HOW WATER USERS OPERATIONALIZE POLICY
The Case of Pump Communities in the Kassena-Nankana [10] District of Ghana

Irit Eguavoen

Center for Development Research (ZEF)
University of Bonn, Bonn, Germany
Email: eguavoen@uni-bonn.de

ABSTRACT

This article presents the results of a survey and long-term field research that focused on the communal management of hand pumps in the Sirigu area of the Kassena-Nankana District of Upper East Region. The premises of the Ghanaian drinking water policy are confronted with field data to investigate the operational impact of the policy, especially with regard to institutional changes. The empirical material illustrates that a policy drawn for an entire country may entail a number of locally specific and not intended consequences. Some concepts of the water policy, such as the 5 % rule and the "one-approach-for-all-the-country" policy could be rethought. Poverty levels and non-improved water sources could be more included in rural water planning.

KEY DESCRIPTORS: Household water, community-based management, institutions, water rights, Pump Communities

INTRODUCTION

Since 1998, water provision for rural Ghana has been regulated under the National Community Water and Sanitation Program (NCWSP). The prime assumption leading this programme is the appropriateness of local water user management and its superiority over centralized management approaches. Before the programme could be implemented, its policy was institutionalized by the creation of administrative management bodies at government level as well as in the form of registered water user groups, elected water committees, a 5 % capital contribution towards facility construction, regular payments and a set of guidelines for hand pump management at local level. Thus, the NCWSP pursues a double strategy of technical and institutional development. It is important to note that the NCWSP was preceded by similar donor policies, which were implemented by CIDA pilots in the Northern Regions since 1985. The NCWSP tackles household water supply under the heading of potable water provision. Therefore, it does not take non-potable water into consideration despite the fact that households in the Volta River Basin draw water from multiple water

This research was part of the GLOWA Volta Project at the Center for Development Research in Bonn, Germany. It was funded by the German Ministry for Education and Research.

sources whenever possible (Kendie & Abane, 2001; Engel, Iskandarani & Del Pilar Useche, 2005; Eguavoen, 2008). Further, the drinking water approach pays little attention to productive water uses, which may be served by water of lower quality and may contribute significantly to poverty alleviation (Moriarty, Butterworth & van Koppen, 2004; Eguavoen, 2008). Ideally, households can choose from several water sources requiring different labour inputs for withdrawal. Hence, it is important to consider also non-improved water bodies in the analysis of household water.

Pump communities are formalized water user groups which constitute around hand pumps, usually with a group of people responsible for operation and maintenance (Bacho, 2001b). Such pump communities may be preceded by project communities – interest groups of water users, which applied for new water facilities under NCWSP. According to project law, such project communities have to display some degree of formalization, such as a list of members, an elected committee as well as a payment scheme to accumulate funds for the water project. The article aims to point out how NCWSP policy was operationalized as well as how new management institutions were operated by local water users. It underlines institutional change, which took place in a rural context of Kassena-Nankana District by presenting detailed data on water management rules and practices. The Sirigu area of the District formed the area of study. The study was mainly based on theoretical analysis of the relationship between policy and practice as well as on the critical debate on the concept of community participation which indicates that most participatory projects are in fact top-down projects. These are then verified against empirical evidence from the study area.

The analysis reveals that community-based management remains limited to practical day-to-day management whereby local people are still excluded from the crucial decision-making processes which define the project rules (Cooke & Kotari, 2002; Lund, 1990; Schouten & Moriarty, 2003). Because access to water is physically but also institutionally determined, the article also discusses water rights (Spiertz, 2000) and the change they underwent under NCWSP. However, the focus of the article is rather on empirical data than on the discussion of theories. This is so because the concept of community participation in Ghana has been extensively discussed before (Bacho, 2001a; Bacho 2001b; Botchway, 2004; Kwashie, 2007; Eguavoen, 2008).

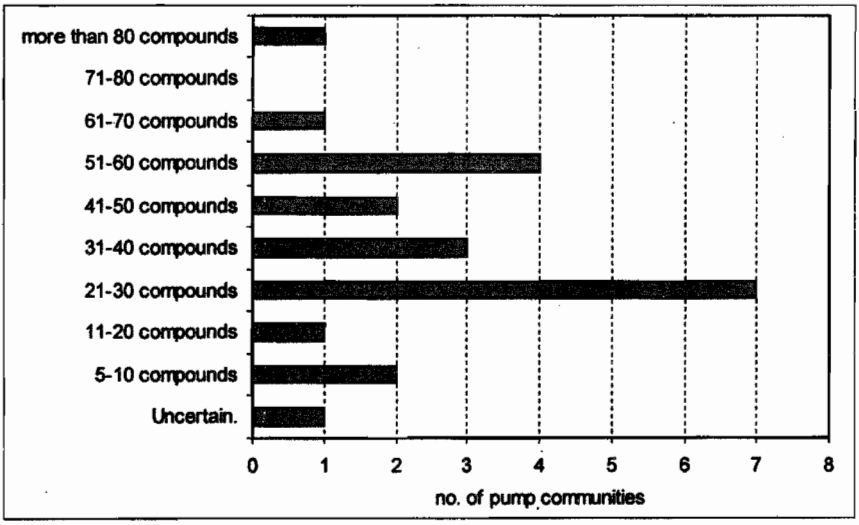
After an introduction to the field site, results from a water committee survey are discussed. Then, the changes in the local water right regime under NCWSP are sketched out. Where possible, the outcomes are compared to similar studies conducted in Ghana. Finally, the article offers some conclusion.

WATER SOURCES FOR HOUSEHOLD PROVISION

The data were collected during a ten month field research in the peri-urban settlement of Sirigu (2004-2006), which is known in Upper East Region for its eco-tourism pro-

located Market Square pump community display very different numbers of users, irrespective of their similar number of member compounds because the latter also serves the non-resident traders and market customers. At the market, other housing types also contribute to unclear numbers. This is so because compound houses may host one up to eight related households but quarters are rented out to a number of unrelated households which register individually and are thus counted as full houses.

Figure 1: How many compounds fetch from your pump?



Statistically, Sirigu can be judged as sufficiently supplied with hand pumps. This is reflected in official investment plans, which state that no additional boreholes and hand-dug wells are required for Kassena-Nankana district until 2010 (GoG/ MWH/ CWSA, 2004). From a local perspective, the situation looks somewhat different. One water expert in Accra summarized that *"Upper East Region is an engineer's nightmare. The houses are so scattered that statistical calculations do not tell anything meaningful about the water provision rate."*[13] All other interviewed water experts shared his view. *"If you see the official statistics they calculate 98 % coverage in Kassena-Nankana district. It is not so,"* explained members of the DWST in Navrongo.[14]

If one divides population and hand pumps, the coverage is very good but accessibility is not always easy due to long distances between compound clusters. Thus, population size is not a good criterion in the regional context. DWST members in Navrongo also acknowledge distance as an important factor and allocate boreholes to remote communities with population numbers far below the required 300 water us-

[13]Informal conversation with Mr. H. Bawah (Water Consultant), March 2006

[14]DWST Kassena-Nankana, interview, 03.02.2006, quotation by Mr. C. Ohene-Eyan.

ers. This means, in fact, that a small number of users have to acquire the same 5 % cost as initial contribution as a much larger user community. Multiple sources of information should be utilized for a meaningful evaluation of local coverage and demand as reflected in the pragmatic approach of this particular DWST.

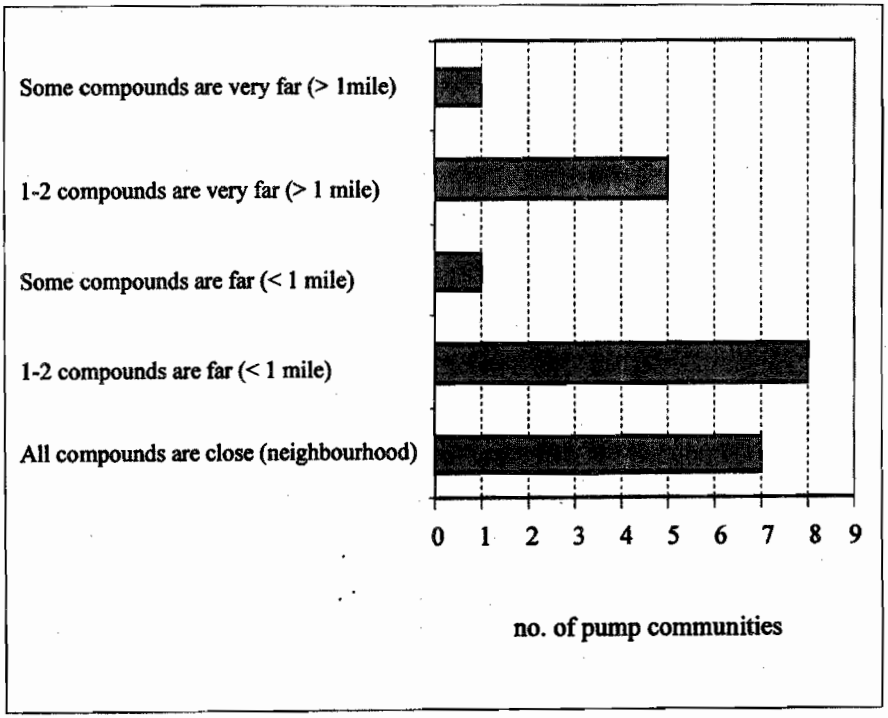
A number of 40 compounds per pump were locally perceived as an appropriate number for users. Current attempts to receive a new hand pump via the NCWSP in smaller pump communities were rather motivated by geographical constraints, being cut off the borehole in wet season, long walking distances to the pump and the need to provide a public building with water. If the number of compounds exceeds 40, the number of water users was considered too large and the waiting times too long. Sometimes, the project communities withdraw water from several pumps, all of them bearing particular constraints. Two sub-sections of Sirigu have no access to improved water sources and draw all their dry season water from either alluvial wells in the riverbed or simple hand-dug wells. But most compounds in Sirigu completely depend on hand pumps for all water uses from the end of December to the beginning of the wet season and face a single source situation.

The number of compounds increased in most of the cases. Only six committees stated that their number of compounds was stable over the past years. Pump communities increase when households start their own compound within the same village section, the establishment of new settlements, in-migration to the village section as well as due to the growing importance of the Sirigu market. Two of these six committees explicitly stated that even though the number of compounds remained stable, the numbers of users increased over the past years due to population growth. This scenario holds true for other pump communities. New compounds also joined for reasons of convenience. The only pump community that lost compounds within the past years was constructed in the 1970s. Compounds moved away when an additional pump was established and compounds moved their membership to the new facility.

In seven pump communities, all members lived close or "*not all that far*" from the pump. In all the other communities, there are people who have to walk up to one mile to fetch water, which was considered far. Very long distances of more than a mile occurred but they usually apply only to one or two compound houses per pump community due to the dispersed settlement pattern (Figure 2). Long distances are not only inconvenient but require more time and strength for water fetching. In many village sections, the livestock is watered by hand pumps because surface water sources lack in dry season. If the borehole is situated too far, the animals do not return to the compounds before sunset and get lost by theft; this was stated to be a serious problem. Generally, the coverage with hand pumps was adequate if measured in terms of NCWSP targets. But the all-year-access to the borehole is a constraint in twelve of the 22 pump communities where streams cut off the way in the wet season. However, this does not necessarily mean that people are completely without potable water during raining season. They may use a farther but accessible pump based on their mem-

bership status in two pump communities or people pass streams when they hold less water. Another strategy is to skip back to streams because such water is abundant and close by.

Figure 2: Distance between compounds and pumps.



Financial contributions

Until 1993, water users in Sirigu were not asked to pay a capital contribution for receiving the hand pumps.[15] The first boreholes were drilled in the 1970s by CIDA under the Upper Region Water Supply Project Phase I, which still stood under the technical development paradigm. But interviews clearly suggest that water users spent on the boreholes. They provided catering and gifts to the GWSC workers. The food items and presents included cereals, livestock, eggs, and pito. These were valuable commodities for both the giving community and the recipient technicians. In some water user groups, individuals or households brought these things to the techni-

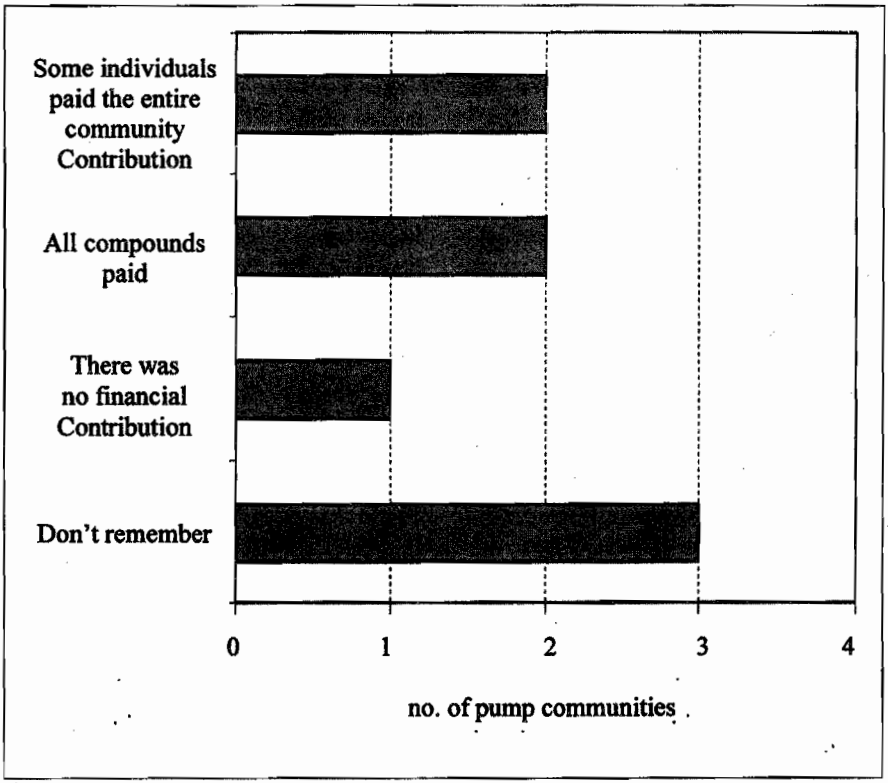
[15]The introduction of a community contribution in cash or kind was reported for earlier periods, such as 1985 in Asunafo district/ Brong-Ahafo region in 1985 (Mumuni, 1997).

cal staff on a rotational basis. In others, the water user group contributed money to a communal fund and bought livestock to give the workers as well as cooking ingredients which were then prepared for them. Thus, the official claim that water users in the 1970s did not participate financially in water projects is not solid. Giving away a fowl in those days, for instance, is quite comparable with paying cash contribution of 20.000 to 25.000 Cedis for current water projects, given the present market value of a fowl. And contributions were even higher. Gift exchange and food provision were perceived as self-evident and neither acknowledged by Ghanaian water professionals nor by the local communities as community contribution. But it hints to the fact that water users took responsibility and showed willingness to participate in water development projects, long before such contribution was institutionalized in project documents. If project communities were disappointed with water officials and communicated anger about drilling teams, they shouted out "*they* [the workers] *took our fowls and broke their promise*" which shows that gift exchange is still practiced. This was also reported elsewhere (Bacho, 2001b: 164).

The NCWSP builds on the premise that financial participation in water projects entails a sense of ownership, which increases the sustainability of the project. This paradigm suggests that the contribution by the water users is remembered, collectively internalized and translated into observable action. Interestingly, the survey results show that in at least six pump communities, such collective memories did not persist, whilst in the other pump communities, people remembered either the amounts of the payments and/ or the procedure of money collection. For example, only half of the pump communities, which received their hand pump during the 1993 well drilling programme and had to pay 150.000 Cedis remembered exactly what had happened (Figure 3).[16] Three of the eight communities did not remember whether they had to pay anything or not. One community even stated that no payments were requested. Two communities were able to explain the fund raising procedure and recalled the amount paid by individual compounds (10.000 Cedis/ 3.000 Cedis). In two pump communities, the community explained that the water project was secured by a number of individuals who paid the entire community contribution because the other compounds were not able to pay their share. This hints to three crucial points. Firstly, if collective memory is the pre-condition for awareness building and the sense of ownership - what happens if communities forget? Secondly, it was not always the community who paid the communal contribution. Thirdly, the project requirements almost prevented the water projects from taking off. It was not possible to find out ten years later how many water user groups had failed in collecting money and could therefore not be served with a borehole.

[16] During the project, thirteen boreholes were drilled in Sirigu but four boreholes were dry. From the remaining nine boreholes, one has gone dry and the pump was capped. Hence, there are eight pump communities left which finally received a borehole.

Figure 3: Who paid the community contribution in 1993?



Case studies suggest that other factors than the community contribution and formal right transfer result in the sense of ownership as intended by NCWSP policy, such as the experienced individual benefits, such as improved health, labour savings, seed capital from the pump fund for income-generating activities as well as the day to day involvement of water users (Bacho, 2001b). Other studies found that a strong sense of ownership existed independent of whether water users paid a community contribution or not (Harvey et al., 2002).

During the time of field research, ten interest groups had organized to request hand pumps according to NCWSP project law. Some had already attained the status of a project community whilst others still struggled with money collection to qualify. Nine out of the ten groups faced big problems in accumulating the required 2 million Cedis plus an additional 500.000 Cedis to open a bank account. Money collection took up to three years. The fund raising procedure varied (Box 1).

Box 1: Fund raising strategies of project communities.

The pump community Basingo Asudoone (85 compound houses) raised the two million Cedis since March 2002 and handed the money to CWSA. Men paid 12.000 Cedis and women paid 10.000 Cedis. Payment in instalments was possible. The village sub-section was divided into smaller units according to *biisi* (lineages) and the sub-chiefs (*naba*) of these areas were in charge of collecting the money and handing it over to the second and newly formed committee of Asudoone project community. The chairman of the first committee is a member of the second and played a crucial role in mobilizing the people. According to the second committee, money collection succeeded because none of the sub-sections wanted to embarrass itself by not being able to raise the money. The site of the new hand pump was left for the technical staff to decide and not contested. Hot debates occurred about the question of who would use the new pump in future. Should the number of compounds be divided into two and should prescriptions be given out where to fetch water? Or should this decision be left to the households? However, compounds also contributed to the hand pump which was not going to be part of the new pump community.

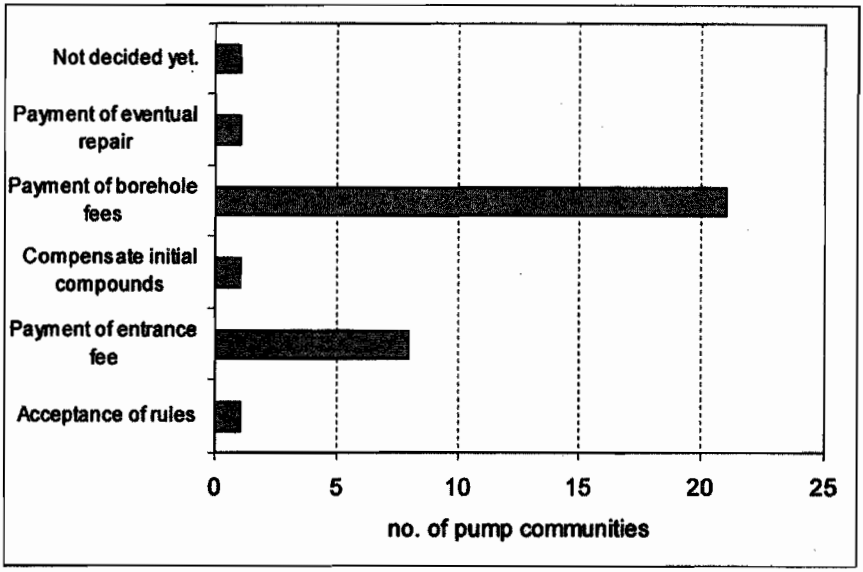
In Dazongo Tanseka, it took the 33 compound houses about three years to raise the demanded amount. Since then, they held monthly community meetings and every married person was supposed to bring 1.000 Cedis to the meeting. After contributing their share to CWSA, an amount of 44.000 Cedis remained in their account. After delivering the money to the DWST, the monthly meetings and contributions continued to build the pump fund.

Even though Gunwoko Bikumdoone was locally described as "*too poor to ever get water*", the members quickly raised the amount after declaring the borehole their priority. Earlier on, their application was always refused due to low number of users (about 150 people). The six compound houses decided that each compound house should sell one cow for the hand pump. Because the ownership of livestock largely differs among the compounds, the burden of the payment was heavier for some compounds than for others

Two common problems occurred, namely, the lack of finance and great mistrust in the water project. People did not believe that the drilling company would come after the payments would be made. In Atieboka sub-section, the drilling company failed to find water twice and promised to return for new test drillings but was never heard of again. The villagers sent somebody to ask in the district administration and to request back their contribution in case that no borehole would be constructed for their community. The response given to the community representative included a promise of paying back the community contribution after subtracting some cost for the failed drilling exercises. The promise was not kept. The collected money was lost. The hand pump was never delivered. Similar experience was gathered in other water projects in Sirigu resulting in general mistrust.

Because compounds join existing pump communities, a regulation for admission had to be created at local level. The most common rule was the payment of an entrance fee. The idea behind this was that the older members who paid a community contribution to the pump provider get compensated for their financial effort (Figure 4). If compounds split, the newly established compound was not expected to pay an entrance fee.

Figure 4: What are the conditions for a new compound to join your pump community? [17]



Entrance fees and compensations for community contributions can take various forms. The money is added to the pump fund and not directly reimbursed to the initial compounds. In two cases, the regulation took the form of a fine against old settlers who did not contribute during the project implementation period (Boxes 2 and 3).

Box 2: Regulations for entrance fees and admission

- A new compound should pay an entrance fee and the borehole fees. (Busongo)
- Small compounds should pay 10.000 Cedis once and the borehole fees; big compounds should pay 2.000 Cedis per adult once in addition to the borehole fees. (Dazongo Zitadoone)
- The compounds should pay the amount of 10.000 Cedis once and the borehole fees from the time of the existence of the pump in addition to the current borehole fees. (Gunwoko Tingino)
- The registration fee for a new compound is 50.000 Cedis. (Heritage Day Care)

[17] Multiple responses were possible.

Box 3: Rules for migrants and new settlers

- If the new compound was around, when the community contributions had to be paid and did not take part then, they have to pay the community contribution in addition to the borehole fees. If the people were by the time of the community contribution down South, they only pay the borehole fees. (Basingo Asudoone)
- For a new settler, the husband and the wives have to pay 20.000 Cedis each. If it is a compound in the area which did not join the contribution before, it has to pay 140.000 Cedis as a compound. (Dazongo Anierga)
- A new settler has to pay the breakdown fee before joining. If somebody returns from the South, he does not need to pay anything for entering but only when a breakdown occurs. (Wugingo Nayorgo)

In 1985, regular payments for the pumps were introduced by CIDA in the Upper East Region along with the formation of user committees. Almost all pump communities ask their members to contribute so-called borehole fees on a regular basis, as suggested by NCWSP project law. Communal income-generating activities to build the pump fund were not observed in Sirigu but in other settlements.[18] Maintenance cost occurs occasionally when pumps require repair. The pump fund may also serve other purposes related to pump management which the pump community may determine. It can include travel cost and "*chop money*" (allowances) for community members who travel on behalf of the pump community, cost of office material or catering for guests (such as Area Mechanics or CWSA staff).

Borehole fees may be conceptualized according to a number of criteria (Box 4 and Figure 5). All borehole fees are flat rates. Only in four pump communities, there were different flat rates charged depending on water usage, such as for commercial use at the market. Charging extra rates would not make much sense in most pump communities where household water needs are rather uniform.

Box 4: Concepts of borehole fees

Yearly fee	vs.	Monthly fee
Compound fee	vs.	Individual fee vs. Cooking places
Gender-equal fee	vs.	Gender-differentiated fee
Both sex fee	vs.	One sex fee
Only men pay	vs.	Only women pay
All compound equal	vs.	Difference between initial compounds and latecomers

[18]Such community strategies included the sale of water on market days (Bacho, 2001b) or the formation of *susu* saving groups (Agbenorhevi, 2005). The *susu* fund is sustained by payments from different income-generating groups and used both to finance pump maintenance as well as micro credits. The interest paid for the credits additionally build the pump fund. Pumps funds in Sirigu which were administered by the Catholic Dioceses office benefited from the investment in food items and zinc roofs. This investment strategy was centrally organized by the office. Also community farming was reported as pump fund building activity entailing the institutionalization of individual use rights. However, in the Upper Regions where environmental hazards regularly occur, this may also be a risky strategy (Bacho, 2001b).

Figure 5: Who has to pay the borehole fees?

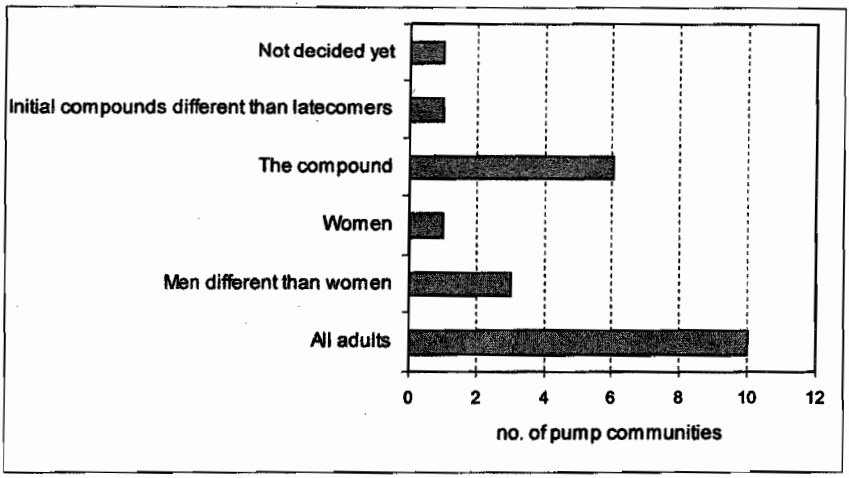


Table 2: How much do you need to pay?

	Pump community	Unit	Yearly borehole fees in Cedis
1	Gunwoko Pontengo	Per compound	12.000
2	Gunwoko Anerigo	Per adult	6.000
3	Dazongo Mission	Per adult	2.000
4	Basingo Tendoono	Per adult	5.000
5	Nyangolino	Per adult	1.000
6	Gunwoko Abeleteo	Per compound	3.600
7	Gunwoko Tingino	Per compound	12.000
8	Amuntanga	Per man/ woman	5.000/ 4.000
9	Market Square	Per compound/ house	10.000
10	Gunwoko Tangasiya	Per cooking place	4.000
11	Busongo Dam	Per man/ woman	2.000/ 4.000
12	Busongo	Per adult	5.000
13	Wugingo Nayorgo	No fees	
14	Atieboka	Per adult	5.000
15	Dazongo Zitadoone	Per adult	1.000
16	Basingo Tenlongo	Per adult	3.000
17	Wugingo Averobiisi	Per compound (initial and latecomers)	5.000/ 60.000
18	Dazongo Atonadoone	Per woman	2.000
19	Basingo Asudoone	Per man/ woman	2.000/ 1.000 (2003)
20	Gunwoko . Sch.	Per compound	24.000
21	Wugingo Kansiko	Not yet determined	
22	Heritage Day Care	Per married adult	24.000

Source: Pump community survey 2004/ 2005

Setting up a rule for borehole fees or commercial tariffs does not necessarily result in the payment of the requested amounts. Some people or individuals may refuse to pay or the regulation could fail completely in practice. *"The compounds should pay 2.000 for a month but they don't pay. They never paid,"* said the headmaster of the Secondary School who opened the institutional borehole for surrounding compounds. It does not imply that the money paid will reach the pump fund: *"One problem we are having is that the boys who wash the lorries put the money* [the rates paid by the lorry owners] *in their own pockets,"* complained members of the Pump Committee of Heritage Day Care. Other cases of embezzled borehole fees happened only with employed area mechanics or individual accountants in the Dioceses Development Office.[19] None of the collected data revealed intra-community embezzlement. It is not certain whether this indicates the reliability of pump committees or their limited accountability towards their communities. Other case studies report this problem (Bacho, 2001b).

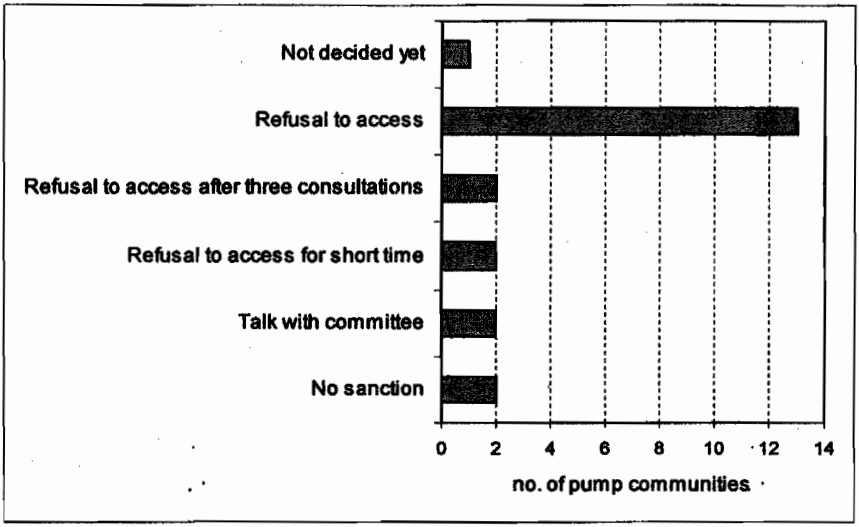
The time of the payments varies basically between two options. In twelve pump communities, the money collection takes place in the beginning of the year. The period from October to December was preferred by six other pump communities. In one case, households could opt for either monthly or yearly payments. One pump community collected monthly borehole fees. Comparing the two main options clearly shows the advantage of the post-harvest period in October (compare Bacho, 2001b). Food items are abundant in the household and livestock can be sold in the market. As mentioned above, the situation in the beginning of the year looks very different. Additional food has to be bought in the market, poultry dies due to a seasonal disease, people fall sick due to Harmattan and pay hospital bills, school fees are charged and funerals have to be financed - old ones, which were postponed in farming season and "fresh" funerals of people who died in January or February - the season of the year when most deaths occur. Six of the twelve pump communities, where payments are expected in the beginning of the year, had to establish additional regulation to meet incapability to pay, such as payment by instalment, extra deadlines for compounds under financial stress due to funerals as also reported by Bacho (2001b). These pump committees complained that payments were much in delay. Seven of these twelve pump communities belonged to the Dioceses well drilling programme and brought the collected 60.000 Cedis to the Dioceses in the beginning of the year to be kept in accounts, means the time of the money collection was prescribed by the Dioceses project law.

In theory, non-payment of borehole fees was sanctioned through exclusion from access in the majority of pump communities (Figure 6). But in practice, this sanction was difficult to implement due to regular single source situations during the money collection period. Hence, a divergence between legal rule and practice emerged regu-

[19] The accountants were held responsible for the embezzlements and had to leave the office. One of them was imprisoned. The Area Mechanic was brought to court, too.

larly. Further, not all pump communities were yet challenged to apply the sanction they decided on. *"We would pour the water and give the empty vessels back to the women"* speculated pump committee Busongo Dam without ever having experienced such a case yet. Pump communities struggling with refusals rather experienced that refusing complete access to water was only possible in cases when the refusing members used two or more hand pumps or during wet season when natural water sources are available.

Figure 6: What will happen if people intentionally refuse paying their fees?



Culturally, it is a serious faux pas to refuse water to somebody. Water is the first thing offered after the exchange of greetings to guests. Forgetting this gesture or not having water in the house leads to endless apologies by the host. People have the right to demand for water at any time and from anybody by simply saying: I want water. Therefore, if the compound has no money at hand and there are no other water sources, it is impossible to refuse them water. The amount of water they are allowed to access might decrease because they are sometimes driven away from the pump. Fetching might be inconvenient and embarrassing due to insults but access cannot be completely refused, especially when they cannot shift to another pump. To prevent the livestock of the non-paying compound to drink water from the gutter of the pump is not practicable. This is reflected in the local water right regime.

In almost all pump communities, individuals or complete compound houses were exempted from borehole fees due to their incapability to afford them. Such people were granted free access to the water without any limitation. This outcome supports earlier findings by Bacho (2001b). If a very poor community agrees on exempting

neighbours from paying borehole fees as low as 5.000 or 10.000 Cedis per year without arguing about it, it must be the most vulnerable people enjoying this solidarity. This category of people includes widows, very old people, sick people, and blind without family support. Usually they are taken care of by their families but childless old people or households with high out-migration rates, the old parents left behind suffer. Widows, especially when old, usually stand without any family support. In cases where this vulnerable person is a household or compound head, the category is extended to the whole house. In Atieboka, out of 45 member compounds, seven were categorized as too poor to pay. In Amuntanga, with 30 members, also seven were said to be incapable of paying. Whilst Bacho (2001b: 160) documented that the use rights of such vulnerable people are linked to their physical presence at community farming events, such dependency was not observed in Sirigu, where no such farming projects existed.

Vulnerable people are supported in different ways by the community. Neighbours fetch water for them, help them to repair their compounds, farm their land or provide them with millet. Usually, neighbours help each other but in this case, they do without expectation of reciprocity, such as receiving help in own construction, food or drinks. When young people are in the vulnerable compound, they are invited to work and get compensated with food or small amounts of money.

CHANGING WATER RIGHTS

Water rights are legal entitlements which regulate ownership, access and use of water facilities. They exist in written form as administrative water rights as well as in informal sets of law, which are not formally documented but known by members of the local communities. Water rights inform practical ownership, access and use of water facilities. But it is important to note that divergences between legal rule and legal practice may occur. This is so because rules can be interpreted and operated differently by actors. Further, several contradictory systems of law or regulation may overlap, such as national water legislation, water project law and local water law (Spiertz, 2000; Eguavoen, 2008).

The rule of access was uniform in almost all pump communities. Only paying members (and those exempted from payments) are granted full access to the pump. Other people are allowed to fetch only small amounts for drinking, for instance, when they pass by the pump on their way to the market. In two cases, special exceptions were made for people who do not live in the pump community but cultivate farm land in the neighbourhood. These people are allowed to fetch small amounts of drinking water to store in clay pots on their field without paying any borehole fee. This practice prevents a situation whereby compounds are forced into memberships of pump communities when they do not use large water quantities as well as it prevents a situation of bad water provision on distant bush farms which may entail a change in seasonality of Guinea worm infections as described in other studies of Northern

Ghana (Kendie, 1992; Hunter, 1997). Because livestock roams freely in the village, it is neither controlled nor hindered to drink from the gutters. Livestock watering rights remained public and were not attached to pump community membership.

Well ownership was linked to land ownership and the construction of the facility. Usually an older man who acted as compound head initiated and financed the digging exercise. As a result, the well is named after the well owner (*buligadaana*). The well owner has no right to exclude others from access. Instead, he has decision-making rights and financial duties regarding the maintenance of the well. People address him with gifts, such as kola nuts to acknowledge his status.

Changes in water rights only followed institutional development intervention and concerned improved water facilities only (Table 3). The entitlements for non-improved water sources did not change even though reservoir committees were in place that collected the community contribution for its rehabilitation and keep records on payments. One of the two committees was completely drawn from the local circle of elders (Eguavoen, 2008). Technical access was improved through several water projects but institutional access became more restricted due to the registered membership under the NCWSP and the introduction of more exclusive use rights.

Table 3: Local water right regime in Sirigu, 2004

Water right	Streams	Reservoirs	Hand-dug wells	Hand pumps
Ownership Rights to own	Not defined	Not defined/ Communal (reservoir community)	Private (well owner)	Communal (pump community)
Power Decision-making rights	Public (elders of village section)	Communal (reservoir committee/ elders)	Private (well owner)	Communal (pump committee)
Access Withdrawal rights	Common pool	Public (non exclusion)	Public (non exclusion)	Communal (exclusion of non-members, limited use rights for non members)

Source: Field Survey 2004/5

CONCLUSION

Community-based hand pump management in Ghana was successfully implemented and operationalized at local level. It was shown that even though local water users participate in the day-to day management of their facilities, they depend on project law for allocation of hand pumps and are not able to negotiate the financial requirements. Hence, poverty becomes a bottleneck for the participation in the programme. Despite its claim of a participatory approach, the NCWSP can be considered a top-down programme. But the long-term work of CIDA in Northern Ghana water projects illustrates how policies may be continuously reshaped by experience from the

ground. Empirical studies in Ghana provide many examples of water users who find appropriate ways to marry existing water rights, local practicalities and the NCWSP requirements. Project law was not operationalized in a uniform manner as suggested by the NCWSP but rules were rather contextualized and merged with existing local regulations, means legal rule and social practice were not always conform. Further, additional rules were created and operated by the water users.

Concepts shape policies but they do not necessarily reflect the practical dimension of development intervention, which entails locally specific and unintended consequences. The location within an ecological zone, poverty as well as the local social organization directly impact on the policy outcome. To grasp the variety of water management institutions and practices which resulted from NCWSP, more case studies on local social dynamics and the operationalization of the policy are required. A careful countrywide comparison is yet missing as well as transparency with regard to empirical data, which would allow for such comparison. This article was written to present detailed empirical results which become less visible in a more analytical study (Eguavoen, 2008).[20] This article argues that the important conceptual debate of community management, as provided by Kwashie (2007) would become more fruitful when set into a richer empirical and more comparative context. Political decision-making can be best fit to the practical challenges when it is informed by detailed empirical insight and comparative analysis. So far, all studies indicate that some policy concepts in Ghana could be rethought and undergo remedy, such as the capital community contribution or the one-approach-for-all-the-country policy (Botchway, 2004; Kwashie, 2007; Eguavoen, 2008). Divergent poverty levels and non-improved water sources could be more included in rural water planning to respond to specific local conditions.

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[20]The questionaires of the surveys were made transparentto enable comparative studies (Eguavoen, 2008).

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