

PUMP MANAGEMENT COMMITTEES AND SUSTAINABLE COMMUNITY WATER MANAGEMENT IN THE UPPER WEST AND EAST REGIONS OF GHANA

Sylvester Z. Galaa⁷ and Boye R. Bandic (Ph.D)⁸

Abstract

In the Upper West and East regions of Ghana, Pump Management Committees (PMCs), technically known as Water and Sanitation Committees (WATSAN) in the water sector, are institutionalised organs for community water management. A survey of twenty-seven (27) of these institutions in six districts across the Upper West and East regions shows that they have evolved fair and elaborate mechanisms for Operation and Maintenance of water points at the community level. The mechanisms instituted have ensured successful management of pumps - pump sites, routine management and pump site cleanliness – resulting in overall improvement in water supply and general community development in pump communities the two regions.

Despite these achievements, the majority of PMCs keep no adequate records on their operations. They also operate no bank accounts. It is also worth noting that although elaborate levy systems have been instituted by PMCs, levies are generally low resulting in low savings by many PMCs and this may explain why many pump sites are in disrepair in the two regions.

To sustain the achievements made so far by PMCs, it is recommended that the District Assemblies inculcate the culture of participatory decision-making, revenue mobilisation and saving as well as records keeping in PMCs in the Upper West and East Regions.

1. Background

Community participation was identified in the 1980s as an essential ingredient in securing the sustainable operation of water facilities (Beyer 1991; Najlis and Edwards 1992). The community management approach through which local representatives are constituted to take full responsibility for Operation and Maintenance (O&M) of water facilities has now become the crux of rural and small towns water supply and management in Ghana, instituted through a number of policy reforms after series of experiments by the World Bank, CIDA

⁷ Lecturer in the Dept of Social, Historical and Political Studies, FIDS, UDS

⁸ Executive Director, SIDSEC, Wa

and other international water agencies (Kendie & Abane, 2000). The most relevant of these are the Water Resources Commission (WRC, Act 522 of 1996), Public Utilities Regulatory Commission (PURC, Act 538 of 1997) and the Community Water and Sanitation Agency (CWSA, Act 564 of 1998). Through these policies the water sector now comprises three-sub sectors namely, Urban Water Supply, Community Water and Sanitation, and Water Resources Management.

In the urban water sector, Ghana Water and Sewerage Corporation (GWSC), which was the main water provider, has been restructured into a limited liability company - the Ghana Water Company Limited (GWCL) - to be privatised in future. Two business units have been created out of 96 urban water systems to be run by two operations for a lease period of 10 years. The Elmina declaration made between GWCL and Community Water and Sanitation Division (CWSD) on the delineation of functions in October 1996 and Act 564 in 1988, created the Community Water and Sanitation Agency (CWSA) to facilitate access of potable water and hygienic latrine facilities to the rural sector. Small town water (for populations around 5,000 persons) and rural water systems were also transferred to the District Assemblies or communities to be supervised by the CWSA.

The Government of Ghana launched the National Community Water and Sanitation Programme (NCWSP) in 1994. The programme sought to cater for the water and sanitation needs of Town Council zones with populations from 5,000 to 15,000 people and Area Council zones with populations less than 5,000 people within district assembly areas. The objectives of the NCWSP included the following:

- provide potable water and improved water sanitation services to rural communities and small towns that contribute to capital cost and pay the full operations, maintenance and repair cost of their facilities,
- ensure sustainability of the facilities through community ownership and management and services,
- maximize health benefits by integrating water, sanitation and hygiene promotion interventions.

Phase one of the program was implemented by the Community Water and Sanitation Agency (CWSA) between 1994 and 2000 in four regions namely Ashanti, Brong-Ahafo, Upper East and Upper West regions. The key elements of the strategy were to provide water:

- to rural communities on demand driven basis through community management, ownership and control of services,
- active and full participation of women in decision making at key stages in the programme implementation,
- within a decentralised management system where District Assemblies are made to play a central role in facilitating community management and ownership.

There are currently two community water management systems determined by whether the system is small town or rural facility (Mastovak 2000). Small town water systems are owned by the community and managed by water boards, while community level systems (pumps and boreholes) are under the care of pump management committees or groups (WATSANS). The operations of Water Boards and Pump Management Committees are under the supervision of the District Assemblies who hold the water systems in trust for their communities. The operation and maintenance of these water systems are solely in the hands of the community/towns, who have defined their own mechanisms of revenue mobilization for operation and maintenance. In line with this policy, Non-Government Organisations NGOs and other agencies in the water sector are also converting their water systems from joint ownership to sole community ownership and management.

There are now over 3,000 community water points and 35 small town water and sanitation systems operating under community ownership and management in the three northern regions (Mastovak, 2000). This paper examines the nature and experiences of community management and emerging institutions and mechanisms. It also looks at the functioning of these institutions in the Upper East and West Regions of Ghana where two of the four regions were covered by the first phase of NCWSP. The study throws light on the plausibility of community water management in Ghana.

2. Methodology

This is a survey of selected pump communities in the two Upper Regions (Upper East and West Regions of Ghana) conducted in 2000. A pump community refers to a group of people in a locality united around a pump facility. In this respect a pump community is not coterminous with a village community, as there may be several pump communities located within a village.

The study sample covered six of the eleven districts of the two Upper Regions randomly selected: three districts from the Upper West and three from the Upper East Region. A total of twenty-seven communities were selected as determined by the different project phases. Five communities per district were covered in the Upper East Region and four communities per district in the Upper West. The study sample is indicated on Table 1 below.

At the community level, community water management structures under the WATSAN arrangement, such as caretakers and pump management groups were interviewed in-groups. These constituted a total of twenty-seven pump management and caretaker groups. Also covered were five household members per community.

Table 1: List of Communities Surveyed by District and Region

UPPER WEST REGION	COMMUNITY	BOREHOLE NO.
Wa	1. Chegli 2. Bakpong 3. Sawobelle 4. Charia	401 D-04 360 I-08 398 F-01 407 H-01
Jirapa/Lambussie	1. Gbare 2. Kongwoli 3. Ul-Tampoe 4. Jirapa Baazu	438 H-01 440 E-07 438 B-03 400 A-01
Lawra	1. Eremon 2. Metow 3. Kuonyugan 4. Zogpielle	437C-02 437 H-20 439 I-03 439 C-06
UPPER EAST REGION	COMMUNITY	BOREHOLE NO.
Bongo	5. Zoko Kadare 6. Lungu 7. Zoko Kanga 8. Apaataga 9. Adaboya	455 B-05 455 B-22 455 E-20 455 F-27 455 D-03
Bawku East	10. Zaago 11. Kuka Zule 12. Yalugu 13. Zuago 14. Tesung	459 C-29 460 A-04 497 H-21 497 I-34 458 B-02
Kassena-Nankana	15. Nyangua 16. Pun-yoro 17. Janania 18. Wuru 19. Manyoro	452 C-17 452 F-07 452 F-31 452 E-02 455 A-16

Source: Field Data 2000

3. Data Collection

Both secondary and primary data were used. Secondary data came from project documents of the Community Water Project such as monitory and planning reports. Primary data were collected at the community level. Data were collected using three main techniques: interviews, observation of pump sites and focus group discussions. Each of these techniques targeted different groups of respondents. The interviews were conducted on pump management groups, caretakers and household respondents. PMC interviews were group interviews covering members present, on how they perceive their roles as well as the functions of members of pump management committees. The performance of the committees or groups was also assessed. Focus group discussions were held with community members for in-depth discussions on the performance and contribution of pump management groups in order to validate the information provided by the caretakers and pump management committees.

Pump sites were also inspected in order to assess the state of pump sites and level of their development. Two interview checklists prepared for the purpose facilitated the focus group discussions and interviews. Data processing covered editing, coding and data entry into a computer using EPI Information data software package for analysis.

4. Results of the study

The results are presented in three broad themes: evolving institutions for community management, Operation and Maintenance of water facilities and the activities of these on sustainable water supply in the communities covered by the survey.

I. Evolving institutions for community water management

i. Pump Management and Caretaker Committees/ Groups

The establishment of water facility management groups or committees is a prerequisite for community ownership and management of water points at the village or community level. Pump Management Committees (PMCs) as they are popularly called in the local communities (WATSAN in the water sector) were reported in every

pump community surveyed. PMCs oversee the day-to-day management of the water facility through functional division of labour among its membership normally comprising caretakers, hygiene and sanitation person, secretary, treasurer and chairperson. Membership ranges between seven and nine.

Care was taken in the constitution of PMCs to ensure that they satisfy gender and sectional interests, especially in heterogeneous communities. As a result there are female representation on over ninety per cent of the PMCs in the two regions, with women constituting over one-third of the total membership in about sixty per cent (60%) of PMCs. Similarly women hold key positions in the leadership of the PMCs. Women constitute fifteen (15%) and eleven (11%) per cent of chairpersons and secretaries respectively.

Sectional representation on the committee is based on wards or *fong* in large communities. These gender and sectional considerations on the formation of committees or groups have given legitimacy to the institution and thus, ensured easy mobilization of the people cross gender and ethnic lines.

A nucleus of the pump management committee responsible for the routine management of the pump facility is the caretaker group. This is made possible under the Village Level Operated and Maintained pumps (VLOM) system, the accepted pump technology for the rural water sector in Ghana, piloted in the northern sector under the CIDA, UNDP World Bank projects. The recommended VLOM pumps are NIRA AF-85 and VERGNET, for shallow wells, and AFRIDEV as the GHANA MODIFIED INDIA MARK II for deep wells. Of these, the AFRIDEV and NIRA are widely used in the Upper West and East Regions. The adoption of the VLOM technology made it easy for repairs to be undertaken within a two-tier-maintenance system: Village level caretakers within the PMC structure, for routine maintenance and area mechanics for more complicated interventions.

Within the PMC structure, the majority of communities (75%) in the two regions reported the project recommended number of two (2) caretakers, usually a male and female. Sixty-seven and eighty per cent

of communities in the Upper East Region and Upper West Region respectively have two caretakers each. Caretakers in about eight per cent of the communities across the two regions have two or more years of experience on the job.

About ninety (90%) per cent of PMCs reported to have received training in community organization, mobilisation and management, which they find very useful in their work. Similarly, caretakers received a variety of training in fault detection, replacement of seals and preventive maintenance such as lubrication of chains and other parts. The majority of caretakers [92.5%] in both regions received training that has built their capacity for pump maintenance and thus, enhanced their performance greatly.

Membership attrition has been reported to be low overall. Only about eleven (11%) per cent of pump committees reported changes on their committees within the last five years as a result of death/incapacitation, migration and incompetence of members. Of these three factors, migration was considered more important. On the part of caretakers, about ninety-three (93%) per cent of communities reported to have experienced no changes in caretaker membership in the past three years. The few communities that reported turnover in membership attributed it to incapacitation and out migration rather than incompetence.

II. Mechanisms for Operation and Maintenance

i. Modalities for Water Payment

The co-ordination of pre-facility activities such as formulation of proposal and the contribution of five per cent capital cost of the water facility by the community, are some of the responsibilities of the PMC. Meeting these requirements make the facility demand driven in the view of project management and will lead to community ownership of the facility when provided. However, the establishment of an efficient and effective Operation and Maintenance System has become one of the important responsibilities of the PMC, as this has to do with the sustenance of the facility.

In the Upper Regions, PMCs have facilitated the establishment of two main payment systems with their communities as means of raising

money to meet the maintenance of pump facilities including pump site development. These are routine payment where money is collected over a period of time, usually a year and special levies instituted occasionally as and when money is needed. There may also be earnings from group ventures such as PMC farm. Of these, the majority of communities (63%) operate the routine payment system, singularly or in conjunction with the other payment systems. There are four types of arrangements underlying the routine payment system.

- Equal amount paid by adults men and women
- Different amount by men and women
- Household heads pay equal amounts
- Only women contribute equal amount

Looking at the payment arrangements by districts, most communities in the Lawra, Wa and Bawku East districts target their payment systems at both adult men and women. Seventy (70%) per cent of household respondents in both regions indicated both men and women pay levies for O&M. Only men pay in sixty per cent (60%) of communities in Bongo district. On the other hand, in twenty-three (23%) per cent of pump communities mainly in Jirapa, Bongo and Kasena Nankana districts, only women contribute towards O&M.

Whereas both men and women in the Lawra district pay equal amount, men pay more than their women counterparts in the Wa and Bawku East districts. Household heads are also targeted in the payment system instituted in some communities in Bongo and Kasena Nankana districts.

Flexibility is inherent in these payment arrangements, as payment is sometimes extended over several months to give room for effective resource mobilization. The payment systems also go with exemptions. In some communities (44%), the aged are exempted from levy payment when it is established that they do not have people to take care of them.

Defaulters are sanctioned to ensure compliance and fairness. In some communities in the Jirapa Lambussie district a more systematic and elaborate system of sanction is in place. Persuasion (30%) is

applied to defaulters, when that fails apprehension (11%) by traditional authorities is tried. The final outcome after apprehension is to bar the defaulter from fetching water from the facility. Most pump communities (96%) use this mode of sanction. However, in most of the communities in the Upper East Region, PMCs do not have the patience to pursue persuasion as practiced in some communities in the Upper West Region. This was confirmed by eighty-seven (87%) per cent of household respondents, mostly in the Upper East region.

The variations in the modalities of payment signify the desire of PMCs to institute fair and equitable water levies where the amount paid for water is commensurate with the quantity fetched by a person or household as well as ensuring that the poor in society have access to potable water.

PMCs indicated they have evolved their payment systems through consultation and discussions over the years. Ninety-seven (97%) per cent of household respondents indicated that the levy systems were instituted through joint decisions between the PMC and the entire community. Where payment systems are found to be discriminatory and least affordable, they are reviewed accordingly. Almost every community indicated to have reviewed its levy for the past five years. The major reasons for the review were to make payments affordable to community members (44.4%), to procure an additional facility (40%), and to contain the effects of inflation, reflected in the increasing cost of parts (33.3%) over the years.

About one-half (47%) per cent of household respondents indicated they contribute between ₵2,000- ₵5,000 as annual levy towards O&M. The rest contribute less, with about four per cent (3.7%) of the communities in the Upper West region contributing nothing at all. Two-thirds (63%) of the pump communities surveyed indicated they have been able to raise sufficient funds from the payment systems instituted. The balances in savings range between twenty-five thousand to over three hundred thousand cedis, with about quarter of the communities having savings between ₵ 100,000 and over ₵300,000. Twenty-two per cent (22%) of the communities could not tell their savings.

The popular way of keeping O&M contribution is safety keeping by the PMC treasurer. This is because in about three-quarters (74.1%) of pump communities, contributions are collected and kept by the treasurer of the PMC. Most household respondents (73%) confirmed that O&M contributions are collected by and kept with the treasurers. Less than one-quarter (20%) of PMCs operate bank accounts in both regions. Communities found to be operating bank accounts are mainly in Bongo and Lawra districts. The usual practice for all communities is also to have cash at hand to meet contingencies.

ii. Routine Maintenance Procedures

Caretakers perform routine maintenance responsibilities in their communities. This is conducted weekly in over one-half of communities in the Upper East and Upper West Regions. About one-quarter (26%) of the communities conduct bi-weekly inspections across the regions, while monthly inspections were indicated to be very rare. Routine maintenance covers periodic changing of fast wearing parts such as seals, U-rings and greasing of relevant parts. One constraint on the performance of caretakers is access to spare parts especially in outlying and peripheral communities in both regions.

iii. Pump Site Development, Hygiene and Sanitation

The hygiene and sanitation persons within the PMC structure oversee pump site cleaning and water hygiene activities, both on site and at home. Water hygiene covers hygienic practices on fetching, transport and storage of water promoted through information, education and communication (IE&C) activities. Pump site cleanliness on the other hand involves drainage and trough development as well as periodic sweeping and weeding around the facility. Pump site cleaning is done on gender lines with men doing the weeding and women the sweeping and cleaning. This is organised on sectional basis with the hygiene and sanitation persons on the PMC playing a supervisory role.

Data on the condition of pump sites show that over three-quarters of pump management groups in both the upper regions indicated their pump sites were generally clean. However, many pump sites were

clean in the Upper West than East region. The problems reported about pump sites had to do with the condition of the pad/gutter and back filling as shown by Table 2. One-half (50%) of pump sites surveyed in the Upper East region suffer from these problems compared to less than twenty-five per cent (25%) of pump sites in the Upper West Region. In fact about one-half of the pump sites surveyed in each of three districts of the Upper East region reported problems with either the pad or trough and many more with back filling. See Table 2 below.

Table 2: Percentage of Pump Sites in Good Condition by Regions and Districts

<i>District/Region</i>	Pad/Gutter Trough	Backfill	General Cleanliness
Jirapa/Lambussie	100.0	55.0	75.0
Lawra	100.0	100.0	100.0
Wa	100.0	100.0	87.5
Bawku East	50.0	37.5	87.5
Bongo	50.0	67.5	72.0
Kassena/Nankana	50.0	45.0	87.5
Upper East Region	49.3	40.0	76.7
Upper West Region	92.5	75.0	85.0
Both Regions	68.5	55.5	80.4

Source: PMC/Caretakers Data 2000

iv. Decision-Making

Community level meetings are mechanisms for local level decision-making and planning, and are organized by the PMCs biweekly or monthly depending. In eighty six per cent (86%) of communities, general meetings are fora through which the pump community not only discuss issues about levies, but also pass information on to the larger community about the functioning of the pump facility including issues of financial administration of the PMC. About eighty six per cent (85.6%) of households reported that the chairperson of the PMC normally arranges community meetings. Community elders, particularly in the Upper West Region sometimes arrange meetings.

Eighty per cent (80%) of the household respondents in the Upper West region confirmed this. In the Upper East Region seventy-two per cent (72%) of the household data indicated that no one other than the chairman has the prerogative of organizing water and sanitation related meetings.

The regularity of meetings was indicated to vary from once a week to monthly. However, further discussions about issues discussed during meetings revealed that meetings were less regular in most communities than indicated. In fact, it appears that meetings are now organized as and when there are problems to be solved. The regularity of meetings was also found to be contingent on the season. Meetings are organized more regularly in the dry (season) than in the wet season in most pump communities.

Meeting time was also reported to vary from one community to another ranging from early in the morning through to the night depending on the season. The night is considered the most appropriate time for meetings during the raining season. Time scheduling is often planned to ensure that it is convenient for women, whose participation is considered moderate (19%) or high (74.0%) by most household respondents surveyed. Aside making the time suitable to as many people as possible, meeting schedules are fixed in advance and communicated to the households in good time using the pump facility to ensure high patronage. About eighty-eight (88%) per cent of household respondents indicated that meeting times were either suitable or very suitable for them.

Discussions at most meetings were reported to centre on the following issues as shown by Table 3.

Table 3: Issues dominating meetings by Regions

Issues	Region		
	Upper West Region	Upper East Region	Both Regions
Monetary issues	87.5	98.7	93.7
Pump repairs	83.3	82.0	82.6
Pump site development	96.7	90.7	93.3
Sanitation Health	81.7	85.3	83.7
Acquisition of new pumps	32.5	40.0	36.7

Source: Household Data 2000.

Decisions at meetings are taken by consensus (74%) and voting (22%) in most pump communities. Unilateral decisions or chairman's veto were rarely reported.

Records are sources of vital information for the effective monitoring of community water development events. How record keeping by secretaries is unsatisfactory in project communities. Table 4 below show reveals the record keeping culture in water communities by PMCs.

Table 4: Record Keeping by Types and Regions

Type of Record	Upper East Region	Upper West Region	Both Regions
Records of Minutes	0.0	16.7	7.4
Financial Records	13.1	8.3	11.1
Pump Repair log book	6.7	41.7	22.2
Spare Parts (purchase) Book	13.3	25.0	18.5
No Records	60.0	58.3	59.2

Source: PMC/Caretakers Data 2000

As shown by Table 4, only forty-one per cent (40.8%) of pump management committees keep some form of information or records: minutes, community contribution files (loose sheets), pump repair logbook and spare parts purchase book. Considering specific records

such as minutes of meetings, it was found that these were not available in over ninety per cent (90%) of pump communities, mostly in Bawku East and Jirapa/Lambussie districts. About twenty per cent (20%) of the communities with available minutes of past meetings were mainly from the Lawra district of the Upper West region.

Even though some communities indicated to keep records, these were not readily available for verification. In other instances available records were never updated. It is important to stress that records are useful only when they are regularly updated. Since almost all PMCs have literate secretaries, the absence of records among PMCs cannot be explained by the high illiteracy rate among PMCs.

v. Motivation of PMC and Caretakers

Although it is preferred that people committing their time and energy towards the maintenance and management of the water facility are given some incentives as motivation, the data show that the majority of communities (92.6%) across the two regions provide no rewards to PMCs and caretakers in recognition for their services to the community. Working on the PMC or serving as a caretaker in most communities is therefore considered as a service to humanity, (that is service without any rewards). Only two communities in the Upper West Region reported to provide some sort of financial and moral support to PMC members during their bereavement. However further discussions on the subject by focus groups revealed that the processes for providing motivation are not institutionalised in many communities.

The majority of PMC members (including caretakers) (96.3%) reported to be satisfied with their contributions to their communities in spite of the absence of personal rewards for their job. PMCs recount they are motivated by following:

- we derive self-satisfaction from our ability to maintain a regular water supply to our community ,
- we enjoy the community support and appreciation for our work,
- there is improved community well being arising out of our contribution,

- there is a personal feeling of satisfaction arising out of my contribution to community development .

vi. PMCs and community level sustainable water supply

PMCs and caretakers in the two regions reported to have contributed immensely to the improvement of water and sanitation situation in their respective communities. Areas of improvement identified by PMCs are: reliable water supply (96%), increased financial mobilisation (90%), improvement in health conditions (71%) and facilitating community participation in development (63%). Household data as shown by Table 5 corroborated these improvements. The data show that there has been either significant or slightly significant improvement in the organisation of community meetings (94.7%), planning of finances (89.3%) and its mobilisation (88.2%), pump site cleanliness (90%) and time spent on fetching water (98.2%).

Although the time spent on collecting water varies between the dry and wet seasons, it was reported to have declined significantly by about two-thirds (66%) of the household respondents in the two regions, and many more household respondents (76%) in the Upper West region.

Only about 5% of household respondents mostly in the Upper East region reported to have experienced worsening water situation in aspects of planning finances and time spent on collecting water under their PMCs.

Table 5: Impact of the Activities of PMCs in Community Water Delivery.

Nature of Impact	Significant		Slightly significant		The same		Worse		Don't Know		
	UWR	UER	UWR	UER	UWR	UER	UWR	UER	UWR	UER	Total
Frequency of meetings	70.8	44.7	28.3	47.3	0.0	4.0	0.0	3.3	1.8	0.8	1.2
Planning of Finances	65.0	14.0	30.8	70.0	1.7	10.0	6.0	4.7	2.5	1.3	1.8
Payment of water levies	63.3	55.3	20.8	36.0	7.5	4.7	0.0	1.3	8.3	3.3	5.2
Pump site cleanliness	76.7	45.3	18.3	40.7	1.7	2.7	0.0	2.7	3.3	8.7	6.3
Time spent fetching water	75.8	58.0	10.8	33.3	2.5	3.3	0.0	4.6	10.8	0.7	5.2

Source: Household data 2000.

5. Conclusion

The majority of pump communities in the two regions have instituted organs or institutions for community water management as required by the policy on rural water provision in Ghana. The constitution of these institutions is broad based satisfying sectional and gender interests in many of the communities. The capacities of pump management institutions have been built through training and they are reported to institute transparent, affordable and equitable payment system; handle routine management of water facilities and keep pump sites clean. PMC and caretakers have high morale and that is reflected by the low attrition rate of members in spite of the fact that no institutionalised form of motivation is provided for the services they offer to their communities. They are also accorded support by the traditional leadership in the dispensing of their responsibilities. The legitimacy of these institutions coupled with their capacity has resulted in improvement in rural water supply in beneficiary rural communities in the Upper Regions.

Despite these achievements, many PMCs do not keep adequate records on their operations and the majority of them are without bank accounts even in communities where there are saving institutions. It is also worth noting that although elaborate levy systems have been instituted by PMCs, levies are generally low resulting in low savings by many PMCs. The low financial status of PMCs may explain why a number of pump sites are in disrepair in the two regions. Steps must be taken in reversing these negative tendencies and the District Assemblies are required to take note of the dark spots of these young and promising institutions in order to sustain the supply of water to rural communities in the two regions.

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