was finalised in 2003 (Gyau-Boakye, 1999; GoG, 2003a). Under the GPRS, increasing access to potable water and sanitation were considered to be crucial to achieving health outcomes and sustained poverty reduction. There was to be a new focus on "acceleration of rural water provision, with emphasis on guinea worm endemic communities and regions that have least benefited from new investments in the past decade ...". The poverty orientation and the PSP policy were to be combined, which was reflected in the explicit intention to strengthen investments "in deprived regions ..., including public-private-NGO partnerships" (GoG, 2003c:112). The mission of the CWSA was redefined as ensuring equity in distribution by addressing the needs of deprived communities (MWH & CWSA, 2000).

3. Arenas, actors and institutions

Conceptually, the sub-sector of drinking water supply, is here considered as an "action arena", a term derived from sociology, which has also been used in the political sciences to organise research on institutions in development (Ostrom, 1999)⁸. Like "field" or "sector", an arena is conceptualised as being functionally specialized and ruled by institutions. However, it signifies both common purpose and relations of strategy and conflict.⁹ In addition, any functional division of social life into arenas, fields, sectors or spheres governed by varying normative systems ("institutions") needs to be matched by the important distinction of levels (individual groups, communities, societies, etc.). For institutions, level may be usefully operationalized as the range of formal jurisdiction of the political administrative framework. In Ghana, distinguishing the (legislative) national, district and local – or community - levels is a heuristically appropriate point of departure, because the regional administrative level seemed to be of minor importance compared to the district level in the ongoing process of decentralisation. However, given the complexity and variety of social and political phenomena, any particular set of distinctions is of course somewhat arbitrary (Scott, 2001:83).

It is impossible to recapitulate the vast proliferation of approaches to and schools of institutional analysis and the issues debated among them. However, there seems to be a widespread consensus to conceive institutions as written and unwritten rules that guide and constrain behaviour, thus facilitating to assess what others will do and giving individuals orientation and security in their social dealings. They may have regulating and ordering functions. Most theorists seem to have agreed on the emphasis of regulations, rules and norms to the exclusion of organisations including bodies corporate such as schools, churches or ministries – largely complying with North's famous definition: "Institutions are the rules of the game and organizations are the players" (North, 1990). The notion includes formal "law" and

⁸ Ostrom's "Institutional Analysis and Development Framework" (Ostrom, 1999) is a fairly differentiated model theoretically equipped to deal with complex situations characterised by legal pluralism, however, I disagree with Ostrom's assumptions about the predictability of decisions and behaviour.

⁹ For a discussion of these concepts see Scott (2001:143).

"policies", or "regimes", i.e. orders that are consciously developed in a process of collective unification, pursuing a common goal, as well as a wide range of regulations that constrain and enable human behaviour. Institutions operate at multiple levels of jurisdiction, from the world system to localized interpersonal relationships (Acheson, 1994; Scott, 2001; Ostrom, 1999).¹⁰

In the understanding of the author of this paper institutional analysis alone would not be sufficient to capture the issues at stake; it needs to be matched by an actor-oriented approach because "... there is a need for critical research to map out the mismatch between rhetoric and reality across macro, meso and micro realms, calling for explicit links to be made between water and power and politics" (Mehta, 2000:1, see also Steins, 2001). The concept of actor includes international, national and local individuals and organisations, i.e. collective actors. To the individual actor the capacity is attributed to process social experience and to devise ways of coping with life, even under the most extreme forms of constraints. "...development intervention models (or policy measures and rhetoric) become strategic weapons in the hands of those charged with promoting them. Yet the battle never ends, since all actors exercise some kind of 'power', leverage or room for manoeuvre, even those in highly subordinate positions" (Long, 2001:17).

Concerning the arena of the water sector in Ghana, the mere exercise of simply grasping them all as entities proved to be a complex challenge¹¹, not to mention their diversity according to their interests, interdependencies and to the perspective and context under consideration. In any arena of the development world, as well as in science, actors themselves construct categories of actors and assign relevance and meaning to them or not.

Notwithstanding considerable knowledge gaps, lists and categories of actors were formed and compared with comparative lists produced by Ghanaian actors in the course of the research process. The relationships between actors or actors' groups were discussed with various stakeholders (who constituted a section of those actors). This facilitated a) an overview of actors viz. categories of actors, and b) an assessment of socio-political relationships between institutions and actors of the sub-sector of drinking water supply. An overview of the (categories of) actors and institutions, some of which were created in the process of the implementation of the NCWSP, and their official roles in the "arena" of the NCWSP is given in the following sections. The diagram on the next page (adapted from (Fuest & Haffner, 2005) gives an impression of the categories of actors and institutions relevant in the arena.

3.1 Institutions

According to the definition given above, institutions impose restrictions on human behaviour by defining legal, moral, and cultural boundaries setting off – or attempting to set off – legitimate from illegitimate activities. In the framework of this study institutions comprise 'formal' as well as 'informal' regulations etc.: statutory laws and regulations, and national policy frameworks, including the NCWSP, local law or self-regulation by either explicit or implicit rules and norms, bye-laws of District Assemblies and of locally formed committees, and what has variously been referred to as "project law". Project law comprises procedures and prescriptions of bilateral and multilateral development agencies including normative targets, like poverty reduction and gender responsiveness, and regulations developed by project personnel (Benda-

¹⁰ In the sense of a "mental map" or ideology represented in political actors' minds (Denzau & North, 1994), which include the more or less explicit norms or convictions of those involved in the design of policies or projects, institutions may also be considered to constitute other institutions (policies) of another quality.

¹¹ See Fuest & Haffner (2005)

Beckmann, 1997; Weilenmann, 2004). Notwithstanding the conception of stability (providing security!) inherent in the concept of institutions, during the period under review some of the institutions developed considerably, which increased the complexity of co-existing laws and regulations. This situation is characterised by the concept of legal – or institutional - pluralism (Benda-Beckmann & Benda-Beckmann, 1997).

While this study attempts to give an overview of the relevant institutions, this attempt cannot claim to achieve more than an approximation to the complexities involved. It is impossible to know all the relevant normative, whether 'formal' or 'informal', frameworks and how they affect property and access of different user groups. In the following sections the most important institutions are listed.

The Structural Adjustment Programmes of the World Bank Group have been the driving force behind laws, policies and programmes in Ghana. For example, the decentralisation policy including the mandates of the DAs, the Community Water and Sanitation Agency Act (Act 564, 1998), which served to set up the CWSA and to specify its mandates (GoG, 1998), and the transfer of all small water systems and remaining sewerage systems to district assemblies were among the IMF loan conditionalities for Ghana's economic reform process.¹²

The Local Government Act of 1993 (GoG, 1993b) determined the range of financial support to District Assemblies. No less than 5% of total tax revenues of the government were to be reserved in the so-called District Assembly Common Fund and to be allocated to the DAs for development (Ayee, 1997a). The DACF is the largest single source of development funding for many districts.

At the heart of the NCWSP was the community – or "beneficiary" - contribution of 5% toward the capital cost of water facilities. In addition, some donor organisations like the World Bank and KfW expected that the DAs also contribute 5% to the capital costs.

Project laws can be explicit or implicit. They derive from the NCWSP policy on the one hand and from the donor agencies on the other hand; they include a wide range of formal regulations. Project laws were meant to regulate interactions within the projects implemented under the NCWSP such as procedures of contractors' selection, of disbursement and procurement, of reporting and the constitution of the Water and Sanitation Development Boards (WSDB). The conditional local organisations, the WSDBs and WATSANs, were in turn advised to set up bye-laws or constitutions to regulate their cooperation. They were encouraged to select female members at a rate of at least 30%.

While project law is considered to facilitate implementing the policy, a substantial part of it evolves from the centralised constraints to administration of the donor agencies. Such implicit regulations, e.g. timelines for reporting and disbursements of funds, are known to most national actors but usually not known or debated in public.

Within the donor community, there were parallel structures for disbursement and procurement. Disbursements could be made to a special account denominated in foreign currency in the Bank of Ghana that is managed by the CWSA or by direct payment to the DAs. Most donor funding was channelled through the district administration. According to official policy, the CWSA encouraged the DAs to make their own contracts with private firms. However, in some projects the CWSA was still the contracting party. The rule of the 5% community contribution to capital costs was not uniformly applied. - Policy documents, Project Manuals and technical guidelines were developed in the hope to establish standards to guide the

¹² <http://www.imf.org/external/np/pfp/1999/ghana/index.htm#IIIC> .

implementation of the second programme phase¹³. Notwithstanding such efforts by the CWSA and by some donor organisations to coordinate procedures, thus institutional (legal) pluralism ruled even within the domain of “project law”.

Encoded local laws affecting water allocation and use were dominated by local power-holders like the so-called *tindaama* (sing. *tindaana*), the spiritual authorities in charge of land allocation, or chiefs (quarter chiefs, village or town chiefs). Their range of decision-making power, however, varied by locations to a great extent. Particularly at the local level institutional pluralism has prevailed. Centrally established public laws, district or community bye-laws and various project laws have competed with local regulatory arrangements and were conveniently manipulated according to the interests of actors.¹⁴ However, we may assume that each group, whether by ethnic, district, settlement, quarter, clan or other identity, does have normative systems and some notion of right and wrong. Only, often they do not have a central institution to enforce what is perceived as right and sanction what is perceived as wrong. Furthermore, existing notions of right and wrong, of entitlement, inclusion and exclusion, are constantly contested. Therefore access to and ownership of resources is constantly negotiated, outcomes have been unpredictable, and arrangements have been temporary (Berry, 1989; Lentz, 2002).

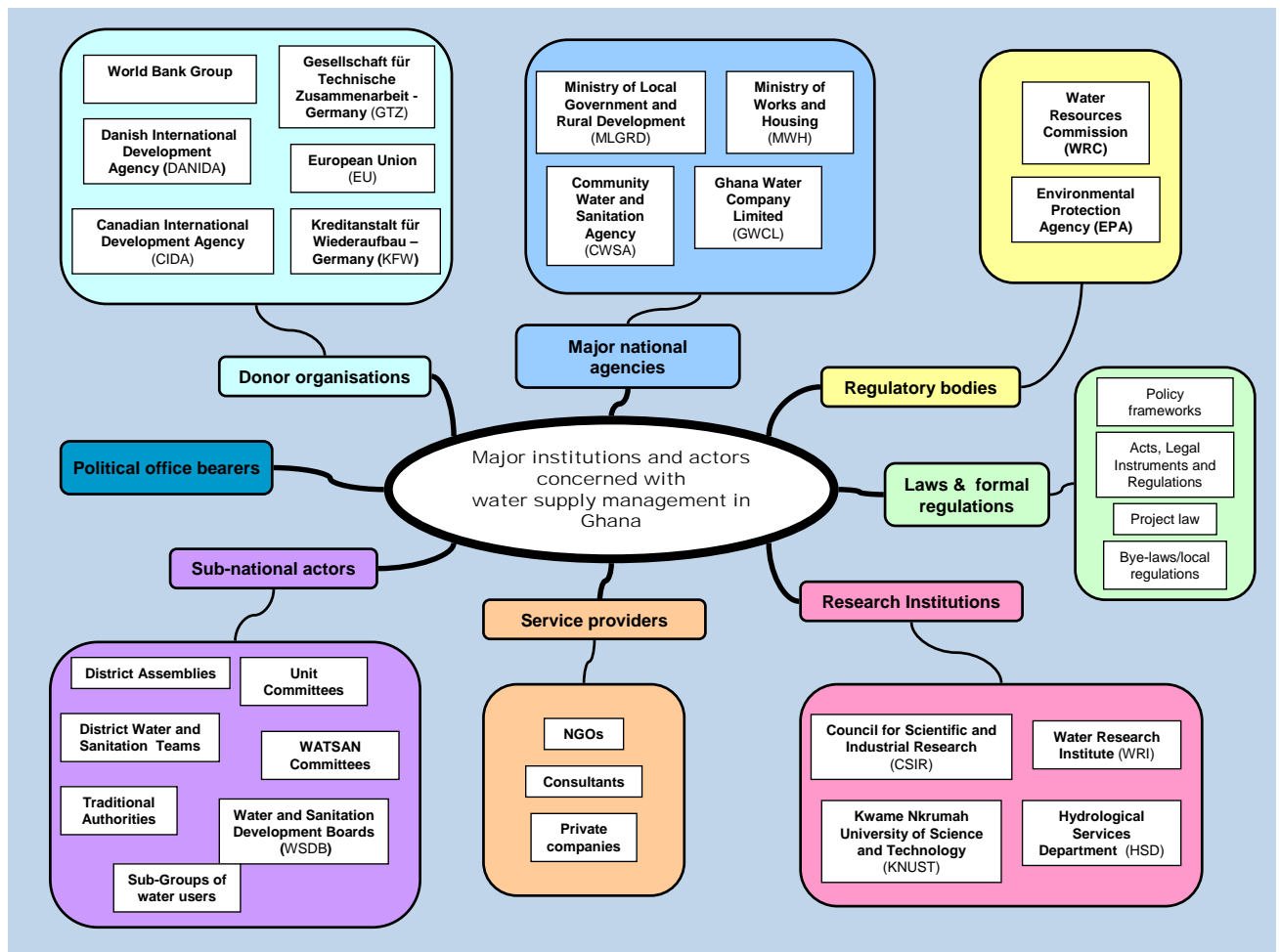
3.2 Overview of actors

The actors – variously referred to as “stakeholders” in the development literature - in the sub-sector are heuristically distinguished by their principal levels of institutional operation – international, national, district and local: international organisations, national bodies corporate, district level organisations as well as local authorities, and organizations, as well as the so-called beneficiaries, i.e. the water users. Activities in the water sector depended on donor organisations which included bi-lateral, multilateral and non-governmental aid organisations, on foreign and domestic private companies as well as on Ghanaian research institutes. Less conspicuously for outsiders, political parties and industrial companies were also performing a role. Mining companies would fund water supply facilities to the mining communities. The political parties composing the Parliament, competing for votes, donated infrastructure projects, including water supply, in their constituencies. Furthermore, the ruling party habitually appointed its own members for crucial positions within bodies corporate and organisations at all levels and was therefore capable of influencing decisions on resource allocation at all institutional levels. Few informants would have disputed the fact that party membership was crucial in determining the outcomes of struggles about resources at the district and local levels. – National Ministries, Departments and Agencies (MDAs), too, act on all levels and have regional and/or district offices.

¹³ Examples: Project Operational Manual, Programme Implementation Manual, Administrative Manual, Contract of Service Manual, Accounting Manual, Audit Manual, Procurement Manual, Corporate Plan, Specifications for construction of boreholes and hand-dug wells, policy guidelines and standards for small towns, etc.

¹⁴ Ongoing micro-level research by Wolfram Laube, Marlis Gensler, Irit Eguavoen and Eva Youkhana will provide detailed information about the water-related interactions of local institutions and authorities in rural and small urban environments in Ghana. Dissertations are expected to be forthcoming from various German science institutes: the University of Köln, the Max-Planck-Institute for Social Anthropology in Halle, and the University of Mainz.

Over view of actors and institutions in the sub-sector of potable water supply



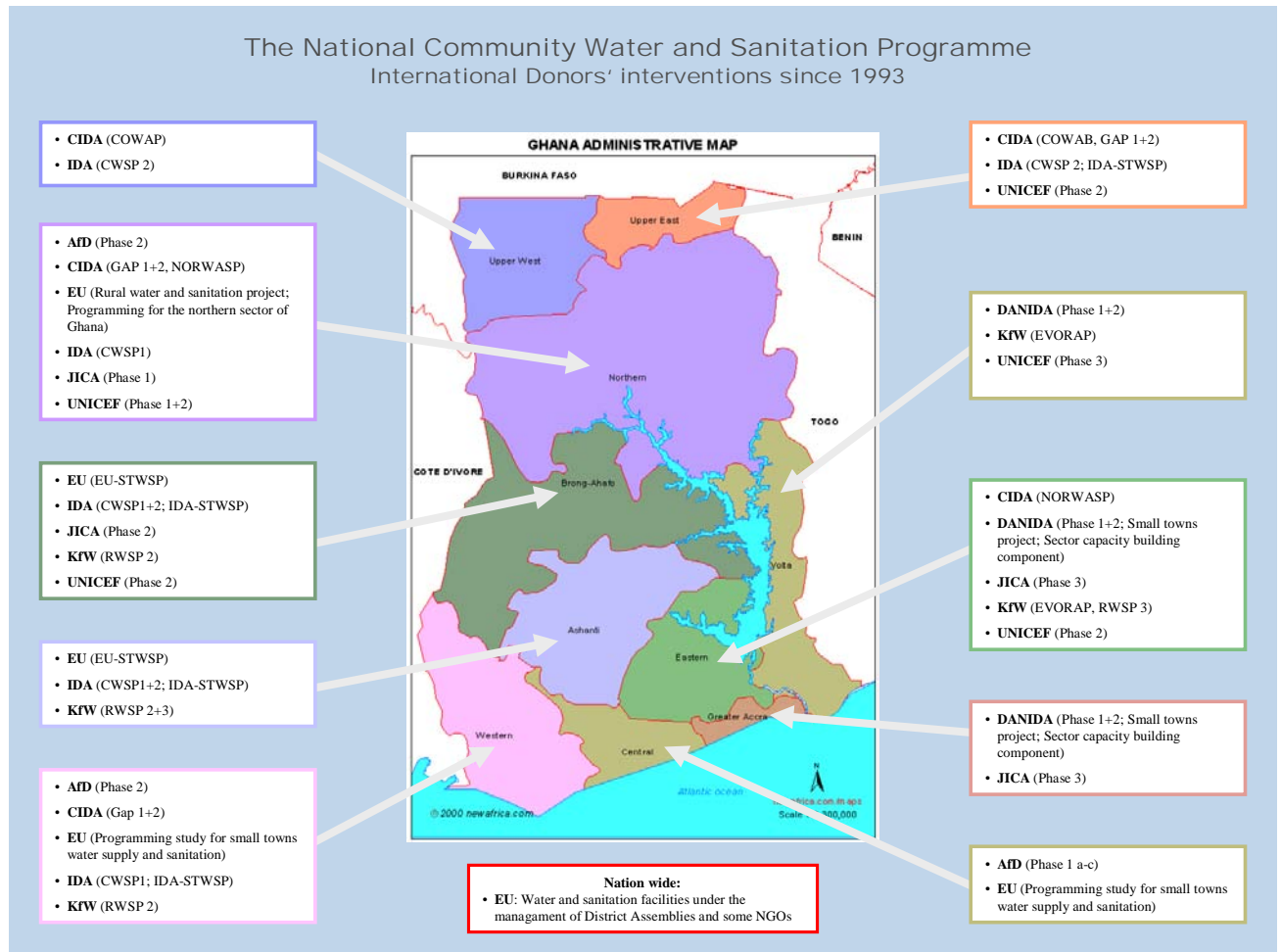
3.2.1 International actors

Ghana was widely applauded as an example of successful structural adjustment at the beginning of the 1990s (Foster & Zormelo, 2002). Characterised by relative political stability, the country has been frequented by numerous foreign development agencies involved in many of programmes and projects (see annex).

At the international level, the World Bank Group has to be considered as the initiator of the reforms in the Ghanaian water sector. Institutional and legal reforms prescribed by the World Bank played a key role in the design of the new framework of the water supply sub-sector. This included the unbundling of organisations concerned with rural and urban water supply, which resulted in the establishment of the GWCL and CWSA. In Ghana as elsewhere, macroeconomic and structural adjustment policies were enforced by loans and debt relief conditions including fiscal austerity with cutbacks to reduce budget deficits, privatisation, de-regulation and trade liberalisation. Concerning the water sector, since 1999 loans have been provided on conditions that contained increases in cost recovery, automatic tariff adjustments and private sector participation in the service sectors (International Fact-Finding Mission, 2002b). The World Bank implemented the NCWSP in collaboration with other potent donor organisations such as the Danish International Development Agency (DANIDA), Canadian International Development Agency (CIDA), European Commission (EC), the German Kreditanstalt für Wiederaufbau (KfW) in cooperation with the German Agency for Technical

Cooperation (GTZ), Japanese International Cooperation Agency (JICA), Agence Francaise de Développement (AFD), and others (see annex).¹⁵ Over the years, bit by bit the donor organisations had taken charge of projects supplying the ten administrative Regions of the country. Sometimes they would cooperate in one Region. With varying priorities, the World Bank, DANIDA, CIDA and KfW were considered to have been the “lead donors” contributing to the NCWSP over the period under review. Foreign support (excluding NGOs) is represented on the map.

Map: Activities of international donor agencies according to Regions



3.2.2 National actors

The most important national actors were the Ministry of Works and Housing (MWH), and the CWSA, the head office of which has also been based in the capital city of Accra. Moreover, there are information providers with a national radius of action that are usually also based in the capital city. Information concerning water quality, groundwater availability, socio-economic surveys etc. were provided to other national and also to international actors by various foreign and Ghanaian consultant firms, by university institutes or by research

¹⁵ Studies on various aspects of the NCWSP, which have been evaluated in this paper, were commissioned by the international donor agencies.

institutes of the Ghanaian Council for Scientific and Industrial Research. As a rule they would conduct studies by commissioned research (see also section 5.1.4.).

The MWH had been obliged to allocate 5 billion GHC per year (ca. US\$ 2.500.000 in 1997) to the sector. Out of this budget the salaries and the core operating costs of the CWSA were to be covered.

According to the NCWSP policy, the CWSA was responsible for monitoring the development strategy and technical assistance but delegated the practical application of the strategy to Regional Offices, as well as to district and community based organisations (District Water and Sanitation Teams, village based Water and Sanitation Committees and Water and Sanitation Development Boards). According to the Community Water and Sanitation Agency Act 564 (1998) the CWSA was to facilitate the provision of safe water and related sanitation services to rural communities and small towns. It was to support the District Assemblies to promote the sustainability of safe water supply and to enable them to "encourage the active involvement of the communities, especially the women, in the design, planning and construction and community management of projects...". The CWSA was to encourage private sector participation in the provision of safe water supply, provide DAs with technical assistance in the planning and execution of supply related projects, assist and coordinate with NGOs engaged in supply projects, and to prescribe standards and guidelines for safe water supply (GoG, 1998). By 2003 it was to coordinate the activities of the communities that had joined the programme and of the technical assistance firms/service providers (see below) involved in the 107 districts. It "strengthened networking with stakeholders at all levels" (MWH & CWSA, 2004b), which included facilitation of regional and national meetings and workshops with NGOs and donor agencies.

The CWSA entertained Regional Offices in each of the country's 10 administrative regions. They were to manage all investments by coordinating and integrating all the annual work-plans and budgets of all participating districts. In addition, Regional Water and Sanitation Teams were supported in the areas covered by the World Bank and DANIDA. The CWSA officers called meetings of DA representatives and other stakeholders to pass on policy information and/or they would attend DA meetings. In turn, DAs would apply to the regional offices for water supply services. While the CWSA contracted most service providers during the first phase of the NCWSP, ultimately the DAs were to become the contracting parties. The CWSA regional offices were to follow up on all completed projects and monitor the performance of the local Water and Sanitation Development Boards.

3.2.3 Non-governmental Organisations

The category of Non-governmental Organisations is quite heterogeneous. In the water sector a wide range of Non-governmental Organisations (NGOs) have performed both as national and local actors. According to an estimate of the MWH, there were more than 200 NGOs including international and district-based organisations involved in water and sanitation projects (Sarpomaa Fiscian, 2003). At the local level, NGOs were increasingly filling gaps in service provision. "While many NGOs were initially highly critical of the State and mainstream development policies they are increasingly working in collaboration with local government structures." Growing numbers of NGOs were competing for funds¹⁶, which

¹⁶ According to the daily Ghanaian Chronicle, in 2004 there were 10,000 Registered NGOs in the Volta Region alone (Ghanaian Chronicle, March 29, 2004).

forced them to be more competitive and to ensure that their programmes fit the overall development objectives of districts and the State. Donors often made the complementarity of NGO programmes with district and state development programmes a condition for grants. This process affected above all the small and middle level NGOs. Only "the larger Northern NGOs with strong independent sources of finances and perhaps a commitment to more global agendas, such as global environmentalism, ... can afford to maintain independence from local government administration" (Amanor & Annan, 1999: 2). In consequence, the NGOs were basically assuming two roles in the sub-sector of water supply and sanitation. Where they performed as donor organisations in their own right, providing infrastructure etc. like the international and national organisations, they tended to pursue their own agendas that in some cases diverted from the national policy (ProNet, 2001). The NGOs employed by the CWSA at the local level generally complied – albeit hesitantly (see section 5.1.3.) - with the national policies. As "software consultants" they were, above all, charged with tasks such as community mobilisation, training, hygiene education, monitoring and evaluation. More experienced NGOs were engaged to train less experienced NGOs who then in turn trained community-based organisations (Example: Professional Network Associates in the service of WaterAid).¹⁷

3.2.4 District level actors

The District Assemblies (DAs) formed the local government in the over 110 districts (new districts were in the process of being created in 2003/2004), supervised by the Ministry of Local Government and Rural Development (MLGRD). DAs were constituted by a mix of 70% elected and 30% appointed assembly members. They were charged with the preparation, formulation and implementation of annual development plans, budgets and strategies for the mobilisation of resources necessary for the overall development of the district, including provision of basic infrastructure. DAs were generally charged with selecting beneficiary communities, and contracting the private sector to provide the goods and services for the implementation of water programmes. They were to receive and vet applications from communities, and pre-select and prioritise them for projects as and when funds became available. District Assemblies were the legal owners of the small town piped systems which were transferred to them from the GWCL in 1999. They had regulatory responsibility and were legally entitled to make bye-laws "for the purpose of any function conferred upon it by or under this Act or any other enactment" (GoG, 1993a:37). Under the NCWSP they were encouraged to pass bye-laws pertaining to the regulation of water supply and sanitation issues. They were supposed to monitor systems of operation and maintenance in terms of financial, technical and administrative performance, to periodically audit the accounts of the Water and Sanitation Development Boards, and to review and approve of the community tariffs. Furthermore, they had to let and manage contracts at the district level to consultants and contractors. In projects first funded by the World Bank (CWSP-1) and later by the German Kreditanstalt für Wiederaufbau (KfW), too, DAs were expected to pay 5% of

¹⁷ Some observers stressed that the rapid proliferation of NGOs in general would have required linkages and coordination to ensure that projects and programmes were not duplicated and would not compete with one another (Amanor & Annan 1999). The Coalition of NGOs in the Water and Sanitation Sector and the Association of Water and Sanitation Development Boards can be considered as appropriate efforts in that direction. However, their sustainability and general impact needs to be questioned as they were donor-dependent organisations based in the north of Ghana, established on account of interventions by WaterAid and CIDA, respectively.

capital cost contribution for community water and sanitation sub-projects, in addition to the communities' contribution, before funds were released for the water infrastructure. – With the decentralisation of authority and responsibility for the planning and delivery of social services to the district level, DAs were being restructured for their new role. Donor organisations were supporting capacity building at the district level by various projects.

Under the NCWSP the DAs were encouraged to form 3-member teams, the District Water and Sanitation Teams (DWSTs), as part of their administrative structure. At least one of the members was to be female. DWSTs were supposed to be in charge of water and sanitation issues at the district level. They were trained and promoted by the CWSA's Regional Offices.

Ministries, Departments and Agencies (MDAs) co-existed with the DAs; they still constituted the highest legislative authorities in the local areas, notwithstanding the new roles that the DAs were to adopt. They did in fact give out contracts and oversaw the operation and maintenance of their projects. As illustrated below, they were constituting a particular group of water consumers.

3.2.4 Actors at the local level

One of the conditionalities of funding under the NCWSP was the establishment of new types of local organisations: Water and Sanitation Committees (WATSANs) for the management of point sources and Water and Sanitation Development Boards (WSDBs) for the management of piped systems (usually small towns). Both types of organisation were, ideally, gender-balanced, elected committees with the tasks of preparing plans for provision of improved water supply and sanitation facilities and mobilising funds to pay the share of capital cost contributions of their communities. The members of the WSDBs were supposed to include representatives from all local WATSANs in their ranks. Both types of organisations were mandated to represent the communities' aspirations and interest during sub-projects' planning and implementation. They were to set the tariffs and procedures of application and enforcement such as connection fees and sanctions, to maintain financial records for O&M and provide records to DAs and CWSA for inspection, and to present reports on the management of their water supply system to the entire community/town. Furthermore, they were to oversee household latrine maintenance and hygiene promotion. WATSANs and WSDBs were formed and trained by DWSTs or by NGOs working in the service of the CWSA to operate and maintain the infrastructure, to create the necessary revenue to cater for repairs and the procurement of spare parts, to develop a constitution and to open bank accounts.

Private contractors, so-called "hardware" consultants, included engineering, drilling and building companies involved in technical design and construction of civil works. Tasks included geo-ecological site selection, construction of small dam reservoirs, water supply and sanitation facilities comprising electrical/mechanical installations and repairs. In the case of small urban areas billing and collection as well as water quality monitoring could in theory also be "outsourced" to private contractors. After expressions of interest in the newspapers, companies would submit their tenders, and the towns could contact them. According to the principle of competitive bidding, the lowest bidder won the contract (Welle 2001:11). - In 2003 about 90 so-called partner organisations, i.e. NGOs, and technical assistance firms, were reported to be in the service of the NCWSP (ADF, 2003b).

Suppliers and dealers obtained and sold the materials and (spare) parts needed. Spare parts dealers were supposed to provide their services at competitive market prices. Area mechanics were trained by CWSA contractors to provide regular service and repair of hand pumps. Private mechanics, too, were supposed to provide their services at competitive market prices. Pump caretakers were trained by CWSA contractors to oversee the correct use of the hand pumps and its preventive maintenance on a commercial basis.

According to the NCWSP policy, water users were distinguished according to the dimensions of gender and, due to the PRSP process, later also of poverty. Other social sub-sections, e.g. migrants and settlers, were not considered.

The communities¹⁸ were expected to voice their development needs to the DA through their Assembly Members, and to contribute finances, labour and other resources to development projects. DAs, contractors and consultants were expected to include the communities in participatory planning and to ensure that communities were adequately informed and were made responsible for decisions made on standpipe positions and possible pipe routing, selection of water sources, preliminary design layout, management option, etc. The communities were further supposed to secure land rights for water supply projects and, later on, to prepare Facilities and Management Plans with the assistance of CWSA consultants (MWH & CWSA, 2003d).

Access to water resources was traditionally associated with access to land, which was regulated by traditional authorities: *tindaama* in the north and holders of Stool rights in the south as well as by Chiefs (town/village chiefs, sub-chiefs, section heads, clan heads) supported by the Elders/council of elders. Although these authorities commanded no formal political authority, they had power to influence or even determine decisions regarding the management of natural resources at the local level. Family and land disputes as well as development issues would also be dealt with by the chief and elders (Opoku-Agyemang, 2001; MWH, 2004a).

Further local power holders were the members of the District Assemblies (Assembly man/woman) and the Unit Committees. Unit Committees were first elected in 1998, as bodies that were to constitute the lowest level of the local government. They were conceived to serve a population of 500-1.000 in the rural areas and a population of up to 1.500 inhabitants for the urban areas.¹⁹

4. Outcomes

At the turn of the millennium the outcomes of the NCWSP were considered to be clearly beneficial. "Generally, most communities recognise the serious inadequacies of traditional sources of water and would like to become part of the CWSP" (Mensah, 1999:10). This is corroborated by the significant increase in demand for boreholes and piped systems as reflected in the reports of the CWSA (MWH & CWSA, 2004b; MWH & CWSA, 2003b; MWH &

¹⁸ "'Community' means a group of households who refer to their settlement by the same name; 'community management' means the management by one or more communities or sections of these communities of their safe water supply and related sanitation facilities including ownership, planning, operation and maintenance and collection of revenues to pay recurrent costs" (GoG, 1998):9).

¹⁹ Under the decentralisation programme, the Unit Committees were supposed to perform specific roles, i.e. education, organisation of communal labour, revenue-raising, and registration of births and deaths. In theory, proposals from Unit Committees could contribute to the development plans of the DAs. However, local participation was hardly put into practice, see Owusu (2004) and section 5.2.

CWSA, 2003b). According to Mensah only extremely poor communities would find it difficult to meet the conditions of the NCWSP, and evidence of livelihood improvements was mentioned such as drastic reduction in diseases like guinea worm infestation, improvement of personal cleanliness, increase in school attendance of children. Furthermore, teachers were said to be more willing to accept postings into rural areas (Mensah, 1999:19). Although no data were available to support the claim concerning latter socio-economic outcomes, the reduction in guinea worm infections was confirmed (Osafo-Yeboah, 2004). And it was generally reasonable to assume that, by means of the sheer numbers of rehabilitated and constructed water supply points and systems, the NCWSP succeeded to improve the supply of potable water in many Ghanaian communities and to ease the labour burden of many women and children at least in a medium-term perspective. In many locations the distance to the water facility had improved, the time spent to fetch water was reduced (MWH, 2004a). All national and international actors would have agreed: "the impact has already been positive and has markedly increased the water coverage and sector capacity during the past ten years" (ADF, 2003b:1; ProNet, 2001).

4.1 Project statistics

"We have 16.000 boreholes now – but where are we?"
(an officer of the CWSA, January 2004)

How can the progress or even the "success" of the NCWSP be assessed more precisely? Statistics about quantitative indicators are generally considered to be a condition sine qua non for monitoring progress in any development project or programme.²⁰ Here outcomes are presented in terms of quantitative performance indicators:

The NCWSP's activities spread fast. By the end of 1998 the CWSD was reported to be already "operational" in 82 out of the 110 districts: It had been active in mobilising communities, education and capacity building, and the formation of WATSAN committees (MWH, 1999:2-3). At the end of 2002, CWSA reported to be operating in 107 districts, with the three metropolitan districts of Ghana being outside the scope of the NCWSP (MWH & CWSA, 2003b:13). All of Ghana's ten regions were included in the NCWSP by the year 2003.

According to the African Development Fund, in 2003 total infrastructure delivery achievements comprised about 16.000 point sources fitted with hand pumps (ADF, 2003:16). The CWSA and MWH employ figures about infrastructure delivery/rehabilitation and the formation and training of WATSANs and WSDBs to measure outcomes in relation to the quantitative targets. For indicator measuring, the frame of reference was set by Strategic Investment Plans (SIP), which the CWSA developed in cooperation with various stakeholders in 1993, 1998 and 2003. The SIP of 1998 set the programme delivery targets for the years 1999 to 2003, totalling 5.273 new boreholes, rehabilitation of 2.969 boreholes, new HDW 2.622, rehabilitation of 798 HDW, 188 small community pipe systems, 143 small town piped systems, conversions of 1.935 systems, serving altogether 3.239 communities (MWH & CWSA, 2002a).

²⁰ Molle and Mollinga (2003) have convincingly discussed the political function of indicators in terms of simplifications in policy processes as well as of scientific and institutional legitimization in the development business of the water sector.

4.1.1 Dynamic indicators

The physical progress of the NCWSP can be roughly traced over the years by these (albeit sometimes inconsistent) figures (“dynamic indicators” in NCWSP discourse) given in the project reports:

1. facilities (hand –dug wells, boreholes fitted with hand pumps, piped schemes) delivered or rehabilitated,
2. new organisations established and trained,
3. new organisations and commercial actors trained (such as hand dug wells contractors, area mechanics, pump caretakers etc.), and
4. the numbers of small urban and rural piped systems converted to community ownership.

Facilities delivered/rehabilitated: Between 1994 and 2003 physical achievements of the NCWSP comprised, according to CWSA statistics:

Table 1: Infrastructure achievements of the NCWSP 1994-2003

type of water supply system	achievements in delivery
new boreholes	5.410
new hand-dug wells	1.259
new pipe systems in small communities	255
new pipe systems in small towns	198
rehabilitation of GWCL pipe systems and conversion to community management	4.189
rehabilitation of boreholes	3.205
rehabilitation of hand-dug wells	72

(adapted from: MWH & CWSA, 2004b)

In 1998, about 11.500 boreholes had reportedly been drilled throughout the country, most of them with the assistance of NGOs and CIDA, and about 6.000 HDW had been constructed (Gyau-Boakye, 1999:191). This figure seems to include sources that were provided outside or before the NCWSP.

From 1994 to 1997 achievements generally exceeded the targets, which the CWSA attributed to the modest approach to target setting in the first Strategic Investment Plan of 1993 (MWH & CWSA, 2004e). Viewed in a larger timeframe (between 1994 and 2001), however, the achievement rates for new boreholes were reported to be below 50%, while HDW achievement rates were higher than the targets. In 2001 and 2002, there was a sharp decline which was, according to the CWSA, due to cuts in donor support. The demand for new HDW was said to be declining due their non-reliability during the rainy season, which was reflected in the percentage of target delivery achieved (about 30%). By 2003 the rehabilitation of HDW had been stopped (MWH & CWSA, 2004b; MWH & CWSA, 2003b).

The demand for boreholes as well as for small town piped systems was reported to be on the rise throughout the years under review; they even exceeded the projected targets. For example, performance in terms of small town systems delivered was reported to be at 130% in 2000, 630% in 2001, and 125% in 2002 (MWH & CWSA, 2004b; MWH & CWSA, 2003b). According to the CWSA, "the performance levels reflect the trend in community demand given the changing socio-economic environment. The general trend to which the CWSA is responding is a decline in demand for point sources and an increase in demand for piped schemes" (MWH & CWSA, 2004b:11).

In 2004 the consumption of water was reported to have dropped drastically. 20 to 35 litres had been defined as a need on average, but, according to reported CWSA results, only 10 to 12 litres were consumed per person. This would support the findings about differential abstraction or use of improved water by various user groups which are presented below (see section 4.2.).

Organisations (actors) established/trained: The data of the CWSA do not provide disaggregation of its activities by the establishment and the training of new organisations. It is not possible to trace the frequency of trainings given to the actors involved by available reports. By 2000, training "for the implementation and sustenance of the Programme" had been given to 100 hand dug wells contractors, 200 area mechanics, and 3.000 pump caretakers (GoG/MWH, 2000). From 1994 to 2002 capacity building activities in 107 districts were reported to have addressed 11.018 communities, 11.215 WATSANs, 181 WSDBs, 573 HDW contractors, 895 area mechanics, 14.586 pump caretakers (MWH & CWSA, 2003b:12).

Table 2: Achievements in capacity building 1994-2003

Actors	Totals of training / establishment
communities in programme	12.622
WATSANs established and trained	13.173
WSDBs established and trained	269
HDW constructors contracted and trained	679
area mechanics trained	988
pump caretakers trained	15.828

(adapted from: MWH & CWSA, 2004b)

Systems converted to community ownership: By the year 2001, 105 small urban supply systems had been transferred to the CWSA/DAs. At the beginning of 2004, figures given of small towns served under the NCWSP varied, between 285 and 321. The initial rule of targeting the towns with populations below 20.000 inhabitants was changed in response to the demand for the services of the NCWSP by larger communities. In 2003 the CWSA released a Small Towns Water and Sanitation Policy (MWH & CWSA, 2003d) which defined "small towns" as communities of between 2.000 and 50.000 population and divided them by four categories according to the following populations (forming the bases for establishing per capita consumption for design):

- I 2.000 – 5.000
- II 5.001 – 15.000
- III 15.001 – 30.000
- IV 30.001 – 50.000.

Twenty-four small towns were said to have opted out by themselves, because, according to one informant from the CWSA, “they did not want to be managed by Ghana Water Company anymore” (so GWCL had only 76 left in 2004). The new owners generally preferred to manage the facilities themselves. In compliance with consultants’ recommendations, however, the CWSA was encouraging six of the larger towns (with over 12.000 inhabitants) to integrate private operators for the operation and management of their water supply systems. Out of these two communities had already opted for a Private Sector Participation (see section 5.3.6.) to run their systems. The outcomes of these developments deserve further study.

In 2002, the annual targets for the rural areas were far from being reached. In particular, small communities’ achievement rates were below 20%. This low level of achievement was said to reflect the problems of disbursement of GoG funds and a decline in donor support as well as a trend in community demand in favour of piped systems (see below). The inability to achieve the targets for community piped systems, capacity building of WATSANs and WSDBs in 2002 “... was due to a combination of factors namely, inability of beneficiary communities to raise the capital cost, poor sensitisation of communities, and failure of some projects to fulfil their investment commitments in good time” (MWH & CWSA, 2003b:5).

4.1.2 Discussion

Concerning the coverage figures and “dynamic indicators” given by the CWSA three questions arise: How reliable are those figures? What do quantitative progress indicators tell us in terms of actual water consumption from the improved sources? And what do they tell us in terms of sustainability of the management of those water resources?

Available statistics for water supply in Ghana have a certain degree of variation. Reliable statistical evidence of coverage was apparently hard to produce in view of the enormous scope of activities paired with capacity constraints from which not only the CWSA but also the donor agencies were suffering (see section 5.1.). A comparative review of the documents suggests that the figures provided by the national actors need to be treated with some caution. Data about the dynamic indicators were collected by the ten Regional Offices of the CWSA, and the DWSTs. The CWSA itself stated:

“With the large number of teams involved in the collection of data, there has been some concern about differing standards in the data collection exercise. The possibility that some individuals could be tempted to manipulate the information in the hope of enhancing the chances of their communities in the competition for the provision of facilities cannot be denied” (MWH & CWSA, 2004e:26)

The figures provided in the reports by CWSA or MWH were sometimes incoherent or even contradictory. Generally, available figures were hard to compare because either they were at confusing variance or they referred to differential time periods. To give two examples: By 1998, according to the Ministry 2177 boreholes and 2612 HDW had been

constructed (MWH, 1999:2-3). One year later another report indicated that the programme had achieved 1500 boreholes, fitted with pumps, 2.500 rehabilitated boreholes, 500 hand-dug wells (MWH, 2000) :14-16). - Reports differed, too, in regard of their assessments concerning the share of communities that had effectively raised the beneficiary capital contributions as demanded (see section 5.3.2.).

Both in rural and urban areas Ghanaian citizens are very mobile. There was considerable seasonal labour migration as well as rural-urban migration, which could probably confound any census figures within months. The population figures employed by the CWSA to form categories of communities, which were to be served in different ways, were derived from the old and certainly outdated census; more recent community data of the last census, which had been conducted in the year 2000, could not be used in the new SIP as they had not yet been published (MWH & CWSA, 2004e). Any demarcation of communities and towns according to those data thus appears to have been quite arbitrary. In a similar vein, taking account of the criteria of coverage (boreholes serving 300, hand-dug wells 200 persons, see section 2.2.) would theoretically have required uninterrupted monitoring of changes of household sizes, settlements and migration in every community. This was of course impossible to achieve.

One informant from the donor community commented on CWSA's inconsistent statistics as follows: "One wonders if we are operating in a virtual world. We know nothing. There are absolutely no reliable figures." Available evidence suggests that the CWSA was in fact incapable to generate consistent figures.

In 1999, the Ministry admitted in one of its documents that there were no reliable figures on drinking water supply in the nation (MWH, 1999:3). However, the CWSA and the international donor organisations somehow (by implicit consensus?) seem to have agreed to assuming a figure of 40% viz. 41% coverage among the rural population as their basis of planning (MWH & CWSA, 2003b; MWH, 2001; MWH & CWSA, 2002a; MWH & CWSA, 2002b; CWSA, 2003). The 40% coverage for drinking water supply was also assumed in Ghana's Poverty Reduction Strategy Paper (GoG, 2003c).²¹

Results from two surveys turned out to be at striking variance with the coverage figure of 40/41 percent. According to a cross-district survey (involving 8 districts) commissioned by the World Bank the NCWSP seems to have been more successful: Access to improved water was reported to be generally high, ranging from 94 to 100 %. According to the WB findings, 95 % of the non-poor and 86 % of the poor would drink improved water (World Bank, 2003b). A more positive outcome was also suggested by results from a survey conducted by the GLOWA Volta project in the Volta River Basin. In 2001, 71% of the households interviewed indicated they had access to improved water by the coverage criteria of the NCWSP (Engel et al., 2003). It is uncertain if the results of these surveys can actually be considered to be representative of the country.

Apart from doubts about the validity of the indicators mentioned, the figures presented contain no information about the effectiveness and sustainability of the measures taken. Other evaluation studies that had been commissioned by various donor organisations suggest that substantial difficulties in reaching the targets of the NCWSP were encountered - not in terms of numerical "coverage" but rather in terms of access and use by beneficiaries'

²¹ In the process of evaluating the documents relating to the NCWSP one is reminded of Rottenburg's (2002) analysis of the peculiar patterns of generation and recycling of information in project documents as they pass through the hands of a variety of actors in the development business.

subgroups and the capacity of communities to manage the resources in a sustainable way²². Ten years after the NCWSP had started one study even concluded:

“The demand-driven approach dominates the water service delivery sector. The result is a uniform national level policy on service delivery which guides implementation of GoG and donor initiatives through CWSA in the regions. This study demonstrates that the key premises and rationale backing this policy do not hold true on the ground” (MWH, 2004:48).

As elaborated below, there seem to have been unresolved issues of equitable access and use, and the sustainability of the facilities was at risk for economic, institutional and ecological reasons.

Further quantitative and qualitative outcomes and constraints are presented in the following sections, based on interviews and evaluation of available sources. However, one has to be cautious about pushing both the primary and the secondary data too far. Ghana's regions, districts and communities are heterogeneous by economic, social, ethnic, religious etc. criteria. We can rightfully assume that local responses to the NCWSP were quite diverse. The ensuing generalisations are tentative considering the sheer size of the NCWSP, the complexity of actors and factors and the limited time for the research.

4.2 Beneficiaries and participation

Locally given access to improved water sources did not necessarily result in an improvement of water service for all on the household level. A significant, albeit indefinite, part of the consumers still relied heavily on alternative, non-improved water sources, such as rivers, ponds or rainfall, including unsafe water sources for drinking and cooking. According to a survey conducted in the framework of the GLOWA Volta Project, 43 % of households still used unimproved sources of water as their major supply sources (Engel et al., 2003)., whereas, according to a World Bank study, 30 % of the poor and 24 % of the non-poor continued to use unimproved sources. Those who used them gave reasons of availability, taste and colour (World Bank, 2003b). The importance of the taste of water tapped through boreholes for consumers' acceptance of a facility was supported by (Engel et al., 2003). The salty taste or the tasteless nature of groundwater was reported to have been a serious disincentive to communities (see Bacho, 2001:97). Further disincentives were pollution by iron, manganese and other chemicals (see section 5.3.4.).

Participation, ownership and access need to be considered in terms of both in inter- and intra-community relations and institutions. There seem to have been a considerable variation in the 'local logics' and criteria for the selection of committee members, procedures of raising capital contributions and levying, mechanisms to avoid exclusion of the poor as well as imposing sanctions.

4.2.1 Ownership and access

An inevitable implication of any devolution and the demand-driven approach is enhancement of community and district participation in planning and decision making. The key to sustainability of facilities has been considered to lie in the community's perception of

²² See (World Bank, 2000; ADF, 2003a; Sarpong Manu, 2001; Engel et al., 2003; CIDA & CWSA, 2003d; CWSA, 2002; ProNet, 2001; MWH, 2004a; ADF, 2003b).

ownership of the facilities, in the acceptance of their organisations as representative bodies managing the facility, and the functionality/effectiveness of the community tariff system (MWH, 2004a).

In theory, participation in information flows and in decision-taking is commonly required to develop feelings of ownership and a sense of responsibility. According to a survey about the effects of the NCWSP commissioned by the World Bank, both men (90%) and women (87%) said they were well informed about the capital costs and the costs involved in O&M associated with each technology option. Approximately two-thirds said two or more options were explained to them. About 95 % of all groups felt that the community took the decision about the installation of a water facility, while three-fourths said that “the community” decided on the technical option. Satisfaction with location was reported to be at 93% for poor households and at 88 % for non-poor households (World Bank, 2003b). Evidence from other studies, however, suggests that participation was not quite as positive as the study has claimed. Only 60 percent of the respondents included in a study conducted in the south of Ghana stated that the WATSAN was keeping them well informed about the processes involved in the management of the water facilities (MWH, 2004a).

Generally, Bacho’s study of six communities (Bacho, 2001), which had taken over the GWSC water management systems, seems to support the theoretical position that property rights, here the clear procedure of acquiring communal property rights, enhance a sense of ownership. The effect of ownership was tentatively corroborated by the findings of a CWSA evaluation, according to which in rural areas the payment of capital cost contributions correlated weakly with the effective O&M of the facilities. However, there did not appear to be a similar correlation between capital cost contribution and appropriate operation and maintenance in the cases of small town systems (CWSA, 2002). Another study reported that, concerning point sources, communities had taken a very strong sense of ownership and responsibility for the facilities provided, irrespective of their capacity of raising the required capital cost contributions. Communities were observed to see the responsibility for repairs as a more appropriate form of community contribution than the upfront payment for any percentage of the investment cost (MWH, 2004a).

Conceptions concerning the ownership of piped systems in small towns seemed to be more vague and negotiable – depending on the context, the DAs, the communities or their chiefs were conceived to be the owners. Claims to ownership could vary according to the origins of the capital cost contributions. Where DAs had supported the communities to mobilise or even fully paid the 5% contribution they perceived themselves as owners, with WSDBs holding the systems in trust for the DA. Arguments in favour of community ownership were also based on the 5% contribution; however, the question that followed was that if the systems belonged to the community, then the chiefs, as custodians, would be entitled to claim them in the future. This institutional gap was perceived to harbour trouble and in the future was expected to lead to claims and counter-claims for the systems between the DAs and the WSDBs (MWH & CWSA, 2004c).

It would be important to grasp the local logics of establishing “ownership” and use rights concerning new items of communal infrastructure. In cases from northern Ghana where capital had to be raised to pay for outstanding GWSC debts before ownership was handed over, some communities mobilised communal labour on community rice or groundnut farms, and every member was expected to participate when his/her turn would come. Use rights could obviously be claimed on account of factors other than capital or labour contributions. E.g. the physical presence at communal events was reported to have been highly valued:

“The weak and elderly also go and sit around and sometimes contribute to the singing and music that accompany the work to motivate those working. By this gesture, the old and weak also justify their participation, and therefore, entitlement to the use of the water” (Bacho, 2001:159).

4.2.2 Impact in terms of poverty and gender

From the outset, and supported by CIDA in particular, the NCWSP had insisted on gender relevance. Poverty relevance (or “responsiveness”) was assumed to be implied in the efforts of the NCWSP. Since the turn of the millennium, the targeting of poverty areas was increasingly emphasised in the course of the preparation of the Poverty Reduction Strategy Paper. The World Bank survey mentioned above (World Bank, 2003b) covered 8 districts, the data were disaggregated by gender as well as by poor and non-poor users. The results were as follows:

Financial participation was strong across groups, and there seemed to be a high consensus about that participation. From 88% of the poor households to 96 % of the non-poor households contributed capital costs, even 87 % of the poor female-headed households. Most households were contributing to operation and maintenance (85 % of the poor and non-poor): out of the poor, 92 % of the female-headed households contributed, as opposed to the poor, male-headed households, of which 84 % contributed. Payment for water was considered to be “a good idea” by 93-94 % of the male-headed households, while 79-83 % of the female-headed households thought so, most frequently (over 80%) because payment was perceived to involve sustainability. “There were no large differences between various groups concerning access to information and involvement in decision-making, except for one issue: knowledge of the community’s contribution to capital costs. Men were better informed than women (93% vs. 75 %). And poor men were less informed than non-poor men (73 % vs. 92%) (World Bank, 2003b).

A careful interpretation of further available evidence concerning these two social variables is presented in the following sections. The rosy picture painted by this World Bank publication is tainted in some places. There is some clear evidence of differential access to improved sources of water both between and within communities, and of differential participation in decision making processes.

4.2.2.1 Poverty

By explicit or implicit assumption, the promotion of potable water supply as such has been considered to contribute to the reduction of poverty (GoG & MWH, 1999; GoG, 2003c). While the NCWSP promoted the representation of women in the new organisations, neither in the WATSANs nor in the WSDBs, institutional provision (by project law) had been made for the representation of poor community sub-sets. Only ten years after the NCWSP had been devised, systematic studies were commissioned aiming to assess the effectiveness of the service delivery under the NCWSP in reaching the poor (World Bank, 2003b; MWH, 2004a).

There has been evidence of ‘elite capture’ of the process of acquisition and the management of facilities both between and within the communities. Communities had differential chances of being served by water supply projects. It was variously noted that the selection of villages for drilling was not based on demand from the most needy communities

(MWH, 2004a; Osafo-Yeboah, 2004). Concerning the application procedures there were no equal opportunities of access to water supply projects among the communities. The selection criteria based on population thresholds (above 75 inhabitants per community etc.) were working against the access of the poorest communities to services. Remote communities had limited contact with assembly persons and DA staff that were crucial in the application process, and selection criteria of the DAs were biased against remote communities without good road access. The allocation process was found to be open to political influence and corruption. Moreover, according to practice of payment of the capital cost contribution smaller communities might pay greater amounts per person than larger communities. In effect, the water facilities were more expensive per head in the smaller and frequently poorer communities (this also applied to situations with unfavourable geological conditions, where increased costs had to be met by the communities). Poor communities were frequently lacking strong leadership which was an important factor for succeeding in the process of application for projects and their selection at the district level (MWH, 2004a).

The fact that provision of services was unbalanced entailed profit-making by a few at the expense of many. Business-minded community members with donkeys and carts were reported to be boosting their incomes at the expense of communities or sections without access to improved water sources. They would tap their community's resources at a rate of, say, GHC 1.000/barrel, and sell the same quantities four times as dear in water-poor areas. In these areas obviously only the better-off were able to participate in the distribution.

Borehole sitting within communities has often been biased in favour of influential community members or groups rather than serving the interests of the poor and less articulate.²³ Ongoing research by Irit Eguavoen provides an example of the risks of elite capture in a small town in the Upper East Region: Influential people in the community tried to manipulate "community" decision making to get the hand pumps closer to their own compounds or even directly into their compounds. The latter was successfully rejected by the community. In 2004, in the same small town, a piped system with thirteen water outlets and the possibility for compound connection was planned. The location of the outlets, however, was not prescribed by technical factors. The members of the local WSDB almost all living within the market area which was surely to be supplied with pipe born water were the only local people commenting on the system design submitted by the consulting company to CWSA. Areas outside the market with serious water shortage were only much later included into the design by WSDB initiative and therefore added extra cost to the whole project instead of being part of the planning from the beginning on. (Eguavoen, 2004).²⁴

In contrast to evidence of elite capture, various sources have noted clear evidence of the cross-subsidisation of poor households. Well-off households were reported to pay more than an equal share to cover the total capital costs because they wanted higher quality service. Communities have been reported to employ mechanisms of cross-subsidy to support poor members. In some cases communities gave outright exemptions from payments to vulnerable or poor groups who could not pay. In other cases, fees were ranked according to the community's ranks of wealth (CWSA, 2002; Bacho, 2001:67). A quotation to illustrate the rationale that influences this "altruistic" behaviour:

"(Our settlement) ... is one family, so even though we don't easily get access to the water we only pay our levy for the sake of those households using the pump, so that our community will

²³ Local elite capture has been further confirmed by results emerging from research by Eva Youkhana on current processes in a small town supply system in the Ashanti Region.

²⁴ Ms. Eguavoen's dissertation is expected to be issued from the Max-Planck-Institute of Social Anthropology, Halle, Germany.

not be denied potable water under the government's water program. One will also have to think about the fact that if one refuses to pay because one is not getting enough water, one day others will also refuse to help because they too are not benefiting. It is always a give and take" (from: Bacho, 2001:130).

In Bacho's view this evidence illustrated

"how the traditional norms, values and social obligations of the extended family system, with its binding reciprocal exchanges, engenders altruistic commitment of individual community members. It is these traditional institutions which have contributed towards a rather high sense of commitment to sustaining the communal potable water services" (2001:130).

Further study would be needed to assess the range of occurrence of this institutional phenomenon. For exclusion of the poor was also possible. Resistance to comply with poverty sensitive tariff systems (e.g. subsidised public taps) by the more powerful was also possible, as reported with respect to a small town in the Ashanti Region (Youkhana, 2004). Apart from difficulties of access caused by the location of the facility and/or by water prices, exclusion might also be based on local concepts of honour and shame where individuals were incapable of contributing: "...sometimes poor families become the subject of derision" and they eventually withdraw silently from the service. "Some experience gained through working with rural communities in Northern Ghana show that the last thing that the poor will give away is their pride. In working with the poor, care must be taken not to hurt their pride" (Bacho, 2001:67). – Further research should investigate if different categories of "the poor", e.g. settlers and original inhabitants, are treated differentially within the communities. In the Northern Region an NGO project found that in mixed communities, made up of settlers and indigenous people, access to the water from the community boreholes was a real problem for the settlers. As the settlers ("late-comers") were expected to contribute to the maintenance of the water system but were not inclined to do this, conflict arose and sustainability was threatened (Bacho, 2001:25).

Results from the survey conducted by the GLOWA Volta Project have raised the issue of participation by community members in decision-making concerning the location and type of facility of the improved water sources. Out of 355 households with access to improved water supply 68 did not respond to the questions. Not unlikely, this lack of response may be an indicator of the sensitive political meaning of the issues in many communities. This assumption is corroborated by the responses of the 287 households that did respond: 61% stated that they had not participated at all in the decision-making. Only 22 % indicated to have participated in the decisions on both location and technology selection; 28% participated in the selection of the location, and only 9 % in the selection of the facility, e.g. type of pump (Engel et al., 2003).

Data from the same survey revealed that persons with secondary or tertiary education as well as those without any formal education participated in the improved water supplies to a significantly greater degree than those with a medium education level. This outcome correlates with corresponding income levels, the poor households participating, however, less than the rich ones. This "extremes effect" (Engel et al., 2003) is explained in terms of bargaining power, opportunity costs, and demand: The highly educated and rich are assumed to have the most bargaining power to actually influence community decision making in their favour, therefore they participate. Middle-income households cannot compete in terms of bargaining power with the rich, however, they would face significant opportunity costs in terms of time in the participation process and therefore tend to abstain from it. Attempting to explore the rationale of poor community members to participate in water supply projects (in contrast to local middle income groups) Engel et al. (Engel et al., 2003) propose that they

are too poor to have any opportunity costs, and/or are more naïve and easily enthused about participation, and/or they responded to the programme because it was expected to meet their demand. – Instead another explanation for the peculiar “extremes effect” is offered here in terms of a “moral economy”: Rural as well as small urban communities have mechanisms to ensure that the poor in the community are not denied access to potable water even if they are unable to pay. Because of this informal institution, the poor may be more inclined to participate by investing labour and capital because they can count on being subsidised by the well-off.

An evaluation study commissioned by DANIDA concluded that provision of drinking water alone had not automatically led to poverty reduction. The assumption that improved drinking water and sanitation conditions would lead to improved health, improved health to improved productivity, and thus to improved standards of living turned out to be “overly simplistic” (MWH 2004a:11).

4.2.2.2 Gender

“Participation of women has been very good; women now play a bigger role in decision-making and are better empowered to facilitate community action ...” (MWH & CWSA, 2000:12). In public discourse women have variously been considered to be the “winners” of the NCWSP. In many places the distance to the water facility had improved, time to fetch water had been reduced, the incidence of water borne diseases had gone down. Where facilities of improved water had been provided, women were reported to perceive a clear correlation between safe water and improved economic circumstances (MWH, 2004a). However, there are indications that women’s access to improved water varied with the type of tariff that the community had set. Findings from a survey conducted by the GLOWA Volta Project show a difference of access between male and female headed households. Households headed by women were more likely to use improved sources in communities where bucket fees or zero price were charged. However, where flat rates were charged, male-headed households were significantly more likely to use improved sources than the female-headed households. The difference may be due to the advance payments for the entire amount charged that households had to make where flat rate fees were the rule (Engel et al., 2003). Female-headed households were notably poorer than male-headed households and were probably less able to obtain credit.

According to the policy of the NCWSP, women were to be included in the decision making bodies. Results seem to have been mixed. Whereas women were widely represented in the WATSANs and WSDBs, available evidence suggests that their their roles in decision-making were often weak. The World Bank’s findings on a numerical gender balance within the water management organisations were generally supported by a study commissioned by CIDA: WATSAN’s were gender-balanced, 44% female, 56 % male. According to CIDA, at least 50% of WATSAN members were women. However, the top WATSAN positions were usually held by males, only 8,3 % of the chairpersons were female, and only 28 % of the vice-chairs were female. In all the surveyed communities, 69 % of the treasurers were female and 47 % of the pump caretakers (CIDA & CWSA, 2003d). - “Despite the gender progress being made, men usually set the agenda at community meetings, select the venue and determine the meeting time” (CIDA & CWSA, 2001:25). Compared to other development organisations at the community level, women were well represented on most WATSAN committees. But “their voices appear little heard either in the committees or in the application process” (MWH,

2004a:46). Remarkably, the fact that the most common executive position filled by women was that of treasurer corroborates experiences from self-help organisations from other parts of Africa. Due to their social roles in communities and households women often tend to be rated as more reliable and less prone to temptations of misappropriation than men (Müller et al., 1988; Kasmann & Körner, 1992).

Without further in-depth research it is difficult to assess the meaning of the relatively strong representation of women in the WATSANs and WSDBs. The women represented in the Boards and Committees usually did not belong to the poor sections of the communities (CIDA & CWSA, 2001).

“The numbers of women listed as WATSAN executives may be misleading. A significant number of women are figureheads for male-dominated activity. This issue of figurehead women reflects the gender-sensitive rhetoric, activity and commitment in many communities which is staged to impress project funders. When external intervention is absent, communities often revert to male-dominated leadership” (CIDA & CWSA, 2001:25).

Bacho’s (2001) evidence further suggests that the token women approach as such may not suit every situation. It ignores the facts that women, too, constitute a very heterogeneous social category anywhere and that men’s attitudes and roles can differ, too. Irrespective of this truism, some informants in the north of the country observed, however, that the WATSANs that were dominated by women were operating more effectively than those dominated by males. In the south women were reported to have expressed “a strong desire to head WATSAN committees” (MWH, 2004a:46). These observations would deserve further investigation.

4.2.3 Decision taking and participation in Committees and Boards

The process of application for a facility and granting of its provision is crucial to the DDA. A survey conducted in the south of Ghana revealed that the dynamism and initiative of the Assembly person and of community-level leadership was very important in determining whether or not a community would get a facility. The role of chiefs and the traditional authorities compared to the DAs tended to increase with distance from the urban power centres (MWH, 2004a).

The formation of “participative” WATSAN committees and WSDBs was a response to “project law”. Contrary to previous pump committees of the first phase of the NCWSP, details of the formation of WATSANs and WSDBs were increasingly guided by prescriptions such as the number and socio-political qualities of the members and female as well as WATSAN representation, responsibilities and obligations of the Board, etc. as set, for a example, in a “generic bye-law” of the WSDB (MWH & CWSA, 2003c). Reported evidence on internal problems, e.g. that it was sometimes difficult to find the right people for the organisations, may indicate that there may be some institutional mismatch that externally promoted “self-help” groups have raised. Bacho has warned that “remote and out of context institutions can fail to address the specific problem situation of a community ...” (2001:130). However, a DANIDA-sponsored study conducted in four Regions of the south of Ghana found that the WATSANs

“... were seen as a necessary institution which was required by the water facility providing agency. This observation, however, did not detract from the acceptability of the WATSAN committees in the communities. Indeed, in almost all communities where the committees

were in place, they were generally considered to be important for successful water management" (MWH, 2004a:37).

As a prerequisite for the funding support the necessity of forming Committees and Boards as such was not contested. However, Local agreements concerning their constitution, membership and functions were subject to interpretation and manipulation by the powerful. According to a survey conducted in the south, WATSANs were dominated by Unit Committee members (35%), traditional leaders' representatives (35%) and Assembly members (10%) (MWH, 2004a).

But efforts at counter-balancing were reported, too. A study commissioned by the GTZ in the south of the country revealed that WSDBs preferred to bar chiefs from membership in the WSDBs. Chiefs were perceived to be already powerful in the community and could not be challenged by anyone, even if inefficient. Traditionally the chief had the last word at meetings and there was fear that this might stifle debates within the WSDB meetings. Chiefs seemed to be considered as "fathers of the community" who should rather stay neutral and supervise the work of the Boards in their communities (MWH & CWSA, 2004c). Evidence from local level research in rural settings in the north suggests that there, too, it was hard to demand accountability from chiefs. This had turned out to be a problem in a case where a chief had the overall responsibility for a community pump (Bacho, 2001:166).— However, communities in the north, with a tradition of acephalous leadership, might deal with local power holders in different ways. Contrary to those ethnic groups with chiefs who wield a lot of authority over their subjects (in particular, the Akan), groups whose household and lineage heads have considerable power command "room for democratic decision-making". Bacho found that in such settings chiefs responsible for pump management and charged with embezzlement could be disobeyed and challenged (Bacho, 2001:100-101).²⁵ - The implications of local political systems with centralised decision-making in relation to acephalous groups without a centralised political authority structure (like some ethnic groups of the north) for the management of water resources would be worth some closer investigation.

Anthropological research has suggested that in development work one has "to cooperate with local elites or else witness failure, since decision structures within communities are stratified according to power and economic rank" (Elwert & Bierschenk 1988:102). Insecurity about the mode of such cooperation was prevailing; development actors formulated contradictory views and conclusions on the roles that local authorities were to perform in the new organisations (European Development Fund, 2003; MWH & CWSA, 2004c; MWH & CWSA, 2004d; MWH, 2004a). According to one expert's view, the exclusion of chiefs from the WSDBs should be legally codified; whereas another study concluded that traditional authorities, as development brokers important in their communities, should be included more effectively in local and district development organisations (MWH, 2004a). An intermediate or less determinate position seems to have found expression in the "Generic Bye-law of the Water and Sanitation Development Board" contained in a paper on the Small Towns Sector Policy of the CWSA. This bye-law prescribed the inclusion of the community's "representatives of leaders" only in the event of a lack of sufficient WATSAN representatives to constitute a membership of five to seven (MWH & CWSA, 2003c). In this model, the participation of those leaders was left to chance, whereas the community's Assembly member was to be a member of the WSDB in any case.

²⁵ The research by Wolfram Laube, conducted in the Upper East Region, provides evidence of similar constellations with respect to irrigation arrangements. A thorough discussion of his results is expected in his doctoral thesis, which will be completed at the University of Köln, Germany.

4.2.4 Regulations and enforcement

There was a wide range of regulations concerning tariff-setting, collection of contributions etc. that had been set by each community and that were variously enforced. The PURC, which is in charge of water tariffs in the urban areas, was not involved in the regulation of tariffs in the rural and small urban areas. Generally, the communities were expected to fix their water tariffs and to have their decisions approved by the DAs, to which “they always comply” (an informant of the CWSA). If true, this proves that the DAs have little or no interest in what is considered as a community affair, including local regulations and enforcement mechanisms (see section 5.2.).

Bacho studied various innovative ways of problem solving – technical maintenance and repairs, lack of income, free-riding, over-consumption and waste of water in six case communities of the Upper East Region that had taken over supply systems from the GWSC in the 1990s. Communities or sub-groups with a high stake in potable water supply were more likely to employ effective arrangements to manage the resources efficiently. Each community had

“evolved peculiar but appropriate institutions to deal with the specific problems of their communities. In some cases these innovations defy the so-called ‘conventional wisdom’ of development practitioners, like preferring an illiterate treasurer ... or elderly members of the community to the young and educated members ... Each community has evolved clear procedures that outline rights, responsibilities, incentives and sanctions. Although unwritten, members are aware of them” (Bacho, 2001:187).

Bacho noticed easy consensus building in one community because of the following characteristics: “persisting strong traditional values”, egalitarian nature of the community and limited social differentiation, face-to-face interaction due to the small size of the community, serious threat of seasonal water shortage and attendant health problems, a strong sense of unity due to external threats from immediate neighbours (Bacho, 2001: 103). - Potential for collective action may be favoured by previous experience and disposition of getting organised in other spheres (Meinzen-Dick & Knox, 2001). In a notable case of women successfully managing a borehole these women also belonged to groups that were pursuing off-season income generating activities (weaving, pottery, pito²⁶ brewing, leather working). The women were able to organise themselves well for collective initiatives, as they were experienced in mechanisms of self-organisation. Conducive factors were the social structure which allowed women to associate freely and the migration of men which left women as sole providers for their families (Bacho, 2001:113-15). - These findings require further systematic investigation in other parts of Ghana.

Individuals that could afford paying the fees but refused to pay might be taken before the chief, taken to court, given a fine or barred from collecting water until they would have paid. In most cases authorities from the local government were not involved; such problems were settled locally (CWSA, 2002). “Institutionalised procedures premised around the social value of collective shame” were used to solve pertinent problems, in one case resulting in “minimising the moral hazards of chronic embezzlements that collapsed the previous community water service under the GWSC era” (Bacho, 2001:129). This social mechanism prevented the committee members from “embezzling the funds, since that will bring shame to his/her section and the household. Where the committee member is unable to account for

²⁶ Pito is a term for the local beer which is brewed from millet by the women.

the money collected, the household contributes to cover up their shame, since they will not want the other sections to laugh at them" (2001:128).

As mentioned in section 4.2.2.1., welfare systems were – informally - institutionalised in all communities to cater for vulnerable groups such as the aged, sick, disabled and poor. They were allowed to fetch water but exempted from paying the tariff fees if they could not afford it (Bacho, 2001; CWSA, 2002). According to Bacho communities could go

"... beyond the stereotyped management structures usually 'grafted' onto the existing institutions of communities by central government bureaucracies and NGOs with very limited knowledge of the institutional landscape of their client communities ... The culturally embedded reciprocal extended family and social network systems provide a stable and acceptable basis for individuals to obey and support the community water system" (Bacho, 2001:180-181).

The legal status of district and community bye-laws had proven to be unclear and confusing. According to one proposal the diverse local constitutions or regulations should be documented and endorsed by the DAs "to give them the necessary legal backing" (Bacho, 2001:192-193). This view implies a decentralised and open approach leaving solutions to the local communities. However, in the period under review increasing efforts by donor organizations to formalize and unify procedures and to generally improve the "institutional design" by the application of blueprint constitutions to WSDBs and WATSANs could be observed (see European Development Fund, 2004; MWH & CWSA, 2004c).

5. Constraints to policy implementation

"In Ghana, no government has found the appropriate answer to this nagging riddle of how to provide potable water for a rapidly growing population on a sustainable basis since colonial times" (Bacho, 2001:27)

At the end of the 1990s a document of the Ministry of Works and Housing listed a number of constraints to the implementation of the NCWSP. Generally the "unsure institutional and legal framework for community based management" was deplored (MWH, 1999:4). Further urgent problems were:

- ◆ "Inadequate funds and time lags in receiving GOG counterpart funds which caused delays in the take off of planned activities;
- ◆ Delays in the procurement of hand pumps spare parts for O&M and for the conversion of pumps in communities which had settled their arrears and paid their contributions, caused undue worries and anxiety;
- ◆ Some very poor communities could not pay their capital contributions leading to delays;
- ◆ Poor quality and delay of work provided by some contractors;
- ◆ Construction of water facilities was also hampered by adverse ground conditions; ...
- ◆ Reluctance of some DAs to support the DWSTs to reach the rural communities for data gathering and programme promotion;
- ◆ Unsure institutional and legal framework for community based management; ..." (MWH, 1999: 6).

In addition, the DAs capacity to finance and manage community water on a sustainable basis was found to be unsure. "Hence, the transfer of the more capital intensive small towns water systems to the DAs/Communities may expose serious flaws in the CWSP and generate setbacks to programme implementation" (MWH, 1999: 6).

Five years later, the same constraints resounded in more recent project-related documents and studies concerned with the performance of the NCWSP. In addition, evidence suggests that neither the MWH nor the CWSA were capable of coordinating the activities in the sub-sector of rural drinking water supply. In the following sections these and other constraints are analysed with distinctive reference to the national, district and local levels of political and administrative action.

5.1 The national level

In general terms the programme objectives could not be reached for an overall lack of resources and funding (- this was the reasoning of, above all, major Ghanaian actors). The CWSA was not able to realise the levels of financial commitment by donor agencies that had been identified in the Strategic Investments Plans (SIP) of 1993 and 1998²⁷. The ambition to attain the target of 83% of supply coverage proved to have been far too high in view of the limited resources provided by the government and the donor agencies. With the launch of the programme in 1994 donor pledges of US\$ 246 million had been made. However, by 2003 about US\$ 120 million had been spent, to the effect of purportedly increasing the water coverage from 30% to about 41% (see section 4.1.). In addition some major shortcomings of the SIP were stated, e.g. actual costs of capacity development had turned out to be higher than suggested; and costs for research and development and for the training of area mechanics had not been incorporated in the budget (MWH & CWSA, 2004e). The fact that the implementation of the NCWSP was widely based on the project approach, was considered to be "ineffective in attracting the level of funding required to accelerate coverage and facilitate achievement of the set targets" (ADF, 2003b:9). However, various inconsistencies within the programme, and unfavourable national framework conditions suggest that questionable results might have been generated in spite of more comprehensive funding.

The roles of the most important domestic actors, the Ministry of Works and Housing and the CWSA, need to be contextualised in the wider national financial and political framework of Ghana, which affected salary payments and the timely disbursements of counterpart funds to any programme and project. In effect, development programmes were undermined by the inability of subsequent governments "to maintain budget discipline" (Foster & Zormelo, 2002). Wages and salaries had fallen in real terms, to levels at which qualified and motivated staff could not be retained, especially for rural areas. Their ability to do their jobs was further hampered by low and unpredictable non-salary budgets. Furthermore, the GoG was reported to have abandoned prudent fiscal and monetary policies in the run-up to the elections since 1992, which increased inflation and led to depreciation of the exchange rate. The GoG was facing a serious legacy of domestic and foreign debt,

²⁷ In the Strategic Investment Plan of 1998, assessments of the required technologies and corresponding cost estimates were based on four groups according to the following population thresholds (based on the latest census): 75-300 inhabitants, 301-2.000 inhabitants, 2.001-5.000 inhabitants, and above 5.000 inhabitants (MWH & CWSA, 2004e:23).

which had been exacerbated by terms of trade shocks from mid-1999 (Foster & Zormelo, 2002:3). The general situation has been summarised as follows:

“The many failures within the budget system have contributed to a situation in which financial rules and regulations are widely bypassed or ignored, partly in order to overcome the frustrations of delayed budget releases, but with the inevitable consequence of increased risk of fraud. Low wages, low capacity, and a reluctance to enforce sanctions on wrongdoers have amplified the problems” (Foster & Zormelo, 2002:32).

Accountability institutions themselves have suffered from a lack of capacity, “with late preparations of audit reports and delayed considerations by them by Parliament undermining the prospects for prompt action against those found guilty of wrongdoing” (Foster & Zormelo, 2002:32).

Ghanaian bureaucracies in general were reputedly very concerned with avoiding to disturb existing power balances of ethnic and party politics. Various observers noted that manifest political (partisan) interests were assumably playing an important role in any Ghanaian development arena. However, interests incompatible with official national policies and/or intentions of international donor agencies were not openly formulated. Ghanaian national actors, politicians and bureaucrats, were said to be employing diverse strategies to resist international pressure of reform if the reform would not match their interests. Strategies of the politicians were delays rather than open dissent. Decentralisation was rated to be one of those areas of discourse where consensus was only pretended at the top level (see also (Thomi, 2000). In a similar vein the MWH was charged by some observers of being disinterested in having any clear water concept, because, as one informant put it, “they are not stupid”: There would be the danger of stepping on some powerful persons’ toes if any water policy were taken seriously. For example, the supply, pollution and treatment of water resources in the mining industry was considered a very “hot” topic.

There were thus structural constraints and contradictions in Ghana’s macro-economic and political framework, which put the sustainable realisation of the NCWSP at risk – and, for that matter, that of other programmes, too.

5.1.1 The Ministry of Works and Housing

Observers of national developments in Ghana agreed that, historically, the water sector as a whole had received relatively low support by the GoG because, compared to other sectors, it was not enjoying a high political priority. Compared to other African countries, Ghana as a whole, particularly the politically dominant south, and the urban decision-takers would not suffer as much from acute water shortages as consumers in other African countries. Besides the rural population in the semi-arid north of Ghana, which suffered from serious water problems, had comparatively little “voice” in national decision making. This bias became manifest in the fact that the water sector was not even mentioned in the Ministry’s title (“Works and Housing”).

Within the Ministry internal priorities testified the historical predominance of centralised public works administration, of which water supply was perceived to be just one - minor - sector. The Minister simply did “not argue in favour of water” in the Ghanaian public, as one informant put it. Very few people in the MWH directory had ever been charged with water issues. A Water Sector Policy Paper that had been drafted by the WRC and submitted for review to the Ministry (Water Resources Commission, 2001) had been simply ignored for

three years. Because of the low managerial and technical capacity of the Ministry (-compensation levels were too low to attract and retain qualified staff), attempts by donors to have an effective office established in the MWH that would be responsible for sector coordinating and monitoring were unsuccessful before 2004 (MWH, 2004a). In 2001 a Water Division was set up, but this was poorly equipped both in terms of staff and financial resources. The MWH was to provide for the salaries and administrative costs of the CWSA. The allocation of the annual budgets to the sector was usually untimely and inadequate to cover all the operational costs. In 2004 the payment of salaries was delayed by months. In CWSA's perception this general problem had reduced the amount of facilities that could be delivered each year.

To aggravate matters, the MWH was rated to be a relatively "weak" Ministry by the donor community. Some observers pointed out that assigning the CWSA and other water responsibilities to the MWH testified to its comparatively low political importance in the minds of its designers.²⁸ The MWH was generally considered to lack the capacity and the political will to play any vital role of sector or sub-sector coordination of policies and their implementation.

Some observers attributed problems of performance and implementation to the lack of clear regulatory frameworks. Throughout the ten years under review, the Ministry had not provided any clear sector or even sub-sector policy that the various actors could even in theory be made to adhere to.

In terms of statutory mandate, the competences of the MWH were intersecting with the mandate of the Ministry of Local Government and Rural Development (MLGRD). The latter had become a major actor in the water and sanitation services by virtue of its role in the national decentralisation process. The Regional Coordinating Councils (RCCs) and the DAs were directly under the jurisdiction of that ministry which was thus also responsible for the planning, provision and operation of water supply systems.

Members of various leading donor organisations complained that there was a lack of an overall policy which could be transmitted/translated into downward action. The fragmentation of Ghanaian national and donor policies had not been resolved in spite of the WRC: "Depending on who you ask about the institutional competences you may get ten different answers". (At the same time, the water sector was said to be only one of dozens of incoherent domains.)

A long-term policy to promote a sector-wide approach (SWAp)²⁹ was emerging in 2004, as a renewed effort was being made to strengthen and to coordinate the sector by DANIDA. DANIDA was working towards restructuring the MWH; consultants were in place to help "develop" the organisation. Creating a separate Directorate for Water with appropriate

²⁸ The World Bank noted that basic education and primary health care, along with feeder roads, were among the programs with the highest rates of budget execution, while water and housing programs lagged the furthest behind (World Bank, 2004b). Another indicator of this perceived "weakness" may be the World Bank's decision to select the MLGRD, instead of the MWH, as the political partner for the new Second Urban Environmental Sanitation Project (World Bank, 2004a).

²⁹ A Sector Wide Approach already existed within the health sector; the results were reported to have been clearly positive compared to the previous situation, which was marked by a lack of coordination (Foster & Zormelo, 2002).

staff was considered to be the first step. This Directorate was meant to take the overall responsibility of the sub-sector.³⁰

“The Water Directorate is ... supposed to have three principal tasks: a) to advise the Minister of Works and Housing on sector policy issues and sector coordination, b) to facilitate monitoring of sector development, including monitoring of DANIDA funded support to the water and sanitation sector, and c) to execute the capacity building initiatives It is assumed that the Water Directorate of MWH will serve as the focal point for coordination of the water and sanitation sector” (DANIDA, 2003b: ii).

Moreover, by a mutual effort a new sector policy paper was going to be drafted by the donor organisations active in the water sector.

Formulations of policies are based on consensus and are therefore imprecise. “All the Ghanaian papers are wonderful – anything the donors want to hear can be found there.” But they tend to be very vague in terms of implementation – despite the fact that the policy papers are often worked over by international consultants. Clear formulations of policies and directions of operationalising them would cause the latent dissent among actors to surface. It will be argued below that ultimately this applies not only to Ghanaian actors but to international actors, too.

5.1.2 The Community Water and Sanitation Agency

The CWSA seemed to be incapable of facilitating and regulating effectively the many components of the ambitious NCWSP. Reasons for weaknesses of performance were given in many different oral and written reports, one of them being the lack of coordination and monitoring of the activities of the local organisations, the WSDBs in particular (Sarpong Manu, 2001).

Budget constraints. The contribution by the GoG to the funding of the CWSA was reported to have been insufficient in terms of salaries, utilities and consumables (see above).³¹

Staff problems. First, there was a lack of staff in absolute terms. In 1999 the World Bank had encouraged the MWH to issue a Letter of Sector Policy which stipulated that the Agency's total staff should not exceed 200 persons (ProNet, 2001). This appeared to be a low figure in view of the high ambitions of the NCWSP. The CWSA staff indeed turned out to be thin, which reportedly led to work overloading in almost all regions. In the regions CWSA staff were stretched to meet all demands and requirements of the Agency but were ultimately not capable to meet all those demands and monitor activities appropriately. In addition, there seems to have been considerable fluctuation of staff, and vacancies could not easily be filled (ADF, 2003b; CIDA & CWSA, 2003a, 2003b; MWH & CWSA, 2004b).

Secondly, in the CWSA there was a lack of sufficiently qualified staff. In general, Ghana was suffering from the international ‘brain drain’ like other African countries. Well-

³⁰ It should be noted that the Directorate's mandate partially crossed the mandate of the WRC that had been promoted by the same donor agency for 6 years. This externally initiated development resulted in another case of institutional pluralism at the national level, the outcome of which would be worthwhile studying.

³¹ Notwithstanding the possibility that funds were mismanaged, there were problems in capital transfers. In Brong-Ahafo the utility bills were not paid which led to the disconnection of phone lines, and there were delays in the transfer of government funds from the head office to Regional Offices, raising problems of effective monitoring at the regional level (MWH & CWSA, 2004a).

trained experts tended to prefer professional careers in the industrialised countries. Furthermore, like other organisations in Ghana, the CWSA was affected by what can be called the 'intranational brain drain': Well qualified persons employed at national salary levels in the national development agencies preferred to leave for the greener pastures of well-paid international jobs and consultancy work, if they got a chance. In view of the high demand for local experts on the part of international donor agencies any capacity building within national institutions turned out to be burdened with a high risk of loss. As one informant put it: "You train – the person leaves."

Inclusion of the poor and of women in the DDA requires gender and poverty awareness and responsiveness among the staff (Deverill et al., 2002a). CWSA employees consisted of, above all, technically trained staff unfamiliar with sensitization work and with participatory methods. The rhetoric of participation that was contained in the NCWSP, conforming to the principles of the DDA, was counteracted by the strong persistence of a de facto supply-orientation and an undercurrent of hard-to-die top-down approach to development. On the part of development planners and implementers the paternalistic "We-have-to-educate-people"-discourse still prevailed, the local people were generally perceived as incompetent (Korff, 1998), as lacking basic skills in the domains of technology and of market-oriented management of infrastructure services. In the CWSA (and some donor) discourse local actors were not perceived to be in command of any qualities, knowledge or organisations that might have been taken into consideration in planning. The prevalence of engineers in the CWSA bureaucracy and in the projects may have contributed to the fact that often the selection of borehole sites was accomplished with little consideration for proximity to compounds or traditional boundaries between villages and clans (Osafo-Yeboah, 2004). The lack of 'soft' qualifications was aggravated by a male bias in the CWSA bureaucracy (CIDA & CWSA, 2001). In northern Muslim communities in particular, women field staff were considered as essential. Unequal participation by women in decision making was considered to be an issue of concern at least by CIDA. However, in the CWSA network including NGOs, "the recruitment of women has been largely donor-driven and centered on donor priorities" (CIDA & CWSA, 2001:22-23).

Thirdly, performance of staff was reported to be sometimes bad on account of low motivation. This was due not only to low and untimely payment of salaries but also to complex demands on their resources and to their working contexts: urbanites were stationed in rural areas were prone to feel that the quality of life and chances of personal improvement were considerably reduced. From the Agency's perspective problems of logistical equipment affected the pace of work for staff. Over the years, office space was perceived to be limited and adequate both at the national and regional levels. - In 2004 the head office was moved to a new building the construction of which had been funded by DANIDA.

Insufficient information. Planning and implementation were not based on sufficient information. Collection of data was inadequate before the policies were designed. Groundwater assessments, hydrogeological siting of boreholes and sanitation facilities, topographical surveys for piped schemes, studies about the acceptance and maintenance of the facilities, on the appropriateness of the designs and technical standards, etc. were few, unbalanced or lacking. Moreover, data on water quality already in existence and data that were constantly being generated by the drilling companies and the EPA were neither bundled nor sufficiently used (see section 5.1.4.).

Existing initiatives directed at solving the problem of water quality monitoring seemed to be uncoordinated. While the CWSA was meant to coordinate any such activities, legislation was in fact recommended by the WRC requesting all developers of hand-dug wells

or boreholes to furnish the WRC (not the CWSA) with data on well loggings. In an effort to gain some overview of drilling contractors' activities and to create a basis for fund raising by charging fees for drilling permits, the WRC had developed a draft of Groundwater Abstraction and Drillers Licence Regulations in 2002 (Water Resources Commission, 2003). This would, moreover, serve to generate, collect and store data on water quantities and qualities in boreholes and included an effort to harmonise the parameters of water quality testing. In theory, the standard forms of the EPA to be employed in Environmental Impact Assessments were supposed to include the same kind of regulations concerning water quality testing. In practice, this harmonisation had not been achieved during the period under review. Due to the constraints of the MWH (and perhaps to mandates competing with the CWSA) the WRC's endeavour concerning the driller's license had not progressed at all by the end of 2004.

Inappropriateness and plurality of project laws. Compounded evidence suggests that the CWSA had been charged with the implementation of a policy and complex tasks that it was not equipped to fulfil. The CWSA seems to have fallen victim to a strategy which has been characteristic of many a donor organisation: Host governments are required to make formal commitments of institutional and human resources support as a pre-condition for development assistance. Where the recipient government agrees to assign responsibility to national organisations like the CWSA and to provide specified budgets and numbers of personnel, these commitments are frequently unrealistic. Once the project is underway, the unrealistic dimension of the government's promises can exhibit itself in several ways: delays in the release of budgets, shortages in trained personnel, delays in appointing personnel, or appointment of unqualified personnel, or ineffective use of those appointed.

"For different reasons, however, both recipient and donor choose to overlook this inconvenient fact. This oversight is not the result of a lack of knowledge about real institutional capacity: rather it stems from eagerness to disburse aid monies and to achieve quick development results, albeit at the expense of long-term efforts that could become self-sustaining " (Gow & Morss, 1988:1403)³².

The role of the CWSA as policy maker, regulator, facilitator and/or implementer was subject to interpretation by different actors. The Agency was perceived to be charged with developing a national policy by some actors (including the CWSA itself) a role which was, however, contested by others (MWH & CWSA, 2003d; MWH & CWSA, 2004d). In programme-related documents the CWSA was variously labelled as an agent with implementing and/or facilitating capacities or mandates. In some projects the CWSA acted as a manager of the contracts with the private companies and consultants, in some it did not. The co-existence of these two versions of roles may indicate that the conditions for the performance of a purely facilitating role as defined by the law (Act 564) did in fact not exist. The evidence given below will illustrate that in fact many of the actors to be "facilitated" had proven to be incapable of fulfilling the tasks assigned to them by the national policy. Clearly, the CWSA had no effective control of the activities of the NGOs and of the international donor agencies. The CWSA reported be facing the huge challenge of balancing the reporting requirements of each donor with those established by the government. To aggravate matters, some donors had not provided information on the quantum of their investments in the sector. The CWSA maintained that it was therefore unable to provide accurate reports (MWH & CWSA, 2003b:19).

Even if the CWSA had been mandated to regulate and coordinate the activities of the actors in the arena, it would have been stuck in a conflict of loyalty. The organisation, like

³² The study by Rottenburg (2002) has confirmed the persistence of this structural constellation.

the donor community, seems to have been divided as to the issue of the community capital cost contribution. It is unlikely that the Agency would have flatly prohibited the activities of actors that were providing services for free or less than 5 percent. To speculate, controlling the NGOs was therefore not really important for the CWSA.

Finally, the purportedly pervasive influence of party politics in Ghana raises speculation on the role that political allegiance were playing in the performance record of the CWSA - a factor that would not be taken account of in any public agenda or report. Commissioned studies are likely to have exempted this topic since consultants are vulnerable to political disfavour in their countries. However, just like in the case of the MWH, leading CWSA staff was reported of being afraid to insist on the implementation of its policies, if there was a risk that people of political importance would somehow be compromised by consequent implementation. - This aspect was beyond the scope of this study.

Evidence suggests that neither the MWH nor the CWSA were capable of coordinating the activities in the sub-sector of rural drinking water supply. Before 2004, clear policy guidelines concerning the organisation of the local Boards and Committees, the responsibilities of the DAs and the role of the private sector were missing (MWH & CWSA, 2004c; Sarpong Manu, 2001). There had been no initiative to develop a uniform policy on how the 5% contribution was to be applied by the various donor projects (CWSA, 2002).

5.1.3 The international donor agencies and non- governmental organisations

Problems of the sub-sector of potable water supply have to be contextualised in view of overarching policies and procedures of national decision-making which were strongly influenced by international actors. In Ghana, water sector policies and decentralisation policies were influenced by grant conditionalities of the International Monetary Fund (IMF). Subsequent Ghanaian governments failed to devise and implement a coherent set of policies which would have supported effective decentralisation (Amanor & Annan, 1999; Ayee, 1997b; Thomi, 2000). IMF planning has often been blamed for programme failure as it has commonly misdiagnosed the complexities of the conditions in its target countries (Konadu-Agyemang, 2001; Ponte, 1994). Indeed many of the flaws of current decentralisation efforts could be attributed to national actors' misinformed and uncoordinated planning as well as to the prevalence of short-term political interests. In essence, institutional constraints to decentralisation affected the ability – and suitability – of the CWSA and of the DAs to perform the roles that the NCWSP expected them to perform (see section 5.2.).

Apart from Structural Adjustment, donors' involvement in policy development and implementation were generally substantial. However, their overall financial commitment to the NCWSP was considered to be insufficient to reach the coverage targets of the programme. After 2002, donor investments were on the rise although still behind the estimated requirements.

Interventions by international actors were largely marked by differences in institutional set-up, "project law" and implementing approaches - irrespective of recurrent demands and attempts by various actors to improve the coordination of the sector. Agreements between the MWH and the CWSA on the one hand and the various donor organisations on the other hand were characterised by a lack of specificity. According to a study commissioned by CIDA, this problem was more pronounced in the agreements concerning provision of water improvements in small towns than those concerning the rural

communities (CWSA, 2002). The principles of the DDA, including the process of competitive bidding and community contributions as well as efforts at coordinating technology options (e.g. pump types), were confounded where international donors operated outside the framework of the NCWSP. Some donor organisations (e.g. Saudi Fund, World Vision International) were reported not have cared at all about sustainability issues in the post-construction phase. Others (e.g. the Italians, the European Commission) would fix the terms of infrastructure deliveries in favour of their nations' enterprises.

The most striking inconsistency among the project laws was the differential implementation of the NCWSP's tenet by the various donors to uniformly demand capital cost contributions from the communities that wanted to obtain new supply systems. The World Bank and the KfW insisted not only the contribution of 5% by each community but also on capital contributions of an additional 5% to cost sharing by the DA's. However, other international agencies and some NGOs continued to provide water sources for less or for free, i.e. did not demand any community beneficiary contributions before releasing their funds. Even some other water supply programmes initiated by the government (e.g. Village Infrastructure Programme) did not go by the rules that were set up under the NCWSP, they continued to prefer a supply-driven approach without insisting on any capital cost contributions. To give some details: In 2002, the World Bank, DANIDA and KfW/GTZ were reported to be providing a 90-95% subsidy, insisting on a less than 5% community contribution for point sources but a full 5% community contribution for pipe systems. The EU, CIDA and AFD provided a 100% subsidy, but CWSA was allowed to collect up to 5% community contributions as a pre-requisite for pump installation for point sources and construction of piped systems. JICA provided a 100% subsidy, allowing CWSA to collect less than 5%, however, not as a pre-requisite to full installation of point sources (CWSA, 2002). In addition, where the principle of capital cost contributions was applied, the engineers of the various projects (donor organisations) were applying different methods to determine those contributions.³³

NGOs maintained that the 5% capital contribution by rural communities for water points seriously undermined access by the poor to potable water. This conditionality was perceived to be unjust because the populations in urban areas were generally not expected to provide any percentage of capital cost upfront. They recommended that communities should be provided with the facility without previous payment if they could not afford it. They could be made to pay over a period of time, or other forms of in-kind contribution should also be accepted (ProNet, 2001). Some argued that if the 5% contribution was to remain a commitment fee then it should be part of the operation and maintenance cost rather than the capital cost. Moreover, the logical link between payment and sustainability was contested. - "The attitude of the implementation agency (CWSA) disregarding some of these alternative ideas and concerns made some NGOs and donors to disassociate themselves from the strategy and regard it as a World Bank Strategy" (Tay-Awoosah, 2001:57).

The inconsistent implementation of the policy among the donor organisations led to situations where the water from one village well could be used for free and/or maintenance of the facility was taken care of by outside actors, whereas in the neighbouring village - or

³³ Percentage of the engineer's cost estimate (civil works only), percentage of the contract sum (civil works only), percentage of a "standard" development cost (per capita cost calculated from the engineer's estimate), lump sum (based on a percentage of an average construction cost), or an equivalent of a number of months of projected O&M costs. The first three methods primarily were used to calculate the contribution for small town communities, while the fourth was mainly used for point sources. The fifth method was used in both point source and small town projects (CWSA, 2002:20-21).

even village quarter - bucket fees were charged and/or fees for the maintenance of the facility. This institutional pluralism opened room for political manoeuvre, entailed tensions and could demotivate communities to raise their contributions. The lack of a coherent policy concerning cost contributions by beneficiaries did not favour the process of commercialisation of water supply as intended by the designers of the NCWSP. This was frustrating to those actors who actually believed in the benefits of the DDA.

Further examples of pluralism in project law included ways of managing capital cost contributions and procurement procedures. Capital cost contributions by communities could be collected at the regional CWSA offices, which would keep them there for further investments³⁴; they could be deposited with the DAs and used as payments for construction; the contribution could also be kept by the community in their bank account to be used for paying the contractor directly (CWSA, 2002). Some donors pursued stringent bureaucratic procedures in the procurement of goods, services and works, which tended to impede the performance of the projects (MWH/CWSA 2002: 19).³⁵ Procedures of channelling funds were diverse, which made accounting and accountability difficult. Donor funds were transferred to the DA or to special consultants that managed the funds, or to the CWSA head office. – There has so far been no study to analyse the ways in which these various procedures affected operations at the local level in a comparative manner.

Ultimately the donors' institutional frameworks derived from blueprints, rules and regulations devised in the ministries of their respective home countries as well as from consultants' assessments. The evidence cited above suggests that due attention to domestic institutional and organisational structures had been neglected in the process of policy formulation at the highest levels.

Efforts at coordinating the sector and the sub-sector had not been conceptualised in a sufficiently coherent way. The WRC was also established under the MWH with the national mandate of sector coordination and regulation and of the introduction of water charges by means of granting water rights (MWH, 1999). However, the CWSA as one of the major national "players" in the sector was not represented among the WRC's members.³⁶ Some efforts to coordinate the sub-sector of potable water supply and sanitation had been taken, e.g. a bi-monthly donors' roundtable organised by the CWSA and a number of policy documents and technical guidelines. The donor organisations supporting the NCWSP had not been able or willing to achieve a common approach.³⁷ Remarkably, the CWSA bi-monthly

³⁴ In the CWSP-1 project the Regional Office would in turn forward the contributions to the head office. This procedure was abandoned after 1999.

³⁵ Before 2002, the mechanism of "no objection", a non-negotiable condition of the World Bank, had been applied to the contractual arrangements under the NCWSP. The DAs or communities in need of their contract partners' services were obliged to obtain the approval of the World bank in Washington before the next step of implementation could be taken. This could delay the process by months. In the meantime the communities, having paid for the service before, had to wait (Welle 2001). Similarly centralised procedures were reported for the European Commission and AFD.

³⁶ Another problem was an institutional weakness of the WRC's procurement mandate. To provide a financial basis for the activities of the WRC, a Water Resources Management Fund was to be established from the WRC's income derived from permit fees and raw water charges that the WRC levied from major water abstractors in Ghana. However, the revenues accrued were tied up in the Consolidated Fund of the Ministry of Finance and Economic Planning, and the WRC did not have any access to those funds. Further institutional constraints of the WRC are mentioned by Laube & van de Giesen (2004) and van Edig et al. (2001).

³⁷ This was an endemic problem. A similar situation has been reported concerning the domain of poverty ranking which was supposed to become a decision support tool for the government under the Ghana Poverty Reduction Strategy. Exercises of ranking districts and sub-districts according to poverty were conducted with

donor meetings addressed only the international agencies and excluded the NGOs active in the water supply and sanitation sub-sector.

The gap between programme rhetoric and practice and implementation were immense. However, there was an implicit agreement between Ghanaian actors and donor agencies which kept the NCWSP going: disbursements of funds were not stopped no matter how inefficient or ineffective the performance of the implementing/facilitating agencies. One donor was reported to have blocked its funds for two years because of blatant abuse of resources by a Ghanaian national actor, however, this organisation could not maintain this principle in view of the permissive attitude that other international actors were maintaining.

5.1.4 Cross-cutting issues: lack of research capacity, data coordination and "soft skills"

Participatory approaches and conscientious DDA procedures, which are by international consensus required to warrant sustainability of water supply systems, require well-informed decisions and personnel alert to participatory methods. However, research and participatory procedures require specific resources and take time. The information compiled in quarterly and annual project reports by some of the actors testified biases and considerable gaps of information: typically, projects' "successfully executed" baseline surveys provided information on the technical side of water supply and sanitation in the area in question, but no pieces of information about the wishes and priorities of the population in terms of technology, location etc. not to mention the needs of different sub-groups within the communities or local power constellations to be considered. Local processes of decision-making had not been monitored and their outcomes not been reported. There were considerable knowledge gaps concerning socio-political issues (social sub-sets, ownership, collective action, organisation) associated with the "soft sciences", i.e. economics, anthropology, sociology, political studies. The most obvious gap in the 'research landscape' was the fact that after ten years of programme implementation aquifers and groundwater availability had not been sufficiently researched anywhere in the country, which would have been a prerequisite of the coordination of borehole-drilling activities. Particularly in the north, the groundwater resources were in danger of being depleted if uncontrolled drilling and water extraction were continued indiscriminately. Further gaps existed in the information available on water quality and appropriate technologies.

There were basically three cross-cutting constraints to providing the coherent information basis and management: a lack of resources and capacities, a lack of political will as well as a lack of interaction and coordination among the various actors. Gaps in the hydrological as well as in the socioeconomic data could be ascribed to a variety of institutional constraints.

There was a considerable lack of capacity on the part of the Ghanaian research organisations, i.e. the providers of information necessary for coordinated planning. A general weakness of the science and research sector was noted. Within the universities, research would play a subsidiary role to teaching and administration. In general, only very small

the support of a number of different international donor organisations, which resulted in a multiplicity of poverty rankings, in disagreement and a significant lack of transparency. Therefore "poverty reduction efforts in Ghana are fraught with inaccuracy and are easily manipulated for political purposes ..." (MWH, 2004a:48).

budgets had been allocated to the research institutes. There was a notorious lack of funds for laboratories and technical equipment in general. That situation had left a lot of scientists frustrated (– “We submit our budget, defend our budget, but in the end it is cut.”) All this had led to a considerable loss of scientists to industrialised countries (“brain drain”). According to local explanations most politicians were interested in developing infrastructure that could be perceived by their constituencies rather than in research, most of which requires long-term commitments and the results of which tend to remain invisible to the public. Operations of the research organisations were dependent on foreign support, which was irregular and therefore unaccountable. - With specific reference to data generation and management, the following constraints were identified:

1. There was no clear-cut legislation on data acquisition and management. Correspondingly, there was no single apex body that could have coordinated the generation of water-related information. In theory, the WRC had the task of coordinating the activities of the different actors. However, due to a lack of political support by the GoG it suffered from a lack of staff and resources which seriously threatened their capacity to fulfil the tasks it had been assigned by law (see section 5.1.).
2. There was an overlap of – mandated/theoretical, not necessarily actual - institutional competences. There were several organisations that had the official mandate to coordinate and manage the data. The Council for Scientific and Industrial Research (CSIR) was supposed “to co-ordinate all aspects of scientific research in the country and to ensure that the Council, the research institutes of the Council and other organisations engaged in research in Ghana, co-ordinate and co-operate in their research efforts”³⁸. While it was doubtful that the CSIR, specifically the Water Research Institute (WRI), could fulfil this mandate for lack of resources and capacity, a potentially competitive institution had in fact been set up with the establishment of the WRC. In a similar vein, there were cross-cutting mandates between the Hydrological Services Department (HSD) and the WRI, which were, however, being dealt with on an ad-hoc basis. The latter took over tasks of analysing water quality and sediment loads on demand by external projects where the HSD could not provide the services required.
3. Concerning groundwater, most available information was derived from bore logs that accompanied the installation of boreholes for drinking water supply. However, the quality of the bore logs varied greatly, also depending on the executive and funding agencies. Moreover, the logs were only centrally collected at district level, and different districts would have different policies, methods, and enthusiasm for the data collection effort required (Laube & van de Giesen, 2004).
4. Water quality data were generated by various actors including the GWCL, EPA and the drilling companies, but the data were dispersed. Drilling companies, which are obliged to test water samples, “take the sample but then they throw it away”. Thus valuable information is lost. Comparability was further aggravated by the different ranges of parameters that were analysed by those actors. Funding for studies by consultants, whether domestic or foreign, had been insufficient. As mentioned above (see 5.3.4.), where data were generated they were not stored and organized. Standard formats for generating data about e.g. water quality and for submitting reports

³⁸ (<http://www.csir.org.gh/>)

among the relevant actors (WRC, EPA, CWSA, borehole drilling companies, DAs, WSDBs) had not even been developed.

5. Another problem was that existing hydrological data sets were normally not available in digitised form. Very often, data were only available in raw or field format which made them difficult to use by institutes like the WRC. Poor handling and storage of data was reported to have also led to total loss of data. - (LAUBE & VAN DE GIESEN 2004; OBENG-BEKOE 2004).³⁹ Where data did exist in digitised form, however, they were not necessarily used. From 2003 onwards the HSD was equipped to set up a hydrological database by employing appropriate software (HYDATA), which was also shared with the WRI. At the WRI, however, there was reportedly no incentive to allocate appropriate capacities to collecting, controlling and processing the data of the HSD as a common pool resource. Researchers' energies were bound up in various projects, and the tasks were left to the WRI technicians who were not sufficiently qualified.
6. There was no institutionalised procedure of coordinating scientific information in general and in the water sector in particular. There was a lack of communication between the implementing agencies and the research institutes (Water Research Institute, 2002). Any coordination of water-related data gathering and administration was missing. - "Emerging policies in integrated water resources management, in particular the integration of research and information into water supply development have not yet been made ..." (DANIDA, 2003b). Information in the form of studies or data sets were dispersed, and frequently one actor did not know what the other had produced. Thus there was a certain danger of reduplicating scientific efforts. - This can be taken as a response to demand: Reportedly it was not common that clients requested data from the past. Rather, commercial services usually served the generation of new data for specific purposes.

Ghana's research institutes concerned with water issues - like the staff of many water bureaucracies worldwide⁴⁰ - had a historical bias in favour of engineering and the natural sciences. The 'hydro-perspective' maintained by the technology experts and the "hard sciences" was dominant. This was aggravated by the high demand for social science expertise in the booming business of natural resources management projects. An institute like the Water Research Institute, for example, lost the few social scientists it ever had to international organisations that offer more attractive salaries than the public service: "The social scientists, you see, they are not many. And if they come they are picked up."

While a wealth of socio-political and economic research results were dispersed in project reports and evaluation papers of the donor agencies, there were no efforts at storing them in any systematic way. This was due not only to time constraints of those actors but also due to the issue of intellectual property rights and to an understandable inclination to storing sensitive information about project performance away from the public eye. As a result of all these factors, institutional and socio-political research perspectives as well as serious participatory practice had been neglected as a basis for decision-making. Thus one of the principles of the DDA cited in chapter 1, i.e. "requirement of an effective communication

³⁹ On the regional level, Obeng-Bekoe (2004) observed that there was lack of proper coordination and exchange of hydrological and meteorological data between riparian countries of the Volta River. There was also a lack of sub-regional data bank and free flow of information. It was also observed that there was lack of uniform scale for measurement. A development of a collaborative framework for the basin could perhaps resolve these issues.

⁴⁰ see Mollinga & Bolding (2004).

strategy which enables project staff to engage with communities, households and individuals” was not fulfilled.

Specifically, few government planners or managers were noted to have acquired the skills to analyse gender issues and apply gender analysis in their work. This was aggravated by the lack of female staff in the Ghanaian organisations charged with development. A Gender Assessment Study commissioned by CIDA summarised the institutional barriers to recruiting women for political, government, private sector and NGO positions:

“... the small pool of women with the education, technical and communication skills required; resistance of male employers; socio-cultural traditions restricting a woman’s participation outside the home and community; low self-esteem; and limited time. These factors also contribute to capable women refusing to accept positions of responsibility when approached” (CIDA & CWSA, 2001:21).

Socio-cultural barriers to women entering non-traditional jobs were said to be linked to perceptions about employment that involves overnight travel, that is considered dirty (e.g. mechanical work or digging), that involves “provocative” movement (e.g. climbing) or does not allow a woman to respond to important family needs (e.g. child care or illness of elderly) (CIDA & CWSA, 2001:27). Furthermore, while DAs reported that they were making “consistent efforts to increase the active participation of women”, the Assessment also noticed that their specific examples “often narrow down to recruitment efforts”. Although advertising was done in ways designed to attract both male and female candidates and interviews were reportedly held at gender-responsive times and venues, the interviewed Boards were often male dominated (CIDA & CWSA, 2001:22).

5.2 The district level

The performance of the NCWSP depended on the performance of the District Assemblies (DAs). In the NCWSP the DAs were many times reported not to be playing the lead role that had been assigned to them. Their capacity differed from district to district and had generally proved to be limited. General problems of the DAs related to lack of adequate numbers of skilled staff, inadequate offices and residential accommodation for staff, low and uncoordinated training activities, old and unserviceable vehicles and inadequate and obsolete equipment. Accordingly, the donor organisations increasingly emphasised the training of district staff in the course of the years.⁴¹ Many DAs were reported to have lacked the expected degree of attention to the water supply (and sanitation) projects by allocating the needed resources to them (ADF, 2003b; MWH, 2004a; MWH & CWSA, 2003b; CIDA & CWSA, 2003b). Specifically, DAs were often reported not to have dedicated adequate financial resources in a timely manner to District Water and Sanitation Teams (DWSTs) that had been set up by the CWSA. The DAs were still harbouring the idea that the DWSTs were an arm of the CWSA and thus were not the responsibility of the Assembly (MWH, 2004a). Moreover, the work of the DWSTs was reported to be suffering from high staff turnover through transfers, ill-timed logistical support from DAs and inadequately qualified staff with insufficient skills in planning and budgeting, tendering, contract management, financial management, monitoring, evaluation, and reporting. Also the formation of DWSTs as such

⁴¹ A notable outcome of analysing those constraints was the District Capacity Building Project (DISCAP), a five-year local governance and water management initiative funded by CIDA in northern Ghana. DISCAP focused on five areas of innovation: water and sanitation, particularly in small towns; gender equality; governance and technical training; monitoring and evaluation; and information technology (CIDA & CWSA, 2003b).

seemed to be difficult; and districts were reported not to not have provided the full complement of DWST members (CIDA & CWSA, 2003b; ADF, 2003b). Generally, the districts were suffering from a lack of qualified engineers.

The condition of projects of World Bank and KfW/GTZ that DAs were to pay capital cost contributions of 5% to each community water supply project was not met by the majority of the districts concerned (CWSA, 2002). According to information from the press, only 35 to 40 percent of District Assemblies were reported to be contributing the amount of 5% to the water supply projects (Public Agenda, 24-01-2004). As one actor on the donor side remarked: "Districts assemblies' contribution to capital costs to water supply and sanitation is not indicated by national policy and therefore makes enforcement very difficult" (ADF, 2003: 14). It seems there was no national legal backing for that law to be applied in projects promoted by the World Bank and the KfW/GTZ.

Leaving the focus on the water sector aside, the general institutional framework of the decentralisation process proved to have been wrought with inherent contradictions since its inception in 1988. The national decentralisation programme was by general consensus moving at a slow pace, or was, as a "centralized decentralization" not even considered as feasible in Ghana's institutional framework (Ayee, 1997b). The central bureaucracy, which had previously successfully gathered experience in neutralising the reforms of the civil service demanded by the World Bank and the IMF, was reported to have defended itself equally successfully from the impending loss of power in the framework of the decentralisation programme (Thomi, 2000). While administrative decentralisation had substantially proceeded, fiscal decentralisation was lagging far behind (Owusu 2004). The District Assembly Common Fund (DACF), was supposed to cover the recurrent expenses of the DAs operations, comprised only 5% of the national budget. Budgetary allocations which DAs received from the DACF were not sufficient, and payments were frequently delayed by several months. The DAs' legal mandate to collect additional revenues for the fulfilment of their functions had not been put into practise sufficiently for various reasons.⁴² Most of the revenues of the DAs were consumed in meeting recurrent expenditures. Moreover, the DAs were not free to spend the funds from the DACF as they wished. It was largely earmarked by central GoG to specific expenditure programmes, and was often received late. In practice, about two thirds of DACF was spent on the education sector, "mainly for items such as classrooms and furniture" (Foster & Zormelo, 2002:30). There was no institutional framework warranting that DAs could be held accountable for their dealings. Some critics stated that DAs had disbursed more funds for loans to individuals and funeral expenses than for development projects (Amanor & Annan, 1999).

In practice local government had limited autonomy. Every bye-law had to be submitted to the Minister of Local Government and Rural Development (MLGRD) for approval or rejection. Development planning and budgetary decisions, too, still depended on governmental approval. In practice, most district spending was controlled by line ministry staff. Access to information at the district level was reported to be heavily constrained. Local politics were influenced by hidden partisan agendas, as the most important office of the District Chief Executive and 30% of the Assembly members were appointed by the government. There was also an inherently tense relationship between elected representatives and their electorates. The DA members had been subject to pressure to act as delegates for

⁴² Emphasising the logic of tax collection has not been popular since the DAs would not necessarily deliver benefits to the electorates of all DA members. Ayee found that the legitimacy of local taxation had hardly improved since colonial times. Basic rate collections showed that by 1996 only an average of 13 % of adults had paid their taxes in the 110 districts (Ayee, 1997a:91-92).

their communities. Due to limited resources, however, aroused expectations could not be fulfilled in most cases. DAs were entitled to pursue procurement activities, but their capacities to conduct those functions were limited. The scope for autonomous planning is very small as substantial parts of the DA's budget are received directly from the donors and serve certain fixed purposes, and so do 35% of the DACF. Another problem was the inability of many small and remote District Assemblies with insufficient social and physical infrastructure to attract qualified staff (Ayee, 1997a; Amanor & Annan, 1999; Thomi, 2000; Ayee, 1997a; Ayee, 1997a). The decentralisation process suffered from "absence of political direction and leadership of the bureaucracy, centralised nature of government and administration, lack of financial resources, poor caliber of personnel, the failure of the DAs themselves to maximize the revenue resources available to them and a poor and erratic commitment to development and services as demonstrated by their actual expenditure patterns and widespread corruption" (Ayee, 1997b:41) All these factors combined to call the participatory process, power and independence of the DAs into question and entailed problems of acceptance and legitimacy.

The urban bias of many administration staff and politicians reportedly hampered decentralisation measures meant to improve the health and strengthen the production capacity of the rural population. At least in the first phase of the NCWSP, projects by bi- and multilateral donors to rehabilitate the water supply systems did in fact improve the infrastructure only of the district capitals and bordering communities. Many rural communities were not reached by the NCWSP and remained dependent on NGO support or on the goodwill of the district administration. The latter, however, were inclined to distribute the scarce resources at their disposal according to political convenience rather than to equity considerations (Korff, 1998). Cases were reported where various forms of bribes were demanded before community applications were to receive consideration at the DA level (MWH, 2004a). Under the GPRS, however, special efforts were meant to remove inconsistencies of the decentralisation policy (e.g. having all DA members elected, raising the DACF) and to direct NCWSP activities to the poor parts of the country.

The flaws of the decentralisation process were reflected in varying perceptions of the mandates of DAs and their manipulation by different actors. An evaluation of various project and programme documents has produced an impression of contradictory conceptions concerning the role the DAs were to perform in the framework of the NCWSP. Some actors considered them as "facilitators" just like the CWSA, others perceived them as being charged with implementation responsibilities. Similarly, whereas the CWSA maintained that the DAs were to be the owners of the small towns supply facilities, the views of the communities on this matter varied in correlation with the support that the DAs had given them in raising the capital cost contributions (MWH & CWSA, 2004c). Whereas the CWSA was not envisaging a legislative role for the DAs (MWH & CWSA, 2003d), a legal consultant recommended to draft model bye-laws for the creation of WSDBs to establish the Boards as legal persons that could hold assets, sue and be sued. In a short term perspective the DAs should draft and enact the bye-laws (MWH & CWSA, 2004c). Further, in a medium-term perspective the MLGRD should enact a Legislative Instrument establishing the WSDBs as parts of the DA structure. This would be binding for all DAs. – However, there are reasons to doubt if new institutions like this would contribute to solving the problems. Increasingly more DA had been developing bye-laws with respect to sewerage and pollution under the auspices of the MLGRD. However, according to public opinion, "like most other laws in this country, they never get enforced stringently or enforced at all" (Ghanaian Chronicle, May 19, 2003). One basic institutional characteristic of Ghanaian society was the lack of mechanisms to enforce the law or public

regulations. Contraventions were rarely sanctioned if the perpetrator was a member of powerful political networks, whether at the national, district or local level.

The decentralisation policy has paid too little attention to local leadership structures. As one moves from urban towards rural settings in Ghana, the importance and influence of traditional leaders increases while the importance of local government structures declines. In many communities, traditional local authorities represent power brokers whose involvement in development activities is critical. By rooting the process of application for development assistance in the local government system, traditional authorities were not adequately involved, and remote and poor communities were automatically disadvantaged in the water delivery system (MWH & CWSA, 2004c).

5.3 The local level

In principle it is hard to generalise findings about the outcomes of institutional interventions at the local level, in view of the cultural diversity in Ghana's population and the diverse natural environments (the same of course applies to the district level albeit to a lower degree). There has been little comparative research to this date. Findings from various studies are presented in the following sections.

On the one hand, water supply infrastructure was clearly in demand. On the other hand, there were constraints to the capacity of communities to express this demand or to fulfil the conditions of the DDA. The concept of community contributions to development projects was by no means new in Ghanaian communities. In general communities were involved in accomplishing a variety of projects for themselves at any particular time – school projects, markets, even roads. The fact needed to be considered that the ubiquitous demand for community involvement and contribution entailed a situation that was burdening and over-demanding the communities' resources and affecting their ability to demand water supply facilities (ProNet, 2001).

Notwithstanding the free supply of facilities by some development agencies, beneficiaries' consent with the idea of demanding cash contributions as a condition for water supply improvement was variously reported (MWH, 2004a; World Bank, 2003b). However, in fact the inability or unwillingness of communities and, as the case might be, districts to pay their capital cost contributions was a cross-cutting issue of major concern. Further concerns were the insufficient levels of water tariffs where improved systems had been established and ineffective management of small urban supply systems. Evidence suggest that even water supply systems considered as "low technology" often exceeded the financial and/or organisational capabilities of communities. In most projects there seemed to be a low willingness to pay cost-recovery water tariffs, in an unknown proportion these were not affordable especially by poor households. Moreover, utilisation of the improved sources turned out to be limited in the so-called post-construction phase, therefore issues of acceptance and participation by various categories of actors arise. In general, the capacities of communities have to be considered a) to voice their need for improved water supply facilities and b) to raise the contributions expected from them.

5.3.1 Community contributions to capital costs

The capability and willingness of communities to contribute to the capital costs was contested issue from the beginning of the NCWSP (see 5.1.3.). The average cost for a borehole was reported to be US\$ 5.500-6.000 (MWH & CWSA, 2004e). Having to raise an amount of US\$ 275-300 seems indeed to have exceeded the potentials of capital and organisation at least in the poorer communities (MWH, 2004a).

Community contributions to projects was not a new concept in Ghana. Most communities had proven to be willing and able to contribute some resources in cash or in kind to supplement external support for installations of water supply systems. However, the implementation of the core principle of the DDA was clearly at risk as the full 5% contribution was not paid in most cases (CWSA, 2002; MWH & CWSA, 2004b). The actual community contributions were reported to have ranged from 1% to 5% for point sources with per capita contributions ranging from GHC 500 to 2.000. The actual community contributions for small towns piped systems were reported to have ranged from 2.5% to 5%, with high variation in the per capita contributions (ca. GHC 1.000 – GHC 13.000) (CWSA, 2002). As mentioned above, the CWSA reported that there was a decline in demand for point sources but an increase in the demand for piped schemes, even though the latter had revealed more difficulties with respect to communities' and DAs' capital contributions (MWH & CWSA, 2002b; CWSA, 2002). An evaluation study concluded that "coverage will not expand to meet CWSA targets if the policy of community contribution is applied rigidly. It will be slowed down, as district assemblies are unable to meet the 5% demand from the Projects (of the two donors) Expanding coverage is dependent to a large degree on donor interventions" (CWSA, 2002:iii).

Available evidence has also produced contradictions. According to CIDA, in the north (CIDA & CWSA, 2003c) only seven out of 110 communities were not able to mobilise their 5% capital cost contribution. Evidence from the south suggests that the majority of communities had not raised their contributions (MWH, 2004a). Hypothetically, this difference was due to southern communities' hesitation to pay because they would not suffer from water shortages to the extent that northern communities would. Other explanations would take into account differential types of leadership structures, the degree of previous experience with organised water supply management (CIDA's projects in the north), or measures of capacity building by donor organisations. Anyway, these hypotheses would have to be verified.

Rural and small urban communities were reported to have developed various strategies to overcome the hurdle of the capital cost contribution. In one case, a WSDB was only able to pay the contribution by obtaining a credit due to its membership from the Association of Water and Sanitation Development Boards. The community experienced several money collections for the rehabilitation/ construction of its small town water system since 1996 and failed the second attempt to raise 5% for the project to be started (Eguavoen, 2004). Other options comprised community levies, labour exercises to raise cash, community harvest taxes, communal labour on farms, appeals to NGOs and church groups to pay on the community's behalf, appeals to non-resident citizens to contribute the cost, appeals to foreign volunteers, local companies and concessionaires, appeals to DAs or Members of Parliament to contribute (Department for International Development, 2004; MWH, 2004a). Apart from the first four options, these strategies clearly depart from the logic of the DDA. The burden of payment for the facility was actually shifted from the full community membership to the few who mobilised the assistance. - Of course it is a matter of debate whether the contributing supporters should be considered as external to the communities. The social and political networks of villagers often include influential and economically potent individuals living in

urban centres or even abroad, and a considerable part of many a household is constituted by remittances.

Another study reported that, remarkably, DAs had paid shares of 30-40% to the capital cost contribution that had been conceived to be the communities' due; sometimes they had even taken over the total 5% contributions to help communities fulfil the pre-conditions for the installation of the facilities. The subsidisation of investments by DAs was provided, above all, with respect to the small urban systems (CWSA, 2002; MWH & CWSA, 2004c). – To speculate, the small urban systems may have been more prone to attract the attention of local elites with influence at the district level than the rural point sources. This is corroborated by the trend that the demand for pipe systems was higher than for point sources. Pipe systems include the technical possibility of household outlets, they tended to be associated with an urban lifestyle that only local elites could afford to approximate. – It is interesting that some DAs seemed to be prepared to support water supply projects in spite of the substantial resource constraints that DAs were generally subject to (CWSA, 2002; Sarpong Manu, 2001; MWH & CWSA, 2004c). Local political reasoning behind such priority decisions would be worthwhile studying.

In response to those experiences, CWSA had negotiated with the donor agencies to reduce the community contribution to 2,5 %. Negotiations succeeded in the case of Agence Francaise de Développement (CWSA, 2002), and in 2003 the CWSA again proposed this new policy of reducing the contributions in all projects. Some of the major donors maintained the principle of the 5% cash contributions.

In 2003 the CWSA tried to unify the projects procedures for the provision of improved water sources to small towns. The Small Towns Water & Sanitation Policy defined the capital cost contributions as follows: 2,5% for basic water supply services (hand-dug wells, boreholes fitted with pumps), 50% of the additional costs for levels of service higher than basic water supply services, and 100% for house connections (MWH & CWSA, 2003d:4). Further research will hopefully reveal if and how these rules will be applied in the practice of different projects.

Here the issue needs to be raised that the focus on physical cash inherent in the NCWSP's concept of community contribution might have been inadequate. There appeared to be other equally important community responsibilities which could be considered. There was no recorded evidence about the actual contributions that (different categories, e.g. male/female, of) community members made in the form of labour, material such as sand or stone, as well as accommodation and food for the construction workers and if and how such (informal) contributions were factored into the 5 percent. As Bacho pointed out, in rural communities in Ghana, it is considered not courteous if a visitor is not welcomed with water, and provided with food if he stays for several hours, and will finally be given a parting gift. "This is particularly the case with development workers whom the villagers know they are likely to get projects from. Gifts to development workers such as yam, fowls, eggs and the like are becoming now a burden on the villagers." Research teams, too were given parting gifts (Bacho, 2001:164). – In those cases where community levies were imposed to raise the cash contribution, men were expected to contribute a larger portion to the cash contribution than women (MWH, 2004a). This might be an indicator that women's contributions in kind may have been considered.

Moreover, the requirements of organisation and enforcement (investments of "social capital") need to be considered. A study commissioned by DANIDA has estimated that the human and financial resources which were expended by DAs and CWSA to ensure the

collection of the community contribution was 3 to 10 times the value of the community contribution itself (MWH, 2004a).

5.3.2 Water tariffs and cost-recovery

Mobilising initial investment costs, no matter from which sources and to what degree, had turned out to be feasible in principle once a community was selected for a water supply project. But the mobilisation of revenue on a continuous basis to meet recurrent costs seems to have been fraught with problems. Local water tariffs varied to a great degree both in rural and small urban communities. According to an evaluation study commissioned by DANIDA, most small towns were able to generate enough revenue to cover recurrent expenses for infrastructure that was intact – most systems were less than 5 years old. However, there had been little or no attempt to collect sufficient revenue for expansion or for replacement of equipment in the future (CWSA, 2002). A survey conducted in the south reported that only 45 % of the communities with water facilities had functioning water tariff systems. Where tariff issues were not handled well, usage of safe water supply was reduced. In many instances the tariffs were imposed on a per household basis, regardless of the number of users in a household. As reported, this was creating problems (MWH, 2004a).

On the one hand there seemed to be a general ability and willingness to pay for water. WSDBs were reported to have succeeded in explaining the rationale for tariff increases to their communities and to have convinced their communities to pay for water, even at rates higher than what prevailed in the urban sector (Sarpong Manu, 2001). On the other hand true costs were not factored into the cost of water production to allow an appropriate determination of tariffs. In a majority of the systems the tariff was not based on an analysis of the cost components, such as operation and maintenance, replacement costs, major projected rehabilitation costs, and future extension. Operation and maintenance costs would include costs for spare parts, materials and chemicals, personnel expenses, electricity charges, salaries or wages for staff, unrewarded contributions by members of the Board, etc..

Where (some of the) true costs had indeed been factored in, WSDBs were reported to have met considerable difficulties to exact appropriate tariffs. Communities usually resisted to higher tariffs, "a situation not helped by the tendency of the tariff approving body, the District Assembly, to support the more popular opinion". Among small towns surveyed only 50% had recognised the long-term replacement of equipment as a cost to be factored into the tariff (CWSA, 2002:25).

Enforcement and sanctioning was another concern. Some WSDBs had to rely on the DAs to enforce the tariffs or to sue actors in cases of non-compliance. In particular, there were severe constraints to the cost recovery of small towns by public actors. Local public sector institutions (- institutions here in the sense of corporate actors) such as hospitals under the Ministry of Health, Police, schools etc. to the WSDBs would not pay the bills for the water they had consumed. In Ghana, the payments for utilities for these institutions were centralised, and these actors did not have the mandate to pay for utilities at the local level – another example of the "centralised decentralisation" discussed above. In practice the entire burden for payment remained with the community, which was further aggravated by the fact that these institutions also did not contribute to the capital cost. And for the communities it was obviously difficult to disconnect them or impose other sanctions (CWSA, 2002). The DAs could in theory collect those monies from the sector ministries, however, this was not done. "These security agencies, schools and health facilities in the Upper West alone owe over GHC

50 million thereby stifling the development of CWSA in the communities" (Accra Mail, 27-10-2003). This was another big institutional gap in the implementation of the decentralisation policy.

Traditional institutions which emphasise long-term reciprocal behaviour were posing a potential threat to the intended long-term capital formation in organisations such as the WATSANs or WSDBs. In one community Bacho found that "... the excessive expenditure on funeral celebrations, gifts and marriages ... actually reduces the communities financial capacity to initiate and sustain development projects" (2001:101). In small urban areas revenues accruing from water sales by WSDBs were reported to have been appropriated for other purposes such as funerals and festivals. It seems that informal regulations including unwritten equity norms or respect for influential community members may contravene the logics of the CWSP: In order to save community members from disconnections as sanctions for non-payment, household bills were sometimes paid by the WSDB or by the DA (see (Sarpong Manu, 2001). – It would be interesting to see which members of the community did in fact enjoy such privileges of support and if this support privilege was contested by other members.

5.3.3 Management of Water Sanitation and Development Boards

The operation of the facilities of point sources – HDW, boreholes and pumps – seemed to be managed comparatively well by the communities that had been served. Generally, the operation of most of the small urban piped systems was found to be "below expectation due to the required higher level of operation and maintenance" (ADF, 2003:2).

The DAs were said to be burdened by non-performing WSDBs (Sarpong Manu, 2001:35). Apart from problems of capital mobilisation, where the WSDBs had taken control of the supply systems some did not have the capacity or capability to manage them. WSDBs were reported to have difficulties with the technical complexity of some of the systems, with a tendency to misapply monies made from water sales, with diverging interests in heterogeneous communities, and with the collection of revenues. Record keeping proved to be poor, and in many cases the requirements of economic tariff-setting were not clearly appreciated. Most WSDBs did not carry out water quality monitoring on a routine basis. Data collection and records keeping were rated as poor; there were no records on important parameters such as non-revenue water, and water production trends were not available even though production meters were in use. Due to a lack of technical/administrative capacity some WSDB had yet to learn the conversion of the meter readings to number of buckets/vol. to enable them monitor the water vendors effectively. The practices of operation and maintenance were graded as below average or even poor. Regulation and monitoring by DAs was insufficient; conversely, in most cases the WSDBs would not send reports in situations where problems came up. Even in cases when they had been sent the DAs did not analyse them or follow them up. There were no self-regulatory mechanisms to check performance, e.g. internal and external audits. Membership of some Boards was dwindling as some members lost interest. Reasons assumed were the poor/lack of remuneration, and transfers to other locations. Furthermore, agendas and memberships of some of the WSDBs seem to have been influenced by hidden party politics rather than by the needs of the poor in the communities (Sarpong Manu, 2001). WSDBs were said to be not as independent in decision making as the programme would make one expect. They were in danger of being politicised,

which became apparent in the year of the general elections (2004). In one reported case all WSDB members were fired by a DA and replaced by more convenient partisans.

Up to the year 2004 there were no legal policy guidelines concerning the legal status of the WSDBs and defining their rights. There was little evidence concerning the legitimacy of the water management organisations. In some communities where WSDBs and WATSANs coexisted conflicts were reported as to which organisations should be in control of the water supply system. The policy of the CWSA (Small Towns Water and Sanitation Sector Policy) did not distinguish the functions of the two types of organisations (MWH & CWSA, 2004c).

One of the projects (KfW/GTZ) directed at small urban supply systems, however, seemed to have fulfilled the tenets of the NCWSP. It was reported to have achieved community commitment to the 5% capital cost contributions and a relatively high level of sustainable management including the effective implementation of full cost recovery tariffs. Particular efforts by the GTZ in management assistance and capacity building were reported to have had a clearly positive impact on the economic sustainability of the WSDBs. - If true, a detailed study of the differences between this particular approach and others, "less successful" ones would deserve a close analysis.

Communication between major local and district actors tended to be weak. Apparently the DAs would hardly request reports from the WSDBs and, vice versa, WSDBs did not regularly submit reports to the DAs. "Standard formats for generating data and submitting reports to the DAs have not been developed. Consequently, each WSDB was generating its data in its own format (Sarpong Manu, 2001:32). - Mutual non-reporting among crucial local and district actors can be read as an indicator of either problems of acceptance and legitimacy, of capacity and/or priorities of the actors involved that differ from the priorities of the NCWSP. In the GTZ-project mentioned above communication was reported to have improved because standardised reporting tools had been introduced, which the WSDBs were actually using to submit regular reports to the DAs (MWH & CWSA, 2004c), and because transparency and accountability were promoted by special regulations.

The Small Towns Water and Sanitation Policy of the CWSA includes some interesting efforts to codify the informal arrangements that many communities were already practising and to make further provisions for avoidance of elite capture and political tariff-setting, e.g. "The membership of WSDBs shall exclude Traditional Authorities and DAs. Where necessary, they may participate in WSDB meetings as observers" or: " Any reduction in expected tariff revenue as a result of action by the DA, e.g. reduced tariff, etc., shall require that the DA pay the difference in revenue into the WSDB account" (MWH & CWSA, 2003d:5).

5.3.4 The private sector and NGOs providing services

"There is still the need to improve on the delivery capacity of the private sector, especially drilling contractors to respond to the ever-increasing sector needs to achieve the MDGs" (ADF, 2003:9).

Constraints to effective involvement of the private companies and NGOs constituted an unresolved issue that was widely recognised. They were noted both on the companies' and the communities' sides. In general, there was not a sufficient amount of private companies, especially drilling contractors, to meet the demands for services. Moreover, the companies that got involved would not always perform in a satisfactory way.

Companies' or NGO's contracts had to rely on a rigid project cycle which left no scope for unexpected difficulties. Due to the common bidding procedures the contract was awarded to the lowest financial proposal, however, the figures presented could be so low that the company was not able to work effectively. This amounted to sacrificing quality. In such cases the principle of efficient delivery, here mistakenly equated with cost-effectiveness, could counteract the desired results, i.e. the sustainability of the company's work (Welle, 2001:28-30). The cost of transport materials was often high but was not sufficiently factored into the cost of materials by local contractors. Flaws like this resulted in unexpected rises in costs and could lead to a standstill of the community's water supply project.

According to Welle, a new kind of pressure was put on the NGOs because they were drawn towards "competitive contractual arrangements for providing water and sanitation services. Due to the tight budget calculation under a commercial bidding process, high quality social mobilisation work gets watered down" (Welle, 2001:27). The growing commercialisation of the water and sanitation sector was thus likely to lead to a loss of independence among the NGOs.⁴³

WSDBs were reported to see a strong need for private sector participation (PSP), particularly in towns where the supply of water was beset with serious managerial and technical problems. However, throughout the WSDBs would like their communities to maintain ownership and control over key decisions. They tended to prefer management contracts to other PSP options.⁴⁴ Barriers to PSP in small towns was based on distrust in the private sector, whose proponents were seen as only interested in maximising profits, fear of strangers' lack of commitment to and sympathy for the community in times of difficulty, distrust of local roles of local authorities that were perceived to be inclined to excessive controls and the imposition of unreasonable taxes or fees, a lack of understanding of the options available in PSP, and the absence of clear policy guidelines (Sarpong Manu, 2001; MWH & CWSA, 2004c).

Where private sector participation was sought after, delegating tasks to domestic firms proved to be difficult because there were hardly any ones qualified enough for the

⁴³ An NGO informant critical of the NCWSP put it this way: CWSA is the master employing the other NGOs, so they do not speak up. They are afraid to lose their contracts as service providers. When critical issues were discussed at the NGO workshops some of the other NGOs and even some of the government officials agree with the criticism, but officially they keep quiet – "they are paid to do that".

⁴⁴ The most common contract options, implying various degrees of outsourcing of specific tasks up to full privatisation of public providers, are:

Service contract: specific tasks are contracted to the private sector for a fee, while the overall utility management remains with the public sector. Typical duration and object of contracts: 6 months - 2 years, maintenance of equipment and machinery. Potentials in the areas of consumer census, metering, extension works, regularising of billing.

Management contract: a private firm is paid a fee to operate the water facility while the ownership remains with the community. The firm may appoint key persons to particular positions. Typically, duration is 3-5 years. As in service contracts, the manager assumes no responsibility for capital expenditure; full commercial risks are borne by the owners.

Leasing contract: water assets are leased by the owners to a private firm for O&M in return for the right to keep a portion of the revenue. Capital investments remain the responsibility of the community; the firm assumes some financial risk by providing the working capital in addition to the commercial risk. Typical duration: 8-12 years.

Build-Own-Operate (BOO) contract: A private firm develops, finances, and operates the water facility in perpetuity (example at the micro-level: entrepreneurs who have sunk boreholes and sell water to the public). Under the variant Build-Own-Operate-Transfer (BOOT) the facilities are transferred to the public after 20-30 years (Sarpong Manu, 2001).

tasks. As a result, the infrastructure supplies were accomplished almost exclusively by foreign companies. The fear of “foreignisation” in the small urban PSP process could be overcome, in some consultants’ view, by giving appropriate support to the local private sector. Thus, sufficient investments should be taken to develop “a cadre of local water operators/firms that could eventually compete with their foreign counterparts”. Technical and commercial managers who had retired or would retire from the services of the GWCL were considered to constitute a potential group of small towns service or management contractors (Nii Consult, 2003; Sarpong Manu, 2001:9,34).

In one consultant’s opinion appropriate PSP promotion would require government and donor support in the following areas: Large-scale procurement of equipment and supplies to ensure lower unit costs, low cost funds or grants, sensitisation of the communities on the role that the private sector could play. Legislation on the role of PSP should be done at the district level, while the Ministry of Local Government and Rural Development (MLGRD) as well as the CWSA should play a key role in defining appropriate bye-laws (Sarpong Manu, 2001:36). - To summarise: Without massive interference by donor agencies – beyond the strong subsidisation of infrastructure supplies - many organisations of the subsector seemed to be economically and technically unsustainable. This called into question the original idea of commercially viable water resources management in the small towns.

5.3.5 Environment issues

The ecological zones of Ghana were differentially affected by present and impending shortages of water resources. Groundwater recharge depends on precipitation, which is significantly lower in the north and the southeast than in the other parts of the country (Gyau-Boakye, Ghie & Tumbulto, 2004). Factors affecting the supply of improved drinking water included groundwater availability and accessibility, water quality and settlement patterns. The sustainability of the water quality and quantity proved to be unresolved problems.

Groundwater. There was a general concern that not enough attention was being paid to the impact of deforestation and clearing of riverine habitats on surface and groundwater supply in the country. Perceivably, surface water supplies were dwindling. Particularly in the savannah areas of northern Ghana, there was evidence of diminishing yields from wells within a relatively short time, deterioration of water quality, particularly salinization of boreholes, and depletion of rivers in catchment areas of high borehole concentration (Water Research Institute, 2002). Depletion of water resources from boreholes and HDWs was aggravated where water from improved sources was used for building activities, watering of animals and horticulture, in the absence of other sources. The household economy in many areas was highly dependent on products from small kitchen gardens and animals as well as small-scale manufacturing (brick-making, beer-brewing etc.), providing in particular women income for recovering their families’ health and education expenses. Small-scale private irrigation outside the context of government schemes was expanding, enhancing the danger of overexploitation of borehole water and the concomitant risk of unsustainable water supply. – The NCWSP was based on an over-dependence on groundwater, which is a finite resource. However, rainwater catchment technologies were hardly in use and not promoted by the NCWSP (Gyau-Boakye et al., 2004). Surface water reservoirs that were constructed under different development programmes served the purpose to promote irrigation development above all.

Siting of and yields from boreholes was obviously highly influenced by ecological factors. Geo-ecological conditions could significantly raise the cost of infrastructure delivery. In the Regions of the north the geological situation is problematic. Where groundwater access was difficult and possible only through fissures and fractures, prospecting has to be careful and detailed. Successful drilling and tapping required intensive exploratory work in fracture tracing. In such environments potable water prospecting was a hazardous and costly enterprise. - According to Bacho, the water yields would vary a lot, from 30 litres/minute up to over 800 litres/minute (Bacho, 2001:126).⁴⁵

Groundwater accessibility was severely impeded by indirect consequences of high precipitation. Consumption of contaminated water would rise significantly during the rainy season in remote communities, as infrastructure set-up and repairs were severely constrained by seasonal fluctuations of precipitation. In the rainy season communities were often cut off by flooding and became inaccessible by heavy vehicles that repair services would employ. The residents of such communities had to resort to surface water, which entailed increases in water-borne diseases.

As mentioned above, there was neither any coordination of borehole drilling nor any monitoring of aquifer yields. The lack of information about groundwater resources rendered coordination impossible even if there had been institutionalised coordination mechanisms. This was considered to be one of the major constraints to the long-term sustainability of the NCWSP.

Water quality. In many places – there were no available statistics - the groundwater was reported to contain minerals such as iron, arsenic, manganese and fluoride in high quantities that are physically harmful. In the Eastern Region and Greater Accra regions, borehole drilling records showed that between 20 to 30 percent of all boreholes drilled for domestic water supplies contained manganese or iron or both metals in concentrations above the permissible limits of the Ghana Standards Board, the guidelines of which were to be applied in the NCWSP framework. The metals were also detected in other sources in four other regions including Upper East, Upper West, Brong Ahafo and Northern Region.⁴⁶ According to a water quality specialist from the Kwame Nkrumah University of Science and Technology (KNUST), between 20 to 40 percent of point sources, especially boreholes containing iron and manganese at unacceptable levels, were abandoned by communities while the remaining 60 to 80 percent were used marginally for purposes of cooking, washing and bathing. This amounted to an overall waste of at least 20 percent of investments made on point water sources (based on an interview with Mr. Siabi in Public Agenda, 09-02-2004)⁴⁷. Water quality problems may in fact constitute one of the reasons for the findings from two surveys (Engel et al., 2003; World Bank, 2003b): locally given access to improved

⁴⁵ Statistics on bore-hole drilling success rates in some of the regions were: Ashanti Region - 80%, Brong Ahafo Region 70-80%, and Upper East and Upper West about 65-70%, Central 40-80%, Western 70-80%, Eastern 55-70%, Volta 65-75%, Greater Accra 45-60% and Northern 45-70% (MWH, 2004b:31-32).

⁴⁶ Water containing iron and manganese are marked by bitter taste. Arsenic has also been found in large quantities in the Brong Ahafo Region, Western, and Northern part of Ghana. Unlike iron and manganese arsenic is said to have a pleasant taste like rain water. Arsenic is also associated with gold bearing rocks. What makes arsenic more dangerous is that it is not easily detected.

⁴⁷ Groundwater in the Bongo District of the Upper East Region was severely affected by fluoride contamination. This manifested itself in dental problems in the area especially amongst children. The vast majority of boreholes were reported to have high fluoride levels. While the safest concentration of fluoride was reported to be 0.7 milligrams per litre, water in the Bongo area had 4.6 milligrams per litre. CWSA did not fix handpumps on those holes, or closed even them. Understandably this involved misunderstandings with the local population that had mobilised funds for the facility.

water facilities had not necessarily resulted in an improvement of water service for all on the household level.

There was no coordination of activities relating to water points and latrine points, different companies in the sub-sectors acted at different times. This could of course cause severe contamination of the drinking water source. The communities were left to themselves unless very strong health problems came up., e.g. after domestic pit latrines had been built close to a well. In practice water users could ask for a test only when something had gone obviously wrong.

The NCWSP had not provided any mechanisms to regularly test the water quality and groundwater levels. Most of the providers of water supply facilities were installing points without due consideration to water quality testing. This was based on the assumption that groundwater was safe. The NCWSP had not made it mandatory for providers to conduct water quality analysis (MWH, 2004a; ProNet, 2001).

Although the problem of poisonous minerals in water had been known not much had been done about it in terms of research and development before 2003. There were sporadic but uncoordinated attempts by single donor organisations or by engineers from the KNUST to find a solution to the problem. Some trials with appropriate technology options were reported to be going on in 2003 and 2004 (CIDA & CWSA, 2003a, see 5.3.5.)

NGOs had proposed several measures: mandatory quality testing by all water providers before handing any facility over to the users, adequate financial provision for water quality analysis and monitoring by the GoG (WRC and/or CWSA) and the donor agencies, guidelines for water quality and effluents should be converted to standards, special laboratories with the oversight role to ensure standards, water quality testing should be demystified by training and empowering students/teachers of science for participatory water quality surveillance systems at community level, and DAs should enact and enforce bye-laws that would protect water sources from possible contamination (ProNet, 2001:14-15). However, these propositions had not been implemented.

Persisting environmental problems are related to a lack of enforcement mechanisms: Throughout the period under review there was inadequate capacity for enforcement of standards for water quality (raw or treated), water resources planning, operation and maintenance. Although there were laws that governed water abstraction, pollution control and protection of catchments, these were not satisfactorily complied with or enforced. Multiple environmental problems, therefore, were arising from land degradation and waste discharge from domestic, municipal, industrial (including mining) and agricultural sources into rivers and reservoirs (see also MWH & WRC, 2002).

Settlement and accessibility. Settlement patterns may constrain the effective provision of water. In northern Ghana the so-called urban centres "are nothing more than agglomerations of rural centres with a semblance of some urban characteristics. ... the scattered nature of the rural settlements poses a serious challenge to the economic provision of standard social services" (Bacho, 2001:36). The siting of facilities, albeit determined by ecological factors (successful drilling) was an important social and political issue. Unequal physical distance implies unequal physical access and this could lead to feelings of unfairness. This applied to situations in particular where the water problems were severe and where boreholes could not meet the water needs of communities during the dry season. For those living far from the borehole it was a source of dissatisfaction and hence their support for the potable water system was reluctant (Bacho, 2001:126).

In 2004 the EPA was said to require the submission of environmental impact analyses before small towns would receive permits for the construction of new systems. If implemented, this policy would entail increases in the costs of the systems. It was not clear at the time this study was conducted what the implications would be for donor agencies and communities.

5.3.6 Technology issues

The issue of “appropriate technology” was raised by international donors in response to failures concerning technical maintenance and repairs in the 1980s. Thus CIDA, the United Nations Development Program (UNDP) and the World Bank had a range of pump types tested in the field with a view on the so-called Village Level Operation and Maintenance (VLOM) approach. This resulted in the adoption of a new policy by CIDA which included the introduction of more suitable handpump types, the establishment of a pump maintenance system including a handpump maintenance fund, training of village handpump caretakers and communities’ responsibility for O&M of their pumps (Osafo-Yeboah, 2004; Owusu, 1998). In fact this community based approach can be considered as a predecessor to the NCWSP. Based on the results of the UNDP/World Bank study, in 1995 the CWSD standardised four types of handpumps to be installed over the boreholes: India Mark II (Ghana Modified), NIRA, AFRIDEV, VERGNET. “VLOM pumps” were at the time considered to be comparatively easy to operate and maintain at the village level, to be less expensive in terms of capital costs and in the cost of spare parts and to be user-friendly (Owusu, 1998). However, since the introduction of hand-pumps there had been a heavy reliance on imported spare parts for a wide range of different models of pumping machines. This did not change in principle as the four preferred types had to be imported just like other brands. All the technology options of the NCWSP depended on imports and effective distribution mechanisms. When the NCWSP had started, Yanore warned against the threat of insufficient market conditions concerning the sustainability of the technologies involved:

“Perhaps the greatest potential weakness of the new strategy is a viability of a commercial network for spare parts distribution. ... Given the relative absence of suitable outlets in the rural areas and perhaps the probable low yearly sales turn out, spare parts sales on its own may not be economically viable. If prices of spare parts are controlled, it may be even more unattractive, and if prices are liberalized communities might be exploited by distributors” (Yanore, 1994:138).

Ten years later this problem was still a serious issue. Pumps were sometimes not delivered on time after awarding of contracts to the providers. Where hand-pumps had not arrived at the drilling contractor’s site work was delayed which created insecurity on the part of communities that had mobilised their capital contributions. Moreover, in cases of frequent breakdowns of pumps water supply could be hampered by lack of spare parts. Moreover, the pump types chosen might not have been appropriate to be used by every type of beneficiary. The physical power needed to use a hand pump could make it difficult for old women to operate it (Public Agenda, 24-01-2004). Pumps could also be too heavy for weak persons to be pulled out when it came to repairs. During the dry season in many locations of the north the young men, who were needed to pull out the pump, would migrate for labour; they were not available precisely at the time when pumps were more prone to breaking down (Bacho, 2001:136).

A report by NGOs pointed out that the pumps approved for use had become too expensive (ProNet, 2001). An urgent need was noticed to explore the potential of manufacturing a standardised handpump locally, together with the essential spare parts (Bacho, 2001). The NGOs proposed to review the list of pumps, to have other and cheaper handpump types assessed and to support the private sector to develop and manufacture handpumps in Ghana (ProNet, 2001). However, by 2004 that proposal had not been responded to. The private sector was not encouraged to develop and manufacture hand-pumps in Ghana.

In view of the rapid expansion of the delivery of facilities, the pump policy of the NCWSP was supported by a spare parts delivery system that was intended to become commercially viable. In the conception of the NCWSP, spare parts dealers and private mechanics were supposed to provide their services at competitive market prices. Support to the private sector turned out to be difficult because the artisans had no incentives to buy spare parts as long as the pumps were still working, which most of them, being comparatively new, were. A national spare parts strategy was achieved at the regional level but not at the district level. Outlets were only in Accra, Tema, Tamale and Yendi (CIDA & CWSA, 2003c). These outlets, which were managed by a commercial firm, would not survive during the period of low demand unless additional income sources could be mobilised for them. The stocks of spare parts could not be sold at a commercially viable level, because the systems that had been installed were still in too good a condition or because local actors could not afford to obtain the parts needed. In the case of the VERGNET pumps the cost of repairs were reported to exceed the community contribution. This enticed communities to apply for a new borehole instead of funding the repair (MWH, 2004a). There simply was not yet enough demand for spare parts or pump promoted in the NCWSP framework. – This constituted yet another challenge that the donors were facing in 2004. The future would show if the spare parts strategy can deal with the massive problems that were expected as the facilities would grow old and decay. - Studies on the market conditions concerning repair and replacement needs of older supply systems would have been useful; in 2004 some international donor agencies were planning to have them done indeed.

Rainwater harvesting solutions, which involve potentially low cost technologies, were not presented as desirable options for communities (MWH, 2004a). Generally, Ghana's systems of water supply revealed a striking lack of rainwater harvesting technologies for private, industrial and public consumption. In some experts' view, water requirements could be reduced by significant percentages if rainwater harvesting received more political attention. This particular neglect of a potentially appropriate technology was ascribed to the inclinations to more "modern" supply systems as favoured by urban decision takers and policy makers (see also Gyau-Boakye et al., 2004).

Technologies for water quality testing and for the purification of contaminated water were often either inaccessible or not affordable for the communities. Only few laboratories were available all over the country. Simple filtering technologies based on local materials were being tested on a pilot basis to deal with groundwater contamination.⁴⁸ In theory, the communities affected by polluted water had the choice of investing in small scale purification plants. There were no available results yet concerning the outcomes (demand, willingness/ability to pay, effectiveness and efficiency of the plants, etc.) of those pilot projects.

⁴⁸ Thus at KNUST a plant had been developed which neutralises fluoride and manganese by charcoal under anaerobic conditions and by sand filtering.

There were some indications that the choice of facilities was in fact not as demand-oriented as the design of the NCWSP had intended it to be. First, the truly low-cost choice of protected well without pump, which was included e.g. in a DDA in Mocambique (Brislin, 2003), was not considered a legitimate technical option in the NCWSP. Secondly, there was no opportunity to choose among different pump models. Thirdly, decisions about the small towns facilities seem to have been taken by the engineers employed by the CWSA according to the categories of population figures (as defined in the Strategic Investment Plans) and according to environmental considerations. These practices testify to the survival of a basic supply-orientation, which may also be suggested by the CWSA stating: "Certain communities may demand and may be capable of paying for superior facilities than that which may be prescribed; ... a facility may be prescribed for a community that may not be technically feasible to construct (emphasis mine)" (MWH & CWSA, 2004e:46). If true, this was clearly counteracting the principles of the DDA.

6. Summary and prospects

A range of severe problems of potable water supply in Ghana's rural and urban areas, coupled with a change of paradigm in the global water discourse, had entailed comprehensive reforms in the water sector after 1990. The National Community Water and Sanitation Programme (NCWSP) constituted the first attempt in Ghanaian history to submit all international projects supplying improved water to rural and small urban areas to a national policy of community demand orientation. Policies of the NCWSP were adapted to a perceived need to privatise the sub-sector of urban water supply; rural and small urban supply systems were to be transferred to community ownership and management, with local government bodies, the District Assemblies (DAs), acting as contracting entities on their behalf. At the national level, the Community Water and Sanitation Agency (CWSA) had been created as a general facilitating body and partner of the various donor agencies active under the NCWSP. In the course of the period under review policies were adapted to "lessons learnt" and trends in international development discourse. Thus, at the turn of the millennium, the poverty orientation became prominent among the targets of the programme.

After ten years of operation (1994-2004) the NCWSP had succeeded in rehabilitating old supply facilities and distributing new facilities of potable water supply in all the districts of Ghana. Thousands of rural supply facilities as well as hundreds of small urban supply systems were transferred from centralised public to decentralised community management. New organisations and institutions were established for the facilitation and implementation of the NCWSP strategy both at the national and local levels. Demand for improved facilities on offer were reported to have been high, and communities made various efforts to meet the conditional 5% capital contribution to the investment costs that were required by the demand-driven approach (DDA). Extensive support was given to the training of new and of existing organisations and actors, in particular the DAs, private companies and entrepreneurs as well as the Water and Sanitation Development Boards (WSDBs) and the Water and Sanitation Committees (WATSANs). Various reports and studies support the conclusion that the NCWSP had contributed to sensitising the public to the concept of potable water being an economic good rather than an "open access resource". In many places women's and children's labour burden of fetching water was relieved, and guinea worm infestations were reported to be declining.

While available statistics about the coverage of the country with improved supplies and other quantitative indicators have been considered as doubtful, national and international actors, however, had apparently agreed to assume that national coverage had risen from about 30% to about 41%. However, most of the achievements of the NCWSP were reported to be lagging behind the targets that had been formulated at various times in the course of the programme. Throughout the period under study it was noted that the implementation was meeting considerable difficulties particularly in the phases after infrastructure provision in the domain of small urban drinking water supply. The sustainability of the facilities, in which millions of dollars had been invested, was threatened by a variety of unresolved problems. In addition, the purported demand orientation turned out to be questionable in view of technical options and limits of participation. The framework and the constraints of the NCWSP in Ghana suggests the possibility that the short-term winners of programmes of improving the supply of potable water, i.e. the women, children, may become the losers in the long run.

Institutional constraints to reaching the objectives can be attributed to various actors and institutions at micro-, meso- and macro-levels. They comprise problems of the policy framework, of funding, of lack of staff both in terms of qualifications and quantities available, and of shortcomings in the design of new institutions.

In many communities the maintenance of facilities on a commercial basis (tariff systems warranting sustainability) remained an unresolved and widely recognised issue, particularly in the small towns. Less noticeable – or noticed – was the exclusion of poor communities from the programme's services. The demand-driven application procedure in practice was found to be clearly working against the interests of poor rural communities. This was not because of their inability to pay the community contributions but rather because the application process was heavily weighted against the marginal communities in terms of location, size and bargaining power of their leaders. This proves the weakness of the common assumption that drinking water provision as such reduces poverty.

A wide range of international donor organisations had generously supported the programme. They had influenced the formulation of the policies of the NCWSP and continued to be doing so at the time this study was concluded. However, the problems encountered at the local and district levels were related to or even aggravated by the inability of the donor community to coordinate their project policies.

Dissatisfaction with the performance of the CWSA and the DAs was pronounced among the donors. Conversely, these Ghanaian actors were under very high pressure to meet multiple expectations in spite of capacity problems and weak government support. In the design of the NCWSP the political and economic framework at the macro-level and lower-level complexities had not been sufficiently taken into consideration. Local institutions and actors were ignored, local outcomes monitored only sporadically outside the framework of formal quantitative indicators.

The general problem was that foreign donor agencies had created, in accordance with new paradigms such as the demand-driven approach and the Integrated Water Resources Management approach, new institutions, organisations and actors that were cross-cutting the mandates of institutions, organisations and actors that were already in existence - whether domestic or established by foreign intervention from other sectors or even within the same sector. Intersecting and unclear mandates and competences resulted in legal pluralism which could be exploited by well-informed members of the political elites to their own advantage. Compliance of Ghanaian actors appeared to be ambivalent. On the one hand, there was official agreement with the policies and project laws prescribed by the World Bank

and by other donors. On the other hand, latent disagreement and individual political agendas seem to have been working against those policies and laws. More detailed research is needed about the strategic aspects of development partnerships in the sub-sector under review.

Parallel political processes of centralization (passing of laws, standardisation of local constitutions) on the one hand and decentralisation and devolution on the other hand constituted a prominent institutional inconsistency affecting the performance of the NCWSP. The DAs were not adequately supported by the government and were suffering from problems of human and financial capacity as well as a lack of legitimacy. Disengagement of local institutions from the state and lack of enforcement mechanisms would not facilitate the translation of any laws, bye-laws and regulations into practice.

In the context of the demand-driven approach of the NCWSP particular organisations and procedures were promoted, albeit in a largely uncoordinated way due to the diversity of project approaches. Beyond the promotion of gender-inclusive self-help organisations charged with the management of potable water resources, no provisions had been made for the inclusion of the poor sections of communities before the process of the Ghana Poverty Reduction Strategy (GPRS) started. Rather, as far as processes of internal distribution are concerned, a "leave it-to-the-locals"-attitude seems to have been prevalent. Preliminary evidence about the formation of local level organisations in charge of the water points and systems and related decision making processes suggests that members of the local viz. district elite 'captured' the resources introduced by the NCWSP, e.g. in the selection of communities and sites for the facilities.

Considerable variation was noted concerning the 'local logics' and criteria for the selection of committee or board members, procedures of raising capital contributions and levying, mechanisms to avoid exclusion of the poor as well as imposing sanctions. Some of the findings agree with the theoretical factors favouring collective action in natural resources management. Unintended outcomes in favour of poor intra-community sub-groups could be observed - irrespective of any CWSA activities of institutional crafting or those of any other organisation, for that matter.

Whereas poor communities were standing low chances of gaining equal access to improved water resources by virtue of the selection processes at the district level, poor households/individuals within communities seem to have been served on account of informal traditional institutions which effected an unintended 'trickle-down-effect': According to 'altruistic' norms or, in economic terms, to local mechanisms of "cross-subsidy" the poor, old and handicapped were charged by lower fees or even exempted from payments for water in most communities where surveys and studies have addressed this topic.

As far as gender is concerned, there was a relatively strong numerical representation of women in the decision making bodies at the local level. Their "voice" however, tended to remain low compared to the male members who would occupy the more powerful positions within the organisations. There is definitely still a need for research about the implications of women's and other groups' representation in WSDBs and WATSANs.

How was the NCWSP going to carry on? The outcomes of some general ongoing reforms can be expected to be affecting the sub-sector of small urban and rural drinking water supply. In addition to developments already mentioned in previous sections some of the major reform processes that were going on in the year 2004 are sketched here. Weaknesses of the decentralisation process were to be addressed as well as weaknesses of governance in the bureaucratic system in general (DANIDA, 2003a; GoG/MWH, 2000, MLGRD, 2003).

Monitoring and evaluation induce both foreign and domestic development agencies to learn during the process of project implementation. There was a range of strategic and practical recommendations issued from the ranks of the NCWSP arena, based on "lessons learnt", concerning the implementation of water supply projects in Ghana. In the second phase the donor community have tended to react to reported shortcomings by increasing the budgets for capacity building at all operational levels and by creating still new institutions or reforming existing ones. The CWSA brought their policies in tune with the targets of the Millennium Development Goals of the United Nations. General targets of the GPRS speak of far-reaching interventions in the political structures of the country that promise to improve the institutional framework of the NCWSP. Discussions were going on between the government and donor agencies to adopt a multi donor budget support system or a Sector Wide Approach.

The CWSA. The performance of the CWSA was to be improved in various respects. The dearth and inconsistencies of data managed by the CWSA were to be alleviated by means of a computer-based National Monitoring System that had been introduced in 2002. It was expected to improve capturing, processing and reporting on the activities of the CWSA nationwide. A process of developing the CWSA organisation was initiated in 2004 to deal with communication problems in the regions served by a KfW/GTZ project. This process was expected to support the CWSA's work for sustainable water and sanitation services in small towns. Through stakeholders' participation and dialogue relationships, roles, responsibilities and procedures among the main stakeholders (CWSA, WSDBs, DAs, DWSTs, beneficiary communities) were to be clarified and improved. The measure was to contribute to a comprehensive water sector policy document which would help to remove inconsistencies and provide linkages among the various stakeholders (MWH & CWSA, 2004d).

In order to complement the inadequate budgetary allocation of the Government the CWSA was pursuing a "fee for service" concept since 2002, negotiating with its development partners on a "management fee" for managing their investments on their behalf. The intention was to levy a five percent charge on donor funds that the Agency would be able to disburse to DAs through the donors' projects each year. In 2002, only the IDA/World Bank and DANIDA were implementing the concept. The CWSA wanted "... to follow up on all the others partners to ensure that they adopt the concept" (MWH & CWSA, 2003b:20). One more donor agency had committed itself to implementing that concept by 2003, and DANIDA and the World Bank were proposing to include that fee in a national water sector policy that was being drafted in 2004. – However, the "management fee" was a contested issue, and it seems unlikely that all the donors were going comply with this policy.

The Ministry. While the GTZ was trying to "develop" the CWSA, DANIDA was trying to "develop" the MWH. The Ghanaian Water Directorate was launched within the MWH to provide an overall policy or strategy for the Ghanaian water sector. It was expected that this directorate would become an important department within the ministry, and that this measure would be a step towards creating a Ministry of Water, Public Works, and Housing.⁴⁹ The MWH's (Water Directorate) role in policy formulation, monitoring and evaluation, coordination was to be strengthened. This was expected to facilitate the assessment of

⁴⁹ Furthermore, the directorate was to be entrusted with representation of Ghana's water interests on the international stage. This mandate was in clear competition with the mandate of the Water Resources Commission. Both organisations and corresponding institutional changes had been initiated by the same donor agency (DANIDA); special coordinating efforts needed to be taken to avoid the impression of incoherent decision-taking and institutional duplication.

access rates, progress achieved towards targets, and timely identification of performance shortfalls (MWH, 2004b).

A new water sector policy document was being prepared by DANIDA in collaboration with national stakeholders and other international donors. The document contained detailed proposals for the responsibilities and mandates of those actors at the national, district and local levels that were deemed as important (not local authorities and other relevant actors though). A wide range of procedures and regulations were addressed; these affected in detail the selection of districts, the cycle of community sub-projects, strengthening of the sector, procurement, financial management, training, monitoring, evaluation and reporting (MWH, 2004b). This effort can be read as an attempt to reduce legal pluralism in project law by consolidation of all rules under a unitary policy or rule.

In the opinion of some experts, there was a need for institutional consolidation at the district and local levels. For example, community bye-laws, and 'indigenous' rules and regulations, were still to be legally backed - a challenge that was to be addressed by the DAs which had the mandate under the Act 462 to formulate and implement bye-laws (MWH & CWSA, 2004c). Efforts at the standardisation of local regulations were being increased. In 2004, a study evaluated the various WSDB constitutions and bye-laws that had been devised in the context of several projects. A model constitution that corrected previous mistakes and closed institutional gaps was recommended for general implementation (European Development Fund, 2004). In the same year, another study, commissioned by a different donor, also recommended to draft model bye-laws for the creation of WSDBs (MWH & CWSA, 2004c).

The district level. Since 2003 there had been attempts to improve the institutional framework of the DAs, and discussion of future fiscal decentralisation continued. The DAs had demanded an increment in the District Assemblies Common Fund (DACF) to enable them carry out their development activities on several occasions (Public Agenda, 24-01-2004). According to a Communiqué of the DAs issued in 2003, contributions to the capital cost of construction of water facilities should be limited to payments by communities only.

Reforms envisaged in the framework of the GPRS for 2003-2005 were geared to mend a wide range of existing institutional constraints: Increasing the District Assembly Common Fund from 5% to 7,5 %, rationalising and defining the roles of regional and district departments, conducting courses on open and participatory governance for Regions and Districts as well as courses on composite budgeting for DAs, revision of the Local Government Service Bill, and generally reviewing the legislation related to decentralisation. Further measures envisaged were the introduction of a "hard living allowance" to attract qualified staff to remote areas, preparing district poverty profiles, and achieving capacity of DAs to formulate basic development plans, programmes and projects. A constitutional process to get all Assembly members and District Chief Executives elected was to be initiated. Moreover, a mechanism for working partnerships with NGOs and private business sector, community participation, including annual participatory poverty analysis at Unit level, were to be established (GoG 2003:134-40).

It was expected that the enactment of the Local Government Service Act (Act 656), which was passed at the end of 2003, would regularise some of the staff problems. Its purpose was to establish a Local Government Service, with a governing body, whose object was to secure the effective administration and management of local government in the country, in particular the District Assemblies and Regional Co-ordinating Councils. Furthermore, a District Assembly Works Department was to be set up which would handle all technical and constructional activities of the DAs including water and sanitation. This

department was supposed to be equipped with the requisite technical personnel to supervise water and sanitation projects, among others.

The creation of a National Rural Water Fund was suggested with community contributions as well as contributions from “other benevolent sources”, such as the private sector, corporate bodies, chiefs, to help with provision of water for rural communities. The establishment of such a fund was conceived as providing the local government with additional financial resources for the expansion of rural water supply and coverage (Public Agenda, 24.01.2004; see also Department for International Development, 2004).

The results of all these measures were certainly going to give, if implemented, a new twist to the NCWSP at various levels, and ensuing developments would certainly be worth studying. However, even if some of the institutional overlaps and gaps can be corrected, in the long run technical and ecological problems are bound to increase as the facilities delivered are prone to decay, and groundwater resources are finite. These sources were being depleted indiscriminately, while the services of the NCWSP were still going to be expanded according to the targets of the latest Strategic Investment Plan and of the Ghana Poverty Reduction Paper. Resolving this issue would require extensive research and effective structures of integrated water resources management. A first step to close one of the knowledge gap was taken by CIDA, which started to fund a Hydrogeological Assessment Project in 2004, aiming to identify and monitor groundwater resources and improve their management in the north of Ghana.

7. Conclusions and recommendations

While the NCWSP can be considered as an example of a programme exploring strategic linkages between communities, private and government sectors it certainly does not seem to provide a “success story” in terms of institutional design. Rather, the relationship between ends and means in view of DDA requirements was not balanced; policy discourse and policy practice have been disjointed; there were inconsistencies of planning and implementation as well as unclear mandates of national actors. The NCWSP can be taken as a case in point to illustrate the fallacy of development planners establishing new institutions and actors in basically unknown political arenas from local to national level.

Inherent to the institutional design approach is a normative and prescriptive attitude, a conviction that things can or must be done in a particular way, such as the demand-driven approach, a government-written Act, private sector participation, a gender-inclusive concept of a WATSAN or WSDB, standardisation of bye-laws, etc.. As Mollinga and Bolding convincingly argue, this is the kind of simplification that enthruses people, but,

“as emerging evidence shows, this also suggests too easy roads to ‘success’. At a more detailed and practical level of policy and project reports much more content can be found, with a much lower level of simplification. But in such documents ‘power and politics’ and ‘contextualization’ are conspicuous by their absence” (Mollinga & Bolding, 2004: 293-294).

Policies inspired by the demand-driven approach have been – and are being – promoted by many donor agencies in the belief that they will effectively achieve sustainable water supplies. An assessment of the effects and an empirical critique of the design of the reform processes inherent in the NCWSP suggests that water supply programmes are structurally constrained to fulfil the principles of meeting demand and rendering supply sustainable. This holds a) because both local and wider political contexts tend to be ignored,

b) because the DDA as such suffers from simplistic assumptions about the workings of participation, closing its eyes on local power relations, and c) because of misinformed or incoherent planning and a concomitant lack of financial and human resources, due to the institutional constraints and logic that development actors are subject to. Indeed evidence suggests that some of the positive effects beyond the mere provision of infrastructure turn out to be unintended outcomes.

A scenario with sustainable supply systems that are distributed and used in an equitable manner is unlikely for technical and economical reasons. Obviously, the idea of the DDA that poor communities can or should be 100% responsible for operation and maintenance and replacement is unrealistic.⁵⁰ Moreover, by excluding protected wells and rainwater harvesting technologies the NCWSP effectively eliminated low cost options for communities that were organisationally weak and impoverished and could not afford the other technical options. The users may eventually abandon broken water supply points and return to unprotected sources.

Reviving an old discussion about “appropriateness” of introduced technologies may be necessary, particularly in view of the comparatively poor performance of the small urban supply systems. The question needs to be raised how “appropriate” imported technology options can be, where policy-makers and local people are not just dealing with problems of technical and managerial capacity but also with economic problems of marketing and distribution. Even if the knowledge or capacity gap can be closed by increases in research, training and capacity building, as suggested by the CWSA, the donor agencies and some scientists, the problems of the facilities’ materials remain.

Experience has shown that less choice means less sustainability, as is evident from years of supply-driven programmes. Communities should have the option of asking for their broken hand-pump to be replaced with less expensive and sophisticated technologies such as protected wells and rainwater harvesting devices. Communities, understandably, would rather have a regular and reliable supply of water that they can sustain than a hand-pump that supplies higher quality water but is unreliable and too expensive to sustain over time. Concerns about water quality, pollution and health associated with such wells are understandable, but it is important to bear in mind the realities communities face in sustaining their water supply:

“A well maintained, protected well is better than a broken handpump. Where communities cannot sustain a handpump, In fact, evidence shows that water quality in protected wells with a dedicated rope, bucket and windlass is quite good” (Brislin, 2003:6).

Apart from simple supply technologies, appropriate (cheap and manageable) technologies for the purification of contaminated water deserve more attention. Another challenge is to develop support systems to respond to maintenance and repair problems beyond the community’s responsibility, and to ensure that this response is effective and rapid.

“Invest in the state, and be sure that government has the resources necessary to promote, monitor and supervise construction and highlight best practices in the sector” (Brislin 2003:10).

⁵⁰ Brislin reminds us that no country in the world “... actually makes communities 100% responsible for operation, maintenance and replacement, and our experience suggests that DRA is somewhat overstated in its zeal for 100% community operation and maintenance responsibility. Water supplies are heavily subsidised in the USA and Europe, where water is artificially low in cost and where new water systems and upgrades to existing systems are always done with state funds” (Brislin 2003:9).

An unresolved principal-agent-problem (North, 1995) has been inherent to the NCWSP, and it has been increasing as the range of actors grew more complex as private sector participation increased. According to institutional theory agency costs arise as the division of labour intensifies in a hierarchical nature. Whenever an individual or organisation (principal) engages another individual or organisation (agent), to whom some decision-making authority is granted, a potential agency problem exists. Their interests may diverge, consequently there are transaction costs in monitoring the behaviour of the agent. First, a simple assessment of the capacities of the actors involved in the arena of the NCWSP, i.e. the DAs, WATSANs, WSDBs, NGOs, donor agencies, private companies or the regional branches of the CWSA, suggests that sufficient consideration of such transaction costs is unlikely to ever be achieved.⁵¹ Secondly, the assignment of roles in this collusion model was by no means clear – which of the national and international actors were to be the “principal” and which the “agent”?

Ubiquitous stressing of a) the need for additional funding by the national actors and b) the need for capacity building by international actors can be interpreted as attempts at glossing over inherent inconsistencies in the sub-sector. While there was no denying that available capacities have been insufficient in absolute terms, remedial measures conceived in technical terms, such as increased training, logistical support or monitoring and evaluation software, are unlikely to succeed as long as the political environment remains as it is. Clearly, institutional difficulties in Ghana’s political environment would have deserved more attention.

The World Development Report 2004 stated that the inflexibility of donors concerning the financing mechanisms was one of the major bottlenecks for more successful sector-wide approaches (World Bank, 2003c:214). Bilateral donors would most probably identify capacity constraints and weak accountability on the recipient’s side as the critical issues, justifying the project approach as the appropriate mode of intervention. It is not fully understandable why some of the major international donor agencies favour general budget support to basket funding in the framework of sector-wide approaches. Budget funding reduces transaction costs, but the general assumption that the recipient’s capacity problems are solved almost automatically when the donors simplify their procedures seems to be too simplistic.

Effective policies directed at the harmonisation of the donors’ activities are missing. Sporadic coordinating initiatives by single donor agencies are laudable, however, they can also be considered as window-dressing. Donors’ interests are structurally heterogeneous and ultimately guided by particular interests, which would render any attempt at coordination unlikely to succeed. Provided the tasks of coordination and communication were realistically rated and officially planned at the beginning of a project, the resources needed would inflate the project budgets to unacceptable degrees. On account of international conventions of cooperation, in fact the costs could only be listed among the necessary contributions required from the national partner agency. However, this would make any optimistic prognoses about the projects’ success impossible, for even superficial research would show

⁵¹ At the international level, another principal-agent problem comes up: a control problem between the international public and tax-payers in the “north” (as principal) and the donor organisations acting in the “south” (as agent). In a comprehensive discussion of conventions of reporting and conflict avoidance in the ‘donor-cum-partner community’ Rottenburg has succinctly analysed this peculiar relationship, in which the principal is chronically underinformed or even misinformed (Rottenburg, 2002). Obviously, the community in question profits considerably by this lack of public control.

that the expected partner contribution could not seriously be expected. The donor agencies would be forced to postpone the projects or be charged with a substantially larger effort at project advising/supervision. Occasionally the donor would have to flatly decline a project proposal. But projects that have been approved of and conceptualised, have very little chances of ever being stopped: One party has to spend its money, another party believes in the fringe benefits and a third party, i.e. the private sector, wants to earn money. Thus the financing agency turns a blind eye on the process and calls for more responsibility on the part of the national partner agency when it is much too late. A fulfilment of this claim, however, is unlikely to ever happen – as all players know but never mention in public for diplomatic reasons (Rottenburg, 2002).

Frequently, non-acceptance of project aid has been attributed to a lack of education or capacity among the intended recipients. However, in most cases people's reactions can convincingly be explained by the constraints given in their respective institutional and natural environments. Therefore non-participating communities, social sub-sections or individuals within communities deserve closer attention. A truly demand-driven approach would require more preparatory research and flexibility. For example, capital cost contributions cannot be uniformly applied, because there is an inherent unpredictability of costs that have to be met by the communities on account of variations in geological conditions and many other factors.

Pursuing the DDA, the international donor community engaged in the water sector seems to have returned to the unitary conception of communities as internally consistent across groups, individuals and situations – a conception that has been challenged by social scientists for a long time. While the NCWSP holds on to the concept of community, social scientists generally agree that the image of community is historically wrong, that social and economic life as well as development depend on an interplay of different interests, strategies, sets of norms, compromises, and cease-fires (Elwert & Bierschenk, 1988; see also Long, 2001). Various sub-groups of water users can reasonably be assumed to be affected differentially by unitary measures of intervention e.g. women and men, indigenous land-holding clans and settlers ("newcomers"), old and young, pastoralists and micro-irrigators, local government institutions such as the police and health stations, or simply individual actors. Outcomes for these categories of persons at the local level can be due to local power constellations and to the traditional division of labour which determine differential responsibilities in management as well as access to and use of water resources. The World Bank, too, has recently acknowledged that "communities are not homogeneous – problems of exclusion and elite capture can be the same as in government systems. And different communities may have differing abilities to form cohesive groups" (World Bank, 2003c:172). Although the image of homogenous communities has been differentiated by the dimensions of poverty and gender - accepted categories in international development discourse - in the course of the NCWSP, other important dimensions continue to be ignored. The concept of community ownership and management is helpful in addressing the needs of the poor only if locally relevant differentiations and power relations are considered.

In the context of legal pluralism, the analysis of institutions can certainly provide no security of prediction as conventional Institutional Economics and some schools of political science have suggested. - "We cannot predict exactly how newly introduced arrangements will become revised, adapted and socially embedded over time, or abandoned or forgotten ..." (Cleaver, 2002:29).

Policy outcomes are unaccountable in view of the wide range of socio-political settings at the micro-level. Preliminary research has highlighted the importance of local

traditions and socio-political strategies, and the high degree of variation among them. In Ghana, as elsewhere in West Africa, resource allocation has been subject to negotiation and interpretation of claims by competing groups and individuals within and between settlements. Conceptions of property, ownership, access and resource use have complex and flexible since pre-colonial times. In colonial and post-colonial times the situation has been further complicated by the introduction of further institutions and the development of new kinds of client networks and rent seeking (Berry, 1989). "Since all groups pursue their interests in very different systems of social interaction and rationality of action, there is no general agreement about the rules of the game, structures of relevance and common values" (Elwert & Bierschenk 1988:103)⁵². Multiple institutions, including religious systems, are employed by different authorities, gender and generations. Practices of resource access and use are appropriately characterized by the concepts of institutional viz. legal pluralism and "bundles of rights" both in rural and urban situations (Benda-Beckmann, Benda-Beckmann & Spiertz, 1996; Benda-Beckmann, Benda-Beckmann & Spiertz, 1997; Hammer, 1998; Lentz, 2002). Problems of accountability and of legitimacy arise or are rendered more complicated wherever new management institutions are introduced from outside.

Non-participation in communal activities or participatory processes and lack of sanctions against free-riders may be due to complex rational decision making against the background of survival strategies appropriate to insecure environments. Bureaucratic arrangements may be based on principles which by-pass or contradict those inherent to local decision-making and co-operation, such as the minimisation of conflict. Questioning or even contesting the power of one's (potential) 'patron' may not be a desirable strategy where long-term social and political interdependencies count. Conversely, reasons for constructive participation may be diverse. As Cleaver has argued, the benefits of belonging to specific groups and associations include "the opportunity for enjoyable social interaction, of social and psychological support, in addition to functional and productive benefits". And relations of co-operation and reciprocal exchanges "may be indirect and function across lifecourses and even generations as well as across localities" (Cleaver, 2002:26).

In a similar vein, one cannot talk about the failure or success of projects as there are definitely winners and losers from every project, but those winners are not necessarily the ones that the development planners had in mind. Projects are almost never rejected or adapted entirely. We have to consider that what was conceived to be an integrated package is 'unpacked' by local actors and appropriated by individual measures (Elwert & Bierschenk, 1988). Scientists and development planners, too, have to admit a basic knowledge uncertainty and to cope with it.

„In general, legal pluralism calls for greater humility in policies and programmes. It is not a matter of getting the 'right' law or 'right' institution to allocate and manage resources. Instead, rights to resources will be determined through messy, dynamic processes" (Meinzen-Dick & Pradhan 2001:16).

⁵² For lack of research results we can currently only speculate that cultural meanings play a significant role in the regulation of and conflicts about the uses of water resources. Lentz's study about conflicts concerning a pond in Northern Ghana (Lentz, 2003), where the earth priests would organise the yearly communal fishing events in a resource-saving way, is a case in point. The young men defied the authority of the earth priests. While the earth priests based their claims on the notion of an undivided spiritual domain, the chiefs reframed the matter in terms of the modern political divisions. Supernatural sanctions were employed by both traditionalists and Christians in a conflict about the use of a water resource.

As institutional reforms were going on at the district and local levels, the question needs to be raised if attempts to standardise local arrangements are likely to serve the needs of the poor. First, where legal pluralism reigns, which arrangements/regulations out of the local repertoire should be picked for standardisation? At whose advantage/disadvantage? Secondly, local governance is subject to manipulations of the powerful and enforcement is an arbitrary affair. If “legal backing” is confined to the formulation of regulations without empowering the marginalised, there is some danger that the traditional and educated elites (today these sub-groups tend to be identical to an increasing degree) capture the process.

Additional legal reforms at the national and district levels contribute to increasing the complexity of institutional pluralism. Only the privileged and well-informed can make use of this complexity. Moreover, it is hardly possible to enforce policies and laws under the socio-political circumstances prevailing in countries like Ghana – unless substantial efforts were taken to expand the institutional design to core areas of the Ghanaian judiciary and executive systems that are governed by notoriously weak institutions (lack of transparency, corruption etc.).

How can these insights, including an awareness of huge knowledge gaps and structural contradictions among actors, be sensibly translated into programmes and policies?

The solution most widely accepted among development scientists is the optimisation of the institutional design by diversifying and increasing the knowledge base about conditions favourable to collective action. Collective action theory supports the view that local experiences of cooperation and conflict resolution may favour or impede sustainable management of resources. Thus Bacho argues that institutions and income generating activities that are carefully crafted according to “time-place knowledge of the specific community groups” are more likely to sustain collective group initiatives in the provision and maintenance of infrastructure services (Bacho, 2001:48). And the World Bank concedes: “Much more needs to be learned about how to organize and access communities in the regulation of services” (World Bank, 2003c:169).

Further research is required to understand the processes of participation in decision-making, access and usage and in activities relating to water use and maintenance of facilities, including capital cost or other contributions within communities, WATSANs and WSDBs.

To what extent the local institution of “cross-subsidizing” the poor can be generalised certainly deserves closer investigation. The finding has been mirrored by a comparative study on local water supply management conducted in Benin: Communities were reported to recognise and deal with “equity” problems in their midst. Differences in access to potable water for the poor and rich were minimal. Generally there was a way of dealing with the poorest households by letting them have water for free or for a smaller fee. Everybody contributed to constructions, but often according to his or her means. On average, poor men contributed three times less of cash than men who were better off. Women contributed slightly less than men. The authors conclude that the finding that “equity was quite good in terms of access and financial matters ... may be more due to Benin’s cultural traditions of helping neighbours than the strategy’s principles” (Mukherjee & Wijk, 2003:110). – According to the rationale of institutional design more knowledge is required about the conditions where the “leave-it-to-the-locals” approach may be justified.

However, confining efforts to this kind of collective action research seems to be too narrow. Ignoring diverging interests and power relations among the actors in any development arena involves a risk of falling into a ‘trap of irrelevance’. There is further need

to study the interests and agency of development actors, "how policy processes discipline meaning, perception and behaviour", how policies are constituted, "how interest groups are labelled and how other simplifications are constituted" (Mollinga & Bolding 2004:298).

However, there are at least two structural impediments to increasing relevant research in and about development arenas. First, substantial increases in research budgets would be required, which is not feasible under the prevailing conditions of research and development cooperation. Secondly, and understandably, development planners and donor organisations tend to be disinclined to have too detailed knowledge about the complexities and fundamental contradictions in the multi-level arena of their operations – which might reveal the "incompatibility between administrative rationality and effectiveness" (Quarles von Ufford, 1993:154). Scientific results can be discouraging to the committed individual actor imbued with a mission of saving the poor from misery. To domestic and international development organisations they can be dangerous as they threaten their public legitimacy.

8. Annex

8.1 Table 3: Interventions by international donor agencies since 1993

Donors' Major Interventions*						
Donor	Project Name	Amount	Location Area	Objectives	Date/Duration	Status
Agence Francaise pour le Développement (Afd)	Phase 1a	120 million FF	Central region - all districts	420 water points	1999-2000	Completed
	Phase 1b			400 water points		
	Phase 1c			18 small towns & 140 water points		
	Phase 2	58 million FF	Northern Region - Western Corridor	235 points sources, 13 pipe systems, 2000 household & 72 institutional latrines	2002-2005	New
Canadian International Development Agency (CIDA)	COWAP	Cdn \$ 11.0 million	Upper East & West Regions	Rehabilitated 2600 water points	1993-1999	Completed
	GAP 1	Cdn \$ 34.0 million	Northern Upper East & West Regions	Rehabilitated 14 small towns water supply systems	1990-1994	Completed
	GAP 2	Cdn \$ 16.7 million		18 small towns water supply systems	1996-2000	Completed
	NORWASP	Cdn \$ 16.0 million	Northern Region, 7 districts in the North-Eastern corridor	70 HDW and 630 BH; 14,000 latrines are expected to be provided	1999-2006	Ongoing
	Small towns water supply and sanitation for 20 communities	Cdn \$ 20.0 million	Northern Region, 20 communities in Eastern corridor	Construction of 20 small town systems	2004-2010	At formulation stage
Danish International Development Agency (DANIDA)	Phase 1	DDK 158 million	Volta Region		1993-1996	Completed
	Phase 2	DDK 11.5 million	Volta Region	Provide water for 400,000 people; 10,000 household & 170 institutional latrines	1997-2003	Ongoing

	Phase 1	DDK 109 million	Eastern & Greater Accra		1999-2003	Ongoing
	Small towns project	DDK 5.0 million		5 small towns	2002-2004	Launched 2002
	Sector Capacity Building Component	DDK 32.6 million		Capacity building for key sector actors	1999-2003	Ongoing
	All Phase II of the DANIDA Sector Program Support is being envisaged	Not yet known		May stay within the current project regions of Greater Accra, Eastern and Volta	2004-2010	Concept paper being formulated
Department for International Development (Dfid)	Water and Sanitation (SEDWSP)		South East			Completed
European Union (EU)	Small towns water and sanitation project	€ 15 million	Ashanti, Western and Brong Ahafo regions	Construction work begins 22nd January 2001 for 25 small towns	2001-2002	Ongoing
	Rural water and sanitation project	€ 14 million	Northern Region, East & West Gonja & West Mamprusi	475 point sources fitted with pumps, 25 boreholes with solar pumping to be provided	2002-2005	Ongoing
	Programming study for small towns water supply and sanitation	€ 32 million	Central and Western Regions	2000 latrines	2002-2005	Ongoing
	Programming for the Northern sector of Ghana	Not yet known	Northern	Selection of consulting firms in progress	2004-2010	New
	Water and sanitation facilities under the management of District Assemblies and some NGOs	1/3 of funding for micro-financing devoted to water supply in project areas		Nation wide	Provision of number of water and sanitation facilities all over the country	Started 1990
International Development Association (IDA)	CWSP 1 - rural water supply and sanitation	US \$ 8.4 million	Northern, Western, Ashanti and Brong Ahafo Regions	1288 water points provided (only 1180 are fitted with pumps); 5931 household latrines	1994-2000	Completed

	Small towns water supply project	US \$ 4.4 million	Brong Ahafo, Ashanti & Western Upper East & Northern Regions	36 pipe schemes	1994-2000	Nearly completed
	Capacity building	US \$ 12.1 million		Part of the CWSP 1	1999-2000	Completed
	CWSP 2 - rural water and sanitation	US \$ 25 million for Phase I	Ashanti, Brong Ahafo, Upper East and Upper West Regions	Provide water and sanitation services to 500,000 peoples, and capacity building for DAs	1999-2002	Launched in May 2000
Japanese International Development Agency (JICA)	Phase 1	Y 890 million	Northern Region - Nandom District	159 water points with pumps		Completed
	Phase 2	Y 750 million	Brong Ahafo District - Berekum & Jaman	310 water points		Completed
	Phase 3	Y 900 million	Eastern Region: 7 Districts; Greater Accra: 2 Districts	425 water points		
	Phase 4	US \$ 5.0 million	Term I	285 water points in 242 communities	2001-2003	Completed
		US 10.0 million	Term II	5 small towns		Suspended
Kreditanstalt für Wiederaufbau (KfW)	RWSP 1, AMER (Conversion Program)	DM 15.0 million		3,800 pumps, 100 new boreholes, privatization of central maintenance unit for seven districts	1997-2000	Completed
	EVORAP - Rehabilitation of systems transferred to DAs by GWCL and community owned systems (21 number)	DM 15.0 million	Eastern & Volta Regions	33 small towns in the two regions	2000-2003	Ongoing
	RWSP 2	DM 5.0 million	Ashanti, Brong Ahafo & Western Regions	270 boreholes drilled, 86 boreholes to be rehabilitated	2000-2002	Ongoing
	RWSP 3	DM 10.0 million	Ashanti and Eastern Regions	500 boreholes and 1000 household latrines	2002-2005	Launched in Sept. 2002

	RWSP 4			1000 boreholes and 2000 latrines	2003-2005	Agreement signed
United Nations Children's Fund (UNICEF)	Phase I assisted program for water and sanitation program	Unspecified	Northern region, Zabzugu, Saboba, Nanumba, East Gonja, Tolon and Savelugu	60 boreholes fitted with pumps constructed, 32 boreholes rehabilitated, mechanical piped system constructed for Savelugu, Pos and water boards established and trained, assistance to guinea worm endemic communities provided	2000	Completed
	Phase II water points and support Guinea worm endemic Phase III	US \$ 5.5 million	Phase II: Northern and Upper East regions, Brong Ahafo (Sene, Atebubu and Kintampo districts), Volta (Nkwanta and Kete Krachi districts) and the Afram Plains of the Eastern region. Phase III: Adidome and Kpando districts of Volta region	Phase II: 120 hand dug and 80 boreholes fitted with pumps, 60 institutional latrines and 240 household latrines	2000-2004	Ongoing

* From: African Development Fund (2003)

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8.4 Abbreviations and acronyms

ADF	African Development Fund
CIDA	Canadian International Development Agency
CSIR	Council for Scientific and Industrial Research
CWSA	Community Water and Sanitation Agency (MWH)
CWSP	Community Water and Sanitation Programme (1 and 2)
DA	District Assemblies
DANIDA	Danish International Development Agency
DDA	Demand-driven approach
EPA	Environmental Protection Agency
EIA	Environmental Impact Assessment
ERP	Economic Recovery Programme
GHC	Ghanaian Cedis
GLOWA	Global Change of the Water Cycle
GoG	Government of Ghana
GTZ	Gesellschaft für Technische Zusammenarbeit
GWCL	Ghana Water Company Limited
GWSC	Ghana Water and Sewerage Corporation
HDW	Hand-dug well
HIPC	Highly Indebted Poor Countries
HSD	Hydrological Services Department
IWRM	Integrated Water Resources Management
KfW	Kreditanstalt für Wiederaufbau
MDA	Ministries, Government Departments and Agencies
MDGs	Millennium Development Goals
MLGRD	Ministry of Local Government and Rural Development
MWH	Ministry of Works and Housing
O&M	Operation and maintenance
ProNet	Professional Network Associates
PSP	Private Sector Participation
PURC	Public Utilities Regulatory Commission
RWSSI	Rural Water Supply and Sanitation Initiative
SIP	Strategic Investment Plan
UNDP	United Nations Development Program

WATSAN	Water and Sanitation Committee
WSDB	Water and Sanitation Development Board
WRC	Water Resources Commission (MWH)
WRI	Water Research Institute (CSIR)

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