

**ASSESSING CAPACITY BUILDING
INITIATIVES FOR CARETAKERS
OF RURAL WATER SUPPLY
SENE DISTRICT**

By

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DECLARATION

The project Work was conducted by me as presented, with the supervision of Dr. Ellen Bortei-Doku Aryeetey of Institute of Statistical, Social and Economic research, ISSER, University of Ghana, Legon.

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DEDICATION

This work is dedicated to the Almighty God, my Parents, Mr. and Mrs. Okyere and my wife, Mrs. Constance Kumi Okyere.

ACCEPTANCE

Accepted by the faculty of Social Studies, University of Ghana, Legon in Partial fulfillment of the degree of M . A . Development Studies.

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ABSTRACT

A much-discussed criterion for evaluating development NGO activities concerns the “sustainability of their projects - that is, their ability to remain viable after external support ceases - and their replicability - the degree to which groups not directly assisted by the NGO take up NGO projects on their own. If the benefits of NGO work cease when the resources do, the NGO is merely providing “aid”, if the benefits continue past the period of NGO involvement, “development” has been initiated (Korten 1990).

This study examines the issue of sustainability of the water system through training on operation and maintenance in the Sene District. World Vision International Ghana established Ghana Rural Water Project as its branch for water activities in 1984/85 just after the long drought period in 1983. Ghana Rural Water Project was set up to provide potable water or drill boreholes for rural people (World Vision assisted communities) to combat the guinea-worm disease.

The major concern of this water project is to guarantee sustainable systems in the beneficiary communities. It is against this background that World Vision Ghana Rural Water Project (WVGRWP) is incorporating a major training component in the programme.

The process of sustaining projects depends on both the donor agency and the beneficiary communities. Training enhances the skills and build the capacity of selected volunteers, it has therefore, been identified as very vital to the effort towards sustainability.

The general objective of the study is to find out the link between training and maintenance in the process of sustainability of the water project in the Sene District.

The findings revealed that Ghana Rural Water Project between 1994 - 1996 drilled 134 boreholes in 74 communities and had conducted 1st level training for all the selected volunteers from the beneficiary communities. It is the policy of the organisation to encourage women to be part of the trainees, so almost in every community there is a female trainee.

From the study it was realised that before the training programme, the communities relied on pump technicians from outside the district. The maintenance charges by these technicians and the cost of non-available spare parts were so exorbitant that most communities abandoned their faulty boreholes. Thus, the issue of sustainability ended when the boreholes broke down. After training, all the 30 selected volunteers could repair and maintain the borehole without any supervision, and this has reduced maintenance cost and also ensured regular flow of water. Analysis showed that 22 trainees have also trained one or two people to replicate the knowledge and skills acquired. The

knowledge, Attitude and Practices of the trainees have changed as a result of training received. The laissez-faire attitude of the people has been neutralized, and the people have acquired the culture of maintenance to support community projects. Projects have now been seen as theirs and no more government projects and so must be taken care of.

Community management and the state of the water system has not been up to expectation according to the findings. There is a recommendation that management committees must relate to each other very well in order to ensure good community participation in the crusade for the sustainability.

Alex Kumi Okyere.

CHAPTER ONE

Background To The Problem

INTRODUCTION

Basically, the level of productivity, quality of life and life expectancy of a people depend on their health status. Water, according to scientific research forms about 75% of the body component of man. In some Ghanaian villages where there is no water, children and women walk up to five kilometers for water which is not even potable. In some cases the Water they drink is often full of guinea worm larval. Guinea-worm infection is a painful disease that can immobilize an entire village.

A source of good drinking water in the village coupled with good hygienic practices, removes the guinea worm nightmare for good. It enables the farmers to have more time for their farming activities, school children go to school regularly, provides time and strength for women to perform their gender roles. Clean water enriches the entire family and the community, hence the saying "water is life".

1.1 PROBLEM

Water situation had been described in Sene District as a matter of "life and death". This is because the period between October and April is described as period of emergency. The existence of the whole district is at the mercy of nature. This district does not have any regular water supply system. It

experiences only one rainy season, the rest of the year is dry. To worsen this, there is no regular flowing river nearby. People covered long distances to fetch polluted water.

With these problems in view, the Catholic Church entered to drill some few boreholes in places where there were catholic churches. The Ghana Water and Sewerage Corporation also reached some accessible places with some few boreholes as a measure to mitigate the water problem. However, it is sad to note that all these structures are serving no purpose because they are all broken down with no repairs or attention, in the beneficiary communities. As a result, there have been traces of water-borne diseases in the district. This situation worsened during the severe drought period-1982-83.

As a result of the severe drought in Ghana in 1982-83, the World Vision International Launched the Ghana Rural Water Project(GRWP). World Vision commissioned a survey on water supply to be carried out in its project communities in 1984. The survey was done by Ghana Water and Sewerage Corporation and Water Resources Research Institute. Following the submission of the report, World Vision contracted Prakla Seismos Geomechanik, a German drilling Company which drilled 28 wet wells for its project communities in Greater Accra, Eastern, Central and Volta Regions. The Ghana Rural Water Project (GRWP) was set up in 1985 to provide potable water or drill boreholes for rural

people (World Vision – assisted communities) who often walk long distances to fetch water polluted and full of guinea-worm larvae.

The major concern in this project is to guarantee sustainable systems in the beneficiary communities. It is against this background that World Vision Ghana Rural Water project (WVGRWP) is incorporating a major training component in the programme as well as health, community and sanitation education.

The process of sustaining projects depends on both the donor agency and the beneficiary. Training and capacity building have been therefore, identified as a major component for maintaining project like water in the rural areas.

The general objective of the study is to find out whether there is any link between training and maintenance to promote sustainability of the water project in the Sene District.

1.2 OBJECTIVES



GENERAL OBJECTIVE

To assess the extent to which capacity building initiatives, especially Training, introduced by World Vision International in the rural water projects have influenced the knowledge, attitude and practices of Pump maintenance volunteers in the Sene District.

SPECIFIC OBJECTIVES

1. To find out how training outcomes are influenced by sex and education differences among trainees.
2. To examine the nature of information and skills acquired by the trainees following the training session in the light of World Vision expectation.
3. To examine how the knowledge and skills acquired from training have been passed on to the beneficiary communities.
4. To examine how training influences maintenance and repair

1.3 RATIONALE

Due to the importance of good health on the social and economic wellbeing of the people, disease control has been taken seriously by many donor agencies and government. Therefore, many water-borne and water-related diseases have attracted the urgent need for water in the rural areas. To address this problem, several NGOs, and drilling companies have flooded the country in an attempt to solve this basic need problem. In some cases, the local people are not involved in any decision making with regards to the project. At times, the drilling activities go on without the consent of the local people. The outcome of this is that, people refuse to accept responsibility or ownership and in case of any fault with the project, it is left uncared for. The basic fact might be that there has not been any training of the local personnel to repair it.

Ghana Rural Water Project (GRWP) adopted the sustainable development approach together with community participation in the water supply to all the

beneficiary communities. GRWP has been in operation for fifteen (15) years in country. It is imperative, therefore, to analyse its experiences to provide lessons for all prospective drilling companies and rural development agencies and also, to serve as a point of reference.

1.4 CONCEPTUAL FRAMEWORK

‘Sustainable development’ is generally defined, following World Conference on Environment and Development (WCED), (1987) as development which meets the needs of the present generation without compromising the needs of future generations. (e.g. buttel et al., 1991; Redclift, 1987). Although it takes on different

meanings in different contexts, it usually implies a growth in productive activities which does not result in the irreversible depletion of natural resources. Because it specifically takes into account the interrelationship between environmental conservation and economic development, ‘Sustainable development’ remains a useful phrase in spite of its limitations (Jessica Vivian 1992)

Sustainability is an action or process of making something continue to exist over a long period of time. It involves maintaining the interest of someone or a group of people in an activity. The enabling environment should be created in order to allow parties involved to contribute to the process of sustainability. Sustainability goes with participation. It aligns itself with the Process Approach which has been

described as essential for the practiced of the participatory approach (GOW and Vanrant, 1983; Sweet and Weisel 1979;Honadle et al., 1980)

“Effective participation is a gradual, evolutionary process in which both project staff and potential beneficiaries are willing to try others (GOW and Vanrant, 1983: 432)

It is argued that in order to transfer ownership of development projects to the poor and other disadvantaged groups in a sustainable manner, the state and the local power structures will have to make commitments beyond rhetoric to support the process (Bortei-Doku, Ellen, 1996, P.1)

Process approach involves the communities in dialogue in designing and implementing community development projects. The establishment of ownership at the grassroots or the beneficial level could be expected to be established through the projects elements of “Decision-making in Project Design and implementation, Representation of Group Interest; Resource Mobilization; and capacity Building” (Bortei-Doku Ellen, 1996. P.3).

Contrary to expectations, extensive involvement in decision-making is no guarantee that Communities will have the last word on the priorities that should go into a project plan. This happens even in cases of demand-driven projects. (Bortei-Doku Ellen, 1996)

Beneficiary communities can take ownership of projects through managing and maintaining the project at stake. This is allowed partly through cost sharing.

Whether or not a project chooses to work through existing local organizations or through new institutions is a matter that can only be decided in the field, after one has had a chance to appraise the organizations in the existence and their support networks.

A few issues are however, worth thinking about in the Ghanaian situation. As a matter of fact, some existing organizations cannot be ignored, because they serve as an entry point into the community. These include the traditional chieftaincy authorities, an organizations that are a spin-off from the local government institution and political parties such as the unit communities, 31st December and encourages co-ordination by reducing duplication in development work at the local level (Bortei-Doku Ellen 1996, Pg. 7)

Until recently donors and NGOs did not show much interest in working directly with the District Assemblies, and frequently relied on hired project management instead in the delivery of programmes. There were fears of project resources being diverted at the district level, and of poorly motivated staff causing delays in the delivery of project services. In spite of the difficulties of working with district Assemblies, some point to important advantages in favour of this direction. For example, it would help to reduce the fragmentation and duplication which seems

to characterize the presently isolated and adhoc initiatives that take place in many districts. Another reason is that the Community Water and Sanitation Agency Strategy enjoins all agencies to forge partnership with the District Assemblies for their activities.

Ignoring this aspect of participatory development also means that projects are left without an institutional framework in which to operate and be sustained or replicated, after the donors complete their terms of operation.

Canadian International Development Agency (CIDA) has taken a new direction in its water projects in northern Ghana, where this assistance is now going to be delivered through the district assembly machinery. The new project therefore combines capacity building of the District assembly with the provision of improved water supply.

In the past development practitioners had been quite satisfied to accept as inputs from project beneficiaries their labour and other local resources like land. The current thinking however, is that "people appreciate something when they pay for it" (Dichter, 1989: 134). The government, donors and NGOs have all adopted this policy and are moving away from handouts to cost-sharing arrangements. The other side of it is that under the Economic Recovery Programme (ERP) the government cannot afford to continue to subsidize the project. Their resolve is strengthened by the notion that financial commitments to the projects on the part

of local communities increase the chances for the sustainable of projects.

BENEFICIARY COMMUNITIES

Beneficiary Communities are those communities which have got the advantage from enjoying the water project undertaken by the GRWP in the district since 1994, the time of WVI entry into the district.

It also includes all the communities, which have the borehole facilities, but are not very active and have not been patronizing World Vision activities in the district.

1.5 LITERATURE REVIEW

Historically speaking, NGOs appeared on the scene at the start of the 1960s. This was at time when the colonial powers were no longer finding it easy imposing their views on their former dependent territories. The missionaries who had catered to the health and education of the 'natives' during the colonial period were suddenly dependent on the sovereign authorities of the newly independent states. Voluntary service overseas was one of the responses to this and was intended to provide legal and financial basis enabling missionaries to continue their work.

Much of the North's population had been made aware of Third World poverty and they tried to help as best as they could usually by collecting money to finance



small projects. These had the advantages of being in direct contact with realities at local level. This approach and the positive results achieved by it, were in notable contrast to the billions spent in official cooperation' – expenditure which often brought only very limited benefits to local people. Furthermore, 'official development cooperation' was frequently only one element in the policies towards the Third World adopted by former colonial powers; policies hereafter referred to as neo colonial.

The political upheavals of the 1970s in the South also helped to bring about changes within NGOs, not just by causing them to abandon the charitable approach but also by giving them much more political profile on all questions associated with development. NGOs become genuine advocates of the peoples of the South, and increasingly began to upset neo-colonial, the power of multinationals ('states within states') and infringements of human and national rights. No subject was taboo for them.

Global economic crisis and the increasing monopolization of the world's wealth by a small group of privileged people, together with the political upheavals following the fall of the Berlin Wall, plunged most African countries and a number of others – which had not yet managed to take off economically – into severe crisis. In response, western countries again imposed their solutions in the form of structural adjustment, multi party system and military and humanitarian

intervention. In this situation, NGOs were called upon increasingly to act as sub contractors, implementing policies defined by governments. This is particularly true of emergency and policies. French and Belgium doctors have, today more than ever, become simple tools of state policy. (Falisse Michael, Secré tair général de Sas FAIM)

Moussa Ba, commenting on the experience and limitations of NGOs in West Africa, expressed that "At a time when a number of African states seem close to collapse, the need to strengthen NGOs takes on an even greater significance. But NGOs face numerous difficulties, in particular their dependence on external resources, limited skills and problems of adaptation".

According to him, to speak of NGOs necessarily involves discussing the "phenomenon of association". Many analysts, particularly in the West, see this as a contemporary state of affairs but those who know black Africa well, are aware that "association" has always been an important element. In fact, the associative structure, which may be summed up as one where there is a solidarity, mutual cooperation and respect for hierarchies, has, in some rural areas, long been the basis of all social and economic relationships. There is no need here to look any further into this model, which is inherent to the African tradition. Nowadays, a consensus appears to have emerged when speaking about 'association' based on non-state structures, as devised by the facilities North/South contracts. The shaping of African associations in the form of NGOs

has followed on from this. However, if one analyses the way African NGOs have come into existence, two distinct approaches can be identified. There are those that were established by Northern NGOs, which saw them as intermediaries, and those that were set up voluntarily, on local initiative, for a variety of reasons.

Most intermediary NGOs came into being between 1970 and 1985. In the wake of repeated droughts, problems had become so acute in Africa that the majority of Western NGOs, principally suppliers of food were obliged to take on the role, in the field, of food producers. They were involved in such a scale that many took on environmental restructuring work, either in association with recipient communities (village groups), or by requesting association from those with local influence in the form of technical support. In this latter case, restructuring sometimes led to the creation of an African branch of the NGO.

Defining the expression 'Non-governmental organization is a risky exercise. It may include voluntary organizations; 'solidarity' agencies, international NGOs, so called 'quasi – NGOs' and a variety of other arrangements. There is, in fact, no overall consensus as to what an NGO is. They are set up under national legislation and the legal conditions and procedures therefore, vary from country to country. It is interesting to note, in this context, that the name NGO has recently been abandoned in France in favour of ASI (International Solidarity Association).

One can, of course, try to pin-point certain common basic criteria. There is the idea that an NGO should be a private, non-private, non-profit-making body. One might mention the “linking” of north and south as an essential feature, while recognizing that NGOs are also interested in tackling poverty in their own countries. A key element may be the motivation of those involved with a desire to act as part of a society but without state control. The last “criterion” conveniently ignores the fact that many NGO projects are off-shoots of action taken by governments. (The Carrier Jan – Dec. 1995)

A number of case studies of NGO projects have suggested that NGOs may have an important role to play in addressing environment problems in developing countries. In recent years, growing concern with the environment and interest in “Sustainable development” has coincided with an increased emphasis on involving non governmental organisations (NGOs) in development efforts. Attention is now being paid to finding ways in which the strengths of NGOs can be utilized to foster sustainable development (Jessica Vivian, 1993).

A recent paper on the role of NGOs in resource management in Africa, for instance, argues that ‘there are particular opportunities for NGOs to move toward sustainable development in Africa’ (Thomas – Slayter, 1992: 137). The author cites two interesting case studies of NGOs in resource management projects which had generally positive results and concludes: Surely such efforts,

involving communities, NGOs and the public sector, can play an important role in Africa's development crisis. The challenge is there; the opportunities exist as well' (Thomas – Slayter, 1992: 142).

This type of case study analysis is important, in so far as it demonstrates the range of opportunities and possibilities available to NGOs, and documents the factors affecting the outcome of particular projects. However, project case studies have been less useful in establishing how project success, on the micro-level, can be translated into development that is significant on the macro-level. The literature tends to assume or hope that micro-level experiences are generalizable, but it rarely explores the mechanisms through which project-oriented NGOs can transcend the spatial temporal limitations of the project approach.

In any specific situation, it is unlikely that all the opportunities and possibilities uncovered by the wealth of case study material on NGOs will actually be options for either the public or non-governmental sector. Thus, while the case study material has had an important role in illustrating the potential of NGO activities, more practical questions remain: under what conditions can lessons be learned from.

It is the premise of this study that these questions must be addressed within a particular country (or regional) context, and that the analysis must be based on

an understanding of local, social and ecological conditions. Specifically, three issues must be investigated: first, the nature of the environmental problems in the country, including the historical and social context of such problems, second, the causes of environmental problems – and by implication their possible solutions: and third, the nature of the NGO sector as a whole - rather than of particular successful or unsuccessful NGO projects – and its capacity to implement possible solutions. Such an analysis will serve to delimit the range of NGO activities which are both possible and useful in accomplishing the objectives of sustainable development. More specifically, such an approach is necessary to determine the avenues through which NGOs have the best hope of improving the outcome of environmental and social dynamics.

It will be argued that the usual NGO approach suffers from what is called the “magic bullet syndrome” (borrowing a phrase from popular medical literature, in which a ‘magic bullet’ is a simple agent which is able to identify, target and attack the simple root cause of disease). In other words, NGOs and those who support them tend to look for simple, neat solutions to development problems. The approach is counter productive, because its emphasis on finding ‘magic bullet’ and on replicating attractive success stories, fails to take into account the complexities of existing social and ecological systems (Jessica Vivian, 1993).

‘Sustainable development’ is generally defined, following World Conference on

Environment and Development (1987), as development which meets the needs of the present generation without compromising the needs of future generations. The problems with the vagueness and generality of this definition have been much discussed (e.g. Buttel et al; 1991; Redclift, 1987), but sustainable development remains very much an operational phrase within the development literature. Although it takes on different meanings in different contexts, it usually implies a growth in productive activities which does not result in the irreversible depletion of conservation and economic development, 'sustainable development remains a useful phrase in spite of its limitations (Jessica Vivian, 1992).

The issues addressed by the sustainable development paradigm include international problems such as ozone depletion and global warming, as well as national – level issues such as the destruction caused by resource extraction or industrial pollution. All of these are significant elements of the sustainable development problem.

Another important area of concern, however, is the resources depletion and destruction carried out by individuals on a small scale, which collectively have permanent destructive impacts reduce productive capacities, especially in the rural sector. It is this type of dynamic which is especially relevant to NGOs working in the third world. Such problems involve widespread, incremental over exploitation or contamination of natural resources, resulting in gradual deforestation, degradation of soils, and depletion of marine and forest resources.

The sustainable development paradigm supposes that these problems, by their very nature, require massive and widespread action on the part of individuals to halt environmental decline and to begin to degrade resources (Postel and Heise, 1988; UNEP, 1989, WRI/UNEP/UNDP,1990). This view of the environmental problem, combined with the fact that at least the proximate environmental problems are often locally based, suggests that local level action will be an important component of solutions to environmental problems (Ghai and Vivian, 1992).

A major obstacle to the implementation of successful sustainable development activities by NGOs is rooted in the way NGO initiatives are generally assessed: they are usually described within a case study framework, rather than being analysed at a broader level. In fact, the lessons to be learned from case studies are limited: generalizations drawn from one are often directly contradicted by the results of another (Werhin, 1991). Consequently, there is little real understanding of the conditions necessary to enable the potential of NGO initiatives to be fully realized.

In addition, the “success story” approach can over-emphasize and idealize the work of the NGO sector, and can thus obscure the inherent limitations of NGO initiative, especially as they concern macro – level and structural change. Although writers in this field are generally careful not to present NGOs as a panacea for development problems, there is a prevailing tendency to regard the

development of local circumstances.

Writing a critique on the Development impact of NGO Activities in the Red Sea Province (RSP) of Sudan, Hassan Ahmed Ahel Ati examines the results of, and the prospects for, the declared shift of NGOs, from relief operations to development activities in the Red Sea Province of Eastern Sudan. According to him, although NGOs have been successful in conducting massive relief operations in the area, the article asserts that they have not yet and are not expected to achieve any tangible results on the development front. The main reason for this is the apparent misconception of development on the part of the NGOs' failure to recognize the difference in the methods, means and prerequisites necessary for relief and for development: a third is and/or sustain any achieved 'development', since most NGOs in complete isolation from governmental and traditional Beja institutions. (Ati Hassan Ahmed Abdel, 1993).

In their 1989 article merging relief and development, Adams and Hawksley identified some major trends that characterized the post – emergency programmes in the Sudan-Sahelian zone, some of which are particularly relevant to the Red Sea Province (RSP).

- a) The proliferation of agencies of different sizes, with varying philosophies, methods of operation, and levels of logistical support;
- b) The proliferation of projects doing little to support the government services which were already in a state of decline prior to the emergency.

- c) Reluctance on the part of donors to provide support for infrastructural development
- d) Hurried and inadequate planning by agencies under pressure to move from relief to development programmes.

They further stressed the particularly delicate and critical nature of the move from relief intervention to rehabilitation and long-term development in drought-prone areas, both in ensuring recovery and sustaining it (Adams and Hawksley, 143-4).

In the RSP in the Sudan and irrespective of the diverse philosophies and approaches among the NGOs, there seems to have been a general tendency to overlook the institutional dimensions of the shift from relief to development which, in turn, implies a lack of distinction between the two. Some NGOs, including OXFAM, uphold the simple view that there are no intrinsic differences between relief and development efforts other than their spatial and temporal scales (Walker, 1987:62). In reality, there are a whole number of very tangible differences which require alternative ways of thinking and new methods of working.

The relief work of the NGOs was most effective because it was primarily non-political. Its aim was to assist beneficiaries and the top-down relationship adopted was the most efficient way to achieve the necessary rapid targeting. However, these components do not constitute the basis or priorities of

development programmes, nor do they allow for the sustainability of successful projects (Walker, 1987).

In reality there are a whole number of very tangible differences which require alternative ways of thinking and new methods of working. Ten such differences are listed in a tabular form.

Relief and Development – A Comparison of Requirements

<u>Requirement</u>	<u>Relief</u>	<u>Development</u>
v Time frame	Instant, short term	Sustained, long term
v Nature of Intervention	Responsive	Planned
v Means of acquiring Information	Quick estimates savings	Long term research
v Funding required	Timely Charity/Donation	Long term commitment
v Field Requirements	Logistics (Transport)	Infrastructure (institutional Building)
v Nature of target groups	Passive (receiving)	Active (Participatory)
v Relation with target		
v Relations of Parties Involved	Collaboration/ Cooperation	Coordination/Integration
v NGOs-Government Coordination	Helpful	Essential
v Character	Non-Political	Essentially Political

NGOs intervention in the RSP occurred at a time when the economy of

province was in the state of collapse. By default as much as by design, NGOs took the lead in devising a strategy for combating rural poverty in the province. NGOs can be credited for saving lives and for filling the gap left by the government, addressing basic human needs, (Bratton, 1990:88).

Baah describing Water Supply Systems in Ghana indicated that a conscious attempt to develop piped water system in the country actually started in 1928 by the British Colonial Administration. The System, however, catered for only urban centres. After the country's independence in 1957 it began to serve as the main authority for the development, operation, maintenance and water quality control of urban and rural water supplies and country's sewerage disposal under the name Ghana Water and Sewerage Corporation (GWSC). GWSC however, gave little attention to rural water supply (Baah, 1995). According to Amonoo, "GWSC policy decisions which tend to be urban-biased is one of the factors that has robbed many rural communities of potable water supply (Baah, 1995).

This centralized method of providing water to rural communities brought in its wake problems such as technological inappropriateness, incorrect location of water point, lack of social acceptability and unwillingness on the part of the communities to contribute towards the management and operation of facilities after installation through payment of water tariffs.

It is against this backdrop that the present government decided to bring all sector actors together to find a lasting solution. A National Conference of Sector practitioners was held in 1991 in Accra. Participants recommended that a special division be established within GWSC to handle rural water problems. It was agreed that a national rural water action plan be drawn. The government then tasked the GWSC to establish a special division for rural water supply and, also come out with a new Government water sector policy.

From a special division under GWSC known as CWSD whose sole responsibility is to ensure that about 80% of the rural population has access to potable water between 1995-2009 the country now has a community Water and Sanitation Agency. The new policy which lays emphasis on community participation has its objectives:

1. Providing basic water supply services to communities that can contribute to part of the capital cost and pay all the recurrently costs of their facilities, greater than 75%.
2. ensuring sustainability of those facilities through private sector provision of goods and services and public sector support.
3. maximising health benefits by integrating water, sanitation and hygiene education intervention.

About how to achieve this, the Chief Executive of CWSA has indicated that the government has entered into a three tier partnership with Support Agencies, the private sector and the beneficiary Communities. This partnership with the Support Agencies (SAs) is said to be vital as far as the implementation of the

programme is concerned. The Government is in no position to provide the implementation cost of \$200 million single handedly. This makes the intervention of Support Agencies (SAs) critical. Agencies such as the World Bank, DANIDA, GTZ, JICA, UNICEF, CIDA, USAID, UNDP, WORLD VISION INTERNATIONAL, KFW have so far provided the bulk of the funding for the implementation of the rural community water programme.

To ensure that Support Agencies operates in conformity with policy the GWSC (now Ghana Water Company Limited – GWCL) is proposing the common pot date

strategy. The community water and sanitation division will embark on a nationwide community needs assessment survey. This will enable her to know the nature of water problem facing each community. The GWSC will then study the nature of help that individual SAS can offer and based upon that SAS will be directed to communities that will need their assistance most. Thus, SAS cannot have the field day of selecting on their own where they want to work, which often leads to duplication of work.

SAS under the partnership will also assist in building the capabilities of communities to manage their own affairs through training programmes, material development and technical assistance.

CWSA is supposed to be a facilitator according to the policy. This means that they will not go into direct implementation of projects. The CWSA therefore finds

a marriage with the private sector necessary. It will rely on the private sector for consultancy services, construction of facilities, promotion of the role women, and supply of spare parts.

Beneficiary communities have been left out in the partnership. Water supply must be demand-driven, so says the policy. In other words communities who want water facilities must apply to their district assemblies. They should also be ready to pay 5-10% of the installation cost and must contribute in kind during construction. The community must also agree to form a water and sanitation committee to see to daily management and operation of the facility. CWSA currently insists that this is the only way to get communities to feel the facility belongs to them and hence the need to sustain it. (Quarterly Newsletter for West African Sub-Region countries, ProNet Vol. 6 Nov. 1995)

Operation and Maintenance (O & M) is crucial to the successful management, and sustainability of water supply and sanitation systems, whatever the level of technology, infrastructure and existing institutional framework.

The benefits of effective O & M are clear, improved health and well-being and social, economic and financial advantages. Nevertheless, in the past the O & M of water supply system of small communities has been neglected in a great number of developing countries. According to the World Health Organization

(WHO) is estimated that 30 – 60 percent of existing water supply systems are not operational, having an important impact on the well-being of the population concerned. The wells have either dried up or the water quality is unacceptable to the people.

Operation and Maintenance is not limited to the sole activity of a caretaker or a technician, it includes the activities of various actors at different levels. It requires forward planning and technology transfer at all stages of the project cycle, from installation of plant and equipment, through operator training and handover to routine operation and upkeep, including purchasing of spare parts, repair procedures and financial management, as well as best practices in operating and maintaining the system.

Proper operation and maintenance have been subject to many constraints in the past. Among the many factors that have been found to contribute to inadequate O & M procedures are:

- ◆ the low profit of O & M and lack of priority it is given by policy makers;
- ◆ lack of clear policies, appropriate legal frameworks and a well-defined division of responsibilities to support operation and maintenance.
- ◆ Too much political interference, i.e., provision of free water, which makes sustainability difficult to achieve;
- ◆ Governments' and External Support Agencies' (ESAs) neglect of the maintenance of existing supplies in favour of focusing on capital construction

and expansion;

- ◆ Poor management and overlapping responsibilities within projects and agencies, diverting funds away from operation and maintenance;
- ◆ Inappropriate design and technology choice, often caused by a lack of community involvement in project development;
- ◆ Inadequate access to data and field experiences about O & M, for use in planning O & M strategies;
- ◆ Insufficient funds and misuse of funds earmarked for O & M, restricting availability of spare parts and tools, and recruitment and training of competent staff.
- ◆ Inappropriate management at community level.

Government and external support agencies, as well as communities, are increasingly concerned about the importance of integrating operation and maintenance components in the planning, implementation, management and monitoring of project activities. Sector professionals are also realizing that O & M is not just a technical issue – it encompasses social, gender, economic, institutional, political, managerial and environmental aspects.

The following are some of the most noticeable trends which reflect the changing attitude towards O & M, and are leading to increased sustainability of water supply and sanitation interventions. Water is being increasingly seen as an economic good, which implies that communities must pay for the water they use. Government, because of heavy financial burdens and efficiency problems, are gradually changing their role as provider of services to that of facilitator of

processes. Communities are thus becoming involved in selecting the type of service they want and can afford, and have increasing responsibilities, not only in operation and maintenance of their water supply systems, but also in financial management of these systems. At all levels, more integrated O & M strategies are being developed, in which the concerns of safe water, sanitation, hygiene education and waste disposal are tackled simultaneously.

Women, as the principal users of (rural) water supplies, are playing an increasingly prominent role in management and maintenance activities. Greater attention is being given to appropriate and affordable technology, with easy maintenance, in – country manufacturing, durability, standardization and low capital and recurrent costs being the chief criteria. Finally, donor and national policies are showing evidence of due attention to O & M, with water tariff adjustments and revenue allocations in support of O & M by national governments. Donors are also adopting well-defined policies to ensure that O & M is a central concern of the projects they support, and promotion of measures to assess O & M problems and solution. (Water Newsletter October 1995.)

The Village Level Operation and Management of Maintenance (VLOM) concept was introduced in 1991 at the beginning of the International Drinking Water Supply and Sanitation Decade (IDWSSD) to address the fundamental issues that had hindered the sustainability of community water

supply systems in the past.

The concept seeks the empowerment of user communities to own and manage their own systems to ensure long-term sustainability. By this approach, beneficiary communities are allowed to take informed decisions for themselves at all stages of the project cycle. It is characterised by the following elements:

- Community acceptance to own and manage pumps
- Community choice of when to service pumps
- Community choice of who will service pumps
- Direct payment to repairers by the community.

(ProNet Vol. 8 March 1996).

1.6 METHODOLOGY

SOURCES OF DATA

Data were collected from both primary and secondary sources:

The data were from two field sites, as well as secondary documents on the capacity building initiatives by World Vision International. Other organizations were studied to support the information obtained from primary sources. Focus group discussions were held in six communities with some selected WATSAN committees and opinion leaders for further information on water facility caretakers in their communities.

SECONDARY SOURCES

Extensive material review was done to find out what has been done in the area of training in the Sene district. Some of the materials were :

- (a) Quarterly Reports from the field.
- (b) Files on the training activities in the District.
- (c) Magazines
- (d) Reports form the Pump maintenance Volunteers in the selected communities.



PRIMARY SOURCES

1. Questionnaires were administered in the selected communities for the trainees to collect information about their knowledge and skills acquired and how they have put these into practice.
2. Focus Group Discussion was held for groups of 5 – 7 WATSAN committee members and some opinion leaders in 6 randomly selected beneficiary communities.
3. Discussions were also held with a cross-section of the people in the communities to gather information on some knowledge and attitude about training regarding operation and maintenance of the boreholes.

SAMPLING

1. The whole district was clustered into 6 zones, according to WWI/GRWP operational activities.

2. A simple random method was used to select or pick 3 zones out of the total of 6 for the study.
3. With a total of 74 beneficiary communities in the whole district, 20% of these communities were selected (15 communities)
4. In each of the 3 zones selected, 5 communities were selected randomly for the study through balloting process.
5. Twenty-two (22) men and eight (8) women were picked randomly to answer the questionnaire. The total number of the sample size was 30.

ANALYSIS OF DATA

Qualitative data of focus group discussions and interaction with a cross-section of community members, together with simple descriptive statistics and cross – tabulation were used to analysed the data.

LIMITATION OF THE STUDY

The study is limited to only WVI/GRWP training activities on operation and maintenance of water systems vis-à-vis sustainable development in the Sene District.

The research work covers selected volunteers trained for repair and maintenance of the boreholes in the district. As a result of the diverse nature of the background of these volunteers, the study is not devoid of non-sampling errors and sampling errors. Again, all the trainees had received only 1st level training.

1.7 ORGANISATION OF THE STUDY

The work has been discussed under 4 chapters. The first chapter covers the introduction, statement of the problem, objectives, rationale, conceptual framework, literature review, methodology and limitations of the study. The next chapter is on the background of World Vision International, Ghana Rural Water Project and the study area. The rest of the chapters include research results, conclusions and recommendations.

CHAPTER TWO

2.1 BACKGROUND: WORLD VISION GHANA GRWP AND SENE DISTRICT

World Vision International (WVI) was founded in 1950 by an American Christian journalist and evangelist, the late Dr. Bob Pierce. He visited Korea in 1949 and saw the plight of orphans from the war. He met a Korean girl, White Jade, whose parents had died in the war. Bob Pierce gave money from his meager resources to an American missionary, Tena Hoelketer, and asked her to take care of the child. On his return to the U.S., he appealed to people to sponsor other children. This started World Vision. It has now grown to become the largest faith-based organisation in the world, sponsoring one million children in ninety - hundred countries. Together with other International organisations, World Vision has played and continues to play a major role in relief and development activities to rehabilitate victims of natural and man - made disasters in all regions of the world.

As a Christian humanitarian, relief and development agency, it ministers to children and families, provides emergency aid and is concerned with human development. It also furthers evangelism, strengthens Christian leadership and challenges people everywhere to see beyond their own interests and situation and to care about the needs of others. For nearly 50 years, it has asked people to help needy children through sponsorship. Sponsorship links develop a relationship between the donor on one hand

and the family or community on the other.

World Vision considers a development approach as the best way to help children and their families. The core of development is not just in providing money or even services. Rather it lies in helping people discover their God-given potential. Funds and technical help in areas like health, agriculture, water sanitation, nutrition and income production are important, but secondary to the basic work of motivation and community organisation.

The child is the focus of the development effort and the needs of each sponsored child in a community are taken into consideration, whilst non-sponsored children also become beneficiaries. Development is seen as a process of change not a package of benefits. Getting this process going and guiding its progress requires skilled and sensitive intervention by World Vision development workers.

Looking at the critical issues for the millennium, the World Vision International President, Dean Hirsch said "World Vision does not look at Y2k in the same way as the rest of the world. Instead, we are using this pivotal time in the history of civilization to say 'Yes 2 Kids!' World Vision is committing itself to ten key issues that will create for each child safe.

Healthy and sustainable world". World Vision's 10 urgent issues for the millennium are:

1. A liveable income
2. Food for everyone
3. Primary education for all children
4. Clean water
5. Debt Relief for poor nations
6. Peace building
7. Equal opportunity for Girls
8. A Sustainable Environment
9. An end to Child Exploitation
10. The Freedom to Believe

Mr. Hirsch added, " There is nothing impossible about this list. The world has the money. It could accomplish all these tasks for about a third of the \$780 billion it now spends annually on the military". WVI is calling on the governments of the world to say "Yes 2 Kids" by directing funds to pay for things that help instead of harm.

2.2. WORLD VISION GHANA

World Vision Ghana (WVG) was opened in June 1979. Since 1979, the activities of World Vision Ghana have been geared towards improving the lives

of children and their families in rural communities. The organisation's aim is to help under - privileged communities to make life in their areas worth living by making use of the resources available in their environment. World Vision staff endeavor to empower rural people to undertake their own development by helping to train, organize and facilitate them to plan, implement, maintain, evaluate and sustain their own integrated development programmes.

WVG (World Vision Ghana) activities have been categorized into ministry areas as follows:

- Evangelism and leadership training (Christian Witness)
- Health, Population and Nutrition
- Formal and Informal Education
- Food and Agriculture
- Customer Relationship Services (Child Sponsorship)
- Relief and Rehabilitation
- Water and Sanitation
- Micro Enterprise Development
- Gender and Development

After 10 years, in 1989 in Ghana, World Vision has helped about 30 communities to construct more than 20 Primary Health Care Centres. 50 primary and Junior Secondary Schools, 50 day Care Centres and 56 KVIP toilets and

455 wet wells in Central, Eastern, Western, Volta and Greater Accra regions. All this was achieved through the active participation of local communities who provided labour, some building materials and financial contribution. It has liaised with the Ministry of Food and Agriculture to organize several demonstration workshops for peasant farmers. The workshops covered areas like food production and preservation, livestock rearing, bee-keeping and afforestation. The health and nutrition team has collaborated with Ministry of Health in mass immunisation programmes against the six childhood killer diseases and also undertaken nutrition education, child survival, AIDS education and other primary health care activities in all the regions. It is operating, the organization also sponsored the MOH Western Region to undertake an Expanded Programme on Immunisation and again opened 28 new Maternal and Child Health Centres in remote areas.

For projects concerning Women-In-Development, World Vision, by 1989 had trained more than 50 women group leaders from various beneficiary communities. These group leaders were also to train over 400,000 rural women in cottage industry technology and income-generating projects. In November 1988, World Vision hosted a conference on Women and Development in Ghana. The conference sought to create awareness of the plight of African rural women. All these achievements were within the period of the first 10 years.

The new approach or paradigm in the organization known as the Area Development Programme is based on the idea of positioning and rootedness, where staff are located in the communities and are working to effect changes in a sustainable manner. Unlike the former approach, where projects were scattered in the regions, the Area Development Programme is an approach where all the programmes are now moving to the poorest among the poor districts in each of the 10 regions.

2.3 GHANA RURAL WATER PROJECT (GRWP)

The severe drought in 1982-83 brought into sharp focus the vital element that had been lacking in World Vision's development efforts - clean water.

To address the problem, WV commissioned a survey on water supply carried out in its project communities in 1984. The survey was done by Ghana Water and Sewerage Corporation and Water Resources and Research Institute. The survey report revealed how the lack of potable water had become a great hindrance to World Vision's rural development programmes. The organization contracted Prakla Seismes Geonechanik, a German Drilling Company which drilled 28 wet wells for its project communities in Greater Accra, Easter, Central and Volta regions.

In 1985 World Vision set up its own drilling Unit - the Ghana Rural Water Project (GRWP) to provide potable water (to drill bore holes) for World Vision assisted communities which did not have potable source of drinking water.

The activities of the GRWP were in phase - I, II, III, The first phase of the project which lasted four years, (1986 – 1990), was executed at a total cost of US\$6.0m. The funds were provided by the United States Agency for International Development (USAID), the Overseas Development Agency through World Vision Britain, and other World Vision offices in Canada, New Zealand and the US.

By the end of September 1990, 455 wet wells fitted with hand pumps had been drilled in nine out of ten regions in Ghana. The boreholes drilled in 193 rural communities and 112 institutions, provided water for about 450,000 people.

The second phase took off in 1990. this phase lasted for 5 years, (1990 - 1995). The major donor for the second phase was Conrad N. Hitton Foundation. It contributed \$5.0m to drill 500 wells and to organize pump maintenance training. World Vision US provided a matching grant of more than \$3m to support Health Education and Community Participation as well as the construction of latrine and laundry facilities. With total funding of \$8.4m the five – year programme lasted from October 1990 to September 1995.

Known as the Ghana Rural Water Supply and Sanitation Programme the second phase, unlike the first, was concentrated in one location - The Greater Afram

Plains (GAP). This area spans eight districts in three regions in Ghana - Eastern, Ashanti and Brong-Ahafo. The River Afram, a tributary of the Volta River has been named after this area because it is the major river which flows through this plain area.

The areas in GAP within the operation of GRWP are as follows:

- | | | |
|------------------------|---|---------------------|
| 1) Kwahu South | } | |
| 2) Kwahu North | } | Eastern Region |
| 3) Ashanti Akim North | } | |
| 4) Sekyere West | } | |
| 5) Sekyere East | } | Ashanti Region |
| 6) Ejura – Sekyedumasi | } | |
| 7) Atebubu | } | |
| 8) Sene | } | Brong-Ahafo Region. |

In relation to the rest of the country, the GAP area which experiences a long dry season from November to April, has generally lagged behind in development programmes. Guinea-worm infestation was endemic. The absence of potable water affected health, education, agriculture and family life.

In the second phase, the emphasis was to prepare communities to accept, own and manage the water supply and sanitation facilities. By the end of the second phase in September 1995, 529 wells had been drilled. (Details are shown in the table).

Table 1A: Number of proposed wells and wells actually drilled.

REGION	DISTRICT	PROPOSED NO. OF WELLS	NO. OF WELLS DRILLED
Eastern	Kwahu South	60	69
	Kwahu North	100	97
Ashanti	Sekyere East	60	70
	Sekyere - West	60	57
	Ashanti Akim North	40	20
	Ejura-Sekyeredumasi	60	58
Brong-Ahafo	Sene	60	70
	Atebubu	60	76
TEST DRILLS TOTAL	EIGHT DISTRICTS	500	529

SOURCE: GRWP ANNUAL REPORT 1995

One remarkable achievement of this phase is that on health, Guinea-worm, a painful disease that hindered the agricultural activities of the people in the GAP is almost completely eradicated from the project area, in 497 communities.

GRWP PHASE III (1995 - 2001)

With the track record of 984 wells countrywide in 410 communities to the credit of GRWP, World Vision United states and Conrad N. Hilton Fund (as it is now known) decided to fund the third phase of the programme for six years starting in

1995. With a funding of \$13.3m, GRWP phase III is to ensure that by the year 2001, six hundred wells fitted with hand-pumps would have been drilled for 250 villages in the GAP.

By September 1999. 384 wet wells had been drilled in 264 communities, while 453 pump maintenance volunteers were trained as far as bore hole and pump maintenance volunteers are concerned.

RESEARCH AREA

2.4 STUDY AREA

Sene District was carved out of the Atebubu District in the Brong – Ahafo Region in 1988, following the decentralization programme of the then PNDC government administration.

Sene District has a population of 41,088 made up of 57,383 males and 53,705 females who are distributed in 120 communities (1984 Population Census). The population is made up of several ethnic groups but the traditional or indigenous ethnic groups are Guans and Nchumurus. The District covers an area of 8,586 sq. Km.

The social conditions in the Sene District are characterized by:

- ◆ Low literacy rate due to low level of formal education resulting in poor academic performance, high school drop out rate and low enrolment.
- ◆ Poor health delivery system culminating in unacceptably high malnutrition rate, high morbidity and mortality as well as

prevalence of many communicable diseases.

- ◆ Land degradation, low agriculture yield, poor marketing and storage of farm products.
- ◆ High incidence of faeco - oral and water - borne diseases.
- ◆ High rate of adult illiteracy
- ◆ Marginalization of women, especially the Girl-child in the distribution and control of wealth.
- ◆ Christian nominalism and improving Islamic presence.
- ◆ Absence of social institutions for developmental activities.

SITUATION BEFORE THE ENTRY OF GRWP

At the peak of the dry season, people depended solely on roasted food since the water available was rationed for drinking only. People had to abandon their settlement for the areas where they were sure of regular supply of water. There were no effective farming activities, no school activities and life in the area came to a standstill during this period.

The outcome is the widespread incidence of the water-borne diseases such as Guinea-worm, bilharzia and diarrhoea.

Government workers refused transfer to the District, citing lack of potable water as the reason. Middlemen who patronized the farm produce of the farmers did not want to go down to areas where there was no water to engage in any commercial activities for fear of any water-borne diseases.

Farmers during that period were just price takers because they were pinned to the wall by offering their produce cheaply to any one who ventured to go the villages where there was acute water problem.

**ASSESSING CAPACITY BUILDING INITIATIVES FOR
CARETAKERS OF COMMUNITY – BASED RURAL
WATER SUPPLY, SENE DISTRICT****3.1 INTRODUCTION**

The research findings have been presented in four sections. The first section discusses the nature of knowledge and skills acquired by trainees. The second section covers the influence of sex and education on training out comes. The next part dealt with how the trainees have been able to replicate the training programmes in their own communities. The final part shows the influence of training on maintenance and repair practices.

The research findings were based on questionnaire designed to collect the necessary information from the trainees. The research questions were grouped under four headings to reflect on the objectives. In all, there were fifty-seven questions, out of which twenty-seven were close-ended questions and the rest open-ended ones.

The quantitative data were analyzed using descriptive statistics and cross tabulations. The study identified some basic characteristics of trainees as follows:

- ◆ The person must be an indigenous member of the community
- ◆ The person must be permanent resident

- ◆ Should be prepared to work as a volunteer
- ◆ Should have basic knowledge in repairing simple things like bicycle, sewing machine and others
- ◆ He or she must not be quick – tempered
- ◆ He or she must be selected by the community

However, occupation, age, education, religion and marital status were not used as strong points for selecting volunteers.

3.2 SECTION A: THE NATURE OF KNOWLEDGE AND SKILLS ACQUIRED BY TRAINEES



INTRODUCTION

“Knowledge is power ” that is the old adage. The quality of Knowledge and skills acquired can influence the performance of the trainees in the community. It is therefore very important for any training session to be very critical with the nature of knowledge and skills it is transmitting to the target group. There should be specific goals for the training so that with time the impact of the training could be measured or evaluated.

3.2.1: Goals Of World Vision Training Programmes

The activities of World Vision have the focus of facilitating stakeholders in the District through partnership, collaboration and networking as well as training to unearth their God – given potentials for the sustainable development of the District.

The staff endeavour to empower rural people to undertake their own development by helping to train, organize and facilitate them to plan, implement, maintain, evaluate and sustain their own integrated development programmes. The main or basic assumption of World Vision training programme is far sustainable development. As a result, it has adopted the strategy of capacity building – “training of the trainers”. It is the goal of World Vision to enhance the capacity of stakeholders through the acquisition of basic skills and knowledge about the interventions put in place. These skills and knowledge are expected to be replicated in the various communities. If these expectations are well executed would support the repair and maintenance capacity of the beneficiary communities and be in the position to manage projects when World Vision complete project.

The provision of technical know-how and basic inputs enhance the building up of community resources.

In the water sector, to sustain the water systems in the beneficiary communities, WVI/GRWP has established a special unit – Pump maintenance and training programme unit. This has the responsibility of training selected volunteers to repair and maintain the boreholes in their locality.

The expectation is that after going through series of workshops in the form of training, the trainees would acquire some knowledge and skills, which would change their attitude towards the project and then practice what they have learnt.

According to the World Health Organization (WHO), it is estimated that 30–60 per cent of existing water supply systems are not operational, which seriously undermines the well being of the population concerned. WVI, therefore has a goal of building the local capacity to manage the project. Knowledge and skills are provided to caretakers who would replicate them in the beneficiary communities.

Importantly, the main basic assumption is that WVI would in the years to come pull out from the district, so if the requisite skills and knowledge are left in the communities, the local capacity should be able to sustain the project.

Another assumption is that training positively influences operation and maintenance practices.

3.2.2: Type Of Knowledge And Skills Acquired By Trainees

There are series of training which are organized to enhance the skills and capabilities of the trainees. The first form of training is organized just after the handpumps have been installed and is called the first level training. At this level, participants are taken through the fundamentals of handpumps in a 5 – day training workshop. Some of the things learnt include names and functions of the pump parts, names and functions of repair tools and repairs of faulty handpump. Table 1 below gives the knowledge and skills acquired by trainees under various activities by sex.

**TABEL 1B: KNOWLEDGE AND SKILLS
ACQUIRED BY SEX**

ACTIVITY	TO TA	FEMAL		MALE	
		E			
	L%	No	%	No	%
Maintenance and Repairs	73	5	17	17	56
Names and functions of tools	14	2	7	2	7
Names and functions of parts	13	1	3	3	10
TOTAL	100	8	27	22	73

SOURCE: FIELDWORK, SENE DISTRICT – B/A, 2000

From table 1, it can be observed that a large number of the trainees had obtained the knowledge and skills in repairs and maintenance which was the main objective of the training programme. It can therefore be concluded that the training programme had been successful considering the percentage response of 73% for maintenance and repair.

Surprisingly, not all the participants responded that the training was about maintenance and repairs, some insisted that they acquired knowledge in the functions of tools and pump parts.

3.2.3: GENERAL SKILLS ACQUIRED BY TRAINEES

Trainees are taken through many skill practicing exercises during the training sessions. By the end of the training session, participants are expected to acquire

some general skills such as dismantling and installing the borehole, skills in preventive maintenance, names of tools and their functions, names of parts and their functions. These skills obviously form the basis of the operation and maintenance.

TABLE 2: GENERAL SKILLS ACQUIRED BY SEX

GENERAL SKILLS ACTIVITY	TP TA ;%	FEMAL E		MALE	
		No	%	No	%
Dismantling / installation	67	4	14	16	53
Preventive maintenance	13	1	7	3	10
Functions of tools	10	2	3	1	7
Functions of parts	10	1	3	2	3
TOTAL	100	8	27	22	73

SOURCE: FIELDWORK, SENE DISTRICT – B/A 2000

In general, table 2 shows that more than half the total number acquired skills in dismantling and installations. Invariably, this skill is the most important aspect, this is because faulty pumps cannot be repaired unless it is dismantled and when it is repaired it has to be installed. Equally important are the other skills chosen, but the best result could be realized if all trainees basically and generally can dismantle and install a faulty pump, as the first step to repair and maintenance.

3.2.4: SPECIAL SKILLS ACQUIRED BY TRAINEES

Apart from the general skills which are considered to be basic and have to be acquired by any person who goes through the training session, there are some specific skills which depend on the creativity of the trainee and also the level of understanding. Some of the special skills picked are shown in table 3.

TABLE 3: SPECIAL SKILLS ACQUIRED BY TRAINEES BY SEX

SPECIAL SKILLS	TOTAL %	FEMALE		MALE	
		No	%	No	%
Detection of fault	74	7	24	15	50
Fixing of chain	13	1	3	3	10
Fixing of cylinder	10	0	0	3	10
Fishing of dropped pipe	3	0	0	1	3
TOTAL	93	8	27	22	73

SOURCE: FIELDWORK, SENE DISTRICT – B/A 2000

Relatively, a large number of trainees could detect fault with a broken down pump. Of this number, women formed only 17%. However, it is the only special skill more women could acquire. Another important special skill, fishing of dropped pipes from the well is seen to be a skill which could not be acquired. Ironically, most faulty handpumps in the district is due to this problem. This skill should be given a critical attention in the 2nd level training.

3.2.5: FREQUENCY OF PREVENTIVE MAINTENANCE

“Prevention is better than cure”. Preventive maintenance is given a serious attention during the training session, because if any major breakdown is to be avoided then it is advisable that regular preventive maintenance is undertaken. WVI / GRWP requests that trainees carry out preventive maintenance fortnightly. Surprisingly, from table 4 it shows that only 50% of them answered that preventive maintenance is done every two weeks.

TABLE 4: Frequency of Preventive Maintenance By Sex

FREQUENCY OF PREVENTIVE MAINTENANCE	TOTAL	FEMALE		MALE	
		No	%	No	%
Weekly	33	2	7	8	27
Fortnightly	50	5	17	10	33
Monthly	17	1	3	4	13
TOTAL	100	8	27	22	73

SOURCE: FIELDWORK, SENE DISTRICT – B/A 2000

3.2.6: ATTITUDINAL CHANGES AMONG TRAINEES

One major objective of any form of training is to impart knowledge. But the expected behaviour change comes also out early through attitudinal change. Pump maintenance training is carried out to make trainees more proactive in the water sector. This empowers them to be responsible. This responsibility changes their old perception of laissez-faire attitude into owners, managers and stakeholders of the water project. Different attitudinal changes in the trainees

after the training exercise is presented in table 5.

TABLE 5: ATTITUDINAL CHANGES AMONG TRAINEES BY SEX

SPECIAL SKILLS	TOTAL %	FEMALE		MALE	
		No	%	No	%
Detection of fault	67	4	13	16	53
Fixing of chain	13	2	7	2	7
Fixing of cylinder	13	2	7	2	6
Fishing of dropped pipe	7	0	0	2	7
TOTAL	100	8	27	22	73

SOURCE: FIELDWORK, SENE DISTRICT – B/A 2000

From table 5, it could be discerned that most of the trainees claimed they have developed the attitude of regular maintenance after the training they had.

Obviously, this is a necessary component for sustainability which WWI is advocating. The other responses meant that the rest of the participants have also developed some new attitudes which are positive and supportive to the sustainability process.

WW/GRWP has put in place an effective system which monitors the attitudinal changes in the trainees regularly.

Firstly, every beneficiary community is expected to have a note book to enter everything which is done on the handpump, showing the date, the type of activity carried out, the names and the number of volunteers who took part. The note book is read periodically.

Secondly, at every workshop and training session, WATSAN committee members are asked to give situation report on the water systems in their communities.

Thirdly, follow up visits are conducted to ascertain the facts on the water systems by the pump technician who is the staff of WVI/GRWP.

3.3 SECTION B: THE INFLUENCE OF SEX AND EDUCATION ON TRAINING OUT COME

INTRODUCTION

Previously, women were marginalized when it was time for training caretakers for community based projects like water supply system. Some of the reasons were that they were saddled with numerous house chores which would not allow them to participate fully and seriously in the training programmes.

Presently, sector professionals have realized that operation and maintenance is not just a technical issue – it encompasses social, gender, economic, institutional, political managerial and environmental aspects (Baah, 1995).

Women, as the principal users of (rural) water supplies are playing an increasingly prominent role in management and maintenance activities. World Vision in the same direction is encouraging women to be part of the maintenance team. In each beneficiary community, at least one in every three trainees is a woman.

Due to low literacy rate in the district, basic characteristic like educational background could not be used as a strong criterion in selecting the trainees.

TABLE 6: CHARACTERISTICS OF TRAINEES BY SEX AND EDUCATION, IN %

EDUCATIONAL BACKGROUND	TOTAL %	MALE	FEMALE
No formal Education	40	46	25
Primary	7	9	0
Middle / JSS	43	32	75
Secondary	7	9	0
Others	3	4	0
TOTAL	100	100	100

SOURCE: FIELDWORK, SENE DISTRICT – B/A 2000

The overall characteristics of the trainees by sex and education as show in table 6 indicates that relatively about half the number selected for training had obtained formal education up to the Middle / JSS level. On the other hand, almost the same number had no formal education and women accounted for the largest. Relatively and interestingly, only few trainees had obtained education beyond 2nd cycle and they were all men.

3.3.1: GENDER AND TRAINING OUTCOME

The system of training is uniform for both sexes. The training programme is designed in a way to influence the knowledge, attitude and the skills of the trainees.

TABEL 7: GENDER AND TRAINING OUTCOME IN %

TRAINING OUTCOME	TOTAL %	MALE	FEMALE
Knowledge	33	32	37
General skill	27	27	25
Special skill	7	9	0
Frequency in preventive maintenance	16	23	0
Attitudinal change	17	9	38
TOTAL	100	100	100

SOURCE: FIELDWORK, SENE DISTRICT – B/A 2000

According to the table more trainees acquired knowledge in maintenance and repairs followed by general skills in repairing. Comparatively, very few trainees claimed that they have extra special skills in maintenance and repairs. There was no woman among the few who have acquired special skills.

Discernibly, more women responded that the training has influenced their attitude towards the water project as well as other projects in the community.

3.3.2: EDUCATION AND TRAINING OUTCOME

The educational background of the trainees though an important factor for training could not be used as a strong criterion for selection due to generally low literacy pattern in the district. However, it was seen as a basic factor during the training session, due to the fact that everything was in English and it was very difficult to translate names of pump parts and other technical things into local dialect or language. Table 8 highlights on education and training outcomes.

TABLE 8: EDUCATION AND TRAINING IN PERCENTAGE

EDUCATION BACKGROUND	% IN EDUCATION	KNOWLEDGE ACQUIRED	GENERAL SKILLS	SPECIAL SKILLS	FREQUENCY IN PROMISE	CHANGE IN ATTITUDE
No. formal education	40	5	7	3	18	27
Primary	7	10	13	7	32	18
Middle / JSS	43	15	22	30	23	25
Secondary	7	50	33	35	18	16
Others	3	20	25	25	9	14
TOTAL	100	100	100	100	100	100

SOURCE: FIELD WORK, SENE DISTRICT – B/A, 2000

The table shows that 40% had no education, and apart from change in their attitude the training has influenced, those with some level of education have higher advantage over them. It was recorded from the table that special skills could be acquired more by those with secondary education and JSS training. It is then obvious that the educated trainees could document some information for reference. They could also establish the relationship between tools, parts and their functions. It could be generalized from the table that the higher one's education, the easier it is to be trained further.

3.4 SECTION C: REPLICATING TRAINING PROGRAMMES IN THE COMMUNITY BY TRAINEES

INTRODUCTION

Another idea behind the WWI / GRWP training activities is for the trainees to replicate the training programme. The training of the trainers has been adopted to increase members with the capacity for operation and maintenance.

The main purposes for the trainees' training programme are: to increase the number of trainees in the community, to train members to acquire skills in repairing the pumps and to facilitate the members to acquire some basic knowledge in maintenance and repairs.

TABLE 9: PURPOSE OF TRAINING OF TRAINEES PROGRAMME BY SEX

ACTIVITY	TOTAL	FEMALE		MALE	
		No	%	No	%
		9	2	6	4
Increase Trainees	73	4	14	14	47
Skill Acquisition	18	2	7	4	13
Knowledge Acquisition	100	8	27	22	73
TOTAL					

SOURCE: FIELDWORK, SENE DISTRICT – B/A 2000

Comparatively, by observation. Skill acquisition formed the major component of the trainees' training programme. It could be observed that more men undertook this training than women, this is possible because the men could acquire more skills than the women during the training session and also the number of men outnumbered the women at the training session.

3.4.1: Steps In Training

The trainees' training programme was more informally conducted than the official training they obtained. In view of this, according to them the training was carried on at the borehole sites. This was mostly conducted when they were repairing a broken down pump.

First the repair tools are displayed for the participants to see and identify each as they mention their names. Participants were asked to observe critical the functions of each tool as the trained trainees use them in dismantling the pump.

The next step is to learn the pump parts, when the pump is dismantled, the parts are assembled for participants to learn their names and functions. The trainees demonstrated the installation procedure for participants to observe. Afterwards, participants were allowed to take turns in the procedure as the trainees direct them. After so many rounds of practicing, some participants were able to acquire some skills to repair and install the pump. The number of people trained by the trainees is shown in table 10.

TABLE 10: TRAINING OF TRAINEES PROGRAMME BY GENDER

NUMBER TRAINED	TO TA L %	FEMAL E		MALE	
		No	%	No	%
		.		.	
1	86	4	18	19	68
2	14	0	0	3	14
3	0	0	0	0	0
4	0	0	0	0	0
TOTAL	100	4	18	22	82



SOURCE: FIELDWORK, SENE DISTRICT – B/A 2000

Out of a total of 30 trainees, 26 of them claimed they have also replicated the training programme. From this total, only 4 were women who passed on their knowledge and skills to one person. General comments from the trainees were that though more people expressed the interest to understudy them only one or two people could pick the necessary knowledge and skill required. It could be seen from the table that only two people were trained by the trainees.

This low number recorded confirms the point raised earlier on that many of the people are more interested to be trained by World Vision than to be trained by

their own people. It can be concluded that the issue of replicability depends on both the one transferring the knowledge and the willingness of the trainee.

3.4.2: SPECIAL SKILLS TRANSFERRED

The trainees in their own way tried to share and transfer the special skills involved in the operation and maintenance of the handpump. As already stated such skills depend on the trainee's level of understanding and creative ability. For, it is said that "creativity and originality are more important than technical skills". Such skills as detecting the type of fault when the handle of faulty pump is picked, fixing a chain in the pump head, locking up the cylinder on the male-male pipe and fishing out a dropped pipe from the well are not so easy to acquire. However, during the training of trainees programme some selected participants exhibited such skills to confirm their level of understanding according to the trainers.

TABLE 11: TRANSFER OF SPECIAL SKILLS BY TRAINEES

SPECIAL SKILLS	TOTAL	FEMALE		MALE	
		No	%	No	%
Detection of fault	74	4	19	12	55
Fixing of chain	9	0	0	2	9
Fishing of pipe	5	0	0	1	5
Locking cylinder	12	0	0	3	12
TOTAL	100	4	19	18	81

SOURCE: FIELDWORK, SENE DISTRICT – B/A 2000

Twenty-two (22) trainees responded that they have trained people in Special Skills. Comparatively, more people claimed they could detect fault with a broken

down by picking the handle with their experience gained. This is the only skill women claimed they have facilitated people to acquire. Fishing of dropped part from the well recorded very low figure. It is partly due to the fact that the machine to be used is not common and readily available to the trainers. It is obtained by request. Cylinder locking is a skill that should be acquired by all trainees because without the cylinder the water cannot flow from the well.

3.5 SECTION D: INFLUENCE OF TRAINING ON MAINTENANCE AND REPAIR PRACTICES

INTRODUCTION

The status of the water system depends basically on how the community manages it. Effective and efficient management of community development projects depends on the quality of knowledge and skills that have been acquired through training about the project.

For the water system, training on operation and maintenance prepares the community to manage the system very well. Training adds up to knowledge, and it influences practices.

Information gathered from a focus group discussion with WATSAN Committee members, opinion leaders and the Unit Committee chairmen showed that throughout the district, before the training programme, the community members did not take the project very serious. There was laissez – faire attitude in the communities. No one cared for project, as a result, old projects which could have sustained them have now outlived their purposes. They further stated that

presently no one can account for any of the old projects.

After much discussion, the group realized that training for operation and maintenance forms a major component of the issue of sustainability.

3.5.1: THE OPERATIONS OF MANAGEMENT COMMITTEE

It is now the government policy that WATSAN Committees must be set up in the beneficiary communities to manage the rural water systems.

The village level operation and management of maintenance (VLOM) concept was introduced in 1991 at the beginning of the International Drinking Water Supply and Sanitation Decade (IDWSSD) to address the fundamental issues that had hindered the sustainability of community water supply in the past.

The concept seeks the empowerment of user communities to own and manage their own systems to ensure long term sustainability. It allows the communities to take informed decisions for themselves at all stages of the project cycle.

(Osafo-Yeboah, 1996)

Water supply must be demand-driven, says a government policy, which lays emphasis on community participation as its objectives. The communities must also contribute to part of the capital cost and pay all the recurrent cost of their facilities. They should be ready to pay 5 –10% of the installation cost and must contribute in kind during construction. The community must also agree to form a Water and Sanitation Committee (WATSAN) to see to daily management and operation of the facility (Pro Net, 1995).

The management committees have important role to play in their communities. In all the communities World Vision is operating, the organization has facilitated the establishment of these committees to play essential roles and responsibilities. The operation of these committees has been very prominent in the following areas: keeping of records on water and sanitation activities, supervising the collection or the contribution of maintenance funds and saving the money at the bank, holding regular meetings on the water project and also be in the forefront to mobilize both human and material resources to support project. To make the work of the management committees easier, WVI / GRWP has made available so many tools for repair and maintenance in every five nearby communities. In addition, spare parts store is opened in the World Vision for sale to the communities which would be in need.

The operations of the management committees were ranked according to performance, this is shown in Table 12.

TABLE 12: RANKING OF THE OPERATIONS OF MANAGEMENT COMMITTEES BY TRAINEES

RANKING	TOTAL No %	FEMALE		MALE	
		No	%	No	%
Excellent	33	0	0	10	33
Very Good	33	4	13	6	20
Good	20	1	3	5	17
Average	14	3	11	1	3
Poor	0	0	0	0	0
TOTAL	100	8	27	22	73

SOURCE: FIELDWORK, SENE DISTRICT – B/A 2000

The activities of management committees on the whole has been above average, looking at the details on the table. More than half the number of trainees ranked the management committees very high, whereas very few ranked them on the average. Clearly, observation from the details on the table shows that the women did not see the need to rank the operations of the management committees to high nor too low.

3.5.2: RECORDS KEEPING

One of the most essential influence that the training has helped to inculcate in the trainees is their ability to keep records of activities about the water system. This provides the needed information about whatever goes on in each community about both the trainees and the water system. The records gives information about the activities of the trainees. It is encouraging to confirm that some basic records like list of contributors to the maintenance funds, minutes book, bank accounts book, note book about maintenance and repairs showing dates, type of fault and how much was spent on the repairs were found with almost all the communities visited.

3.5.3: CHANGES IN COMMUNITY ATTITUDES

Community attitude is an essential element for sustainable development. Development is all about people and mostly community based. More often than not projects have failed in some communities because of laissez-faire attitude exhibited by the beneficiaries.

At times, inability to follow the acceptable standards or rules and regulations

governing community projects has posed a lot of challenges to rural development and for that matter donors and NGOs.

Training essentially adds up to knowledge and also brings about changes. It therefore influences people's perception to make right judgement and take good and informed decisions. Table 13 shows the changes which have taken place in the beneficiary communities after training.

TABLE 13: ATTITUDINAL CHANGES THROUGH TRAINING IN %

LENGTH OF TRAINING	TOTAL %	LOVE FOR PROJECT	ATTENTION OF PROJECT	CULTURE OF MAINTENANCE	PROPER MANAGEMENT	REGULAR MEETINGS
2 days	3	11	0	0	0	0
3 days	3	0	9	0	0	0
4 days	14	0	18	17	33	0
5 days	80	89	73	83	67	100
TOTAL	100	100	100	100	100	100

SOURCE: FIELD WORK, SENE DISTRICT – B/A, 2000

From the table, it could be seen that participants with a long exposure to training developed more attitudinal changes towards the project than those with a short exposure. Probably with long period of training one is likely to build up more interest which invariably changes or influences his / her attitude in doing things. The 5 – day training workshop involves varying methods and activities which could sustain the interest of participants and probably get influenced by the events of things.

CHAPTER FOUR

CONCLUSIONS AND RECOMMENDATIONS

4.1 CONCLUSIONS

The findings showed that to ensure sustainability of an intervention such as water supply in the rural areas, training of the indigenous people to manage their own project forms a major component and it is vital.

Conclusion drawn from the focus group discussion held with some WATSAN Committees, opinion leaders and unit committee chairmen was that the people have accepted the issue of sustainability as dependent on effective operation and maintenance of the water system. They said their mainstay in the district has been the boreholes, and this has been a big relief to them in terms of fighting the guinea-worm disease. They emphasized that the longer the water stay with them, the more healthy farmers would become, and be able to work on their farms to increase food production.

An informal interaction with a cross-section of the community members in all the selected communities revealed that without training of some volunteers to maintain the water systems all the boreholes would have been left broken down. According to them, there were some old wells provided by the Catholic Relief Services some time ago but because there was no one to repair them when they broke down, they have been left uncared for. They concluded that without training of the indigenous people to manage their own affairs, the communities

could not pay for the high cost of servicing and repairs of the borehole. They were emphatic that since the trainees are their own sons and

fathers who are always seen around in the community, that alone is a guarantee that their boreholes could have a long life span.

There were reactions that the water accounts should be read to the public monthly to ensure accountability and transparency. This would enable people to readily pay their contribution for prompt repairs and maintenance work on the boreholes.

The study observed that due to the basic and the practical nature of the training, even some of the trainees with no formal education have acquired some skills and knowledge about how to repair and maintain the borehole. This reinforces the point that for training to yield good results, it should be within the capability of the trainees. People cannot accept and practice anything beyond their capacity and knowledge.

Another conclusion drawn from the study is that even though the female trainees have acquired some basic skills, they lack the initiative in preventive maintenance. They wait for their male counterpart to initiate the move for maintenance before they join. The women must be empowered to work on their own.

Finally, from observation, all the communities have records on the water activities but they were not up to date especially the details about the wells. Their bank accounts showed that they have very little money left to meet the cost of spare parts which goes up now and then.

4.2 RECOMMENDATIONS

The training workshops brought different people with different background for interaction. This has built a strong relationship among the people. Some trainees from different communities join others in another community to help them to repair their boreholes when the need arises. According to them, this strong togetherness and relationship did not exist before the entry of World Vision International / Ghana Rural Water Project in the district.

The following recommendations are being made to improve upon the idea of sustaining the water project in the Sene district.

- The trainees need the 2nd level training to enrich their skills and also increase their knowledge.
- Every three nearby communities should have repair tools box to enable them carry out regular repairs.
- Funds mobilization should be made compulsory and backed by sanctions to increase funds deposited at the banks.

- Management Committees must render account regularly to the public to avoid public reaction which constrains people from contributing financially.
- There should be cordial relationship between the management committee and the pump maintenance volunteers, so that there would be free flow of information. This would go a long way to motivate the trainees to work better.
- Finally, every beneficiary community must have detail information about each borehole on records.

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INSTITUTE OF STATISTICAL, SOCIAL AND ECONOMIC RESEARCH
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QUESTIONNAIRE TO COLLECT INFORMATION
ON TRAINING EFFECT ON OPERATION AND MAINTENANCE OF WATER
SUPPLIED
BY WVI/GRWP IN SENE DISTRICT

DEMOGRAPHIC CHARACTERISTICS (PERSONAL DATA)

NAME OF COMMUNITY:

1. NAME:

2. Sex: Male Female

3. Age:

15 - 19

20 - 24

25 - 29

30 - 34

35 - 39

40 - 44

45+

4. EDUCATIONAL BACKGROUND

No formal Education

Primary School

Middle/J.S.S

Secondary

Other(s): specify

.....

5. RELIGION: Christianity Islamic None

6. OCCUPATION:

Farming

Domestic Work

Trading

Artisan

Hunting

Other(s): specify

.....

7. MARITAL STATUS: Married Single Divorced

Widowed

8. PLACE OF BIRTH:

- Locality
- Same District
- Same Region
- Another Region

9. HOW LONG HAVE YOU LIVED IN THIS LOCALITY?

- 1 - 5 years
- 5 - 10 years
- 10 - 20 years
- 45+ years

10. ARE YOU AN INDIGENE? Yes No

TRAINING OUTCOME

11. Have you taken part in any training programme by WWI/GRWP?

Yes No

12. What was the training all about?

13. How long were you trained?

14. Briefly describe what you have learnt?

15. What special skills have you acquired about the maintenance and operation of the borehole?

16. How has the training changed your views towards the projects in our community?.....

17. How often do you take the initiative in undertaking preventive maintenance on the borehole?.....

18. How many people were trained in your community?.....

19. Are all the trainees active members? Yes No

20. Is the duration of training enough to equip you with the necessary skills for maintenance? Yes No

21. If No, what do you suggest?

22. Rank the training under very important Important less important useless [

23. What are some of the challenges facing you as a trainee?

.....
.....
.....

PASSING OF KNOWLEDGE AND SKILLS ON TO OTHERS

24. How many people have you also trained?

- 1
- 2
- 3+

25. In what ways was the training done? Informal formal

26. How many people participated?

- 1
- 2
- 3
- 4 and above

27. Who selected the participants?

- Selected by the trainer
- WATSAN Committee
- Voluntarily



28. What kind of information was passed on?

29. Who financed the training you did?

- Individual participants
- WATSAN Committee
- World Vision/GRWP

30. Who monitored the training programme?

- Trainees
- WVI/GRWP
- WATSAN Committee
- No one

31. Were the people trained for the community or personal purpose?
.....

32. Have you observed the trainees working independently?

Yes No

33. Mention some of the specific skills the trainees acquired.
.....
.....
.....

TRAINING AND STATUS OF WATER SUPPLY

34. Which of the following types of maintenance is done regularly in your Community?

- Preventive maintenance
- Major repairs
- All
- None

35. Explain your answer to question 34?
.....
.....

36. Where did you get the tools for maintenance from?

- Sene District Assembly (SDA)
- World Vision/GRWP
- Private individual
- Purchased by the community

37. How are the spareparts obtained?

- SDA provides
- Private individual buys
- Community buys the parts
- Trainees buy the parts

38. Do you have any records to show the activities on maintenance and repairs and fault on borehole?

39. Do you receive any reward or amount of money for your work?

- Yes
- No

40. Explain your answer to question 39.....

41. Is there any group concerned with the daily hygienic conditions of the site and pump? Yes No

42. If Yes, what are some of the hygienic practices?

43. How well do members maintain the boreholes? Excellent

Very good good average poor

44. In what ways do you teach people the proper use of the borehole?

Informal formal

45. How would you rank the nature of community management as far as the status of the borehole is concerned?

Excellent Very good good average
below average

46. Explain your answer in question 45.....

FOCUS GROUP DISCUSSION - WATSAN
COMMITTEE AND OPINION LEADERS

47. How many sources of water do you have? River [] Stream []
Dam/Pond [] Hand dug wells [] Borehole []
48. Before the drilling of borehole by WVI/GRWP what source of water was used?.....
49. Were there any measures in your community to maintain the water sources before the borehole was drilled?.....
50. What are some of the measures?.....
51. What was the outcome of these measures?
52. What differences are there between the traditional source and the borehole in terms of reliability, health, etc.....
53. How did you acquire the borehole?.....
54. What are some of the steps about the operation and maintenance of the borehole in your community?
55. Can you briefly describe the situation before and after the borehole water for the community in terms of
- water borne diseases
 - farming activities
 - income level
 - social activities
56. What measures are there for those who mishandle the borehole?
57. In your opinion, to what extent is WATSAN Committee a significant component of operation and maintenance of the water system in your community.

