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2012 REPORT

REPORT ON THE CONSTRUCTION OF HOUSEHOLD LATRINES, DRILLING OF NEW BOREHOLES AND BOREHOLE REPAIRS IN BONGO DISTRICT, UER, GHANA

FAUSTINA ATIPOKA

Bongo Development Organization

P.O. Box 5, Bongo, Upper East Region, Ghana (West Africa)

Telephone: +233 (0)244160190

E-mail: bondotrust@gmail.com

Web: www.bondotrust.net



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1. Background to the Project

Ghana Poverty Reduction Strategy (GPRS) recognises clean environment and good health as a means to achieving the country's socio-economic development. This is however far from being

achieved at national and decentralised levels due to the problem of lack of, or inadequate and inefficient water, sanitation and hygiene promotion services to enhance hygienic practices. The lack or inadequacy of water and sanitation facilities in rural Ghana in particular is more serious and has been noted to result in increased water-related diseases in the country.

Enormous investment is made in the provision of water and public latrines with thousands of expensive Kumasi Ventilated Improved Pit (KVIP) installed in largely urban communities by Ghana Government and a few in rural and urban communities by several NGOs and CBOs. This KVIP is thought to be an improved latrine technology compared to the traditional pit latrine for those communities without household latrines and potable drinking water. Historically the provision of these facilities to communities ignored maintenance responsibility and training. This resulted in contamination of ground water and hence made some communities to have unhealthy drinking water. In addition, some communities have broken boreholes and public toilets which is the cause of a major route of the spread of oral-faecal diseases. Communities then abandon these facilities which fall into further disuse by community members, forcing the same communities to revert to open defecation and contamination of streams that provide drinking water. This is a vicious circle. The solution to this problem and to break the vicious circle, implies additional financial resources to provide private latrines, potable drinking water facilities, and sustainability through training in correct maintenance and to fund periodic reporting of water quality.

The difficulties associated with the supply of water and sanitation in rural communities was a compelling factor for my paper on water supply challenges in rural Ghana¹ submitted to Edinburgh University, (the organisers of the International Conference in 2008 on XXXXXXXXXX 2) and I was privileged subsequently to attend the workshop in Edinburgh³. After reading my paper Jonathan Elphick, Founder of Bongo Development Organisation Trust (BONDO) in Cambridge and his family warmly welcomed me to their home in Cambridge. During this visit they organised sessions at schools and with friends where I presented the water and sanitation situation in Bongo District of Upper East region of Ghana. Funds were raised to support the construction of 10 household latrines in 2009. In 2010 Jonathan Elphick met Paul and Jane Verschueren from Southampton, whilst in Cambridge, and this family also welcomed BONDO Trust, wanting to work with us in the provision of water facilities in Bongo. Prior to this meeting, they had launched Living Water Africa on the 23rd January 2010 in Salisbury Cathedral, at the memorial service for their daughter Samantha Verschueren. Samantha witnessed water poverty first hand during a trip to Mombasa, Kenya in 2008 and shared with her family a deep concern for this appalling problem. Living Water Africa was then set up in her loving memory, following her passing on 22nd August 2009. In 2011 Living Water Africa has supported the repairs of four boreholes and the completion of five boreholes drilled in 2008 by

¹ Faustina Atipoka Awane, Edinburgh University

² Conference

³ Workshop, May 20th 2008, Edinburgh

the Ghana Government, later abandoned for the reasons given above. In 2012 Living Water Africa funded repairs of six boreholes and the drilling of two new boreholes. The generous funding covered the cost of drilling of two new holes, new hand pumps installation, Water Quality Test, construction of concrete pad (platform) and training of Water and Sanitation Committees (WATSAN) for sustainability.

At this time Peter Davis of Shetland founded Project Bongo which is a non-profit making Charitable Trust based in Shetland, dedicated to providing support and development for small-scale projects in Ghana. This Trust has supported Bondo in two new borehole projects at two new Primary Schools, covering the cost of drilling, new hand pumps installation, Water Quality Test, construction of concrete pad (platform) and training of WATSAN committees for sustainability.

2. Implementation Strategies

The implementation approach was demand driven. As such the actors had the following roles/responsibilities:

2.1. Donors

- Fund mobilisation
- Set up standards and ensure quality
- Monitoring and evaluation

2.2. District Water and Sanitation Team (DWST)/Faustina

- Administer donor funds and write progress reports.
- Facilitate full community participation
- Conduct community and beneficiary identification
- Brief community regularly and get feedback
- Sign project agreements with applicants and artisans
- Facilitate contracting of service providers and supply of materials
- Supervise drilling and construction work of artisans
- Training of WATSAN committees\ Hygiene education
- Help solve conflicts and problems at different levels

2.3. Beneficiaries

- Identify needs and apply for counterpart assistance
- Sign project agreement
- Provide site
- Contribute to capital costs

- Maintain facilities for continued services
- Assume ownership of facility

2.4. Artisan \Drilling Contractor

- Siting and setting out of latrines pits for excavation
- Supervise excavation and block/brick moulding
- Work with/accountable to beneficiaries and DWST/Faustina
- Household latrine construction
- Drilling of Holes/water Quality test
- Concrete pad construction
- Pump installation

3. Implementation and outputs

3.1. Implementation of Household Latrines (HES) component

The Tables below list the HES projects implemented. Communities are selected based on criteria during the visit by District Water and Sanitation Team to each community, in a process described below.

Table 1 Summary of Household Latrines Construction 2011 by BONDO Trust UK

Pits Only Excavated	Pits completely Lined	Latrines with Only Sub-Structure Built (Lined & Slabs Cast)	Superstructure Built (Not Roofed)	Latrines fully Completed
Dua 25	15	15	15	15
Borigo 26	16	16	16	16

Table 2 Summary of Household Latrines Construction 2012 by BONDO Trust UK

Pits Only Excavated	Pits completely Lined	Latrines with Only Sub-Structure Built (Lined & Slabs Cast)	Superstructure Built (Not Roofed)	Latrines fully Completed
Dua 25	10	10	10	8
Borigo 26	10	10	10	7

3.2. Implementation of Boreholes component

The Tables below list the Borehole projects implemented. Communities are selected based on criteria during the visit by District Water and Sanitation Team to each community, in a process described below.

Table 3 Implementation of Borehole Repairs by Living Water Africa 2011

No	Community	Number of borehole	Number of borehole completed	Community names for 5 holes constructed	Number of borehole	Number of borehole completed
1	Asilga	1	1	Apaatanga	1	1
2	Zorko Tadoo	1	1	Feo Asebre	1	1
3	Lungo	1	1	Sabolgo	1	1
4	Beo Limibis	1	1	Zorko Gambarigo	1	1
				Zorko Kadare	1	1
TOTAL		4	4		5	5

Table 4 Drilling of two new boreholes by Project Bongo 2011

No	Community	Number of borehole	Number of borehole completed
	Feo Awisi Primary school	1	1
	Feo St John Bosco Primary school	1	1
Total		2	2

Table 5 Borehole Drilling and Repairs by Living Water 2012

No	Community Name for where boreholes were repaired	Number of borehole repaired	Number of borehole completed
1	Zorko Atiabisi	1	1
2	Zorko Kankoo-Kanga one	1	1
3	Zorko Kankoo-Kanga Two	1	1
4	Apantanga Abugtua	1	1
5	Ayelbia Kunkua		
6	Ayelbia Adabotin		
TOTAL		6	6
	Community names for 2 new holes constructed	Number of borehole	Number of borehole completed
1	Lungu Kunkua	1	1
2	Lungo New Town	1	1
TOTAL		2	2

4. Systematic and Efficient Process for Delivery

The DWST have created a systematic process for efficient implementation. Four meetings are held with each community and beneficiaries.

General Meeting 1 The DWST initially meet with the community and introduce the project to the Traditional Leaders and the Assemblyperson.

4.1. Latrines

Meeting 2 During the second community meeting a transect walk is organised with sectional leaders across the four sections of land. The walk obtains adequate sanitation needs information and this is then used to develop a sanitation map for the Community. Though open defecation is practiced in all the sections of the community, however during the sanitation mapping session at the community meeting priorities are agreed typically that the highest number of facilities should go to areas of relatively higher effects of open defecation practices.

Meeting 3 After section members have the agreed list of direct beneficiaries (households) who are able and ready to meet the project requirement, a meeting is held with them. The meeting describes the project details and responsibilities of the various stakeholders.

Meeting 4 The fourth meeting confirms interest to participate in the project and the signing of an Agreement with beneficiaries and artisans and the introduction of Artisan to beneficiaries.

4.2. Borehole drilling and Repairs

Meeting 2 During the second Community meeting we visit the area and assess the problems with the borehole facility. The costs of replacement or repair including cost of required materials are estimated and the amount of funding available are discussed with the Community.

During this meeting we also explain the need for operation and maintenance, in the form of a short training course for the entire community – this encourages ownership. We inculcate the need for regular and accurate book-keeping of the yearly contribution from the Community towards Operation and Maintenance.

The outcome of this meeting is the opening of Bank account(s) at Bongo Rural Bank, for safe-keeping of these important funds.

Meeting 3 The outcome of this meeting is the formation of the WASAN Committee, comprising Chairman, Secretary, Treasurer, two caretakers and two Hygiene Promoters. These people are further trained in manual repairs on the borehole and how to promote hygiene education in the community.

Meeting 4 This provides a forum and a process for conflict resolution.

The processes adopted enhance project acceptability and help to identify and eliminate sources of conflicts among community members.

4.3.Latrine design

The latrine design was adopted is the Mozambique pit latrine. It has single pit with of 8 feet and diameter 6 feet (3 feet radius) and a squat hole. The design was appropriate for the large household size (averaging 6). However each of the household beneficiaries are contained in large extended family compound houses and are more likely to share the facility with other households in the compound houses.

4.4.Drilling Constructor/Artisans

A drilling agency in Tamale with area Mechanics and Two artisans were engaged to drill and construct the latrines. These artisans and mechanics were initially trained by Community Water and Sanitation Agency in Bolgatanga (CWSA) and were used in the provision water and sanitation facilities to beneficiary communities in those districts. The artisan's activities encompassed construction of the substructure, casting of concrete slabs and completion of superstructure (construction of walls, fixing of ventilation pipes and roofing). Artisans were paid only after successful completion of work.

4.5.Supply of Latrines Material to Beneficiaries

The project provides three major materials to beneficiaries that otherwise would have been impossible for them to have household latrines. For effective and timely delivery, Lahaad Enterprise in Bolgataga supply the required material to the communities and that met donor's obligations to supplying cement, vent pipe and roofing sheet. Each beneficiary received 8 bags of cement, 1 vent pipe and 2 aluminium roofing sheet. Besides, the beneficiaries also provided adequate local materials that include washed sand, stones and water in addition to wood and roofing nails.

4.6.Responsibilities of Beneficiaries for Latrines

Construction work starts with the siting and setting out of latrines pits by the artisans and DWST members jointly. Household members mould blocks, cure them and excavate the pits to required dimensions only when the blocks are ready for use and the artisan is ready to line the pit. This measure is an environmental safe-guide against caving, the falling of people and animals into it and the collection of water that could breed mosquitoes and spread malaria.

4.7.Supply of Borehole Materials to Beneficiaries

Lahaad Enterprise in Bolgataga is contracted to supply cement and other materials.

Hand pumps are supplied by Ayowga Borehole and Hand Pump Construction and Services Ltd, also in Bolgataga.

The drilling company is Harbalord Drilling and Siting Ltd of Tamale.

4.8.Responsibilities of Beneficiaries for Boreholes

The Community Members collect stones, sand and water, and provide labour in the mixing and carrying of concrete for the platform, and support installation of the hand pump.

5. Status

At the time of writing, all 2011 household latrines are completed. For the 2012 projects the substructures of 5 latrines are not completed because of the rains. They will be completed and covered with slabs after the rains.

All boreholes contracted for 2011 and 2012 both new drilling and repairs, are completed.

6. Conclusion: Issues and Recommendation

6.1. Issues

The following issues have been noted:

Positives

- Generally projects are very successful and effective.
- User training has successfully enhanced hygienic and maintenance practices and sustainability of the facilities.
- The women in beneficiary household express that the latrines provides superior privacy and security than bush and shrubs.

Negatives to be addressed

- The housing in Bongo District and as among the ethnic groups of northern Ghana is not based on a household but several households of brothers/cousins, uncles and possibly a grandfather in a compound house. The latrines are more likely to be shared and easily filled.
- Internet services are very poor, so reporting and communications must be carried out over mobile phone verbally, and email is only available after 9 miles walk to the regional capital Bolgatanga, and 9 miles return.
- Sites are widely distributed, our only transport is walking or a motor bike, and so a great deal of time is spent simply in travel between sites.
- Our labour is entirely voluntary, and we have no office of any kind, so efficient operations require superhuman efforts. For regular and accurate reporting and project management paid staff are required for project management and two field staff.
- The cost of materials increases steadily, and it is common for earlier estimates to be exceeded when the project is ready to place a supply contract.
- The interest of community members and neighbouring communities in the projects is now very high though funding is completely inadequate to meet demand for these basic necessities. More communities have applied for the facilities – we now have applications for 30 boreholes and 10 repairs.

6.2.Recommendations

Interest in the subsidised private latrines and boreholes is very high and the sponsors should take actions on the following:

- Expand fundraising activities to increase the number of beneficiaries and beneficiary communities. A trebling of gross income to well over £120,000 would make a huge difference, though every contribution, however modest, is very welcome.
- Volunteer labour cannot be relied upon to deliver the required desperate demand with any surety. We must have paid staff, including a project manager and two field officers.
- The Trust needs a small office, with internet service, computer and accessories, copier, and supplies. We propose an office that can act as a centre for health and sanitation information, outreach and education, with two offices and a conference/training room, and secure storage of materials.
- It would be of inestimable benefit to have 3G phones or iPads for field staff, project manager and Manager that can be used for quick and efficient reporting from sites. The mobile network is quite good.
- The design of the household latrines for subsequent interventions should adopt the double pit household latrines with a squat hole to each. This design is appropriate for compound houses with multiple households where members switch use of pits while the decomposed faecal sledges from the filled pit are emptied for crop farming.