GHANA CASE STUDY

STRENGTHENING THE CAPACITY OF WATER UTILITIES TO DELIVER WATER AND SANITATION SERVICES, ENVIRONMENTAL HEALTH AND HYGIENE EDUCATION TO LOW INCOME URBAN COMMUNITIES

GHANA WATER COMPANY LTD

FINAL REPORT

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Practices

1 Community Based Hygiene Education (Door to Door) by NGOs/AMA (Ashiedu Keteke Community Participation Project)
2 Tanker Owner Metering/Payment Collaboration (Operation of Teshie Tanker Owners' Association)
3 Individual Water Vendors and Water Vendors Association at Teshie-Nungua and Nima (Individual Vending from Domestic Taps)
4 Community Initiated Private Mains Extension (Gold Hills Residence Association - Christian Village)

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PREFACE

The increasing growth of the urban population in developing countries and, for that matter, Africa has been a matter of concern to policy makers and governments. This growth largely absorbed by the informal and unplanned settlements is exerting increasing pressure on water resources and escalating environmental degradation. It is in recognition of and response to the above needs that the Union of Africa Water Suppliers (UAWS) jointly with the International Training Network Centre (ITN) and with the support of the World Bank launched the Water Utilities Partnership (WUP) for Capacity Building in Africa in 1996.

In response to the plight of the low-income, peri-urban and deprived communities in Ghana UAWS through WUP Project 5 and in conjunction with GWCL organized a "Launching Workshop" for the project at Sogakope in Ghana from 13th to 17th September, 1999. The workshop aimed at developing and testing a framework and methodology for case studies, documenting ongoing practices in the delivery of water and sanitation services to the poor. To capture the relevant scope and perceptions on water supply and sanitation, the participation at the workshop cut across a wide range of representation and provided opportunity for stakeholders in water and sanitation in low-income areas such as water vendors, water tanker operators, resident associations, metropolitan assembly, GWCL, town and country planning, NGOs and technocrats from ministries, researchers the universities to share experiences and learn lessons on what will improve the situation.

Participants at the workshop brainstormed and listed some innovative approaches pertaining to the delivery of water and sanitation services in low-income underserved areas of Ghana. Four "Good Practices" were selected for case study documentation under the sponsorship of WUP 5 programme.

This report presents the detailed study into the selected practices. In line with the requirements of the client (The World Bank), the study conducted by the consultant (TREND Group, Ghana) has been presented in this report as follows:

1.0 Introduction - providing the background to the study
2.0 Context - providing policy, legal and regulatory framework of water and sanitation delivery in Ghana
3.0 Practice No. 1: Case Study of Community Based Hygiene Education (Door-to-Door) by NGOs/AMA. This practice describes the Ashiedu Keteke Community Participation Project (AKCPP).
4.0 Practice No. 2: Case Study of GWCL - Tanker Owner Metering/Payment Collaboration. This practice describes the Operations of Teshie Tanker Owners' Association.
5.0 Practice No. 3: Case Study of Water Vending form Domestic taps/tanks. This practice describes the operations of Individual vendors and vendors Association at Teshie Nungua and Nima.
6.0 Practice No. 4: Case Study of Community Initiated Private mains extension. This describes the Golf Hills Residences Association (Christian Village).

LIST OF ACRONYMS

ABC	Achimota Brewery Company Limited
AKCPP	Ashiedu Keteke Community Participation Project
AMA	Accra Metropolitan Assembly
ATMA	Accra Tema Metropolitan Area
CENCOSAD	Centre for Community Studies, Action and Development
CSC	Community Sanitation Campaign
CWSA	Community Water and Sanitation Agency
EPA	Environmental Protection Agency
GOG	Government of Ghana
GOPA	GOPA Consultancy
GTZ	German Technical Cooperation
GWCL	Ghana Water Company Limited
GWSC	Ghana Water and Sewerage Corporation
JSS	Junior Secondary school
MLGRD	Ministry of Local Government and Rural Development
MWH	Ministry of Works and Housing
NGOs	Non-Governmental Organizations
PURC	Public Utilities Regulatory Commission
TREND	Training Research and Networking for Development
UAWS	Union of African Water Suppliers
UNDP	United Nations Development Programme
WRC	Water Resources Commission
WUP	Water Utilities Partnership

1.0 INTRODUCTION

1.1 Background

The Water Utilities Partnership (WUP) is a programme aimed at increasing the coverage of water supply and sanitation services and to improve the quality of these services through increased investment and reform of utilities. The WUP has a number of research programmes, one of it is WUP Project 5. The project title for WUP Project 5 is " Strengthening Capacity of Utilities to deliver Water Supply and Sanitation Services, Environmental Health and Hygiene Education in Low-income Areas". The target therefore, is the low-income urban community. The focus is on developing an understanding of conditions that facilitate replication and expansion of good practices.

The project output consists of a country level case study, a summary of "good practices", toolkit/set of guidelines (including tools and models), country level action plans, and field reports outlining lessons learned from the use of guidelines.

Phase 1: Piloting of framework and methodology in Zambia and Cote d'Ivoire completed in 1998.

Phase 2: Case studies documenting ongoing practices in 6-8 countries; compilation of good practice document incorporating materials from all country case studies.

Phase 3: Compilation of toolkit (sample tools) based on the good practice document; assessment of capacity requirements for the Utility in extending services to low income areas

Phase 4: Implementation of action plans through ongoing programmes/projects testing and modification of the toolkit documentation of lessons.

1.2 Water Utility Partnership Project 5 in Ghana

The WUP Project 5 in Ghana begun with a launching workshop involving a wide range of stakeholders - Ghana Water Company Limited (the Utility), private operators such as tanker owners and vendors, the Accra Metropolitan Authority (AMA), Political Representatives, Policy makers in the water sector, Community Associations and Groups, and a number of NGOs operating in the sector. Deliberating on issues affecting the provision of water and sanitation and critically analyzing the institutional potential and practices available for the specific case of the low-income areas, the workshop identified twelve main practices prevalent in low-income communities of the twelve practices, four, indicated in the table below were voted in for detailed research enquiry.

Table 1.1 Practices of Water and Sanitation in the Peri-urban Areas of Accra

Practice	Votes Obtained	Remarks
1. Rain water harvesting	9	
2. Bore holes for cluster of houses	1	
3. GWCL – tanker owner's metering/payment collaboration	**17**	**Selected**
4. Privately owned commercialized bathrooms	9	
5. Construction of KVIP for households	10	
6. Community initiated private mains extension	**14**	**Selected**
7. Construction of holding tanks by AMA	5	
8. Individual vending from domestic taps	**14**	**Selected**
9. Small tractor and cart water distribution	8	
10. Privatization of public toilets owned by AMA	3	
11. Community based hygiene education (door to door) by NGOs/AMA	**18**	**Selected**
12. Septic emptier dislodging services; private operators /AMA collaboration	8	

The workshop participants cited communities where these practices are available within the Accra Metropolitan Area and provided sources for obtaining information on the respective case studies.

1.3 The Low-Income Areas In The Socio-Economic Context Of Accra.

Accra is the capital of Ghana and has recorded a steady growth since the last population census of 1984. Accra's population was 1.2 million in 1984 and estimated at 2.2 million in 1999. The growth rate of 3.2 percent is far above the post-census estimated rate of 2.6 percent for urban area in Ghana.

The pattern of residential development in Accra suburbs is a mixture of varied income groups. Nevertheless, the dominance by certain income groups in some suburbs is obvious. The low-income residents, who are the focus of this research, reside mostly in unplanned communities around the central business areas of Accra or at the newly developing peri-urban areas. The key feature of these "poor" communities is the absolute inadequacy of social facilities and infrastructure. Suburbs such as Bukom, James-Town, Nima, Sukura, New-Town, Korle-Gonno, (Communities close to the Central Business District); and Christian Village, Gbawe, Sowtuom, Russia (Peripheral communities) fit this description (see figure 1.1).

The low-income population in Accra is 572,000, which is estimated to be 26% of the total population of Accra. It must be noted that while the communities close to the central business district are densely populated and characterized by inadequate social infrastructure, the peri-urban communities are less densely populated and social services are woefully inadequate.

FIGURE 1.1: MAP OF ACCRA SHOWING LOCATION OF SUBURBS

1.4 Research Process

The information provided by participants at the launching workshop served as a starting point for the case studies. The research process begun at the Utility, Ghana Water Company Limited (GWCL) to acquire the available secondary data on the cases, and at the Accra Metropolitan Authority, specifically on creating awareness on Community Sanitation.

For each of the cases, the initiators of the practices, the actors involved in the practices and a selected number of beneficiaries/consumers were interviewed. Semi-structured questionnaires were used to obtain information, while in some cases focus group discussions were adopted to capture the necessary varied views and also to confirm already obtained information. Detailed personal interviews were also conducted for the key policy makers in the water and sanitation sector and also the key actors in all the cases.

This report, therefore, presents the analyzed information obtained on the respective case studies in two major sections. The first section presents an overview of the national situation with respect to the provision of water and sanitation in general and the specific case of the low-income. The second section presents the specific case studies in four corresponding chapters.

2.0 CONTEXT

2.1 National Level

Ghana lies at the western coast of Africa, and has a total land area of about 152,000 Km^2. It shares its border with three other countries – Burkina Faso to the north, Republic of Togo to the east and Côte d'Ivoire to the west and borders the Gulf of Guinea to the south (see figure 2.1). The population is estimated at 18 million with a gross population density of 118 people/km^2. **[**

Table 2.1 Key Information on Ghana

Population (Estimated, 1998)	18 million, 40% urban, 2.6% growth rate
Population in urban low-income areas	1,710,000; 9.5% of national population
Accra population (estimated, 1999)	2.2 million
Low-income population in Accra	572,000 (26%)
Community organizational structure	Compound houses with about 8-10 households. Many are unplanned and basic social services are inadequate.
Responsibility for Water and Sanitation	The statutory responsibility for the provision of water lies with the GWCL while the Local Government Authority, in this context Accra Metropolitan Authority (AMA) takes up that of sanitation.
Urban Low-income population access to water	*Water vendors (11%), tanker supplies (7%) and Hand-dug wells (0.8%).
Urban low-income population access to sanitation	Individual house located water closets and pan-latrines, public aqua-privy, public water closets, indiscriminate defecation.
Access to health centre	All the population in Accra is within 15 minutes travel time.
Access to school	All the population in Accra is within 20 minutes travel time.

** The percentages apply to the total population of Accra*
Source: From various sources listed at end of chapter

FIGURE 2.1: MAP OF GHANA

2.1.1 Legal and Regulatory Framework

The water and sanitation sectors of the country, until 1993 had been operating within the context of two major statutes: the Local Government Law 207, (1988) for sanitation and Ghana Water and Sewerage Act 310 (1965) for water. The local government law (1988) section 6, (3) d and e states:

> *"A District Assembly shall initiate programmes for the development of basic infrastructure and provide municipal works and services in the District".*
> *"Be responsible for development, improvement and management of human settlements and the environment in the district".*

This law replaced the two key local health statutes; the mosquitoes ordinance (Cap 75); and infectious diseases ordinance (cap 78) of 1948. The provision and management of sanitary facilities and public health services were thus given to the District Assemblies under the local government law.

The Metropolitan Assembly, which is the local government authority, is thus responsible for waste management, public health management, environmental monitoring, and planning and public relations.

The GWSC Act 310 (1965) enjoined the corporation to "provide and manage potable water supply and sewerage services for domestic and industrial purposes throughout the country". It was to cater for the urban as well as the rural population. This Act established two key responsibility areas for the Corporation, which were:

- The provision, distribution and conservation of water in Ghana for public, domestic and industrial purposes and
- The establishment, operation and control of sewerage system. It is the prime objective of the company to offer an acceptable level of services to its consumers.

The water and sanitation sector, however, during the past five years, has been undergoing several major reforms, which are related to control, processes and structure of the water and sanitation sectors. The key reform areas are:

- The ceding of urban sanitation and public health activities to the District Assemblies
- The setting up of the Community Water and Sanitation Agency (CWSA) to cater for rural water supply and water related sanitation activities.
- The conversion of the Ghana Water and Sewerage Corporation (GWSC) to a limited liability company.
- Advocacy for private sector participation in water supply and distribution.
- The formation of Public Utilities Regulatory Commission (PURC) to regulate the prices and activities of public utilities.
- Reforms in the metering and tariff payment systems.
- A Water Resource Commission established to control the use and development of all water resources in the country.

The reforms resulted in some enactment, which included:

1_ The amendment of the Statutory Corporations (Conversion to Companies) Act, 1993 (Act 461) to convert the Ghana Water and Sewerage Corporation (GWSC) into a limited liability company as the Ghana Water Company Limited (GWCL), under the companies code, 1963 (Act 179). The functions of the GWCL are to:

- Enter into lease arrangements with private operator(s) to operate water delivery services in specified water supply systems under the applicable regulations;
- Plan the urban sector water system development;
- Oversee and manage the investment programmes in the urban water sector;
- Monitor and enforce the water utilities performance standards stipulated in lease contracts; and
- Provide accurate information related to the operation of the water utility as requested by the regulator-PURC.

2. Community Water and Sanitation Agency Act, 1998 (Act 564). The main functions among others are to:

- Facilitate the provision of safe water and related sanitation services to rural communities and small towns;
- Enable the District Assemblies to encourage the active involvement of the communities in the design, planning construction and community management of projects related to safe water supply and related sanitation services;
- Encourage Private Sector Participation in the provision of safe water supply and related sanitation services in rural communities and small towns;
- Prescribe standards and guidelines for safe water supply and provision of related sanitation services in rural areas and small towns; and
- Co-ordinate NGOs engaged in the development of rural and small town water supply and the provision of sanitation facilities and hygiene education.

The management of water supply and related activities of rural and urban areas was de-linked by the CWSA Act.

3. The Water Resources Commissions Act, 1996 (Act, 522). The major functions of the WRC among others are:

- Granting water rights;
- Collecting, collating, storing and disseminating data or information on water resources in Ghana; and
- Monitoring and evaluating programmes for the operation and maintenance of water resources.

The GWCL therefore requires the grant of water rights from the WRC.

4. Public Utilities Regulatory Commission Act of 1997. Some responsibilities of the PURC include:

- Providing guidelines on rates chargeable for provision of utility services;

- Examining and approving rates chargeable for the provision of utility services;
- Protecting the interest of consumers and providers of utility services; and
- Monitoring performance standards in the provision of services.

The prices of water must be determined by the PURC through public hearings and in consideration of operating cost and environmental standards.

5. Local Government Act, 1993 (Act 462)

- The responsibility of environmental sanitation was given to the local government authorities.
- The public health unit under the District Medical Officers outfit, which among others, is responsible for disease control and health education also came under the local government authority.
- The Ministry of Local Government and Rural Development was to develop an "Environmental Sanitation Policy" to guide local government authorities in the fulfillment of these duties.

These legal and regulatory reforms are to enhance a policy environment to increase consumer access to potable water, meet the sustainability criteria of the sector, achieve cost recovery from users, improve water sector management and finally relieve the Government of the financial burden of future capital expenditure in the water sector.

2.1.2 Policy Framework

The national policy framework on the water sector seeks to de-link rural water supply from the urban water supply. The management of rural water supply is under the responsibility of beneficiary districts and communities. The Community Water and Sanitation Agency (CWSA) was thus established to facilitate the development and the operations of water systems and seek funding for community managed systems. The CWSA will support local authorities to set up local committees to develop the necessary capacity for management of local water systems.

Privatization of rural and urban water systems remains a high priority on Government policy framework for the sector. The water sector had in the past relied on the private sector through service contracts for the design and construction works, and the development of investment plans, sectoral studies and restructuring studies. However, the current framework seeks to go beyond that to incorporate aspects such as operational performance targets, water quality standards, and environmental checks **lease contracts. Technical arrangements have been made to contract by Build Operate Transfer (BOT) high capital investment ventures such as dam reinforcements and de-silting to increase supply capacity. The supply, distribution and system management of urban water will be leased to private operators.

These policy pursuits are supported by a framework for the implementation of a highly decentralized management system so that decision-making and control can be as close as possible to the grassroot activities at the district level. They are also aimed at facilitating quick response to emerging issues and responsive operational management at district and sub-district levels. In view of this policy, the district offices are being equipped with resources,

equipment/materials, personnel, and funds to improve local capacities and widen the scope of responsibility. Local performance targets are also contracted and accountability and monitoring are given priority.

The final policy focus of the water sector emphasizes on demand-driven approaches in the supply of water. Beneficiaries falling under the operational scope of the GWCL will be expected to pay 5 percent up-front as part of the capital cost.

In the policy framework therefore, the issue of the low-income under-served areas was not addressed. The low-income areas cannot afford the 5 percent up-front payment. This special case was addressed as part of the general urban concern, the implication being that the interest of the low-income under-served communities will be subsumed in favor of the high- income communities. The issue of demand driven approach practically puts the low-income communities at a high disadvantage since the initial mobilization of capital is a major problem in such communities.

Activities in sanitation management are guided by the "*Environmental Sanitation Policy*" of the Ministry of Local Government and Rural Development, May 1999. The policy mandates the Local Government Authorities to provide services such as:

- Domestic waste (refuse) collection
- 'Night-soil' and sewerage (liquid waste) collection and disposal
- Promotion of household toilets and the phasing out of pan latrines
- Provision of public toilets in heavily used areas such as markets and stations
- Cleaning of streets and drains
- Cleaning of open spaces (e.g. parks, beaches, river banks, markets etc)
- Control of insect infestation (e.g. mosquitoes, flies)
- Inspection of foods (meat, fish etc.)
- Environmental sanitation education
- Enforcement of sanitary regulations
- Inspection of premises and issuing certificates of habitation.

The Local Government Authorities were also to raise funds through licensing fees for environmental services, charging of tariffs and franchise operations.

The phasing out of public toilets and pan latrines remains a big challenge to the low-income communities although definite statistics are not available. The Accra Metropolitan Assembly (AMA) engineer confirmed that over 70 per cent of the low-income areas may be using pan latrines or depending on a public toilet. This implies being if there is a phasing out, the low-income communities may be the most affected.

The Metropolitan Authorities through the Urban IV programme supported by the World Bank assist household by providing 50 per cent of the total cost of constructing a water closet.
The household must show evidence of 50 per cent of the project cost in physical cash or materials before AMA gives the top-up. The low-income communities find it difficult to mobilize the 50 per cent of the cost, which is in the range of ¢500,000. This is against the

background that the average daily income for low-income communities in Accra (and for that matter Ghana) is ¢2,000.

2.1.3 Technological Choice

The choice of technology for the water sector by the GWCL involves consideration of a number of factors including the cost of the technology, the maintenance requirements, the ability to facilitate metering and the accountability of water consumed, and durability. In many urban areas, including the low-income areas, the Utility's policy is to have simple pipe-borne water supply connected to homes. Since the use of public standpipes ceased for over a decade now, the only practical option for the urban areas is the connection to households. The ideal situation is to have meters in all house connections but in situations where houses are not metered, an assessment is made by the Utility and a monthly fixed rate charged. The GWCL policy of household connection has not changed and is the technological choice of the Utility

Recent necessities have led to the formalization of the use of tankers to supply water to some under-served communities in central Accra. This is also being implemented in some low-income communities. Indeed, the development of alternative technologies for supply of water to urban areas, especially for low-income communities remains a challenge for the Utility. The setting of standards and selection of technology in policy and practice is in the hands of the GWCL.

2.1.4 Institutional Arrangements

Reforms in the water sector have led to several changes in the roles, responsibilities and relations of the institutions involved in water supply and management in Ghana.
The water sector falls under the auspices of MWH. The Ministry is responsible for overseeing the activities of the GWCL and the CWSA. The specific responsibilities include:

- Guidance in matters of general policy
- Appointment of the Managing Directorate by the order of the President
- Reviewing the annual report and financial records at any time
- Approving of any changes in the GWCL regulations
- Approving the annual budget

As part of the Government's policy to move towards a Public Sector Participation policy in the urban water sector, it has established an advisory committee for water sector restructuring with the specific mandate to oversee the transition to the private sector. The committee will be disbanded as soon as the purpose is achieved.

Sanitation, in recent times, has become the responsibility of two institutions in Ghana. Whilst water-related sanitation is the responsibility of the Community Water and Sanitation agency (CWSA) of the Ministry of Works and Housing, solid waste is the responsibility of the Accra Metropolitan Assembly (AMA) which falls under the Ministry of Local Government and Rural Development.

The organizational charts of the water and sanitation sectors are respectively shown by Figures 2.2 and 2.3.

Ministry of Works and Housing

- Define policies for the water sector
- Mobilize resources and arrange especially for international funding for the water sector capital projects

Ghana Water Company Limited

- Owns the current public assets in the water sector
- Undertakes research for water sector development/investment planning
- Establishes performance targets for operators in the sector
- Undertakes construction work in the water sector
- Supervises construction works
- Monitors and enforces water quality standards

Public Utility Regulatory Commission

- Establishment of tariff structure for public utilities
- Regulation of tariffs for public utilities
- Undertakes consumer education and protection
- Monitors utility performance and targets

FIGURE 2.2: ORGANIZATIONAL STRUCTURE UNDER THE PRIVATE SECTOR PARTICIPATION

FIGURE 2.3: GENERIC ORGANIZATIONAL STRUCTURE

Water Resource Commission
- Management of all water resources in the country

Environmental Protection Council
- Develop water quality standards

Private Operators
- Operation of water distribution systems
- Maintenance of water systems
- Rehabilitation and construction of water supply facilities
- Financial management and accounting for water utility
- Commercial management
- Customer relation

Ministry of Local Government and Rural Development
- Responsible for the Policies on environmental sanitation
- Mobilizes and negotiates for international funding for capital projects in the sector

Accra Metropolitan Authority
- Collection and sanitary disposal of wastes "(solid waste, liquid waste, excreta, industrial wastes, clinical and other hazardous wastes)".
- Responsible for public health management within the metropolitan area
- In charge of environmental monitoring and enforcement of environmental standards established by the EPA.
- Development of strategic environmental sanitation plans for the metropolis

2.2 Operational Scope of Service Providers

2.2.1 *The Water Utility's Coverage in Accra*

Public utility water supply in Ghana begun in 1928 with a pilot pipe-borne system managed by the hydraulic branch of the Public Works Department (PWD) in Cape Coast. At the time, the PWD was responsible for both urban and rural water supplies. However, in 1958, the water Supplies Division of PWD became an autonomous entity directly responsible to the Ministry of Works and Housing (MWH) for the purpose.

Subsequently, in 1965, the Ghana Water and Sewerage Corporation (GWSC) was created by an Act of Parliament (Act 310) as a legal utility charged with the responsibility of providing and managing water supply and sewerage services for domestic and industrial purposes throughout the country.

The Ghana Water and Sewerage Corporation became a limited liability company under a new name - Ghana Water Company Limited (GWCL). It operates with ten regional offices, which are co-terminus with the administrative regions in the country. The Accra-Tema Metropolitan Area office is thus of a regional status responsible for the GWCL operations in the Accra Metropolis as well as Tema.

The Accra-Tema Metropolitan Area (ATMA) of GWCL is responsible for the provision of water for the city of Accra and the surrounding areas. ATMA records indicate that its direct supply of potable water (connected to the reticulation system) to consumers is estimated to be less than 60 percent. The remaining 40 percent depend on other means. Unaccounted for water in litres had reduced from 56 percent in 1992 to about 35 percent in 1998.

Table 2.3 Description of the ATMA-GWCL

Customers	1998
No. of registered domestic customers	111,820
No. of registered commercial/industrial customers	12,359
No. of metered customers	56,384
No. of customers on flat rate	46,117
Water tankers service in litres	61,062,000lts.
Total average daily commercial supply	74,460,500lts.
Total average daily domestic supply	21,238,033lts.
Percentage of population served by water supply network	1.3million (60%)
Production cost of water delivered	1.42 cedis/litre

Source: ATMA; Records from commercial office

2.2.2 Service Targets

It must be noted that the utilities, for both water and sanitation, do not have defined policies addressing the needs of respective income groups. The differences lie in the practice and technology adoption.

Low-income communities - This target group is not directly served by household connections. Most depend on water vendors who have yard connections, used mainly for selling water. The other sources are supplies are from water tanker operators who sell to vendors, and finally purchased by household for consumption. In terms of sanitation many of these income groups rely on public latrines and where in the house, they mostly use pan latrines. Drains are hardly constructed in such low-income communities, therefore liquid waste from houses follow natural drains into valley course or lagoons in the city. Located domestic waste collection points are not well kept and are often far apart.

Middle and high-income communities - Service to these areas are mainly through the individual household connections. However, many of the new installations are without meters and are on fixed charges. Toilet facilities are often water closet with very few pan latrines. Drains are constructed but often not maintained and may therefore be dirty. House-to-house collection of waste done for some areas and paid for.

2.2.3 Service to the Urban Low-income

There is practically no special policy pursuit towards investment and development of water supply systems in low-income communities. The policy on private connection of mains and up-front 5 percent payment of capital cost of connection practically rules out the low-income communities from access to piped water.

The service to the low-income communities inadvertently falls on the tanker owners and vendors. The recognition and contractual arrangement between the tanker owners and the ATMA-GWCL is a declared policy in serving the low-income areas. The tanker services accounts for 21 per cent of the GWCL services. Water from such a system, however, tends to be more expensive than from the pipe. In reality, the low-income communities buy water at three to ten times the price paid by the high-income communities.

2.2.4 Investment Policy and Future of Low-Income Urban Water Supply

The immediate investment policy direction concentrates on the acquisition of meters to fix on those household connections currently on fixed charges. There is also a limited pipe extension under the Public Investment Programme covering Accra. Unfortunately the spatial scope and target falls in high-income communities and newly developing residential areas, who have satisfactorily fulfilled the 5 percent up-front payment of installation cost.

The investment plan of ATMA-GWCL indicates that the low-income areas are yet to attract a special response. In the light of the general trend, which emphasizes demand-driven approaches and ability to make a considerable down payment, the low-income are highly disadvantaged.
In respect of sanitation the plight of the low-income communities gives a light of hope. Under the World Bank Sponsored Urban IV project, some urban low-income communities, such as Nima, Mamobi, Accra-Newtown and Korle-Gonno benefited from the rehabilitation and development of some infrastructure including roads, drains and toilets. For the toilets the households were expected to contribute 50 per cent of the cost and the AMA through the project the other 50 per cent. This was very significant for the low-income communities as the pan toilets were being phased out. However, only about 17 percent of the target households responded. This was basically due to the problem of raising the 50 per cent to match the fund. The project is still ongoing and other strategies such as installment funding are being considered.

To enforce the sanitary regulations, the AMA has a Community Tribunal, which among others deals with offences regarding sanitation abuses and flouting of local government byelaws.

Waste collection and disposal has been privatized. Although the contracting process experienced a lot of controversies, the mater was finally settled. Private contractors undertake house-to-house collection of waste and manage the public collection points. This has led to a great improvement over the last two years in the collection of 1.6 million tons of waste generated daily by Accra. The AMA through this process is able to collect about 65 per cent of the waste compared to 50 per cent just five years ago.

In all these cases, however, the low-income areas are not the priority and the areas along ceremonial roads, high government residential areas and offices receive the most attention.

2.3 Characteristics of Consumers

2.3.1 Consumer Description

The population estimate of Accra for 1999 was 2.2 million, about 14 percent of the country's population. According to the Ghana living Standards Survey of 1997, about 23 percent of the population in Accra are poor, while 4 percent are noted to be very poor.

The rapid growth of Accra, especially the low-income communities, is very alarming and far exceeds the rate of planned development in the metropolis. The population densities in these low-income areas are very high. That of Teshie, which is located on the eastern coast or Accra, is estimated to be about 300/km^2 while Nima, considered one of the most deprived communities located in the centre of Accra, is deemed to be even higher. The total unplanned development in Accra, mostly in these low-income communities is about 25 percent of the statutory confines of Accra. Most are also deprived of social facilities and the houses are of poor quality. While water supply systems cover about 80 percent of the higher income areas, only about 16 percent of the low-income areas are served. As the low-income communities are making great efforts to secure alternative means of access to potable water, the high-income areas are heavily dependent upon the Utility for services such as water, waste management, electricity and telecommunication. By and large the types of services available to low-income areas include electricity, public and private toilets and community access roads (in the case of the peri-urban areas, these are mostly not tarmarcked).

2.3.2 Cost of Water

The cost of water produced by ATMA-GWCL is about ¢1.42 per litre and sold by the ATMA-GWCL at an average price of ¢1.70 per litre indicating a gross unit profit of ¢0.28 per litre. The ATMA-GWCL prices of water for an average household differ and depends significantly on the usage. However, on average, the price of water for a household (of an average size of 6 members) is ¢10,000-¢15,000[1]. This forms about 10-15 percent of the monthly income of a low-income household. Since most of the low-income households depend on water from vendors, which is a little more expensive, it controls the usage level. The fieldwork conducted for the compilation of the details of this assignment revealed that the average low-income household spends about ¢6,000-¢10,000 a month on water. The purchase of water from vendors was deemed more convenient for most low-income households since bulk monthly payment as required by the Utility would have been a problem and would have led to possible defaults.

2.3.3 Consumer Role in Decision Making and Management

The role of the low-income households in decisions concerning their water supply and management is very minimal. The GWCL has, however, got a very well functioning customer complaint outfit and a Public Relations Department. Customers make complaints to these outfits,

[1] At the time of the survey, November, 1999, the dollar was equivalent to 3,400 cedis

which forward them to the appropriate department (usually the commercial department) for action. This influences decision making by the Utility. The establishment of the Tanker Owners Association and the Residence Associations has also opened other channels by which decisions concerning their specific interest could be influenced especially in price fixing and control of domestic connections. The GWCL proposes a tariff to the Tanker Association and they also discuss and virtually bargain with the Company. Where it is too high and may not be attractive to their customers, they request reduction, which is often done. Since the vendor associations are yet to be recognized by the Utility, the plights of the low-income households are yet to be well captured in decisions.

2.3.4 Health and Hygiene Education

The issue of health and hygiene education generally falls outside the operational scope of the water utility. It is indeed carried out, if any, by the Metropolitan Health Administration under the Accra Metropolitan Authority (AMA) and a good number of local and international NGOs. It must be emphasized that not much is being done in this respect but the little that is on going, has focused on low-income areas.

There are continuous hygiene education campaigns carried out by Community Groups and Associations. The AMA in collaboration with NGOs such us Community Sanitation Campaign (CSC), CENCOSAD with support from GTZ, carry out periodic campaigns on cholera, malaria and other communicable diseases. In all these efforts, due to resources constraints, the activities have been on intermittent basis.

Indeed not much is being attained in these campaigns, as the involvement of the low-income residents in the planning and execution has been very minimal. Most of the top ten diseases reported from the low-income communities are thus water or hygiene related diseases such as diarrhoea, malaria and occasional outbreak of cholera.

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WATER UTILITY PARTNERSHIP (WUP)
PROJECT NO. 5

STRENGTHENING CAPACITY OF UTILITIES TO DELIVER WATER SUPPLY AND SANITATION SERVICES, ENVIRONMENTAL HEALTH AND HYGIENE EDUCATION IN LOW-INCOME URBAN AREAS

CASE STUDY OF COMMUNITY BASED HYGIENE EDUCATION
(DOOR TO DOOR) BY NGOs/AMA

Practice Number 1

Ashiedu Keteke Community Participation Project (AKCPP)

November, 1999

3.0 PRACTICE 1

3.1 Background

Ashiedu Keteke is one of the Sub-Metros under the Accra Metropolitan Authority (AMA). It comprises about eleven sub-communities, which are not only indigenous but also the most crowded and unhygienic sub-districts areas in Accra. Waste disposal is the biggest problem with choked gutters, stagnant pools and heaps of waste in containers scattered along its streets. The scene at the seaside is nothing but a clear slur on all the virtues of hygiene. There are many markets located in the area which sell products ranging from foodstuffs to sawn wood. Without any proper organization, the waste generated is dumped in the community. The need to respond to this situation was obvious.

3.1.1 What is the Practice?

The effort to conduct some health/hygiene education involves the mobilization of community groups to embark upon hygiene education and practical efforts to undertake sustainable clean-ups in their community. The practice involved five main actions; the training of the community-based environmental management team, undertaking house-to-house solid waste collection, initiating a school hygiene education programme, undertaking community clean-up exercises and establishing a permanent institution for the management of development projects at Ashiedu Keteke sub-metro. The practice centered on five main activities, which are:

- ***Hygiene Education*** - This involves the mobilization of community to create awareness on hygiene and visits to schools to raise the conscience of community members, through puppetry and drama on the need for personal cleanliness and environmental hygiene.
- ***Solid Waste Collection*** - This involves the selling of waste bins to households. The sorted Households solid waste is collected in the bins. The biologically degradable waste are sent to the project compost plant while the non-degradable are gathered by the project's volunteer staff at a defined location to be collected for the Waste Management Department of AMA.
- ***Composting*** - This is a very technical activity, which evolved out of necessity to dispose off the vegetable matter and to raise some funds for the project. This involves the collection of the biodegradable matter from the household to a compost site just about fifty meters off the community periphery. The biological matter is left to decompose and the rich humus is sold out as manure/natural fertilizers for the surrounding urban market gardeners.
- ***Communal Environmental Cleanliness*** - This aspect of the project involves the organization of periodic communal labor to clean the market sites, streets, gutters and sites for social gatherings. At the end of the cleaning campaign, a public education forum is held to discuss hygiene issues and end it up with games.

3.1.2 What is the purpose?

The purpose of this practice is generally to establish a process to create awareness for the members of the community to appreciate the need to undertake and ensure environmental cleanliness within the communities. This specifically involves:

- raising their hygiene consciousness through education
- evolving a cost recovery means for the collection and disposal of household solid waste
- gradually introducing the idea of separation of household waste for the development of a viable recycling process
- establishing a community based management team for the administration of community development efforts

3.1.3 Who Initiated It?

The project was initiated by a German NGO called Growth Integrated Development Programme which capitalized on the mission of the already existing 5 clubs and further strengthened them for the new project. Having operated for some time, the successes chalked served as impetus for autonomy to be granted to the community to manage the project. GTZ and UNDP also gave much support in the form of cleaning equipment. The key ingredient was human resources and technical guidance provided on voluntary basis.

3.1.4 Who Manages It?

The management of the project relies on informal community clubs within the community. Asiedu Keteke could boost of 15 clubs formed mainly to facilitate socialization amongst them. Five of these clubs constitute the core management for this project possibly because these were the ones whose vision borders on the vision of the project and who showed commitment to the efforts initiated. Members of these five clubs, therefore, elect the project management team which consists of an elected Chairman. Those reporting to him are:

- the Project Treasurer, who is also the Site Compost Manager,
- the Project Secretary, who acts as the Waste Supervisor,
- the Assistant Treasurer, who is also the Revenue Collector and
- The leader of the drama group is an Executive Member.

It must be mentioned that the dual role performed by the above is based on commitment to the project of the respective members.
The management team meets every Wednesday to plan activities for the coming week and also reviews the finances of the project. The management is collectively accountable to the members of the five clubs and at their quarterly meetings, the Management Team presents report on the project.

3.1.5 Who are the beneficiaries?

The beneficiaries for the programme, generally are all those living in the Ashiedu Keteke Sub-metro and even the neighboring communities that share facilities in this area. The direct beneficiary of the programme however, include the 150 houses benefiting from the house-to-house refuse collection, the 38 primary and JSS schools who have benefited from the education programme and the Agbogloshie market and other markets that have benefited from "the regular clean-up campaigns" by the project.

3.1.6 How long has it been operating?

The first meeting for the project conception was on 16th August 1996 but the inauguration for the initiation of all the activities and for that matter the Ashiedu Keteke Community Participation Project (AKCPP) was on 26th March, 1997. Thus, the project has practically operated for three and a half years.

3.1.7 Where is it being used and has it spread?

Several other communities in Accra are emulating the Community hygiene and sanitation education started by the AKCPP. Cases could be cited of similar programmes at Korle Gono, Christian Village at Achimota and Teshie. These communities have similar characteristics as those in Ashiedu Keteke.

3.2 Process and Approach

3.2.1 What are the tools and method used

The project begun with the mobilization of existing youth groups from which a project management team was formed. It employed to a large extent media education tools such as drama, puppetry, posters and exhibitions to educate the youth and train them in these same tools to educate others. Publicity was done through voluntary work and using any public gathering and schools to sensitize the community on the need for environmental hygiene. After the education, physical efforts were made voluntarily by the groups to collect rubbish, clean and de-silt choked gutters. This continued for some time and eventually established a permanent process of refuse disposal and community clean-ups by volunteers to the project. Community sensitization was the initial tool, followed by physical effort to clean up the community and the establishment of a more permanent approach of keeping the community clean.

3.2.2 How is it implemented?

Ashiedu Keteke has about 15 "youth" clubs of males and females with minimum age of 17 years. They were mainly for social festivities and once a while organized clean-up exercises. A meeting was called for all the youth clubs by the initiator of the project, a consultant with an international NGO. This was followed up with three subsequent meetings of the club members to discuss sanitation issues in the area. The last meeting then selected representatives from the respective youth clubs who could be meeting regularly.

The selected team, therefore, formed an interim project management team and designed a community-based integrated programme to educate the community on environmental hygiene and sanitation.

Five of the youth clubs were assigned the core role to undertake the following media means for the education:

Gbese stars	-	News Paper production
Altov	-	Puppetry performance
Bukom	-	Designing of Posters
Las Vegas	-	Theatre for Development (TFD)
Play boys	-	Educational inputs for exhibitions

The Public Relations Consultant for an NGO volunteered to train the groups (see annex for information on the NGO). After training and preparation for about three months, the various groups were capable of performing the task. As a result of the education and promotional activities, the usual Community clean-ups attracted a lot of the community members and the opportunity was taken to apply some of the developed media tools to educate them on environmental hygiene and sanitation.

After this preliminary public awareness, the AKCPP was officially launched with the attendance of the Accra Metropolitan Chief Executive of and other dignitaries from the Sub-metro. The launching was followed by the intensification of the hygiene education programme and this was spread to involve the schools in the area. Permission was sought for the institution of hygiene education programmes, through the developed media, in the 38 schools in the area. The schools formed their own hygiene clubs and continued with the education.

Alongside this, a house to house solid waste collection exercise was initiated. Questionnaires were distributed to hundred houses for this purpose and after very positive responses were received from eighty houses, the collection begun. Two plastic containers (green color and red color) were sold to the selected houses and they were instructed to put all the vegetable waste into the green container and all the other waste into the red container. The cassava and the plantain peels were gathered and sold to livestock owners, the remaining vegetable matter sent to the project compost site and the non-vegetable matter deposited at a collection point to be conveyed by the Metropolitan Waste Management Trucks. Support was received from other NGOs and individual philanthropist to acquire equipment such as tractor and manual operated carts for the collection. The houses served also agreed to contribute to cover the daily wages of the "volunteer" collectors and other minor expenses.

On a more regular basis for each week, one of the schools in the area benefits from the education programme through the appealing media established (puppetry and drama). The rubbish collection is a daily affair except Sundays. The organic fertilizer from the project compost is sold to gardeners and more orders are being received.

3.2.3 Why was it set up this way?

Many environmental hygiene programmes have failed in Ghana for three main reasons:

- The over emphasis on education without any action to correct the negative environmental situation leads to an apparent fall of interest by the target group.
- The absolute use of voluntarism in such projects without any fees from the beneficiaries leads to demoralization on the part of the volunteers and eventual collapse of the project.
- The lack of community participation and ownership of the project also eventually leads to alienation.

The project thus sought to combine the education with physical effort, fee payment by houses, and offer of remuneration to the workers and a strong sense of community ownership.

3.3 Analysis

3.3.1 Service Provider - Ashiedu Keteke Community Participation Project

- **Success**

The cleanliness of Ashiedu Keteke Sub-Metropolitan Area is the key evidence to the success of the project. Despite the poor state of housing quality and general infrastructure. The drains are clean, the streets neatly swept. Household waste dumped in streets and nooks are a thing of the past.

The expansion of the number of households benefiting from the project increased from 80 in 1997 to 150 in 1999 is a remarkable positive trend. The refuse is continually collected daily and with more support from the Metropolitan Authority and other community members more equipment are purchased to cope with the increasing volume of work. The work is thus made better and the community members do not hesitate to pay more fees. The receipts from the peels and compost increased from average of ¢7,000 a month to ¢52,000 a month. Baring an inflation rate of 27 percent, this is still a remarkable success. The revenue accruing are being used to support the operations of the project including some allowances for the refuse collectors.

- **Sustainability**

The sustainability of this practice could be established based on five main grounds, which are:

- The level of support from the Accra Metropolitan Authority and the enthusiasm of the community members in the project. This is primarily because the project is a response to a real problem in the community. As waste generation is a matter of course in human life and the problem of solid waste collection, disposal and management a consequence, the rationale for the project remains an establish response.
- The sub-metro has a large youthful population that is unemployed and that could be utilized for the project on full-time or part-time employment or voluntary basis. Once this situation is deemed to persist, the ready labor needed for the projects are assured.
- The willingness of the community to pay for the refuse collection provides an established base of funding for the project and again a sign of commitment. The income generation activities such as the compost and peel selling are also other funding sources within their own control, which are very necessary ** n up community members appreciation of the hygiene problem and thus sustain their commitment to the project.

- **Replicability**

Many suburbs in Accra are emulating this and successes are already being made in certain areas. The basis is that, there are many off stage.

3.3.2 Beneficiaries

The consumers affirmed that the project's message sounded good but they initially doubted whether it would work. The success story was indeed a surprise to all of them given the state of the area before the implementation of the project. The beneficiaries established that the project in their assessment is a big success on the basis that:

- The disposal of refuse in the community was a real problem, as they had to send their children to cross streets to go to the beach to dump the refuse. The only way out for them and for their children was to dump it in drains or in nooks of the communities. This burden has been taken away and not only that but the drains and streets are kept clean. "Everybody in the community is environmentally conscious and our little ones in school are even more hygiene conscious than us".
- The project has created more confidence in the community and new projects have been planned. Members have become more responsive and willing to take up duties for the community
- It is now far easier to mobilize the community members and attract voluntary contributions from many individuals, though many are low-income earners. The sustainability of the project is very much assured and it is even leading to the creation of more community-based projects within the beneficiary areas such as landscaping, tree planting, toilet facilities.

3.4 Outstanding Issues

1. The expansion of the project coverage may require the use of trucks, which is currently above the means of the project. This may require additional substantial support though the UNDP and GTZ have made promises in this direction.
2 The work-load of the management team may require some of them obtaining a full-time status, implying that the project scope might necessarily have to expand to yield a viable return to cater for the salaries.
3 A greater collaboration is needed between the Waste Management Unit of the Accra Metropolitan Authority (AMA) and the project to ensure mutual support and administrative clearance.
4 The problem of liquid waste was yet to be covered and for integrated environmental Hygiene development, this area requires attention. The project must explore the possibility of expanding its scope to cover that.

3.5 Lessons Learnt

1. The enabling environment created by the Accra Metropolitan Authority provided the opportunity for the communities to take their own initiatives and capitalized on support received to solve the environmental hygiene problem.
2. The organized nature of the programme and the skills of the leaders became key assets in attracting support from NGOs and other agencies to support the project.
3. The need to identify a local pressing problem is a necessary process in soliciting the support of the community in the project. This indeed created the demand for the project and the willingness of the community members to pay even for services.
4. The facilitation through the continuous education means establishing a good basis to attract and also to sustain members' interest and commitment in the project.
5. Provision of many of the social services could be best undertaken by private agencies with the public administrative support.

Annexes

1. Background of the AKCPP
2. Extracts from Ashiedu Keteke Community Participation Project annual report
3. Community compost advertisement brochure.
4. Brief profile of Growth Integrated Development Programme
5. Toolkits Growth used to train the Groups.
6. Manual for management Training of Team Leaders.

WATER UTILITY PARTNERSHIP (WUP)
PROJECT NO. 5

STRENGTHENING CAPACITY OF UTILITIES TO DELIVER WATER SUPPLY AND SANITATION SERVICES, ENVIRONMENTAL HEALTH AND HYGIENE EDUCATION IN LOW-INCOME URBAN AREAS

CASE STUDY OF GWCL - TANKER OWNER METERING/PAYMENT COLLABORATION

Practice Number 2

Operation of Teshie Tanker Owners' Association

November, 1999

4.0 PRACTICE 2

4.1 Background

Teshie is an indigenous Ga community, which is of customary prominence in the traditional set-up of Accra. With the development of Tema Township and the construction of Tema harbor in 1964, the community, which was about ten kilometres from the centre of Accra along the beach road, grew rapidly. It suddenly became a residence for low-income workers involved in construction works at Accra and Tema in addition to the large population of indigenous fishermen. The rapid growth from then continues today with most of the housing development unapproved and statutorily declared "unplanned". It became a crowded area with one of the highest population density in Accra. The spread of the community spans over an area of 2 km^2. About half of this area, mostly along the main road is reached by the Ghana Water Company Limited mains while the remaining half are not served at all. Most of the residents have been able to tap electricity to their homes at their own cost but not water.

The supply of water by water tankers and the subsequent formation of the Water Tankers Association are a response to the need for a regular source of potable water. The tanker service has provided a viable alternative source of potable water supply, thus accounting for the reason residents have not bothered to tap from the GWCL mains.

4.1.1 The Practice

The practice is a formalized system where a group of individual entrepreneurs have acquired water tankers (vehicles that carry water in tanks with volumes varying from 2000-4000 gallons) and contracted by the Utility to sell water to vendors and other consumers at point services at an agreed price. The Utility has established a water filling point for the tankers. The tankers buy the water at an agreed tariff and they in turn sell to vendors or households. The filling point is metered by the Utility and the Tanker Association pays the assessed bulk sum to it. The sale to the tankers is thus done by the Association, which has a direct contractual agreement with the Utility (See Annex)

4.1.2 Purpose

The purpose is to provide bulk water to vendors and households at unserved and underserved areas. Specific aims include:

- To ensure regular supply of water to all communities within Teshie
- To ensure that good quality water reaches homes to sustain the business
- To ensure that the price of water is not beyond the reach of the low-income population
- To improve revenue collection

4.1.3 Who initiated it?

The Teshie Tanker Owners Association started as individual ventures in tanker operations fetching water mainly for construction purposes in newly developing residences. The demand for the service became very high during the construction boom after 1989 which was triggered by

favorable fiscal arrangements in the Ghana construction industry. At that time, the water fetched for such construction works were from local streams. As the demand for water for household consumption increased due to the inability of the Utility to match the demand, an alternative evolved. “At the beginning we roamed through Accra with our tankers and when we identified fire service hydrant points we secretly tap from there and go and sell," said one tanker driver. This indiscriminate filling from fire hydrant points became so alarming, that the GWCL was compelled to establish filling points at Lashibi, Tema, Kwashieman (Commander Addo), and Teshie for the tanker owners. The need to regularize this operation led to the formation of the Teshie Tanker Owners Association emulating the Association formed by Commander Addo at Kweshieman.

4.1.4 Who Manages it?

The Teshie Tanker Owners Association has a membership of 24 (these are only owners of water tanker vehicles). The drivers are registered but not members of the Association. The fleet of cars is also registered with the Utility. There is a five-member Executive with the initiator, Mr. Nii Adjetey Mensah as the Chairman and an elected Secretary, Treasurer and two other Executive Members. The Association has its office at the filling point with a full-time staff as a clerk and attendant to the filling point. The Association pays a deposit of ¢500,000 to the GWCL for "the commencement of drawing from the hydrant" .The GWCL plays a contractual role of seeing to the payment of the water tariff and fixing of prices so as to benefit the consumers and the tanker owners.

4.1.5 Patronage - Consumers/Beneficiaries

The targeted consumers for the services of the Tanker Association are the water vendors and some households. A lot of the constructional activities going on within and outside the community still depend on the services of the tankers. Since many of the households do not have adequate facilities to store water and the rate of usage may require it staying in the reservoir for too long, the vendors are the main direct consumers. According to vendors, tanker services are responsible for about 80 percent of their supplies.

4.1.6 Length of Operation

Although many of the individual members have been operating since 1983, the formal Association was formed only in 1997. It is established to date that about 11 per cent of the population of Accra depends on tanker service. In Teshie, in particular, about 30 per cent of the households depend solely on tankers but almost every household relies, in one way or the other, on the tanker suppliers when the taps are closed. In the dry season this is a frequent occurrence.

4.1.7 Where is it Being Used and Has it Spread?

The water tanker system is now used all over Accra. There are currently three Tanker Owners Associations performing the same functions but to different communities in Accra. The system is catching up very fast in other cities and urban areas especially in Kumasi, Tamale and Cape-Coast (refer to figure 2.1).

4.2 Process and Approach

4.2.1 Tools and Methods Used

The tankers were seen by the GWCL as a nuisance as they used to steal water from fire hydrant points. The process to formalize Tanker Owners Associations thus took a subtle approach. With the high demand for water and the obvious inability of the Utility to satisfy this demand, the stage was set for a necessary search for supplementary distributors of water. To approach the GWCL for any negotiation, the tanker owners required an organized body. Some of the individual members, therefore, formed the Association, the most prominent members being Commander Addo (a retired Air-force officer) and Mr.Adjetey Mensah (a Police Officer). With the formation of the Association, the ground was set for negotiation. A contract was established with the GWCL, who provided the hydrant filling points with meters fitted to them. Apart from an initial deposit of ¢500,000, the Associations other payments depend on the amount of water drawn from the hydrant. It was therefore the responsibility of the Association to pay for the registered meter readings and together with the GWCL fix the price of the water sold by the tanker associations. The Tanker Owners Association sells the water to their members, ensures that good quality water is delivered while they settle the bulk tariff with GWCL. Water quality assurance is done by the hydrant attendant who ensures that the tankers that call to be filled are clean and only used for water collection. Regular inspection is also done on the tankers by both parties.

4.2.2 How is it Implemented?

When the hydrant filling point is established by the Utility, a bulk meter is attached which records the water from the hydrant. The Association has a full time attendant at the hydrant filling point from 6.00am -7.00pm daily, who sells the water to the tanker drivers. The filling fee is fixed by the Utility while the Association fixes the delivery price (based on the agreement with the Utility) to the vendors and households. The fee is proposed by the Utility within margins already approved by the PURC. The Association bargains with the Utility and agrees on the price at which the Association members will buy the water and also the price at which it will be sold to consumers.

The attendant at the filling point, employed by the Association, has to inspect the condition of the tanker especially for its cleanliness and odor before it is filled. The attendant issues an invoice and upon delivery of the water to the consumer, the driver has to make the full payment of the purchased water to the attendant.

To make it easier for consumers to contact the Tanker Association, members have written telephone contact numbers on their cars and the association also occasionally makes announcements on the Local FM radio station. Consumers can just call and the Tanker Association will schedule the delivery. There are also accessible public telephone booths located even in low-income areas that facilitates contact with the tanker services.

The Treasurer banks each day's sale of water by the Association from the filling point. There are three signatories to the account, which included the Secretary and the Chairman in addition to the Treasurer. At the end of the month the meter is read by a meter reader of GWCL and the bill is sent to the Association. The Association's continued supply of water depends upon the settlement

of the previous month's bill. The liaison responsibility between the Utility and the Association lies with the Commercial Manager and the Public Relations Manager of the Accra-Tema Metropolitan Area (ATMA) office of the GWCL.

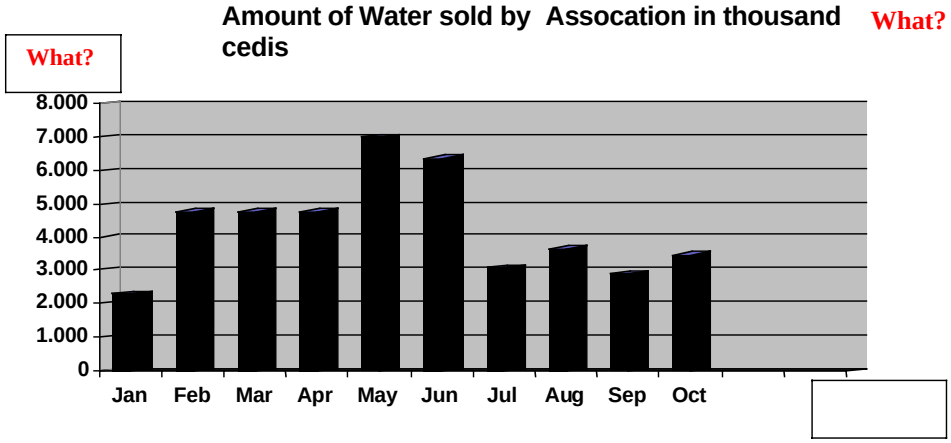
4.3 Analysis

4.3.1 Service Provider - Teshie Tanker Owners Association

- *Success*

The water tanker system in Teshie and other areas in Accra has been operating on contract with the Utility for the past three years without any significant problem. The operation of the tankers has been formally accepted by the Utility as one of the best-channeled means to get water to the low-income and newly developing peri-urban communities. The quality of the water can be assured to be potable and delivery is efficient .The water delivery of the Association for 1999 is shown below.

WHAT UNIT OF MEASUREMENT IS BEING USED IN THIS CHART?



It can be observed from the table that the delivery of water rose and then fell after June. This was attributed to the fact that new tariff rates were released (increment of 30%) just after June thus affecting the demand. The members claim this has been the practice but demand again catches up.

Water is sold to the Tanker Association at 1.5 cedis per litre. An average overhead cost of 25,000 cedis is made on each trip of 11,250 litres. The overhead costs include fuel and other lubricants, as well as maintenance cost and the fee for the driver. The unit average overhead cost is thus 2.2 cedis thus giving the total unit cost of water delivered by the tankers to be 3.7 cedis per litre. Water is sold between 60,000 to 80,000 cedis for a tanker containing 11,250 litres. The charges, depends on the scarcity of water at any given time, hence the range. The average unit delivery cost by the tankers is thus 5.3 to 7.1 cedis. This results in an average net profit of 1.6 to 3.4 cedis per litre. For each trip, a tanker on the average gains between 18,000 to 38,250 cedis. The tankers make an average of three trips per day thus making a daily net profit of 54,000 to 114, 000 cedis. This is an indication that it is a viable business and upon good management a tanker

owner should be able to buy a new tanker in three years, which is even two years shorter than the average accountable depreciation period of a commercial lorry. The water tanker operation is thus economically very sound business.

The operational cost of the tankers can be reduced if more of the hydrant points are built in other locations as some have to travel over six kilometers in traffic, spending over two hours, from the service point to the delivery areas.

- **Sustainability**

  -The incessant demand for water and the inability of the Utility to directly serve all households, especially the low-income areas, continues to sustain the operation of the tanker services

  -The sustainability of this system to a large extent depends on the maintenance of the hydrant filling point, which relies on the contractual agreement between the Utility and the Association. The respect for the contract and each other's interest has sustained the practice and will continue to sustain it.

  -In the event of selling out the hydrant points to private operators in view of the privatization programme, it is the plan of the Association to go into operational contract or possible outright purchase. This is very possible, as the operation has enhanced the managerial competence and entrepreneurial skills of the Association members.

  -The Associations members' fear of price hikes by private owners in case the water supply is divested has been curtailed with the establishment of the Public Utility Regulatory Commission (PURC), which is supposed to make the final decision on the prices of all public utilities including water.

- **Replicability**

The system is already being replicated in many parts of Accra and in many other parts of Ghana.

- It remains one of the easiest ways for the Utility to recoup bulk returns for the sale of water.
- Individual tankers plying in many areas in Accra are forming Associations to benefit from this facility. It requires only a simple agreement and legal organization, which is mutual between the Utility and the tanker owners.
- The third necessary activity, which will facilitate the process, is to have vendors who will purchase the water in bulk, store and sell on demand at a reasonable price especially to the low-income consumers.

4.3.2 Consumers

- **Success**

The greatest appreciation for the tanker system lies with the household consumers and the water vendors. The tanker system ensures that when the taps stop running and reservoirs get empty there is a means to provide water for households. The stringent hygienic conditions required for the Association tankers also increases consumer confidence. “At first people were using fuel tankers to sell drinking water but these day all these quacks have been eliminated". The worry of the consumers (vendor and households) is that the delivery prices of the drivers are too high and

must be checked. Investigations reveal that while the Utility sells the water at about 1.5 cedis a litre to the tankers and are expected to sell at 1.6 cedis, some of the tankers sell as high as 8 cedis per litre. The vendors are thus compelled to sell to their customers at a rate of 11 to 15 cedis a gallon as against a recommended rate of 2.6 cedis per litre. The Association has set up a team to check on these high prices as the members claim the drivers pay the stipulated amounts to them and cash the rest.

With the improvement in communication systems, vendors could call anytime there is a shortage and they would be served. This saves a lot of time and leads to efficiency. The vendors and other consumers confirmed that in most cases when they called the response was immediate. The improved quality of the water in terms of the color, sediments and odor comes close to the quality of water from a tap. This has been made through:

- Periodic and unannounced inspection organized by the Executive Members of the Association on the cleanliness of tankers.
- The service point attendant records of complaints from consumers and if verified and substantiated the Association member, who is a culprit, is fined or suspended.

The sustainability is exhibited by the continual expansion of the market and if the price issue is corrected there is no doubt that the system will stay in spite of the constantly changing policy environment of the water sector in Ghana.

4.4 Outstanding Issues

1. The members should make arrangement to contact a financial institution to give them loans to acquire new tankers, as most of their vehicles are old and will soon become unreliable. This will expand the fleet size and improve service levels.
2. More of the hydrant filling points could be created to avoid covering long distances and often through traffic.
3. Record keeping of the Association must be improved as shortcomings in this area were detected in the study. The records were not up to date and in some cases the tariff demand of the Utility and the returns of sales to the Association did not tally.

4.5 Lessons and Conclusions

1. The water supply and distribution system as a network follows a hierarchy and the proper function of all the actors in the hierarchy is necessary to ensure an efficient system.
2. With the requisite framework and resources, the private sector can invest in the water supply industry and stay viable in business.
3. The quality of water and reliability of supply sources can be improved if the delivery process is regularized and voluntary means of internal control established.
4. Water being an essential commodity and for a long time had remained a social good requires careful pricing to satisfy the new business engagements as well as the consumers.

Annexes

Code of Conduct for Private Water Tanker Owners Association
Articles of Agreement

WATER UTILITIES PARTNERSHIP (WUP)
PROJECT NO. 5

STRENGTHENING CAPACITY OF UTILITIES TO DELIVER WATER SUPPLY AND SANITATION SERVICES, ENVIRONMENTAL HEALTH AND HYGIENE EDUCATION IN LOW-INCOME URBAN AREAS

STUDY OF INDIVIDUAL WATER VENDORS AND WATER VENDORS ASSOCIATION AT TESHIE-NUNGUA AND NIMA

Practice Number 3

Individual Vending from Domestic Taps

November, 1999

5.0 PRACTICE 3

5.1 Background

The economic reforms in Ghana and the specific fiscal policies related to the housing sector led to the sudden increase in housing development especially at the peripheries of Accra. The annual growth rate of the housing stock was estimated to be above 7 percent in Accra between 1991 and 1996 (ISSER). Apart from the private estate developers who made conscious attempt to provide these newly developed areas with the necessary social services, such as water and sanitation, many of these new communities did not have any facilities especially the low-income ones.

The Ghana Water and Sewerage Corporation (GWSC)[2], which until 1996 was a public corporate monopoly responsible for water supply, could not match the pace of housing development especially within the low-income areas. The supply of water to these newly developed communities became a matter of concern for individual households. Many of the newly developing areas also did not have the required development permit as it was beyond the legal operations of the GWSC. The GWSC was equally facing many problems ranging from poor capitalization, cost recovery problems to technical incompetence. These affected their operational competence and their ability to cover the new areas. The struggle for water in these unserved areas thus grew worse and worse.

The fieldwork for data collection on this study in Accra-Tema revealed that, there were over 15 communities or suburbs in Accra, which depended on water vending practice for their water supply. Many of these suburbs were in the low-income category and were underserved. Some of these suburbs were Sowtuom, Gbawe, Nungua, Teshie, Christian Village, Nima, New Town, Chorkor, Ashiaman, Ashongman (refer to figure 1.1). These areas also constitute the most densely populated areas in the city and together account for about a quarter of the city's population. It is thus estimated that about 125,000 households depend on this system for their supply of water.

5.1.1 What is the Practice?

This is the vending of water by individuals from domestic taps, often from houses situated at the ends of the GWCL water reticulation system. There are others who also sell from home-built underground tanks and reservoirs, and are supplied with water from private water tankers. In many cases, however, the vendors sell from both sources: the domestic taps directly supplied by GWCL and supplemented with the home built underground tanks and reservoirs.

5.1.2 Purpose

The purpose of this system is to access water to poor households who are outside the reach of the mains of the GWCL or experience infrequent water flows. The houses in some communities do not have the legal permit and cannot therefore acquire water through the GWCL. Hence, they had to depend on the water from the legally developed houses around or explore other alternatives. This vending system thus filled a gap, which made it possible for low-income "unapproved" or unplanned developed areas to have access to regular water supply.

[2] The status of GWSC was changed to limited liability company under the name Ghana Water Company Limited (GWCL).

5.1.3 Who Initiated it?

The exact beginning of the water vending system in Ghana may be difficult to trace as it contains a bit of historical element. Water, since the colonial era has been a free commodity in Accra. Public standpipes had been located in certain strategic areas for households to fetch without charge. After independence, this did not change until the reforms begun in 1985 where the emphasis shifted from a free public service to a paid for house-metered-facility. The change in the facility provision did not, however, solve the problem of most taps running dry, especially those on relatively higher elevations and/or further off the mains. It became necessary for some households without taps and those without regular flow of water to depend on neighbors. As these domestic taps were metered, it was necessary that dependent households pay for water fetched from their neighbors, hence initiation of a whole new system of water vending by neighbors with regular flow. The recount below by a water vendor from Nungua throws more light on this:

I am a native of Nungua but have spent most of my working life at Kibi. When I came here with my family in 1983, I decided to go into pig keeping. That required a lot of water for cleaning so I manage to arrange for domestic tap connection from the then GWSC. I also bought a medium size water tank (80x80x80cm.) which I filled as buffer and used when the taps ran dry. When they ran dry, neighbors used to walk about a kilometre, crossing the main Accra-Tema road which was very dangerous. Three children of the same parents were knocked down by a car while going to fetch water. Given this situation, I offered to fill my tank and allowed neighbors to fetch when the taps were not running. With time my water charges increased, so I discussed this with some of my neighbors who offered to pay for each bucket fetched. In no time I became a regular water vendor and other members of the community also constructed reservoirs and started vending.

5.1.4 Who Manages It?

Water vending, as it is now, remains an individual business entity, managed by respective households. The vendors are yet to form an association but in spite of the competition, there is a close informal collaboration amongst those in the business. The water management, settling of meter charges and financial management lies with the individual vendor or household.

5.1.5 Who uses it - consumer/beneficiary

The water vending system has significant number of consumers and in some communities “everybody depends on water vendors for water when the taps are not running and this is on regular basis.” In the areas along the coast of Teshie, where there are a lot of “illegal developments”, water vending is the main source of water supply for these low-income areas. It is used by almost all households at "Tsui Bleo" and other areas in Teshie, which are not connected to the Utility's mains.

5.1.6 How long has it been operating?

An eighty year old water vendor affirmed that he had been selling water to neighbors since 1954 as he was the only person provided with tap water in a neighborhood of over 10,000 people. As a commercial venture, this started with the systematic elimination of public standpipes from 1985.

5.1.7 Where is it being used and has it spread?

This is a system, which is very common in all the cities and major urban areas in Ghana. Specifically in Accra-Tema Metropolitan Area, water vending is very common in low-income underserved areas such as Nungua, Teshie, Chorkor, Christian Village, New Town, Nima, Ashiaman, Sowtuom, Awoshie, Madina and Santa Maria. Some of the medium-income areas equally rely on water vending, as taps in these areas do not run regularly. Some of these areas include Tantra Hill, Ashongman, Ashalley Botwe, Taifa, New Achimota and Dansoman.

5.2 Process and Approach

5.2.1 What are the tool and methods used

The individual vendor has to acquire a domestic tap, often fixed in the yard of the house on a concrete platform and a connected drain. A meter is fixed to the tap by the GWCL. An underground tank with, an average size of 3x3x4 meters, is also constructed within the yard of the house to store water. The field work revealed that nearly 100 percent of the vendors who store water for sale, use underground tanks for water storage.

According to the results of the field work, 90 percent of vendors have underground tanks and the same percent rely on tankers.

5.2.2 How is it implemented?

The individual potential vendors approach the GWCL for domestic taps to be fixed in their compounds. In most recent cases, many of those who acquire these taps were not given meters due to the non-availability of the equipment, therefore vendors are given a fixed monthly rates.

The vendors by their own arrangement construct the underground water reservoirs, often done by local masons. The reservoir is filled with water from the domestic tap and this becomes buffer stock which is sold when the taps are dry. When the taps are running, water is sold directly from the tap to the customers.

The dimensions of the underground reservoir, in most cases is 3x3x4 meters.. The interior is plastered with cement. An opening of one square meter is kept at the top where water is drawn from and another open vent is kept to allow for ventilation.
Due to the erratic flow of water from the taps in these areas, the tanks have become very useful. When the taps do not run for a long time and the water in the tap gets finished, the vendors rely on water tankers to fill the reservoirs and are sold to consumers.

The maintenance of the reservoir is the most crucial part of the operation process. When water stays too long in the tank, it acquires a stench - implying that if the tank is filled and the water not sold out in two weeks, it has to be drawn out and the reservoir cleaned. This is not only tedious but also expensive, as the water in the reservoir is wasted.

5.2.3 Payment and Pricing

None of the water vendors had any agreement with the GWCL to sell water. The rates charged are for domestic users, which is just about ¢6.00[2] for the first 10,000 gallons of consumption for a month. The next bracket, which is 10,001 gallons to 15,000, the rate is at 12 cedis per gallon. Since the vendors had no special contractual arrangement with the GWCL, the normal domestic rating applies to them.

The payment contract on domestic rating basis with the GWCL is of two kinds;

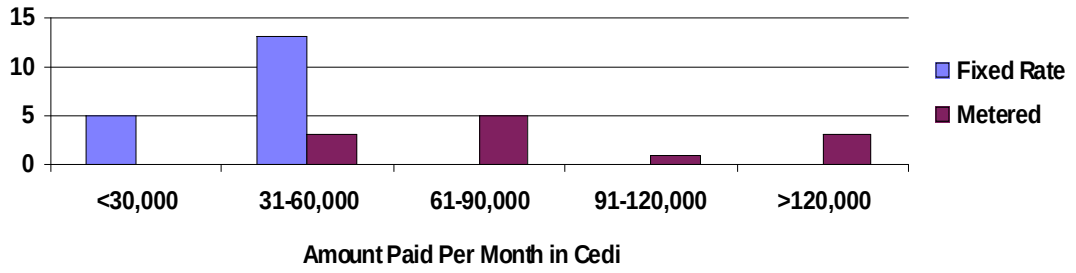
- those with meters, whose consumption is meter-recorded and
- those with fixed rates who pay fixed charges.

Those without meters cannot assess the amount of water sold in a month and therefore use the amount of money obtained from sales to estimate the amount of water sold. In all the cases, however, none of the metered vendors had gone beyond the 6000 gallon consumers' minimum rate charge bracket, referred to as "lifeline" by the Utility.

The vendors tariff obligation to the GWCL thus vary from ¢15,000 per month to ¢142,000 per month (the distribution is as shown by Figure 3.1).

Figure 3.1 Monthly Tarrif Payments by Water Vendors to GWCL

What units are these?



The observation on payment of the tariff to the GWCL was that the vendors on the fixed rate paid relatively lower rates than those with meters. The range can be thrice the non-metered rate

The pricing of water by the vendors is not regulated by any institution neither does it have any established basis and is generally left to the individual vendor. The vendors, however, in the individual price fixing challenge respond to two elements, which are the level of the GWCL water tariffs and the demand for water at any given time. In periods of water shortages or when the taps are dry, the rates are higher than the ordinary times. The table below gives some of the prices of the vendors.

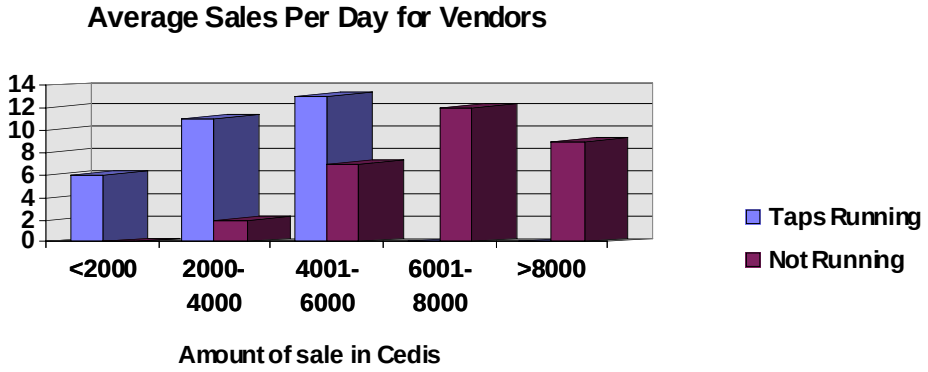
Table 5.1 Price for Eighteen (18) Litre Bucket of Water by Vendors

Category	Description	Price in cedis
1	Ordinary times when taps are running	50 - 100
2	When taps are not running and water is sold from the reservoir	100 - 150
3	When water is not running and from reservoir filled with purchased water from a water tanker.	200 - 250

Source: Field interviews with Teshie-Nungua Water Vendors, November, 1999.

5.2.4 Profit

As a business activity and a source of livelihood for many of the vendors, profit remains the most important motive. If a litre of water is sold by GWCL at 1.7 cedis and it is sold by the vendors at an average price of 2.8 cedis, then it can be said that the vendors make a gross profit of at least 1.1cedis on each litre of water sold.
The general pattern is that ordinarily (that is when the taps are running), the vendors sell on the average between ¢2000 and ¢6000 per day while when taps are not running, they sell between ¢4000 and ¢10000 per day.



The table indicates that on average, the vendors earn about ¢3,000 a day when taps are running and about ¢7,000 a day when taps are dry. In all cases, the vendors admitted that they were at least making a marginal profit to cater for other household needs. In spite of the declared profit it was noted that many of the vendors had not honored their tariff payment to the GWCL. The debts ranged from ¢15,000 to ¢280,000. Some of them accumulated the tariff for about three months. The encouraging thing is that all of them have made arrangements to make payment of

the accumulated tariffs by instalment. A vendor explained her circumstance this way; "*we make a little profit on our venture and there is no way we wilfully default the payment of tariff. The problem is that the bills are sent very late and instead of submitting the monthly bills we receive accumulated bills and the payment becomes difficult as saving towards unseen bills is painful*."

5.2.5 Management

Water vending is purely a household business and arrangement for payment of monthly tariff is between the vendor and GWCL. The GWCL treats the vendors like any domestic consumer without any concessions or penalty. The vendors, in seeking recognition and special arrangements by GWCL are in the process of forming a Water Vendors Association. The initiator, however said, *"for one and a half years, the effort has not yielded much fruit as those vendors on fixed rates are very comfortable with the current arrangement and are thus sceptical of what a formalization of their activities would lead to."*

5.3 Analysis

5.3.1 Service Providers

- **Success**

On the part of the water vendors, the view is that although there is still much room for improvement, their performance could be described as successful. Within a span of five years the number of "recognized" vendors in Nungua for instance has increased from three to eighteen but this has not significantly affected individual sales. The vendors are gradually creating enclaves of service areas with each serving an average of twenty households. Although some of the neighborhoods in Nungua, for instance Skansa, have been provided with pipelines and domestic access to water by GWCL, there remained still a high potential of many unserved households and population which are new supply niches for the vendors.

The participation of more literate people, (for example retired policemen, teachers and civil servants) in the water vending business has led to proper keeping of individual records thus reducing the rate of default in tariff payments.

The success in this situation principally lies in the vendors' ability to continually have access to water to serve their ever-increasing customers and reap the necessary financial returns to pay the tariffs to GWCL and obtain their little profit. The urge to form the Water Vendors Association to go into formal agreement with the GWCL is an indication of the strides of the vendors in participating in the privatization process. It is also to facilitate the periodic checking of the quality of the water sold especially that from the reservoirs.

- **Replicability**

The water vending system, which is much in line with the privatization of water provision in Ghana is not a phenomena at Teshie-Nungua, or Accra-Tema alone but indeed remains a major means of potable water supply to many low-income communities in the country. It only requires access to potable water or a means to make bulk purchase, store and sell to customers. It does not involve high initial capital outlay and it could be done alongside other domestic business activities.

- **Sustainability**
  - Once the greater part of the low-income areas is considered to be unplanned or out of range of the reticulation systems of the Utility (GWCL), the water vending business will continue to grow.
  - The rapid increase in population in the low-income communities (3% rate) is an indication that the market growth potential for this system is assured.
  - The individual/household-based nature of the water vending system presents a simple process devoid of unnecessary institutional complexities.
  - Once utility performance improves, then vending will be phased out over time.

5.3.2 Consumers

- **Success**

To the consumers, the success is enormous and this is captured in the words of a consumer in the fishing community at Nungua. She said, *"prior to this water vending system it was practically impossible for us to stay here. In the mornings we would send our children, sometimes, to over two kilometres from here to fetch water and what makes it worse is that they go along the main road and the threat of accident could not be counted out."* Consumers were generally satisfied as they had access to potable water closer to their homes and businesses. The relationship between the consumer and the vendor could be so informal to the extent that -for many of the fishmongers- one can purchase and pay on a weekly or monthly basis.

The price in all cases was deemed moderate as the inconvenience of relying on irregular flows from the GWCL taps are avoided. The reliability of the vendors' supply is therefore deemed to commensurate with the price offered. It is also affordable to many consumers as the payment is made on purchase and it is easier to part with ¢50 at a time than an accumulated ¢15,000 at the end of the month.

The consumers nevertheless have problems with the arbitrary changes in the price of water by the vendors. With the increasing number of vendors, bringing about keen competition, these increases have ceased and throughout 1999, in spite of the changes in tariff rates of the GWCL, the price remained ¢50 per a bucket of 18 litres. It was only during severe shortages that the prices increased and reverted as soon as the situation normalized.

- **Sustainability**
  - The entire relationship between the consumers and the vendors is based on pure economic relationship of demand and supply and once the suppliers continue to satisfy the customers, this system is assured of its sustainability.
  - The low income levels of the consumers will prevent them from making bulk water purchases and would therefore continue to rely on vendors.

- The down payment required by the Utility for connection to the mains makes it practically impossible for the low-income consumers to have access and therefore continue to rely on water vendors.
- The proximity of the consumers to the vendors is an intervening opportunity for the low income consumers.

All these factors will go a long way to ensure that there is always a patronage for water vending activities.

5.4 Outstanding Issues

The first issue had to do with the formal recognition of the operation of the water vendors by the GWCL. This will be necessary for the Utility to educate the vendors on the billing system and how it can affect the management of their business. This will also be necessary for the streamlining of the tariff payment procedures and other arrangements to augment the great service being offered for the low-income community.

The formation of the Water Vendors Association is also necessary for the checking of the quality of the water sold and other hygienic concerns.

Some of the vendors may also require some support in the preparation of their accounts and the keeping of records so that they will be in the position to keep good records, fulfil their tariff payment and maintain their facilities. The GWCL by this can also remove a lot of illegalities in the water sector.

5.5 Lessons Learnt/Conclusion

1. Water supply can be a business with an active role being played by the private sector even to low income communities.

2. Consumers will be prepared to pay for the full cost recovery of water if it is reliable and the means of payment fits their means of spending.

3. Water supply can generate a means of employment for the same low-income group or community.

4. The supply of water to low-income communities may require a necessary collaboration between the community vendors and the Utility to establish the necessary confidence of the consumers in them.

WATER UTILITIES PARTNERSHIP (WUP)
PROJECT NO. 5

STRENGTHENING CAPACITY OF UTILITIES TO DELIVER WATER SUPPLY AND SANITATION SERVICES, ENVIRONMENTAL HEALTH AND HYGIENE EDUCATION IN LOW-INCOME URBAN AREAS

CASE STUDY OF COMMUNITY INITIATED PRIVATE MAINS EXTENSION

Practice Number 4

Golf Hills Residence Association - Christian Village

November, 1999

6.0 PRACTICE 4

6.1 Background

Christian Village is relatively small but fast growing community with a population of about 5,000 (1999 estimate) giving about 800 households. This community remained a small village lying about 12 kilometres from the centre of Accra. Its sudden expansion realized after 1925, is attributed to the opening of Achimota College and subsequently the University of Ghana in 1948. The village served as an informal quarters and residential area for the laborers and construction workers for the educational institutions. It also became a transit residence point for many people seeking manual jobs at the institution and especially many from Northern Ghana seeking jobs in Accra. The tag on Christian village as unplanned and "illegal" settlement lived on until recently. Many of the buildings there were thus cheap, temporary and deprived of any social facilities. Many of the residents are thus in the low-income category.

In recent times, that is, at the beginning of the "construction boom" in Ghana in 1989, there was influx of new entrants of people of different social and economic standing into the community. The easy communication to the centre of the city with available alternative routes attracted people in the higher income bracket to the area as well. While the old residence of mud houses and wooden structures remained at the middle, the outskirts of the community sprang up with imposing structures belonging to the new entrants.

The community for a long time had depended on hand dug wells as the main source of water and in the dry season when the wells got dried up they depended on "stealing" water from the taps at Achimota School and the Golf course nearby.

During the construction of the new housing developments in the area, the higher income group within the area depended on supplies from water tankers, though very expensive. After the new entrants and the families had settled, the need for regular supply of water became more apparent.

6.1.1 What is the practice?

The practice involves three key elements, which are:

- The community organizing itself into an Association
- Mobilization of resources by the Community Association
- Making the approach to the GWCL and making a down payment for the provision of water or privately sponsoring and hiring technical personnel to connect systems to the mains of the water Utility (GWCL) and to their respective homes and yards.
- Catering for all repair works on the connections or seek to regularize the connection with GWCL to undertake maintenance and other subsequent connections

6.1.2 What was the purpose?

The purpose for initiating the practice was simply to connect to the GWCL water mains so as to obtain regular supply of water for the community. It is again to establish a regular source of financial means to undertake the maintenance of the water supply system, where need be. It was

ultimately to establish a greater link between the members of the old community and the new residents so as to avoid alienation, enhance co-operation and provide security for all community members.

6.1.3 Who initiated it?

The process was initiated by two of the recently settled residents, Mr. Paa Kofi and Mr. Ansong, both being the oldest of the new residents of higher-income earners in the community. The two managed to convince a few of the old low-income residents to form the core group for the community action. Some residents and friends who were working with the GWCL, in their personal capacities also helped in the initial stages of making contacts.

6.1.4 Who manages it?

The Residence Association has a very flexible process of management. The leaders - Chairman, Secretary and Financial Controller are not elected but appointed based upon their commitment and their ability to handle the respective position. The initial founders formed the first executive body and have since the past three years handed over to a new team. There are also no laid down written constitution or agreement but regulations are agreed upon by all the members as and when the need be. The secretary keeps records of meetings and decisions but the association is not registered as requires. Members are requested to make contributions to obtain particular facilities. Those who can afford more voluntarily contribute more and a regular payment of ¢600[3]per a household is made in a month, which is spent on regular maintenance of facilities.

6.1.5 Who benefits?

The benefits from the Association are not restricted to only the registered members but to all the members of the community, both old and new. All the residents in the area numbering about 5,000 do benefit from the activities of the Association.

6.1.6 How long has it been operating?

The Golf Hill Residence Association was formed in 1990 with just a core group of five (5) and has actively operated since then.

6.1.7 Where is it being used and has it spread

The Resident Association practice and community organization has become a key means used by many low-income communities and "unplanned" areas to secure social facilities. Many communities in Accra such as New Town, Mamobi, Gbawe, North Legon and Adenta have such Associations. Very low-income areas such as Chorkor, Korle Gonno and Santa Maria have taken up the challenge to organize their respective residents. Table 6.1 presents some of the community associations and their activity areas.

[3] At the time of survey, November 1999, ¢3,400 was equal to One (1) dollar and ¢5,000 was equal to 1000 CFA.

Table 6.1 Some Community Associations in Accra

Community	Type	State of Association	Priority Areas
Adenta	Estate Flats	Formal, Registered	Water, Sanitation
North Legon	Mixed density	Formal, Registered	Water, Security
New Town	Low-income	Not Registered	Water, sanitation
Gbawe	Peri-urban	Just Initiated	Water, Electricity
Korle Gonno	Low-income	Not Registered, NGO Support	Sanitation
Santa Maria	Mixed density	Not registered	Water, Electricity
Chokor	Low-income	Not Registered	Water, Sanitation

6.2 Process and Approach

6.2.1 What are the Tools and Methods?

It must be noted that the whole of the Christian Village community was declared “unplanned” and therefore it was indeed illegal for the Utility to provide any facility to them. It therefore fell on the community members to tackle this issue themselves. The initiators, therefore, waited till the difficult times in the dry season when water was most difficult to get and made personal contacts to the key residents in the area on the need to secure a means of regular water supply. Since the process of getting piped water to the community was seen as “illegal", all the contacts made to secure the process was through informal means and personal contacts. According to the Local Government Law (462) development and for that matter the provision of utility services can only be pursued with the approval of the Metropolitan Authority. Section 48 of the law states that "*An approved district development plan shall be complied with by any person, body or organ in the district responsible for or connected with the implementation of the plans*". While 49 (1) states that "*No physical development shall be carried out in a district without prior approval in the form of written permit granted by the District Planning Authority*".

6.2.2 How is it implemented?

When it was made clear to the Christian Village community that the Utility could not lay pipes in the area to supply them with water, the initiators, made personal contacts with household heads in the community and managed to organize the first meeting. The attendance was not impressive as only people from ten houses attended. Subsequently interest built up and more people joined. Informal contacts were made with the GWCL and the leaders had the information that a pipe was being laid to connect the Achimota Brewery Company (ABC), a distance of about 400 meters from the community.

The leaders contacted the management of ABC who agreed that instead of connecting with the six-inch pipe, the company agreed to connect with an eight-inch pipe so that the community will pay part of the cost and could also tap from it. With this agreement, the basis of the Association became founded and houses were levied and other individuals made voluntary contributions. The necessary amount was raised in no time given the pressing need of the community for water. When the ABC finished connecting their eight-inch pipe from the factory to the GWCL mains,

the community through an informal negotiation with the GWCL also connected a four-inch pipe-line, on which a meter was fixed, to the ABC line covering the 400 meters to the community.

The total cost of connecting the community to the supply mains, shared among the respective houses led to a contribution of ¢150,000 per a household in 1993[4](about $40 at the time). In all 92 households contributed towards yielding a total sum of ¢15,800,000. It must be noted that some of the well to do in the community contributed more so that those from the low-income community could pay by installment. Eventually, the houses in the communities were connected and in most of the low-income areas yard taps were fixed.

To maintain the lines and also pay for repairs (since the Utility is not taking care of that) members continue to contribute ¢600 a month though many from the higher-income group do pay more voluntarily.

There has been new development of houses in the area since the area was connected but the community could not charge these new users since there was no formal agreement with the GWCL, which supplies the water. The new entrants thus tap free of charge and they have the option of joining the Association and make the monthly contribution. Invariably all the new entrants join the Association. The executives also do meet and call a general meeting when necessary and other community projects and facilities are planned and executed alongside water and electricity, which have been accomplished.

In spite of the fact that the GWCL does not cater for the regular maintenance of the system and the community is deemed to be "unplanned" a monthly flat rate is paid by houses for the water and that in a way is recognition by the GWCL. The houses pay the charges regularly and the Association sees to it that it is conformed to so as not to attract any misgivings from the Utility.

6.2.3 Why was it set up this way?

The operations of the Association have been set up to be as informal as possible. In line with the status of the community, it is only through informal activities and contacts that such social facilities can be secured. The interaction between the old low-income settlers and the new high-income residents could only be encouraged through informal relations and personal contacts. The avoidance of formality, and regulatory procedures is to maintain as much as possible the existing cordial and informal community framework.

6.3 Analysis

6.3.1 Service Provider - Golf Hill Residence Association - Christian Village

- **Success**

"The greatest success with this system is that for years the residents in this community have relied on very expensive water from water tankers or unwholesome water from shallow dug wells at homes and now there is flow of water to all houses in the community". Water is thus regular, potable and cheaper for the residents.

[4] In 1993 the dollar was around ¢500.

The activities of the Association have led to the elimination of alienation between the low-income settlers and the new residents. Robbery and stealing which were very rampant in the new areas of the community had subsided as a result of the interaction between the new and the old settlers and again the formation of security co-operation.

Beside the provision of the water, the Association has also secured electricity for the area and even taken charge of maintaining the main road linking the community to Achimota, which was hitherto in a deplorable state.

The membership of the Association has kept on increasing from about ten at the beginning to about hundred (100) house owners from the old and new communities. It also take charge of protecting the course of the pipelines so as to prevent people from building on them and obstructing the flow of water. This has been a major problem in neighboring Achimota and Dome but not at Christian village.

- **Sustainability**
    - The development of the Association is a response to a natural course for the need to satisfy pressing needs. So far as community needs and facilities require improvement day in day out, and the needs cannot be completely satisfied at one time, the need for the Association and the operational relevance of the system is assured.
    - The ownership of the practice belongs to the community and the Association as such, there is very little outside intervention. This underlies the potential continual existence of this Community Association.
    - Many of such organizations collapse due to misappropriation of funds. To avoid this therefore, monthly accounts are rendered as and when members make their contribution and for undertaking special projects, invoices are secured and the general estimates assessed and shared by households for the project to be accomplished.
    - The background, of the Association Treasurers are also important and very well to do people are appointed treasurers so as to avoid the temptation to squander Association's funds.
    - Utility preparedness for cost sharing; Means for recovering Operations and Maintenance cost.

The basis for continuity is by and large assured and the confidence of the community is quite high.

- **Replicability**

The connection of private pipes to the GWCL mains is becoming a very common phenomenon in Ghana. The little variation is that very often the agreement with GWCL is formal and it involves only approved planned settlements. The formal process is much easier than the discussed case study where so many informal contacts had to be made. For many of the low-income areas, however, the process could be only informal since the lumpsum of the 5 percent required payment of capital charges would be a problem. The process of the community making its own informal arrangements and bearing the cost of connection to the mains is witnessed in other low income areas including Ashiaman and Madina, in Accra-Tema area.

It requires

- A committed initiator and leader
- Water and sanitation being a common community priority problem
- The preparedness of the community members to part with resources to support the funding
- The vigilance of the members to check financial abuses
- Utility preparedness for cost-sharing

6.3.2 Consumer

In the view of the beneficiaries, who are the residents, the system has operated very successfully. The flow of water was noted to be very regular and the pressure is very good. Some of the high-income communities at Achimota and even Legon sometimes come to fetch water from Christian village especially during the dry season.

The system has saved them lots of money as a bucket of water (18 litres) from the water tankers and vendors cost between 200-250 cedis whiles that from their taps including all other expenses is less than 30 cedis per same bucket. The convenience and the sense of ownership are not even costed.

The consumers are very satisfied with the system and wish very much to sustain it. The only disadvantage is that the high pressure of the water flow destroys a lot of the pipes which are often changed. This problem is however being checked by the GWCL, as the parent owner of the mains - Achimota Brewery Company, has made the necessary contacts. In spite of the informal nature of the initial efforts, the GWCL has gradually been very responsive to their problems and plight of the community. This is the clearest assurance of sustainability for the practice.

6.4 Outstanding Issues

1. The declared and formal recognition of the Association's efforts by the Utility will be a very big motivation for their efforts and a good basis for the management and protection of the mains and pipes in the community.
2. The formal acceptance of the GWCL to cater for the maintenance and technical advice for the laying of pipes will lead to the prevention of wastage of water and reduce technical flaws.
3. A collaboration between the Association and the Sub-Metropolitan Assembly to institute effective planning control and the formalization of the already developed areas will go a long way to increase the confidence of the association and the residents in their own collective efforts.
4. The Association is not a legal entity since it is not registered but this could be done without any impediments. The fact that the respective household that belong to the Association has developed physical structures without the approval of the AMA makes them liable to legal charges

6.5 Lessons Learnt

1. Community understanding and the natural need for a common social facility is a key basis to motivate community voluntarism for a sustainable management of a social good.

2. Water distribution can be undertaken by the private sector with effective regulation and keen supervision.

3. The development of mixed communities (in terms of income) as in many peripheral development in Accra and other urban areas in Ghana can be an asset for development and means of the high-income earners to support the low-income residents

4. It takes a committed few to mobilize, organize and undertake essential and common development wishes in a community.

5. Water supply and distribution can be a partnership between the community and the Utility.

ANNEXES