

MINISTRY OF WATER DEVELOPMENT AND
RURAL WATER SUPPLY AND
CONSTRUCTION

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GHANA RURAL WATER PROJECT
ANNUAL REPORT
(FY 87/88)

VOLUME I

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GHANA RURAL WATER PROJECT

ANNUAL REPORT FY 87/88

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PROJECT MANAGER'S REPORT

INTRODUCTION

This report will cover in sufficient detail all aspects of the Ghana Rural Water Project for the period October 1987 to October 1988. There will be two parts:

Volume I will contain the General Report and will include the Health Education and Community Participation, Field Operations, Pump Maintenance and Repairs, Logistics and Maintenance, and Camp Administration.

Volume II will give Technical details on all boreholes drilled.

In this report also we are including pictures showing some of our activities and the involvement of the Village Communities.

ACCOMPLISHMENTS

The Ghana Rural Water and Sanitation programme started the Financial Year 1987 with an orientation training organised for the drilling team and mechanics under the supervision of a Training Engineer from ATLAS COPCO Energy of Sweden. The training gave the crew members additional knowledge and gained them more confidence on the equipment being used.

Early December the team moved to Tamale in the Northern Region to commence drilling. The area has been declared difficult with deep water table. Many commercial drillers have avoided this area as they did not want to experience any failures. It was very challenging as we entrusted our whole faith in the Lord for a successful water programme. We therefore spent 4½ months in this Region before moving down to the Volta Region. There are various water related diseases in the North but one that is common and easily preventable is the guinea worm. In some communities 80% of the population may be infested with guinea worm disease.

Due to long distances, dusty roads and severe hot weather conditions, some team members became ill and as a result work slowed down. We discovered that all the wells drilled in the North are fully patronized and we estimate that one well may be serving about 2,000 people as the surrounding villages within a radius of 5 miles go to fetch water from it. The 45 wells drilled could be serving well over 100,000 people!

As at September 30 1988, we have drilled 236 boreholes with 131 successful wet wells and 105 abandoned holes.

Our logistics and maintenance this year have been greatly improved as we directly purchased and stocked spares for various plants and equipment. The training organized for the men at the beginning of the fiscal year has given more confidence to them in the handling of the equipment and tools. The two drilling rigs have given continuous satisfactory service except occasional breaks due to hose breakage.



IMPACT IN THE LIVES OF COMMUNITY MEMBERS

The choice of water procurement technology was largely determined by physical requirements and ground water availability. These and other factors were actively supported by simple traditional ideas emanating from the community leaders. The scarcity of potable water compel the people to marginal and unwholesome sources of water eg. ponds and small lakes. These polluted rural waters have become the alarming sounds of illnesses like diarrhoeas, typhoid, malaria and guinea worm which plague the people; and the most vulnerable are children.

The village-cum-agency intervention strategy of providing water and health education has shown signs of the desired impact since in most places the reporting rates of illnesses are indicating reduction. The provision of potable water alone cannot assist in the reduction of the rate at which people fall sick. This according to some community members was because

- a) the new water was not sweet
- b) the gods in the old water source (pond) will inflict them with diseases if they stopped drinking from it, and
- c) they will give birth to albino children if they drink pipeborne water of any kind.

Such beliefs and cultural attitudes form formidable barriers and neutralise the positive effect of most projects in the rural areas. What was needed was adequate imput of health and hygiene education which inform and create awareness that will promote understanding so that they participate in the project and patronise the end-product. This has been achieved in almost all the communities in which water has been provided.

In most communities

- i) the general health of the people including children has improved.
- ii) school attendance has improved.
- iii) parents/children spend less time searching for water and have enough time to care for themselves.

Sustaining this initial level of achievement require adequate community organization at the grassroot. When the people have understood the project and have helped to bring it about it may not need much from the development promoter to ensure that the efforts and the products are sustained and protected. In the communities, water maintenance, sanitation and childcare committees have emerged. New leaders have surfaced in the communities championing the need to stay healthy.

The President of the latrine sub-committee at Loloto, a village in the North said "The day the Lord Jesus Christ comes to take us to heaven He shall find us clean and healthy."



SPIRITUAL IMPACT IN THE LIVES OF THE COMMUNITIES

The Health Education programme as a component of the WV Rural Water and Sanitation Project affords the rural communities the opportunity to understand and participate in activities which will eventually benefit them.

The realization that it is the concern of some people that less fortunate people could be assisted to know about their conditions and change is an impetus which propel the people in rural communities to braze themselves up and prove their worth. This alone is a spiritual reawakening to the fact that a disadvantaged human person cannot be alone in the universe. Someone cares.

STATISTICAL INFORMATION RELATED TO PERFORMANCE

In the second year running the team drilled in three Regions viz. the Northern, Volta and Eastern Regions. The Northern Region presented the least promising and all available geophysical data indicate that less than 20% of underground water would be found within a depth of 300 feet (91m). The use of geophysical instrument to assist in locating water helped in limiting the possibility of drilling several dry holes. However, whereas the instrument may indicate the presence of water, depth of the bore-hole may be too deep to develop for a handpump.

Our operations in the North were mainly concentrated in the Eastern area. Out of 106 boreholes drilled only 44 were wet and developed. Sixty-one (61) boreholes were abandoned, some were so deep that at 400 feet we were still in the overburden. The success rate was 41.50%.

In the Volta Region the major problem encountered were deep heavy clay which threatened to trap the drill rods and bits, and also easily cave in. Of the 86 boreholes drilled 61 were wet and developed, and 25 abandoned. The success rate was 70.93%.

In the Eastern Region the team spent five weeks drilling 44 boreholes out of which 26 were wet and 18 holes abandoned. The success rate was 59.09%

ALTERNATIVE TECHNOLOGIES

Some of the communities which did not get wet wells are being considered for pipeborne water connections or rain water harvesting. World Vision International has been in touch with Regional Directors of GWSC for pipeborne water connections. In some cases all the necessary materials have been purchased by World Vision but GWSC has been slow to respond.

HEALTH SANITATION AND COMMUNITY PARTICIPATION

This year a massive village health and community education has been embarked to teach the communities receiving water, basic health and sanitary lessons to prevent diseases. In the communities, water maintenance, sanitation and childcare committees have emerged. New leaders have surfaced in the communities championing the need to stay healthy. The response to education on full village participation has been very encouraging and each community has been organized to contribute towards pump maintenance.

PUMPS REPAIR AND MAINTENANCE

World Vision has trained two men each in all the communities drilled to look after the pumps. It is planned to issue basic tools, to each community repair and maintenance personnel to enable them carry out "first aid" repair work on the pumps. World Vision is also making available spares in its Regional centres to be purchased by the communities for repairs. Communities have been charged for all repairs of pumps.

PROBLEMS ENCOUNTERED

I Our major problem has been logistics backing for our drilling programme. For two years running we have relied on school classrooms and private compounds to establish our field camps and accommodate the staff. We have planned to use tents and trailers but the procurement of such items and equipment have taken months to materialize. Therefore our move to an area is either delayed or in some cases we have to postpone our going because schools are in session and no local suitable accommodation is available.

We have also encountered difficulties in recruiting qualified hydrogeologist. There are several qualified who would wish to join World Vision but are put off by

- i) the temporal nature of the project. If they leave their present jobs they will lose all benefits and after the end of the water project they will be out of job.
- ii) If they risk to join, the local salary is not good enough to compensate for loss of benefits such as accommodation and social benefits.

It will be best to use local staff who have better geophysical knowledge of Ghana. A better incentive will attract a few of them to join.

Heavy Duty Vehicles

The Ghana Water Project stretches across the whole of Ghana covering 9 regions. Materials and equipment have to be transported over long distances. Whilst in the North, materials such as filtration sand and cement had to be brought up from the South. We have two utility trucks which are inadequate for making 1,000 miles round trip to the North and several trips had to be made in a month.

Iron Content in Water

The iron in some of the wells continue to be a source of concern as most of them are not used because of the unpalatable taste and the brownish colour that stains utensils and food. We are at present conducting an experiment locally with an Iron Removal Plant with the help of a Research Scientist.

II OPPORTUNITIES FOR EXPANSION

We have just embarked on doubling the number of borehole per week by a double shift on both rigs. Working time is now extended from 8 hours to 12 hours. There is also an opportunity for a third rig to enable the project to increase its drilling capacity.

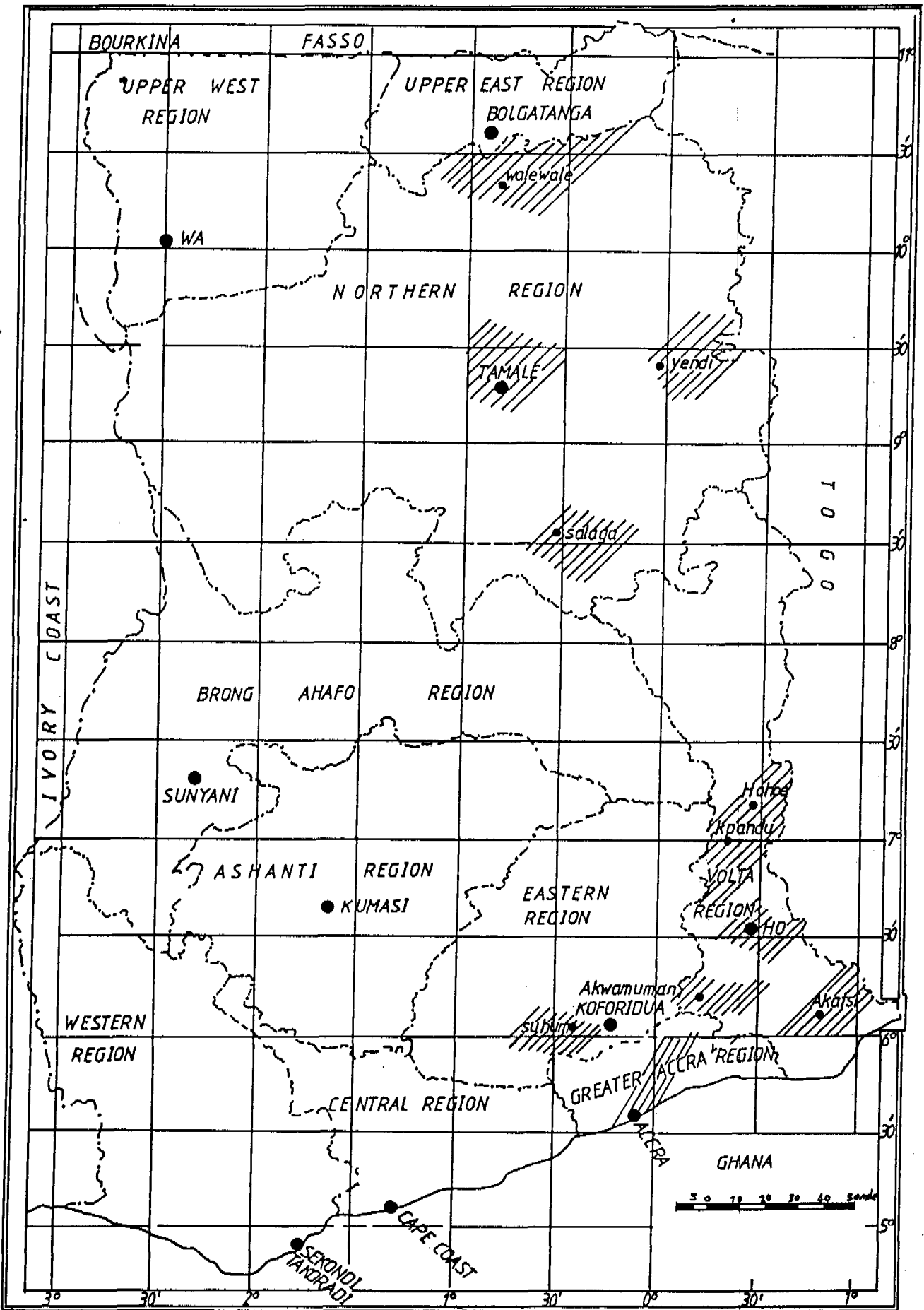
Health and Sanitation

We have discussed with Julian Pitchford his proposals for Ghana on Health and Sanitation including a KVIP latrine. We are studying the proposals presented by Julian.

CONCLUSION

We are appreciative of the support we are receiving from Support Countries and from several visitors who have visited. We look forward to a bright future. We also acknowledge the duty free concessions we receive from the Government. This kind gesture of the Government has helped us to increase the number of wells reaching many more communities than we planned.

MAP OF GHANA



▨ Areas of Drilling Operations in FY 88 (Dec. 1987 - Sept. 1988)

HEALTH EDUCATION, SANITATION & COMMUNITY PARTICIPATION

INTRODUCTION

It was recognised by the directorate of LSD that providing water alone may not ensure good health and improved sanitation. The paradox may be that presense of water (without proper management of waste water) may breed filth, mosquitoes and illness. Thus, there was the need for Health and Sanitation Education which would eventually lead to personal responsibility for good life and total community participation for community well-being.

Activities in this direction needed proper planning on paper, in the field and with the defined communities. After some interaction with the one community which tended to be prototypical of the communities in the project the following guide materials were prepared.

- a) The six Health Education Intervention Phases.
- b) Community Preparedness Index.
- c) Weekly Activity Sheets
- d) Work/Action Plan/Schedule.
- e) Organisational structure for Community Participation.

FIELD WORK

At the end of March 1988 the HE/CPC team had worked with about thirty-five communities and institutions in the Northern Region. In each of the communities the following activities were carried out:



- a) Health Education Programmes
- b) Sanitation Education Programmes
- c) Community Participation Programmes

Even though on paper these activities were separated they were not considered mutually exclusive in practice. That is, we used the appropriate health education method for a sanitation problem which required the involvement of key members of the community or the whole community.

HEALTH EDUCATION METHODOLOGY

Though all the communities visited appeared the same in terms of sizes, layout, social structure, etc., there were inherent differences. Some of the differences can be seen in level of community motivation, preparedness, commitment to programmes and cohesion. Within the short period available for social interaction we were able to assess some of these indices and adopt the most appropriate method for achieving the goals and objectives.

The Health Education (HE) approach was any or a combination of the following methods depending upon the situation:

- a) Mass/group discussion
- b) Focus group discussions
- c) Inter personal communications
 - person to person
 - counselling
 - interviews

The constraint of time (average of 3 days per village) could allow only the above approaches. Where the response/motivation was low, as in the non-sponsored communities the local community members like the community

health nurses and teachers were involved in the interpersonal communications. The primary objectives of the initial contact was to create as much awareness of the sanitation condition as possible and to work out a scheme of involving the whole community in solving the sanitation problem and supporting the water facility. On this score, we assess, the result was successful.

SANITATION EDUCATION PROGRAMME

The main reference point for the HE programme was environmental sanitation. To launch a successful education campaign one needed the baseline information. Such an information was covered adequately in the village Health Status Survey.

The survey covered the sanitation conditions of the communities that were visited. These included

- a) Cleanliness of open spaces
- b) Cleanliness of homes - floors, utensils, water storage.
- c) Waste disposal - waste-water disposal, excreta disposal
refuse disposal, animal waste disposal:
feathers, carcasses,
faeces etc.
- d) Weeds and litter
- e) Personal hygiene
- f) Guinea worm

The observed sanitation condition in all the communities can be summed up by saying that it was not conducive to human habitation. This assessment also sums up what the chairman of Town Development

Committee at Kpembe said about the neglect of their village.

The foci for our community participation programmes were twofold.

- (a) to mobilise the community towards cleaning up the environment and
- (b) to organize the community members to be involved in provision of good water for the community.

To achieve the first a number of meetings were scheduled the same day (with different sections, where the need be of the community) to discuss the problem and the solutions. In smaller villages the whole community met to discuss the solution to the problem. Usually their initial reaction is to set aside a day (the day after the market day) for general cleaning. For purposes of sustaining the sanitation programmes in the village the community comes out with a committee - The Sanitation Committee and Subcommittees. The Sanitation Activities/projects of the communities included the following:

- 1) Village clean-up/weeding campaign
- 2) Soakaways for homes
- 3) Community latrines
- 4) Individual latrines
- 5) Sectional site for refuse disposal
- 6) Sweeping
- 7) Clean receptacles for water storage
- 8) Clean water for drinking
- 9) Village site for keeping animals
- 10) Personal hygiene/childcare.

The need to form Task Performance Groups was very much highlighted in all the meetings (ref. preliminary report). In communities like



Giza-Gundaa, Zugu-Daboguni, Loloto, Duu, Adibo and Nayorko efforts are being made to dig up the pits for latrines. They may be more interested in private latrines but the action only shows that they accept latrines as the solution to the pollution and filth caused by indiscriminate defaecation.

COMMUNITY PARTICIPATION

Close examination of rural communities reveal that they have bigger aspirations than one would think of good roads, good water, big hospital, electricity and so on.

The community members are very much interested in participation in activities that come close to assisting them to realise some of their aspirations

Hence the focus for participation for the communities in all regions was water. At the season of our operation the need for water was saddening. The mention made of water was enough to bring everybody out.

Yet there were communities which were more eager or prepared than others. Those communities which showed greater degree of participation were those that have built schools with external assistance or not for their children or built churches, or feeder roads to outlying villages or, organised market places and or have built stronger houses. The World Vision communities, ie, the sponsored communities showed most of these indicators of preparedness. Kpembe, one of the least motivated communities and a non-sponsored village was a former district capital for East Gonja and a traditional seat of the Gonja people. Most of the structures there like

schools, toilets and police stations were built by the government without the active support of the people. Community participation seemed to be a novelty to them.

On the whole the following steps were taken to motivate, mobilise and then involve the people in the project which had been predefined.

- a) Community discussions on projects.
- b) Discussions on immediate community needs
- c) Identification of community resources to meet the needs.
- d) External resources linkages.
- e) Organisation of community and external resources.
- f) Utilization of resources for the projects.

At the end of the discussions about the water project a task performance group (Water Maintenance Committee) was formed. The community charged the committee to see to the proper pumping, cleaning and repairs of the facility. Where the drilling brought no water eg. Wulugu, the Water Maintenance Committee had been charged with the duty of organising the people for an alternative source of water eg. underground tank for rain harvest.

VISUAL COMMUNICATIONS

The limitations of verbal communications are many and even more complex with simple societies whose languages are not widely spoken. The Educational Team interacted with the communities through interpreters. To emphasise the key issues in the health educational programmes one had to resort to the use of visual communication materials. Under our operational

circumstances only two visual materials were developed namely, a folder/brochure and a poster.

The folder/brochure was developed as visual material to inform communities about causation and methods of eradication of guinea worm, one of the prevalent diseases in the Northern Region.

The poster was developed as reinforcement material for environmental sanitation education. Since the emphasis here is more on visual than text the material is being pretested within and between communities. Graphic Art teachers in the neighbourhood have assisted a great deal in the development of the visual materials.

THE PRE-ENTRY INFORMATION BULLETIN

The Health Education team acting as the forerunners of the whole drilling team has developed a pre-entry information bulletin which is handed over to the drilling team as they prepare to enter communities. The document relevant to all communities gives simple details about cardinal locations, distances from flying camp, resource persons and other relevant details about the communities.

The primary objective of developing the bulletin was to promote fluid entry of the team into communities by providing a first-hand information about directions and social terrain of the area. We hope that attempt will be of use to the whole team.

INTERLINKAGES

Contacts were made to the following organisations, persons and institutions to learn about their operations, to seek information, give information and to solicit for some assistance in the sanitation problems of the communities. They were, Water and Sewerage Corporation, Public Health Inspectors, Regional/District Directors of Medical Services, Community Health Nurses, and Community Development Departments.

THE WRAP-UP PROGRAMME

In the operational framework, a couple of weeks was set aside by the Educational Team to round-up activities by visiting all project site. The purpose for the visit was threefold, (1) to rekindle the community enthusiasm in the community participation for their health and sanitation projects, (2) to re-emphasise the need to protect, clean and seek for the reparation of the pumps when the need arises. (The issue of local found contribution was discussed with the committee members. This was to enable them to attend to repairs promptly,) and (3) to keep contacts with problem areas,

DEBRIEFING OF REGIONAL COORDINATORS

This activity was not meant to allay the fears of the coordinators who might see the entry into their domain as an anomaly. Rather, it was meant to inform them about the extent to which we had gone to assist the

communities take responsibilities about their own affairs including their health. We also informed them about the structures that have been built around their health committees and WV committees to sustain effort and broaden participation. We also implored them to act as supervisors in our absence to motivate the communities into improving and maintaining good health. There was need for such debriefing because we had contacted them to give us the initial lead into the communities and to introduce us to their key persons.

BY THE GRACE OF GOD

The strength of the Lord's guidance in the search for water for the communities is emphasised in the group/mass discussions. Usually a member of the community volunteers to pray for the success of the deliberations. Some communities declare the period between our arrival and the arrival of the drilling team as prayer time. "Water for God's children" is the name some villages, which were by-passed, have given to the operations. The after effect is that "they too will soon build a church".
Praise the Lord!

WORLD VISION GHANA - ISD - RURAL WATER AND SANITATION PROJECT
HEALTH EDUCATION, SANITATION AND COMMUNITY PARTICIPATION DEPT

SUMMARY OF DATA COLLECTED FOR HEALTH EDUCATION AND SANITATION PROGRAMMES
IN COMMUNITIES WHERE BOREHOLE WELLS WERE DRILLED IN THE NORTHERN REGION
(5TH DECEMBER, 1987 - 31ST MARCH, 1988)

NO.	COMMUNITY	DISTRICT	POPULATION AND ETHNIC ORIGIN	OCCUPATION	WATER SUPPLY			SANITARY FACILITIES			REMARKS
					Traditional Source and Reliability	Possibility of Pollution	Water Related Diseases Prevalent	Excreta Disposal	Refuse Disposal	Waste Water Disposal	
1.	TARIKPAA	West Dagomba (Tamale)	1,020 Dagomba	Farming	(a) Ponds - 2 (Dug-out) (b) All cannot survive in dry seasons	a. Rain-off washes all filth around the area into them. b. People wade in when fetching water. c. Animals drink from them.	Guinea Worm (25 cases identified) Malaria Diarrhoea Intestinal-worms	No Latrine. Inhabitants defaecate in open-spaces and around the outskirts Fly breeding and offensive smell very common.	Indiscriminate dumping was practised. Every household has a dumping ground close to it. Children defaecate and mothers dispose of faeces at the dumping sites.	Natural Drainage. Waste-water from bath-house was disposed of by catch-pit system. Water stagnation in catch-pits were very common. There were evidence of mosquito breeding.	a. Environmental sanitation very poor. b. Inhabitants lack water and personal hygiene. c. Guinea worm disease was very common. d. The ponds are infested with Guinea worm.
2.	MOGLAA	West Dagomba (Tamale)	703 Dagomba	Farming	(a) Pond (Dug-out) Stream (Kulbogni) Dam (Libga irrigation dam - 2 miles away) (b) With the exception of the dam all dry up in dry seasons.	a. Inhabitants walk in the pond, stream and dam when fetching water; b. People swim and wash in the stream. c. Animals drink from all the sources of supply	Guinea Worm (31 cases identified) Malaria Intestinal-worms. Diarrhoea	No Latrine. Indiscriminate defaecation practised. Fly breeding and offensive smell very common.	Refuse disposed of indiscriminately in and around outskirts of the community.	Natural Drainage. Water stagnation behind bath rooms very common. Mosquito breeding was very common.	a. The pond is infested with Guinea worm. b. The inhabitants lack personal and water hygiene. c. Environmental sanitation needs improvement - disposal of excreta, refuse and clearing of the surroundings.

NO.	COMMUNITY	DISTRICT	POPULATION AND ETHNIC ORIGIN	OCCUPATION	WATER SUPPLY			SANITARY FACILITIES			REMARKS
					Traditional Source and Reliability	Possibility of Pollution	Water Related Diseases Prevalent	Excreta Disposal	Refuse Disposal	Waste Water Disposal	
3.	KPLINYIN	West Dagomba (Tamale)	420 Dagomba	Farming	(a) Ponds - 2 (Dug-out) (b) All dry up during dry seasons	a. People wade in the ponds when fetching water. b. Animals drink from the ponds.	Guinea Worm (5 cases identified) Malaria Intestinal-worms Diarrhoea	No Latrine Inhabitants defaecate indiscriminately. Fly breeding very common.	Indiscriminate dumping of refuse. Natural Drainage. Disposal of waste water very poor. Stagnant water very common behind bath-houses. Mosquito-breeding noted.	a. The inhabitants lack personal hygiene. b. Environmental sanitation very poor. c. The sources of water supply were infested with guinea worm.	
4.	KUKUO (JANJORI)	West Dagomba (Tamale)	600 Dagomba	Farming	(a) Pipe borne - system broken down barely 10 yrs ago. (b) Pond - 1 It dries up during dry seasons.	a. Inhabitants wade in the pond when fetching water b. Animals drink from the pond	Malaria Guinea Worm (15 cases identified) Intestinal-worms.	No Latrine. Indiscriminate defaecation very common	Every household has its dumping ground. Fly-breeding very common.	Natural Drainage. Waste water stagnation behind houses. Mosquito-breeding places recorded.	a. Environmental sanitation and personal hygiene lacking. b. There was no sign for repairing of the broken down pipe borne system. c. The pond/dug-out was infested with guinea worm.
5.	ZUGUDABOGUNI	West Dagomba (Tamale)	800 Dagomba	Farming	Pond - 1 It dries up during dry seasons.	a. People walk in when fetching water. b. Animals drink in the pond. c. Surrounding filths are washed in by rain-off.	Malaria Guinea Worm (a case recorded) Intestinal-worms	No Latrine. Inhabitants defaecate indiscriminately. Refuse dumps were strewn with excreta.	Indiscriminate dumping practised. Fly-breeding very common. Mosquito breeding prevalent.	Natural Drainage. Waste water disposal very poor. Mosquito breeding prevalent.	a. The inhabitants lack personal and water hygiene. b. The pond was infested with guinea worm.
6.	YIPIELGU	West Dagomba (Tamale)	650 Dagomba	Farming	a. Pipe borne - with only one public stand tap about 1 km away from the village. The flow is not regular. b. Botanga Irrigation Dam about 3 km away - Alternative source when pipe borne fails to flow.	a. Pipe borne water point very dirty. b. Animals get access to the dam. c. People walk in when fetching water.	Malaria Intestinal-worms.	No Latrine - Indiscriminate defaecation was very common. Fly-breeding was high.	Indiscriminate dumping practised by every house. Children use refuse dumping sites as latrines.	Natural Drainage. Waste water disposal very poor. Mosquito breeding places were recorded.	a. The environmental sanitation of the community was poor. b. There is the need for educating inhabitants about personal and water hygiene.

NO.	COMMUNITY	DISTRICT	POPULATION AND ETHNIC ORIGIN	OCCUPATION	WATER SUPPLY			SANITARY FACILITIES			REMARKS
					Traditional Source and Reliability	Possibility of Pollution	Water Related Diseases Prevalent	Excreta Disposal	Refuse Disposal	Waste Water Disposal	
7.	GIZAA-GURDAA	West Dagomba (Tamale)	2,000 Dagomba	Farming	a. Pond - 1 It can't stand dry seasons. b. Shallow wells (by individuals) - 84 They can't stand dry seasons.	a. People walk in the pond when fetching water b. Animals drink from the pond. c. Buckets and ropes used for fetching water in shallow wells are left on the ground.	Malaria Guinea Worm (30 cases recorded) Intestinal-worms.	No Latrine. Indiscriminate defaecation.	Indiscriminate dumping. Fly breeding and offensive smell very common.	Natural Drainage. Waste water disposal unsatisfactory. Mosquitoes breed in water stagnation at the back of houses.	a. Environmental sanitation and water hygiene lacking. b. The pond - the main source of water supply was infested with guinea-worm.
8.	WALEWALE	Walewale	8,000 Nanprusi	Farming	a. Pipe Borne water - the dam which feeds the water works dries up in dry season. b. Shallow wells by individuals also can't stand dry seasons.	Buckets and ropes used for fetching in shallow wells are left on the ground.	Malaria Intestinal-worms.	a. Septic Tank Latrines - 4 (maintenance very poor and could not cope with the population). b. Some houses use Pan Latrine system at a rate of ₵200.00 per pan per month. c. Indiscriminate defaecation and fly breeding were common.	a. Crude dumping at 4 dumping sites. b. In other areas indiscriminate dumping was common. c. Fly-breeding was high.	Natural Drainage. Stagnant water at back of houses breed mosquitoes.	a. There is the need to supplement the pipe-borne supply with borehole wells. b. Environmental sanitation and personal hygiene were lacking.
9.	NATORKO	Walewale	1,054 Nanprusi	Farming	a. Shallow wells - 5 b. Dam (Pond) All sources dry up during dry seasons.	a. Buckets and ropes used for fetching water are left on the ground. b. Inhabitants wade in water (pond) when fetching water.	Malaria Diarrhoea Intestinal-worms.	No Latrine. Indiscriminate defaecation goes on.	Indiscriminate dumping - Every household had its own refuse dump	a. Natural Drainage. b. Waste water stagnation very common at the back of houses. c. Mosquito breeding places were recorded.	a. The community lacks environmental sanitation and personal hygiene. b. There is the need to educate the inhabitants on water hygiene. c. The community lacks the knowledge on water related diseases.

NO.	COMMUNITY	DISTRICT	POPULATION AND ETHNIC ORIGIN	OCCUPATION	WATER SUPPLY			SANITARY FACILITIES			REMARKS
					Traditional Source and Reliability	Possibility of Pollution	Water Related Diseases Prevalent	Excreta Disposal	Refuse Disposal	Waste Water Disposal	
10.	KPANSENKPE	Walewale	1,600 Mamprusi	Farming	a. Borehole well - 1 b. Shallow wells - 16 c. River - (White Volta) about 3 miles away The only Borehole cannot cope with population and the wells can't stand dry seasons.	a. Buckets and ropes used for fetching water in the wells are left on the ground; b. Inhabitants swim in the river and wade in when fetching water.	Malaria Diarrhoea Intestinal-worms	No Latrine. Existing Septic Tank Latrine has been out of use for the past 3 yrs. Inhabitants defaecate indiscriminately in and around the village. Swine are left astray to feed on human excreta.	Indiscriminate dumping Offensive smell and fly-breeding very common.	a. Natural Drainage. b. Waste water from bathhouse are poorly disposed of. c. Mosquitoes breeding places were recorded.	a. The Environmental sanitation and personal hygiene were poor. b. The community lacks the knowledge of water hygiene and water related diseases. c. There is the need to confine the swine in the community.
11.	DUU	Walewale	1,400 Mamprusi	Farming	a. Shallow Wells - 7 b. Stream - (Toligu) about one mile away. All dry up during dry seasons.	a. Ropes and buckets used for fetching water are left on the ground. b. Inhabitants swim and wade in the stream.	Guinea Worm (25 cases recorded) Malaria Intestinal-worms.	No Latrine. Inhabitants defaecate indiscriminately. Fly-breeding was very common.	Indiscriminate dumping Each house has its own dumping site.	a. Natural Drainage. b. Waste water disposal very poor. c. There was evidence of mosquito breeding.	a. The community lacks the practice of environmental sanitation and personal hygiene. b. There is the need to intensify education on water related diseases.
12.	WULUGU	Walewale	3,400 Mamprusi	Farming	a. Streams - 2 (Mulga & Kodorgua) b. Shallow wells - 57 Ponds - 2 (Ponyaba and Muari) All sources dry up during dry seasons.	a. Inhabitants swim in the streams. b. They leave buckets	Malaria Bilharziasis Intestinal-worms Guineas Worm (3 cases recorded)	No Latrine. Indiscriminate defaecation practised. Fly breeding very common.	Indiscriminate dumping Every house has its own dumping site	a. Natural Drainage. b. Waste water stagnation very common at the back of houses. c. Mosquitoes breeding places were recorded.	a. Environmental sanitation and personal hygiene very poor. b. Knowledge on water related diseases lacking.

NO.	COMMUNITY	DISTRICT	POPULATION AND ETHNIC ORIGIN	OCCUPATION	WATER SUPPLY			SANITARY FACILITIES			REMARKS
					Traditional Source and Reliability	Possibility of Pollution	Water Related Diseases Prevalent	Excreta Disposal	Refuse Disposal	Waste Water Disposal	
13.	SALAGA	Eastern Gonja (Salaga)	12,000 Gonja	Farming & Trading	<p>a. Kpeme Dam (Highly infested with guinea worm)</p> <p>b. Pipe Borne - Doesn't flow regularly for lack of fuel supply and difficulty in collection of water rate.</p> <p>c. Shallow Wells (For individuals) Dry up during dry seasons.</p> <p>d. Boreholes - 2 Could not cope with the population.</p>	<p>a. Inhabitants mostly guinea worm wade in the dam when fetching water.</p> <p>b. Ropes and buckets used for fetching water are left on the ground.</p>	<p>Guinea Worm (21 cases recorded at Salaga Sec. School.</p> <p>The disease was very common in town)</p> <p>Malaria</p> <p>Diarrhoea.</p>	<p>a. Septic Tank Latrines - 8 (Maintenance was very poor and could not cope with the population).</p> <p>b. Indiscriminate defaecation and fly-breeding were very common.</p> <p>d. Some householders have private pan latrines which attract a rentage of ₦300.00 per pan per month.</p>	<p>a. Crude Dumping - 8 dumping sites but lack of maintenance.</p> <p>b. Indiscriminate dumping practised at certain areas</p> <p>c. Fly-breeding very common.</p>	<p>Natural Drainage</p> <p>Waste water disposal very poor.</p>	<p>a. Environmental sanitation and personal hygiene lacking.</p> <p>b. Community's knowledge on water related diseases very poor.</p> <p>c. Guinea Worm infestation was very common.</p> <p>d. Poor disposal of waste water from baths and wash places has provided breeding places for mosquitoes.</p>
14.	KPEMBE	Eastern Gonja (Salaga)	4,000 Gonja	Farming	<p>a. Dam (Pond) Highly infested with guinea worm</p> <p>b. Shallow Wells (Mostly for individuals) These dry up during dry seasons.</p>	<p>a. Inhabitants wade in the pond when fetching water</p> <p>b. Buckets and ropes used for fetching water are contaminated on the ground.</p>	<p>Guinea Worm (25 cases were recorded at a public meeting)</p> <p>Malaria</p> <p>Intestinal-worms</p> <p>Diarrhoea.</p>	<p>a. Septic Tank Latrines - 3 (Maintenance of all latrines was very poor).</p> <p>b. Indiscriminate defaecation, offensive smell and fly-breeding were very common.</p>	<p>a. Crude dumping - 3 sites selected.</p> <p>b. Indiscriminate dumping goes on at certain areas</p> <p>c. Fly-breeding was common.</p>	<p>a. Natural Drainage.</p> <p>b. Waste water disposal very poor.</p> <p>c. Mosquitoes were breeding in waste water stagnation at the back of houses.</p>	<p>a. The inhabitants lack water and personal hygiene.</p> <p>b. Environmental sanitation in general was very poor.</p> <p>c. The people are ignorant about the causes and prevention of guinea worm.</p>

NO.	COMMUNITY	DISTRICT	POPULATION AND ETHNIC ORIGIN	OCCUPATION	WATER SUPPLY		SANITARY FACILITIES				
					Traditional Source and Reliability	Possibility of Pollution	Water Related Diseases Prevalent	Excreta Disposal	Refuse Disposal	Waste Water Disposal	REMARKS
15.	LOLOTO	Eastern Gonja (Salaga)	2,000 Konkomba	Farming	Pond - 1 (Animals drink from the same source). Dries during dry seasons.	a. Inhabitants walk in when fetching water. b. Animals droppings scattered around and at the edges.	Guinea Worm (31 cases recorded at public meeting). Malaria Intestinal-worms Diarrhoea.	a. Septic Tank Latrine - 1 (Maintenance was fair but could not cope with the population). b. Indiscriminate defaecation and fly-breeding noted at certain places.	Indiscriminate dumping Fly-breeding very common.	a. Natural Drainage. a. Waste disposal very poor c. Water stagnation at the back of houses very common.	a. The only Pond is highly infested with guinea worm. b. Sanitation and personal hygiene very poor. c. Inhabitants lack the knowledge of personal and water hygiene.
16.	KABACHIE	Eastern Gonja (Salaga)	900 Konkomba & Gonja	Farming	a. Pond - 1 (Highly infested with guinea worm) b. Shallow Wells - 4 All dry up during dry seasons. c. River Dekor about 3 miles away	a. Inhabitants walk in the pond when fetching water. b. Ropes and buckets used for fetching water from the wells are left on the ground. c. People swim and walk in the river.	Guinea Worm (At least 2 cases were recorded in every house. There were 46 houses in all). Malaria Diarrhoea Intestinal-worms.	No Latrine. Inhabitants defaecate indiscriminately. Fly breeding very common.	Indiscriminate dumping of refuse.	Natural Drainage. Disposal of waste water very poor. Stagnant water found behind bath houses and drains.	a. The people lack personal and water hygiene. b. Environmental sanitation poorly observed. c. The inhabitants are ignorant about the causes and prevention of guinea worm.
17.	NAKPACHIE	Eastern Degomba (Yendi)	2,500 Konkomba and Degomba	Farming	a. Pond b. Shallow wells. All dry up in dry seasons.	a. Inhabitants walk in when fetching water. b. Dirty buckets and ropes are used for drawing water.	Guinea Worm (35 cases identified) Malaria Diarrhoea Intestinal-worms.	No Latrine Indiscriminate defaecation practised. Fly-breeding very common.	Indiscriminate dumping Every household has a disposal site.	Natural Drainage. Waste water stagnation at the back of houses. Incidence of mosquito breeding recorded.	a. Environmental sanitation very poor. b. People lack personal and water hygiene. c. The pond is infested with guinea worm.

NO.	COMMUNITY	DISTRICT	POPULATION AND ETHNIC ORIGIN	OCCUPATION	WATER SUPPLY		SANITARY FACILITIES			REMARKS	
					Traditional Source and Reliability	Possibility of Pollution	Water Related Diseases Prevalent	Excreta Disposal	Refuse Disposal		Waste Water Disposal
18.	ADIBO	Eastern Dagoaba (Yendi)	2,300 Konkomba & Dagoaba	Farming	a. Pond b. Shallow wells All dry up in dry seasons	a. People walk in water when fetching water. b. Buckets and ropes used for fetching water are left on the ground.	Guinea Worm (270 cases identified) Diarrhoea Intestinal-worms Malaria	No Latrine Indiscriminate defaecation Fly-breeding very common Note: Inhabitants interested in Zimbabwean type of ventilated pit-latrines. A model constructed for a school	Indiscriminate dumping	Natural Drainage. Waste water stagnation at the back of houses. There were cases of mosquito-breeding	a. The pond is heavily infested with guinea worm. b. Environmental sanitation very poor. c. Lack of water and personal hygiene.
19.	KPALBA	Eastern Dagoaba (Yendi)	1,500 Konkomba & Basare	Farming & Fishing	a. River (Oti) (About 500 mtrs away) b. Shallow wells - dry up	a. Inhabitants walk, swim and wade in the river. b. Dirty buckets and ropes are used for fetching water	a. Bilharziasis (Mostly among children) b. Malaria c. Intestinal-worms	No Latrine. Indiscriminate defaecation Fly-breeding very common.	Indiscriminate dumping	Natural Drainage. Waste water from baths stands at the back of houses.	a. Bilharziasis is the commonest water related disease b. Water and personal hygiene very poor. c. Environmental sanitation poor.
20.	SAMBULI	Eastern Dagoaba (Yendi)	2,000 Konkomba & Basare	Farming & Fishing	a. River (Oti) (About 200 mtrs away) b. Pond - Dries up during dry seasons.	a. Inhabitants walk, swim and wade in the river. b. People walk in when fetching water	a. Bilharziasis (Common among children) b. Malaria c. Diarrhoea d. Intestinal worms	No Latrine. Indiscriminate defaecation Fly-breeding common.	Indiscriminate dumping Every household has a dumping site	Natural drainage. Waste water stagnation breeding mosquitoes at the back of houses.	a. Bilharziasis is very common among children. b. Environmental sanitation very poor. c. Inhabitants lack water and personal hygiene.
21.	KUNTOLI	Eastern Dagoaba (Yendi)	800 Konkomba	Farming	a. River (Oti) (About 700mtrs away) b. Pond - This dries up during dry seasons	a. Inhabitants walk, swim and wade in the river. b. People walk in the pond when fetching water.	a. Bilharziasis (Common among children) b. Malaria c. Diarrhoea d. Intestinal worms.	No Latrine. Indiscriminate defaecation Fly-breeding common.	Indiscriminate dumping	Natural drainage. Waste water stagnation at the back of houses.	a. Environmental sanitation very poor. b. Bilharziasis is very common. c. Water and personal hygiene lacking.

NO.	COMMUNITY	DISTRICT	POPULATION AND ETHNIC ORIGIN	OCCUPATION	WATER SUPPLY		SANITARY FACILITIES			REMARKS	
					Traditional Source and Reliability	Possibility of Pollution	Water Related Diseases Prevalent	Excreta Disposal	Refuse Disposal		Waste Water Disposal
22.	WAPULI	Eastern Dagomba (Yendi)	795 Dagomba & Konkomba	Farming	Pond - Dries up during dry seasons	Inhabitants walk in the pond when fetching water	a. Guinea worm (55 cases recorded) b. Malaria c. Diarrhoea d. Intestinal worms.	No Latrine. Indiscriminate defaecation. Fly-breeding very common at the market area.	Indiscriminate dumping Waste water badly disposed of. Mosquito-breeding common.	Natural drainage. Waste water disposed of.	a. Inhabitants lack water and personal hygiene. b. Environmental sanitation very poor.
23.	DEMON	Eastern Dagomba (Yendi)	1,500 Dagomba	Farming	Pond - Dries up during dry seasons.	Inhabitants walk in the pond when fetching water.	a. Guinea-worm (25 cases recorded) b. Malaria c. Diarrhoea d. Intestinal worms	No Latrine. Indiscriminate defaecation. Fly-breeding very common.	Indiscriminate dumping Every household has its dumping site	Natural drainage. Waste water stagnation at the back of houses.	a. The pond is infested with guinea-worm b. Inhabitants lack personal and water hygiene. c. Environmental sanitation in general very poor.
24.	KUMKUMZOLI	Eastern Dagomba (Yendi)	1,500 Konkomba	Farming	Pond - Dries up during dry seasons	Inhabitants walk in the pond when fetching water	a. Guinea worm (21 cases identified) b. Malaria c. Diarrhoea d. Intestinal worms	No Latrine. Indiscriminate defaecation. Fly-breeding very common.	Indiscriminate dumping	Natural drainage. Waste water disposal very poor. Mosquito-breeding cases recorded.	a. Environmental sanitation very poor. b. Water and personal hygiene very lacking.

**WORLD VISION GHANA (LSD) RURAL WATER AND SANITATION PROJECT
(HEALTH EDUCATION, SANITATION AND COMMUNITY PARTICIPATION UNIT)**

**SUMMARY OF DATA COLLECTED FOR HEALTH EDUCATION AND COMMUNITY
PARTICIPATION PROGRAMMES IN COMMUNITIES WHERE BOREHOLE WELLS
WERE DRILLED IN THE VOLTA REGION
(FROM 27TH APRIL - 31ST JULY 1988)**

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
AWUDOME- TSAWOENU	HO	600 (Ewe)	Farming	Streams - 2 (Tsavoe and Kpetoe) All dry up leaving patches of muddy water in dry seasons During dry seasons guinea worm infestation is very high	a. Inhabitants walk/wade in when fetching water. b. They also swim and fish in them	Guinea worm (21 cases identified) Bilharziasis Malaria Intestinal worms Diarrhoea	4 Wooden Platforms raised (without pits at vantage points (outskirts) for both sexes as latrines. The condition is very insa- nitary as feaces is left open on bare groun. It was noted the soil was unsuitable for pit- latrines. Fly-breeding and offensive smell very common.	Crude Dumping was practised 4 dumping sites were selected for the purpose. Maintenance of the dump- ing sites unsatisfactory Smell and fly-breeding common.	a. Natural drainage; b. Water stagnation very common behind bath- houses; c. Mosquito breeding was prevalent.	i. The 2 streams are infested with bilharziasis and guinea worm; ii. The people lack personal and water hygiene; iii. The commu- nity needs an improve type of latrine - KVIP to replace the insanitary platform type; iv. They need education on the dangers of fly and mosquito breeding.

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	RESUFE DISPOSAL	WASTE WATER DISPOSAL	
AGOTIME- AFEGAME	HO	2,500 (Adagbe)	Farming	River - 1 (R. Todze) It dries up in dry- seasons	Inhabitants walk and wade in when fetch- ing water. People also fish and swim in it.	Malaria Intestinal worms. Diarrhoea.	6 Wooden - platforms at vantage points. Very insani- tary. But the ground condition is unsuitable for deep pit latrines; Fly-breeding and smell very common.	Crude and indiscrimi- nate dumping Fly-breeding common at disposal sites.	a. Natural drainage. b. Evidence of mosquito breeding in waste water behind some bathrooms.	i. The inhabi- tants lack personal and water hygiene. ii. The commu- nity's wooden platform latrines are to be improved preferably KVIP. iii. There is the need for educating the inhabitants on causes and prevention of water related diseases.

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
AGOTIME- AGBESIA	HO	900 (Ewe)	Farming	<p>a. Borehole 1 (The community is deprived from fetching water by the landlord who offered the site for the borehole)</p> <p>b. Pond (Dam) 1 Infested with guinea worm. It is the main source of supply in the community. It dries up in dry seasons.</p> <p>c. River - 1 (River Tordzi about 2½ miles away)</p>	<p>1a. Inhabitants walk and wade in the pond and river when fetching water.</p> <p>b. Guinea worm patients enter the pond and river for fetching water.</p> <p>c. People also swim, bath and fish in the river</p>	<p>Guinea worm (20 cases identified) Bilbarziasis Malaria Intestinal worms Diarrhoea</p>	<p>a. KVIP - 1 (8 seater for males & females).</p> <p>b. Shallow Pits - 2 (Very insanitary)</p> <p>Cleaning is done weekly by women and children</p>	<p>Crude and indiscriminate dumping is practised.</p> <p>Fly-breeding common.</p>	<p>a. Natural drainage</p> <p>b. Waste water behind houses and mosquito breeding spots were note.</p>	<p>i. The community is deprived from fetching water from the only borehole well by the landlord who offered the plot for the well.</p> <p>ii. The Inhabitants still fetch water from the guinea worm infested pond.</p> <p>iii. The only KVIP could not cope with the population. An additional one is needed</p> <p>iv. There is a need to educate the inhabitants on causes and prevention of water related diseases, particularly guinea worm.</p>

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
TAKLA TOKOR	HO	1,000 (Ewe)	Farming	Dam (Pond)- I It dries up during dry-seasons. Inhabitants depend on Ho GWSC for supply of water in mobile tankers during dry seasons	Inhabitants walk and wade in the pond when fetching water	Malaria Diarrhoea Intestinal worms.	Pit - Latrines 2 (Male and Female) These cannot cope with the population. Maintenance and cleaning carried out by women and children periodically	Crude dumping - 2 sites selected. Fly-breeding common Children defaecate on dumping grounds	Natural drainage	i. Education water and personal hygiene need to be intensified. ii. There is t need to increa and improve on latrine accommodation - preferably KVIP. (Mr. P.K. Akpebu, a citizen, has donated some materials for KVIP. Technical advice needed iii. The inhabitants need educatio on causes and prevention of water related diseases.

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
KPENOE	HO	1,500 (Ewe)	Farming	a. Borehole (Water recovery very slow) Pumping - system faulty b. Dam (Pond) - 3 The main sources of supply. These are infested with guinea worm. They all dry up during dry seasons	Inhabitants wade and walk in the ponds when fetching water.	Guinea worm (7 cases identified) Malaria Intestinal worms Diarrhoea	No Latrine - indiscriminate defaecation; Some individuals have private pit latrines in their houses	Crude dumping - 6 sites selected; Women clean the dumping sites when necessary Fly-breeding was common	a. Natural drainage. b. Water stagnation behind houses and mosquito breeding places noted	i. The only borehole well could not cope with the population - the pump needs repairs. ii. Education water related diseases to intensified; iii. The inhabitants' knowledge of water and personal hygiene very low. iv. Latrines should be provided and inhabitants educated on the benefits and usage - KVIP type recommended.

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
HODZOGA	HO	1,000 (Ewe)	Farming	<p>a. Stream - 1 (Agae) This dries up during dry seasons</p> <p>b. Shallow well are usually dug in the course of the stream during dry seasons.</p>	<p>a. People swim and fish in the stream.</p> <p>b. They also wade and walk in when fetching water</p>	<p>Malaria</p> <p>Diarrhoea</p> <p>Intestinal worms</p>	<p>No Latrines - the soil is is not suitable for pit latrines as pits collapse during rainy seasons.</p> <p>Individuals have shallow pits latrines for use.</p>	<p>Indiscriminate dumping</p> <p>Fly-breeding and offensive smell very common.</p>	<p>a. Natural draingage</p> <p>b. Possible mosquito breeding places noted</p>	<p>i. There is the need for intensifying water and personal hygiene education.</p> <p>ii. Inhabitants to be educated on the danger of indiscriminate defaecation and disposal of refuse.</p> <p>iii. Latrines should be provided (KVA) and people educated to use them.</p>

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
TAKLA-GBOGAME	HO	2,500 (Ewe)	Farming	<p>a. Borehole (Pumping system faulty)</p> <p>b. Hand dug well - 1 (Dried up)</p> <p>c. Pond - 1 (The main source of water supply) It dries up during dry seasons</p>	<p>a. Inhabitants wade and walk in the pond when fetching water.</p> <p>b. Surrounding filths enter the pond when it rains</p>	<p>Malaria</p> <p>Intestinal worms</p> <p>Diarrhoea</p>	<p>Pit-latrines 8 (All shallow pits for both sexes at vantage points;)</p> <p>Cleanliness is maintained by women when necessary.</p>	<p>Crude dumping is practised;</p> <p>4 Dumping sites selected and cleaned periodically by women.</p> <p>Fly-breeding common.</p>	<p>a. Natural drainage</p> <p>b. Erosion noted at certain areas.</p> <p>c. Mosquitoes breeding places noted</p>	<p>i. The inhabitants lack personal and water hygiene</p> <p>ii. There is the need to improve on latrine facilities;</p> <p>iii. The community should be educated on environmental sanitation and water related diseases.</p>

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
ABUTIA-TETI	HO	3,000 (Ewe)	Farming	Spring - 1 This flows throughout the year. But rate of flow decreases in dry-season	No adquate protection at the orifice of the spring Thus pollution at the fatching point is possible.	Malaria Diarrhoea Intestinal worms	8 Pit-latrines (male and female) Cleaning is done by women and children weekly. Fly breeding and offensive smell noted in some of them.	Crude - dumping is practised. 5 Dumping sites recorded. These were maintained by women group (Dunenyoy) weekly.	Both earth and concrete drains. Erosion was common in certain parts of the community.	i. Water and personal hygiene education to intensified ii. Latrine accommodatio be improved preferrably KVIP. iii. There is the need to improve the source of wa supply - by protection of the spring or provision of a borehole

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY		SANITARY FACILITIES			REMARKS	
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL		WASTE WATER DISPOSAL
ABUTIA AGOVE	HO	1,500 (Ewe)	Farming	Spring - 1 The flow decreases during dry seasons. Inhabitants wait for long period at water point in dry seasons	The concrete catchment basin provided at the eye of the spring was defective and open to pollution. The concrete fetching tank provided was breeding mosquitoes - water is scooped directly from the defective concrete catchment basin.	Malaria Intestinal worms Diarrhoea	4 Pit-latrines (Male and Female) Weekly cleaning is carried out by woman and children They were all breeding spots for flies.	Crude - dumping 4 dumping sites selected for use Periodically cleaned by women.	Natural drainage Erosion is a problem at certain parts of the community. Some buildings were affected.	i. Education of water and personal hygiene to be intensified. ii. The spring be protected and educate the people to use it well. iii. The existing latrine accommodation be improved - preferably KVIP.

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
ADAKLU- i. HELEKPE) ii. AVANYAVIEPE) iii. SIKAMAN)	HO	2,500) 300) 3,100 300) (Ewe)	Farming	a. Borehole 1 (Functioning very well. But cannot cope with the population). b. Pond - 1 Dries up in dry seasons.	Inhabitants wade in the pond when fetching water.	Malaria Intestinal worms Diarrhoea	6 Pit-latrines (Male and Female) Cleaning is carried out by women and children. Fly-breeding was common.	Indiscriminate dumping	Natural drainage Waste water follows its own course. Erosion has affected some buildings.	i. Knowledge of personal and water hygiene lacking. ii. Intestinal worm diseases and malaria were prevalent. iii. There is the need to improve latrine accommodation - preferably KVIP.

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
ABUTIA-KLOE	HO	3,000 (Ewe)	Farming	<p>a.Spring - 2 (Flow reduces in dry seasons and could not cope with the population)</p> <p>b.Shallow wells - 2 (Dry up during dry seasons)</p> <p>c.Bore-holes - 2 All functioning well but water in one needs clean-up.</p>	<p>a.No protection at the eye of the spring.</p> <p>b.Water in wells is drawn by dirty buckets and ropes.</p>	<p>Malaria</p> <p>Intestinal worms</p> <p>Diarrhoea</p>	<p>a.Septic tank latrine - 1 (10 seater for both sexes)</p> <p>Sanitary labourers clean the latrines.</p> <p>b.Individuals have pit-latrines</p> <p>c.Indiscriminate defaecation also practised</p>	<p>Crude dumping - 2 sites selected and controlled by sanitary labourers employed by the District Council.</p>	<p>Both earth and concrete drains are in use.</p> <p>Erosion has affected some buildings and streets.</p>	<p>i.Personal and water hygiene education be intensified;</p> <p>ii.There is the need to increase and improve the latrines available.</p> <p>iii.The spring could be protected as a supplement to the borehole wells.</p>

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
ABUTIA- AGORDEKE	HO	400 (Ewe)	Farming	a. Stream - 1 (Agordeke) b. Pond -1 All these sources dry up in dry seasons.	Inhabitants wade and walk in when fetching water. They also swim in the stream.	Bilharziasis Malaria Diarrhoea Intestinal worms.	a. Pit latrines - 3 (Very shallow and insanitary) b. Fly breeding and offensive smell very common. c. Cleaning is neglected	Indiscriminate dumping - refuse sites turn to be mounds. Erosion was being checked by refuse dumps - very insanitary practice.	Natural drainage. Erosion was very common Some buildings and streets are affected.	a. Personal and water hygiene education to be intensified b. Environmental sanitation facilities be improved - KVIP latrine required an education intensified c. Inhabitants to be educated on water related diseases.

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
KODZOBI	HO	500 (Ewe)	Farming	a. Stream (Da) - 1 b. Pond - 1 All dry up in dry seasons	People walk and wade in both the stream and pond when fetching water They also swim in the stream.	Bilharziasis Malaria Diarrhoea Intestinal worms	a. Pit-latrines - 3 (Very shallow - deep pits collapse when it rains) b. Offensive smell and fly breeding common. c. Cleaning is carried out by communal labour but it is not regular	Indiscriminate dumping Children defaecate at dumping sites. Fly breeding very common	Natural drainage Waste water follows its own course	a. Water and personal hygiene education be intensified b. The community to be educated on water related diseases c. Latrine accommodation be improved.

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
KODZOBI-ANDO	HO	300 (Ewe)	Farming	Pond - 1 Dries up during dry season	Inhabitants wade and walk in the pond when fetching water.	Guinea worm (15 cases identified) Malaria Intestinal worms Diarrhoea Scabies	Pit Latrines-2 (Male and Female) Cleaning is carried out by women and children.	Indiscriminate dumping Fly breeding very common.	Natural drainage Waste water follows its course	Inhabitants to be educated on water related diseases - guinea worm. b. Education environmental sanitation b intensified.
TANYIGBE-ATIDZE	HO	3,000 (Ewe)	Farming	a. Springs 2 (They flow throughout the year) The rate of flow of the main source (Agbie) was high. None of them has been properly protected against pollution. b. Streams 2 Dry up in dry seasons	Inhabitants stand on improvised stone platform when fetching water	Malaria Intestinal worms Diarrhoea	Pit Latrines 8 (Male and Female) Cleaning is carried by communal labour when necessary. Because of the rocky nature of the ground all were shallow pits Fly breeding was common.	Crude dumping in practice 4 disposal sites selected for the purpose. Cleaning was done when needed by women	Natural drainage Erosion was affecting some buildings and roads.	a. The community needs education on water and personal hygiene. b. Environmental sanitation education needs to be intensified c. Steps should also be taken to check erosion.

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
KLAVE	HO	2,000 (Ewe)	Farming	Stream - 1 (Kpegbe) Dries during dry season <u>Note:</u> There are six (6) Borehole wells provided by Water Resources & Research Unit without pumps.	Inhabitants walk and wade in when fetching water. They also bath and swim in it.	Bilbarziasis Malaria Diarrhoea Intestinal worms	Pit latrines 3 (Male and Female) Very shallow because of the rocky nature of the ground. They were all constructed by communal labour. Cleaning is carried out by women and children.	Crude dumping in practice. 3 dumping site selected for use.	Natural drainage. Erosion is causing havoc to roads and buildings	a. The six (6) boreholes without pumps should be thoroughly examined and provided with pumps if necessary; or new ones be provided. b. Environmental sanitation education to be intensified. c. Education on water and personal hygiene and water related diseases should be stressed.

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY		SANITARY FACILITIES			REMARKS	
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL		WASTE WATER DISPOSAL
TSYOME-SABADU (VRA RESETTLEMENT)	KPANDU	3,000 (Ewe)	Farming and Fishing	<p>a. Borehole well pumped and distributed through public stand taps by an old pumping machine - the condition of which needs rehabilitation or replacement.</p> <p>b. Pond - the main source of water supply dries up in dry seasons.</p> <p>c. Volta Lake During dry seasons the community depends on the Volta Lake which lies about 2 miles away.</p>	<p>a. The pumping machine breaks down frequently and supply of fuel by the District Council not regular - though annual water rate of ₵50.00 per person is paid to the Council.</p> <p>b. Inhabitants wade/walk in the pond when fetching water.</p> <p>c. People wade/walk in when fetching water. They also fish and swim in it.</p>	<p>Malaria Intestinal worms Diarrhoea Yaws</p>	<p>a. Septic tank latrines 2 (20 seater) These could not cope with the population. The maintenance was very poor. They were all filled to the brim. It was very difficult to obtain cesspit emptier for regular bailing. A sanitary labourer who maintains them is an employee of the District Council.</p> <p>b. Indiscriminate defaecation was common.</p>	<p>Indiscriminate dumping. Fly breeding was very common.</p>	<p>Natural drainage Erosion was one of the serious problems - as most of the buildings have been affected.</p>	<p>a. The old pumping machine on the borehole be examined by experts and put right.</p> <p>b. There is the need to provide one or two boreholes with hand pumps as an alternative source.</p> <p>c. Environmental sanitation education be intensified.</p> <p>d. KVIP latrines would be suitable supplement to the septic tank latrines.</p> <p>e. Personal and water hygiene education should be intensified.</p>

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
AWATE-AGAME	KPANDU	2,000 (Ewe)	Farming and Fishing	<p>a. Borehole 1 Could not cope with the population.</p> <p>b. Streams 2 (Goglufu and Nomadoe) Dries up in dry season.</p> <p>c. Volta Lake lies about 1.5 km away.</p>	<p>Inhabitants wake/walk in the streams and lake when fetching water. They also swim and fish in them.</p>	<p>Bilharziasis Malaria Diarrhoea Intestinal worms.</p>	<p>a. Shallow pit latrines 4 (Male and Female) b. Fly breeding and offensive smell was common c. Cleaning was carried out by communal labour when necessary.</p>	<p>Five sites selected for crude dumping. Defaecation also goes on at the dumping sites The condition favoured fly-breeding</p>	<p>Natural drainage Erosion affecting roads and buildings</p>	<p>a. The need to educate the inhabitants of water related diseases personal and water hygiene was established. b. The pit latrines be improved - KVIP latrines recommended.</p>

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
AVEME-ADZEME	KPANDU	800 (Ewe)	Farming	<p>a. Shallow spring. It dries in dry seasons.</p> <p>b. River (Attawuro) Flows throughout the year and about 2 km away. It is infested with Bilharziasis</p>	<p>a. The Spring is unprotected water is scooped direct from the orifice.</p> <p>b. Inhabitants wade/walk in the river when fetching water. People also swim in the river.</p>	<p>Bilharziasis</p> <p>Intestinal worms</p> <p>Malaria</p> <p>Diarrhoea</p>	<p>2 Pit latrines (Male and Female)</p> <p>Cleaning was done by communal labour.</p> <p>Fly breeding was noted.</p>	<p>Crud dumping. 4 sites have been selected for the purpose.</p> <p>Cleaning and burning is carried out by the women periodically</p>	<p>Natural drainage. Some buildings were affected by erosion.</p>	<p>i. Water and personal hygiene education be intensified.</p> <p>ii. The inhabitants should be educated on the causes and prevention of water related diseases.</p> <p>iii. There is the need to improve on the latrine accommodatio</p>

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
KPANDU-FESI	KPANDU	4,000 (Ewe)	Farming	<p>a. Streams 5 (Togba, Adoi, Tsava, Aduvehoe & Babtey) All dry up during dry seasons.</p> <p>b. Pond - 1 (Also dries up during dry seasons).</p> <p>c. Volta Lake Lies 6 km away reliable but infested with Bilharziasis.</p>	<p>Inhabitants wade and walk in the streams and pond when fetching water. They also swim and bath in the streams and Volta Lake. People also fish in the Volta Lake</p>	<p>Bilharziasis Intestinal worms Malaria Diarrhoea</p>	<p>2 Pit latrines (Male and Female) Cleaning was done by communal labour. Fly breeding was noted.</p>	<p>Crude dumping 4 sites have been selected for the purpose. Cleaning and burning is carried out by the women periodically</p>	<p>Natural drainage Erosion has affected some buildings.</p>	<p>i. The 2 Pit latrines could not cope with the population - indiscriminate defaecation noted. ii. There is the need to intensify water and personal hygiene education. iii. They should also be educated on water related diseases.</p>

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY		SANITARY FACILITIES			REMARKS	
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL		WASTE WATER DISPOSAL
GADZA	KPANDU	1,500 (Ewe)	Farming	Pond - 1 (Tsivor) Dries up in dry season	People wade in the pond when fetch- ing water. Rain-off water drains into it.	Guinea worm (7 cases identified) Malaria Intestinal worms Diarrhoea.	4 Pit latrines (Male and Female). Fly breeding and offen- sive smell noted.	Crude dumping 4 sites selected for dumping purposes.	Natural drainage Erosion was noted.	i. Education on causes and prevention of water related diseases - particularly guinea worm be intensifi ii. There is need to imp on the latr accommoatio preferably KVIP type. iii. Inhabi- tants should also be educated on water and personal hygiene.

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
GOVIEFE-AGODOME	HOHOE	1,500 (Ewe)	Farming	a. Dam (Pond) - 1 Dries in dry seasons b. Volta Lake lies about 2 miles away Irrespective of the distance it is also infested with Bilharziasis.	Inhabitants fetch water by wading in both the pond and Volta Lake	Bilharziasis Malaria Intestinal worms.	a. KVIP - 1 (This could not cope with the population) b. Shallow Pits (To supplement the KVIP) Cleaning of the latrines is carried out by volunteers.	Crude dumping One dumping site selected for the community. Cleansing is done by women once in a week.	Natural drainage. Some foundations of buildings have been exposed by erosion.	i. Water and personal hygiene education be intensified ii. There is the need to increase the number of KV latrine to cope with the population. iii. There is the need to intensify education on water related diseases.

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY		SANITARY FACILITIES			REMARKS	
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL		WASTE WATER DISPOSAL
YORDAN-NU	KPANDU	2,000 (Ewe)	Farming	a. Pond - 1 Dries during dry seasons. b. River (Dayi) - 1 (About 1 mile away) Dries leaving patches of water at its course. It is also Bilharzia infested.	Inhabitants wade/walk in both the pond and river when fetching water. Fishing is also carried out in the river.	Bilharziosis Malaria Intestinal worms. Diarrhoea.	6 Pit latrines for male and female. 2 of the pits were very shallow. Flies and offensive odour were present. Cleansing is done by women and children.	2 sites selected for dumping. Fly-breeding was noted	Natural drainage	i. Education on water related diseases, personal and water hygiene be intensified. ii. There is the need to improve upon the latrine facilities - preferably KVIP type.

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
VAKPO-DUNYO (VRA Re-settlement)	KPANDU	2,000 (Ewe)	Farming	<p>a. Pond - 1 (Agbadagui) Dries during dry seasons</p> <p>b. River (Dayi) - 1 About 4 miles away. Dries during dry seasons leaving patches of water at its course.</p>	<p>Inhabitants wade and walk in both sources when fetching water. They also swim and fish in the river.</p>	<p>Bilharziasis Guinea worm (4 cases recorded) Intestinal worms Diarrhoea.</p>	<p>a.2 Septic tank latrines (20 seater Male and Female type) They were all filled to the brim. Maintenance was very poor. They were fly-breeding spots.</p> <p>b. Indiscriminate defaecation was very common.</p>	<p>Crude dumping. Two sites have been selected for the purpose. Cleansing has been ignored.</p>	<p>Natural drainage. Erosion has exposed the foundation of many buildings.</p>	<p>i. There is the need to intensify education on environmental sanitation.</p> <p>ii. Inhabitant to be mobilise to construct pit latrines for immediate use and arrangements made for KVIP latrines.</p> <p>iii. There is the need for immediate disludging of the septic tank latrines and abate all nuisances created.</p> <p>iv. Personal and water hygiene education be intensified.</p>

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
GOVIEFE-TODZI	HOHOE	3,000 (Ewe)	Farming	2 Shallow springs (Wudome and Kpadome) They all dry up in dry seasons. They have not been protected against pollution.	Inhabitants walk in to fetch water.	Malaria Diarrhoea Intestinal worms.	a.KVIP - 2 One completed but not being used. The other was under construction. b.Pit latrines 8 (For both sexes) Cleansing was carried out by women and children.	Crude dumping. 2 sites selected as dumping grounds. Cleansing is ignored and fly breeding was common.	Natural drainage Erosion has affected some of the buildings and the main road from Kpeve to the village will be rendered impassable if not checked early.	i. There is the need to improve on personal water hygiene ii. Environmental sanitation education to be intensified; iii. They are to be mobilized to improve on their drainage system.

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
NKONYA NTUMDA	JASIKAN	3,000 (Nkonya)	Farming	a. Borehole well pumped and distributed through public stand taps by an old pumping machine which was broken down b. Streams 1 (Adzamansu) dries up during dry seasons. c. Shallow springs 2 (Mobito and Osusuuto) about 2 & 3 km away. They flow throughout the year. d. Volta lake about 3 miles away	a. The pump-machine breaks down very often and the supply of fuel by the District Council which collects water rates was irregular. b. Inhabitants wade/walk in when fetching water. Children swim in it. c. The eyes of the springs have not been protected. Thus pollution at the collection points was very high.	Bilharziasis Intestinal worms Diarrhoea Malaria.	a. 4 Pit latrines (3 for male and 1 for female) b. These could not cope with female population. c. Indiscriminate defaecation was noted. d. Cleaning of the latrines was done by volunteers. e. Fly breeding and smell were noted.	4 sites selected for crude dumping. Cleaning of the dumping grounds was by women when necessary.	Natural drainage Erosion was noted at certain areas.	a. The broken down pumping machine be examined by experts and put right; b. There is the need to provide one or two boreholes with hand pumps as an alternative source. c. Environmental sanitation education be intensified. d. There is the need for the construction of KVIP latrines. e. Personal and water hygiene education be intensified.

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
ATIGLIME (Near Hevi)	KETU	700 (Ewe)	Farming	a. Pond - 1 Dries up in dry seasons. b. Private concrete tanks - 8 (For harvesting rain in houses)	Inhabitants wade in the pond when fetching water. Most of the concrete tanks have not been covered. Some were possible breeding places for mosquitoes.	Guineas worm (2 cases were identified) Malaria Diarrhoea Intestinal worm diseases.	No latrine. Inhabitants practise indiscriminate defaecation	Crude dumping (3 sites selected) Cleaning was ignored	Natural drainage Erosion has affected some buildings and the main roads.	a. Water and personal hygiene education be intensified; b. The community to be educated on water related diseases. c. The community to be encouraged to construct pit latrines and put them into use. d. Education on environmental cleanliness intensified.

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
DEVEGO	KETU	3,000 (Ewe)	Farming	<p>a. Borehole 1 (Broken down about 7 months ago)</p> <p>b. Stream 1 (Adortor)</p> <p>c. Pond (Dam) - 1 Both the stream and the pond dry during dry seasons.</p>	Inhabitants walk and wade in the stream and pond when fetching water.	Guinea worm (1 case was identified) Bilharziasis Malaria Intestinal worms.	<p>a. KVIP - 1 (10 seaster male and female)</p> <p>b. Shallow pit latrines 4 (Fly breeding very high)</p> <p>c. Cleansing of latrines was by communal labour and volunteers.</p>	<p>Crude dumping (2 sites for refuse disposal).</p> <p>Cleansing of refuse dumps was by communal labour organised by the women.</p>	Natural drainage Erosion was noted at certain areas.	<p>a. The existing borehole cannot cope with the population;</p> <p>b. Water related diseases education to be intensified</p> <p>c. There is a need to construct more KVIP to replace the shallow pit latrines in use.</p> <p>d. Environmental cleanliness and personal hygiene education to be intensified</p>

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
GEFIA	KETU (Akatsi)	800 (Ewe)	Farming	<p>a. Stream 1 (Tsadikoe)</p> <p>b. Pond - 1 (Both the stream and the pond dry up in dry seasons)</p> <p>c. Concrete tank for rain harvest - 1 (Assisted by WVI)</p>	People wade and walk in the pond and stream when fetching water.	Guinea worm (9 cases noted) Bilharziasis Diarrhoea Malaria Intestinal worms	<p>a. Pit latrines 3 (For Male and Female)</p> <p>b. Indiscriminate defaecation was practised by the female section.</p> <p>c. Cleansing of latrines was neglected</p> <p>d. Fly breeding was common.</p>	<p>Crude dumping. (2 sites selected)</p> <p>Indiscriminate dumping was noted at certain areas.</p> <p>Excreta was common at dumping sites.</p>	Natural drainage	<p>i. There is the need to intensify water and personal hygiene education.</p> <p>ii. Inhabitants should also be educated on water related diseases.</p> <p>iii. The community should be encouraged to construct more latrines to cope with the population; particularly women.</p>

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
LUME-AVETE	KETU (Akatsi)	800 (Ewe)	Farming	<p>a. Borehole with hand pump - 1</p> <p>b. Hand dug well - 1 (Dries up during dry seasons.</p> <p>c. Dam - 1 (Agotor)</p>	<p>a. Hand pump broken down about six months ago.</p> <p>b. Buckets and ropes for fetching water are on the ground.</p> <p>c. Water fetched by wading and walking in.</p>	<p>Malaria</p> <p>Intestinal worms</p> <p>Diarrhoea</p>	<p>a. No Public latrine;</p> <p>b. Individual householders have six (6) shallow pit latrines;</p> <p>c. Indiscriminate defaecation noted.</p>	<p>a. Crude dumping (3 sites selected)</p> <p>b. Excreta common at dumping sites.</p>	<p>Natural drainage</p>	<p>i. There is the need to organise the community to construct public latrine for use;</p> <p>ii. Education on water and personal hygiene be intensified;</p> <p>iii. Inhabitants to be educated on environmental cleanliness.</p>

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
EHI	KETU	8,000 (Ewe)	Farming and Fishing	<p>a. Boreholes 3 (2 with hand pumps and one with mechanised pumps.)</p> <p>b. Hand dug wells - 6 (Drawn by buckets and ropes)</p> <p>c. Dam (Afi irrigation dam) about 1 mile away</p>	<p>a. With the exception of one (with hand pump) all the boreholes were functioning very well; Those boreholes were controlled by Water Maintenance Committee;</p> <p>b. Buckets and ropes for drawing water from hand dug wells are left on the ground.</p> <p>c. People walk, wade and fish in the dam.</p>	<p>Bilharziasis</p> <p>Intestinal worms</p> <p>Diarrhoea</p> <p>Malaria</p>	<p>a. 9 Pit latrines (Male and Female) They cannot cope with the population.</p> <p>b. Cleansing of latrines was by volunteers.</p> <p>c. Pit latrines normally collapse during heavy rains</p>	<p>a. Crude dumping (4 sites selected) But there was evidence of indiscriminate dumping.</p> <p>b. Cleansing was by communal labour (women)</p>	<p>Natural drainage</p> <p>Erosion has affected most of the buildings and streets</p>	<p>a. The community has sufficient borehole well to cope with the population.</p> <p>b. There is the need to educate the community on water related diseases, personal and water hygiene;</p> <p>c. The community should be mobilised to improve on the latrine accommodation to effect KVI</p> <p>D. Environmental sanitation education should be intensified.</p>

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
<p>ASAFOTSE: Aborkorpe) Dzogbekope) Agbokope) Dagbakope) Kopeyame) Alikope) They are small communities very near to each other. Aborkope is where they have school and Roman Catholic Church.</p>	KETU	1,750 (Ewe)	Farming	Ponds - 2 Dry during dry seasons	Inhabitants wade in them when fetching water	Guinea worm (11 cases identified) Intestinal worms Malaria	Pit latrines 6 (Very shallow ones for male and female). Indiscriminate defaecation noted Fly breeding very common Cleaning of latrines was neglected.	Indiscriminate dumping Excavations were also not refilled Fly breeding common	Natural drainage Some areas have been affected by erosion	i. There is the need to improve upon the source of water supply ii. Water hygiene and water borne diseases education be intensified. iii. Environmental sanitation education be emphasised and places of convenience be improved.

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
TORVE	KETU	2,500 (Ewe)	Farming (Mostly sugar-cane farming used for distilling Akpeteshie - Local gin)	River - 2 (Agblegbobe & Tordzi) They dry up during dry seasons - leaving patches of pools	Inhabitants swim, wade and walk in them when fetching water	Guinea worm (7 cases identified) Bilharziasis (Children are mostly affected) Malaria Intestinal worms	Pit latrines 4 (Male and Female) Cleaning was by communal labour Indiscriminate defaecation and fly breeding spots also noted.	Crude dumping (4 sites selected for the purpose) Cleaning of dumping sites was carried out by the women	Natural drainage Certain parts were very swampy	i. Education of water hygiene and water related diseases need to be intensified. ii. There is the need to improve and increase the number of latrines to cope with the population.

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
KULI	KETU	2,000 (Ewe)	Farming	<p>a. River - 1 (Kplikpla - about 1 mile away) Dries during dry seasons</p> <p>b. Concrete tanks for harvesting rain - 25 (The commonest source of water supply in the community)</p>	<p>a. People wade, walk and swim in the river</p> <p>b. Most of the concrete tanks were inadequately protected. Buckets and ropes used for drawing water were found on the ground.</p>	<p>Intestinal worms Malaria</p>	<p>Pit latrines 3 (Male and Female)</p> <p>Indiscriminate defaecation noted in certain areas. Fly breeding common.</p>	<p>a. Crude dumping (2 sites)</p> <p>b. Indiscriminate dumping was also practised</p>	<p>Natural drainage</p>	<p>a. Environmental sanitation and personal hygiene education to be intensified</p> <p>b. Latrines to be improved and increased to cope with the population</p> <p>c. An improved concrete water tank could be constructed for rain harvesting if the possibility of tapping the under ground water is not favourable.</p>

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
SUIPE	KETU	850 (Ewe)	Farming	Stream - 1 (Nkunor) Dries up during dry seasons	Inhabitants swim, wade and walk in	Bilbarziasis Intestinal worms Malaria	Pit Latrines 2 (Male and Female) Cleaning was ignored Indiscriminate defaecation was also noted.	a. Excavation dug for building purpose refilled. b. Indiscriminate dumping also practised	Natural drainage	a. Education on environmental sanitation be intensified and the people assisted to improve on sanitary facilities. b. Water and personal hygiene education to be intensified

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
ADRAKPO ZOGLIKOPE	KETU	400 (Ewe)	Farming	stream - 1 (Latsi) about 5 miles away. Well - 1 (Hand dug) This is the commonest source of supply since the distance to the stream is very far. Both the stream and the well dry in dry seasons.	Buckets and ropes used for fetching water in the well are left on the ground. People wade and walk in the stream.	Malaria Scabies Intestinal worms.	Pit latrine - 1 (Female only) Male section has none. Indiscrimi- nate defaecation goes on.	Indiscrimi- nate dumping.	Natural drainage	a. There is the need to intensify water and personal hygiene education. b. The commu- nity should be encouraged to provide pit latrine for the male section. c. They should also be educated on environmental sanitation.

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY		SANITARY FACILITIES			REMARKS	
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL		WASTE WATER DISPOSAL
AKATSI	KETU/AKATSI	6,000 (Ewe)	Farming and Petty Trading	<p>a. Borehole with hand pump - 1 (Broken down about six months ago)</p> <p>b. Pond - 2 (Caterpilla Ga and Caterpilla Vie) They all dry up in dry seasons.</p> <p>c. Hand dug wells for certain individuals - 25</p> <p>d. Concrete tanks for rain harvesting in some private houses - 20</p>	<p>a. The hand pump has broken down and all efforts made to have it repaired by GWSC have failed</p> <p>b. People wade in them when fetching water. Run-off water also washes all filths in them.</p> <p>c. Buckets and ropes used for drawing water are left on the ground.</p>	<p>Guinea worm (26 cases identified)</p> <p>Bilharziasis (Mostly among children)</p> <p>Intestinal worms</p> <p>Diarrhoea</p>	<p>a. KVIP - 1 (10 seater - Mail and Female)</p> <p>b. Septic tank latrine - 1 (Filled to brim. Closed down for public use)</p> <p>c. Public Removable Pan</p> <p>Latrines - 2 (Not functioning District Council can't meet the operational cost)</p> <p>d. Private Removable Pan</p> <p>Latrines 40 (Subscribers pay ₦100.00 per pan per month)</p> <p>e. Pit</p> <p>Latrines - 2 (Shallow)</p> <p>Indiscriminate defaecation noted</p>	<p>Crude Dumping</p> <p>5 sites have been selected for the purpose. Cleaning of the sites by sanitary labourers was not regular. Fly breeding very common.</p>	<p>Natural drainage.</p> <p>Run-off water takes own course.</p>	<p>a. The Community needs to be educated on water related diseases, personal and water hygiene and environmental sanitation.</p> <p>b. They should be encouraged to construct more KVIP latrines to cope with the population.</p> <p>c. As an interim measure, they are to be mobilised to construct pit latrines for use.</p>

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
<p>HLEFI</p> <p>1.Todome</p> <p>2.Tsranum</p> <p>3.Avenui</p> <p>4.Domefe</p> <p>5.Etoe</p> <p>(These communities are very close to each other)</p>	HO	6,000 (Ewe)	Farming	<p>a.Stream - 1 (Bame)</p> <p>b.Wells 15 (Hand dug)</p> <p>All sources dry up during dry seasons.</p>	<p>a.Inhabitants wade and walk in the stream when fetching water.</p> <p>b.Buckets and ropes used for drawing water are left on the ground.</p>	<p>Malaria</p> <p>Diarrhoea</p> <p>Intestinal worms</p>	<p>a.Pit latrines 3 (Male 2; Female 1)</p> <p>They can't cope with the population.</p> <p>b.Indiscriminate defaecation and fly breeding noted.</p>	<p>Crude dumping (10 sites selected for the purpose)</p>	<p>a.Both concrete and earth drains.</p> <p>b.Erosion affecting some buildings and streets.</p>	<p>i.There is the need to organise the community to construct additional 4 public latrines for use.</p> <p>ii.Education on water and personal hygiene be intensified.</p> <p>iii.Inhabitant to be educate on environmental sanitation.</p>

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE AND RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
HODZO-ALAVANYO (Hodzokope)	HO	1,200 (Ewe)	Farming	River - 1 (Arge) Dries up during dry seasons.	Inhabitants swim, walk and wade in the river.	Yaws - 2 cases (Being treated by M.F.U. team from Ministry of Health, Ho) Malaria Diarrhoea Intestinal worms	a.Pit latrines 10 (Male and Female) They were very shallow as deep pits collapse for loose nature of the soil. b.Cleansing of the latrines was not regular. c.Indiscriminate defaecation was noted. d.Fly breeding and smell was very common.	a.Crude dumping (5 sites have been selected for use). b.Indiscriminate dumping was also practised at certain areas.	a.Natural drainage. b.Erosion was prevalent. c.Bathroom waste water was poorly disposed of.	a.The community is lack of personal and water hygiene education. b.Environmental sanitary facilities be improved - KVIP latrines be introduced. c.Inhabitants to be educated on water related diseases.

SUMMARY OF DATA COLLECTED FOR HEALTH EDUCATION AND COMMUNITY PARTICIPATION
PROGRAMMES IN COMMUNITIES WHERE BORE-HOLE WELLS WERE DRILLED IN THE
EASTERN REGION - (FROM 13TH JULY - 15TH SEPT. 1988)

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARK
				SOURCE & RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
FRANKADUA	ASUOGYAMAN (Atimpoku)	8000 (Ewe)	a. Farming b. Factory hands most of the young men are employed at (J.T.L.) Juapong Textiles Ltd. c. Traders - Being a market centre most of the women are traders	a. Bore-hole well - 1 (Out of use. The hand pump has broken down. b. Stream - 1 (Alabo) Can't survive dry seasons. c. Hand dug wells - 3 (All dry during dry seasons).	a. Inhabitants wade & walk in the ponds and streams when fetching water. They also swim in the stream. b. Buckets and ropes used for drawing water in the hand dug wells are not properly kept.	Guinea Worm (15 cases were identified). Bilharziasis (mostly among children) Doarrhoea Intestinal Worms Malaria	a. Public Removable Pan Latrines - 1 (Abandoned for high maintenance cost). b. Pit Latrines - 4 (very shallow) The soil condition does not permit deep pits. Indiscriminate defaecation noted at certain areas. d. Fly-breeding very common	a. Crude dumping. Four sites selected for dumping. b. The dumping sites are kept clean by women periodically. c. Children defecate on dumping grounds.	a. Natural drainage b. Erosion noted at certain parts of the community. c. Waste water from baths is poorly managed.	i. There is the need to improve upon the water supply (boreholes) and educate the people on personal and water hygiene. ii. Environment sanitation education to be intensified and latrine accommodation to be improved (KVI preferable) iii. Water diseases education to be intensified.

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE & RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
FINTEY	ASUOGYAMAN (Atimpoku)	2800 (Ewe)	a. Farming b. Factory Hands (Some are employed at Juapong Textiles Ltd.)	a. Streams-2 (Osiabura & Alabo) They dry in dry seasons. b. Wells - 1 (Hand dug) It can't survive in dry seasons.	a. People wade and walk in the streams when fetching water. They also swim in them. b. Buckets and ropes used for drawing water in the wells are left on the ground.	Guinea Worm (20 cases identified) Malaria Intestinal worms. Diarrhoea.	Pit Latrines - 8 (Male & Female) They are all shallow pits - as deep pits collapses. Cleaning of Latrines is carried out by communal labour whenever necessary. Fly breeding and offensive smell common in latrines.	Crude dumping (4 sites selected for use) Periodically women keep the dumping sites clean	a. Natural drainage b. Waste water from baths is insanitarly disposed of. c. There were cases of mosquito breeding.	i. Water and personal hygiene education to be intensified. ii. There is the need to improve on latrine accommodation - preferably KVIP. iii. Sanitation and water related disease education to be intensified.
NNUDU	ASUOGYAMAN (Atimpoku) Formerly under KOAGA (Somanya)	1000 (Akan) Akwamu	Farming	a. Streams-2 (Bawari & Adabomu) b. Hand dug wells - 2 Both the	While people walk and wade in the streams when fetching water,	Guinea Worm Yaws Scabies Malaria Diarrhoea Intestinal worms.	a. Pit Latrines - 4 (Male & Female) 2 almost filled up.	Crude dumping. 4 sites have been selected for use. Cleaning of the sites	Natural drainage Erosion was noted at certain parts of the community.	i. Water and personal hygiene education to be intensified.

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE & RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
NNUDU (continued)				streams and the wells dry - up during dry seasons.	buckets and ropes used for drawing water in wells are left on the ground.		b. KVIP - 1 (12 seats) Newly built by communal labour but financed by E.E.C.s V.SO c. Some individuals have private pit latrines near their houses.	supposed to be carried out by the women was not regular	Waste water from baths were poorly disposed of.	ii. Inhabitants to be educated on water related diseases. iii. Education on environment sanitation to be intensified and additional KVIP latrine be constructed to cope with the population.
BOSO	ASUOGYAMAN	8000 (Akan) Guan	Farming	a. Pipe borne (flow not regular - a week due to frequent breakdown of pumping machines and irregular supply of fuel).	The wells which are the main sources of supply are drawn with buckets and ropes which are left on the ground.	Information from Boso Health Post revealed the following cases in February 1988 a. Malaria - 143	Public Pan Latrines-2 (20 seater type) manned by two conservancy labourers. Pit Latrines - 2 (shallow) c. Indiscriminate defaecation noted at certain places. d. Private Pan Latrines - 55 Subscribers pay ₦400.00 per month	Crude Dumping 4 sites selected are manned by sanitary labourers. Children defaecate on dumping grounds.	a. Mostly natural drainage. b. But the main streets have concrete drains. c. Many buildings and some of the streets have been affected by erosion	i. There is the need to intensify education on water related diseases. ii. Inhabitants should be assisted to tackle erosion seriously.

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE & RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
BOSO (continued)				b. Hand dug wells - 4 (Tsakyi, Duaso, Odun-sogya and Kweku Asawa). All dry in dry seasons. c. Borehole - 1 (Broken down about 2 years ago). d. Payment of water rate: i. Houses with water taps pay ₦425.00 per month. ii. Houses without water taps - ₦265	b. The borehole well hand pump was broken from the ground level - thus likely to be contaminated by run-off water.	b. Diarrhoea diseases - 30 c. Billarzia - 4 d. Guinea Worm - 8 e. Acute Eye Infection - 5 f. Skin Diseases (Yaws Scabies) - 8	for a pan. e. KVIP Latrines started by the community about a year ago has come to a halt due lack of funds and technical direction.			iii. The Community should be financially and technically assisted to improve on the latrines - preferably KVIP. iv. Education on environmental sanitation to be intensified.

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE & RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
AKWAMU- ABUAKWA	ASUOGYAMAN (Atimpoku)	1000 (Akan) Akwamu	Farming	Volta River flows about ½ a mile away.	a. People walk/wade in when fetching water. b. Inhabitants swim and bath in.	a. Bilharzias b. Malaria c. Intestinal worms d. Diarrhoea	a. The Community has no public latrine. b. Ten shallow pit-latrines in the community are owned by individuals. c. Indiscriminate defaecation and fly breeding very common.	a. Indiscriminate dumping. b. Inhabitants defaecate on the dumping grounds.	a. Natural drainage. b. Waste water from bath-house insanitarily disposed of. c. Mosquito breeding spots noted.	i. Education on water related diseases and water hygiene be intensified ii. There is also the need for education on environmental sanitation to effect provision of latrines. iii. The inhabitants should be educated to improve on personal hygiene.

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE & RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
ADJENA	ASUOGYAMAN (Atimpoku)	6000 (Akan) Akwamu	Farming	a. Borehole well - 1 (with mechanised pump) But broken down about 20 yrs ago. b. Stream - 1 (Esubreponi) The main source of supply. It dries up in dry seasons. Small wells are dug on course of the stream in dry seasons. c. Volta Lake about 2 miles away.	a. Inhabitants walk and wade in water during fetching. b. People also swim and fish in Volta Lake. c. Run-off water enters the main stream (esubreponi)	Guinea Worm Bilharziasis Diarrhoea Malaria Intestinal Worms	a. Septic Tanks Latrines - 5 (20 seater type for male and female). b. These are manned by conservancy labourers. c. Private-pan latrines - 30 Subscribers pay ₵300.00 per pan monthly.	Crude dumping. Four sites selected for use are controlled by sanitary labourers.	a. Both concrete and earth drains. b. Erosion has affected some buildings and streets	i. Water and personal hygiene education to be intensified. ii. The inhabitants should also be educated on water related diseases and environmental sanitation.

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE & RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
ADUMASA	ASUOGYAMAN (Atimpoku)	1500 (Akan) Akwamu	Farming & Fishing	a.Spring -1 (Fiefie) Dries in dry season. b. Stream (Esubreponi) Dries up in dry season. c. Volta Lake about 2 miles away.	a.The Spring is a shallow spring and needs to be protected. b. People walk in the stream when fetching. Swimming and fishing takes place in Volta Lake.	Guinea Worm Bilharziasis Diarrhoea Malaria Intestinal Worms.	a.Pit Latrines - 4 (very shallow ones for male and female) b.Indiscriminate defaecation noted. c. Fly-breeding very common.	5 sites selected for crude dumping. Smell and fly breeding noted.	Concrete drains in the main streets. Erosion was noted.	i. There is the need to intensify education on environmental sanitation personal and water hygiene ii. Their latrine accommodation to be improved - preferably KVIP.
ANYAASE	ASUOGYAMAN (Atimpoku)	2000 (Akan)	Farming	a.Pond - 1 (Gyakiti) Dries in dry seasons. b.Stream- 1 (Abomakojo) They all dry during dry seasons	Inhabitants wade and walk in the pond when fetching water.	Guinea Worm Bilharziasis Malaria Intestinal worms Diarrhoea.	a.Pit-Latrines - 2 (shallow ones) b.Cleaning is done periodically by communal labour. c.Fly-breeding and smell very common.	a.Crude dumping at two sites. b.The dumping sites are periodically cleaned by sanitary labourers. c.Defaecation was going on at the refuse dumping grounds.	Natural drainage	i. Education of water related diseases and environmental sanitation to be intensified. ii. There is the need to improve on latrine accommodation-preferably KVIP. iii. The inhabitants to be educated on personal and water hygiene.

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE & RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
GYAKITI	ASUOGYAMAN (Atimpoku)	6000 (Akan) Akwamu	Farming	a.Pond - 1 (Gyakiti) Dries up in dry seasons. b.Borehole wells - 3 (with hand pumps and one with mechanised pump). One of the hand-pumps was broken down. c.Volta Lake about 2 miles away. Note: Irrespective of the Boreholes wells some inhabitants fetch water from Gyakiti Pond.	a.Water is fetched from the pond by wading and walking through. b. Run-off water carries all sorts of filth into the pond.	Bilharziasis Malaria Intestinal Worms Diarrhoea	a.Public Pan Latrine - 1 (Abandoned for high running cost and the bad state of the building) b.Private-Pan Latrines - 35 (Subscribers pay ₦300.00 per month per pan). c.Pit Latrines - 6 (Shallow in all cases). d.Indiscriminate defaecation noted. e.Fly-breeding and smell were common in latrines.	a. Crude dumping goes on at 4 sites. b. Periodic cleaning and burning were carried out by Sanitary Labourers employed by the district Council. c.Defaecation was noted on dumping sites.	a.Natural Drainage b. Erosion has affected some streets and houses.	i. There is the need to educate the inhabitants on water Related Diseases and advise those who feel the taste of the traditional source is preferred to accept borehole water. ii. There is the need to improve on Latrine accommodation and educate inhabitants to practise the rules of personal and water hygiene.

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE & RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
OKANTA	SUHUM-KRABOA-COALTAR (Suhum)	1400 (Akan) Akwapim	Farming	a. Pond - 1 (Obo-Nyame) b. Hand-dug wells - 2 They dry-up during dry seasons	a. Inhabitants wade in the pond when fetching water. b. Buckets and ropes for fetching water are not properly cared for.	Diarrhoea Malaria Intestinal Worms.	a. There is no public latrine. b. Individuals have private shallow pits at the outskirts. c. The community has started public pit latrine. To be completed in one month. d. Fly-breeding common.	Crude dumping (2 sites) These were supposed to be manned by Sanitary Labourers from the District Council.	a. Natural Drainage. b. Erosion was noted at certain places.	i. Education on Water Related Diseases to be intensified. ii. Sanitary facilities to be improved and inhabitants to be advised to use them.
OBOADAKAA (85 villages scattered at a distance of about one mile from each other)	SUHUM-KRABOA-COALTAR (Suhum)	1500 i. Akans (Akwapim) ii. Ewe iii. Adagbe	Farming	a. Streams-2 (Obuadaka Aboabo) b. Ponds - 2 They all dry up in dry seasons.	Wading and walking through the stream when fetching water and crossing stream is the practice of the people.	Malaria Diarrhoea Intestinal Diseases.	a. Shallow pit latrines were used in most villages. b. Other villages practice indiscriminate defaecation.	Indiscriminate dumping.	a. Natural drainage b. Erosion has affected most of the buildings in the villages.	i. Environmental Sanitation and personal hygiene education should be intensified. ii. The inhabitants should be educated on Water Related Diseases.

COMMUNITY	DISTRICT	POPULATION & ETHNIC ORIGIN	OCCUPATION	TRADITIONAL WATER SUPPLY			SANITARY FACILITIES			REMARKS
				SOURCE & RELIABILITY	POSSIBILITY OF POLLUTION	WATER RELATED DISEASES PREVALENT	EXCRETA DISPOSAL	REFUSE DISPOSAL	WASTE WATER DISPOSAL	
KONKONDURU	SUHUM-KRABOA-COALTAR (Suhum)	1000 i. Ewe ii. Akans (Akwapims) iii. Adagbe	Farming	Stream - 1 (Konkonduru) It does not survive in dry seasons.	Inhabitants wade and walk through it when fetching water and crossing the stream.	Intestinal Worms Malaria Diarrhoea	a. Pit Latrines - 2 b. Indiscriminate defaecation very common.	Indiscriminate dumping.	Natural Drainage	i. There is the need to improve the sanitary facilities in the area. ii. Water and personal hygiene education to be intensified. iii. Water related diseases education to be intensified.
AMANASE	SUHUM-KRABOA-COALTAR (Suhum)	4000 Akan	Farming	a. Stream - 1 (Abiesua) b. Hand-dug wells - 3 The stream and the wells dry up in dry seasons. c. Borehole - 1	a. People wade and walk in the stream b. Buckets and ropes for drawing water from wells are unhygienically kept.	Bilharziasis Malaria Diarrhoea Intestinal Worms.	a. Public Removable Pan Latrines - 2 (Users pay ₦5.00 before using) This for maintenance cost. b. Private removable pan latrine owners negotiate directly with conservancy labourers. c. One KVIP and Septic Tank Latrine started about four years ago is yet to be completed.	a. Crude dumping. There were two dumping sites manned by sanitary labourers. b. Fly breeding was common at dumping sites.	a. Natural drainage b. Erosion has affected some buildings and streets	i. Environmental sanitation education to be intensified and latrine accommodation to be improved. ii. Water related education to be intensified. iii. Inhabitants to be educated to practice personal and water hygiene.

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