

# Sustainability and equity aspects of total sanitation programmes

A study of recent WaterAid-supported programmes in Nigeria



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## Glossary and abbreviations

<b>CLTS</b>	Community-led Total Sanitation
<b>DHS</b>	Demographic and Health Survey
<b>EU</b>	European Union
<b>FGD</b>	Focus Group Discussion
<b>FGN</b>	Federal Government of Nigeria
<b>FMAWR</b>	Federal Ministry of Agriculture and Water Resources
<b>JMP</b>	Joint Monitoring Programme for Water Supply and Sanitation (WHO-UNICEF)
<b>LEEDS</b>	LGA Economic Empowerment Development Strategy
<b>LGA</b>	Local Government Authority
<b>MDG</b>	Millennium Development Goal
<b>NEEDS</b>	National Economic Empowerment Development Strategy
<b>NTGS</b>	National Task Group on Sanitation
<b>ODF</b>	Open Defecation Free
<b>RWASSA</b>	Rural Water Supply and Sanitation Agencies
<b>SEEDS</b>	State Economic Empowerment Development Strategy
<b>UNICEF</b>	United Nations Children’s Fund
<b>VERC</b>	Village Education Resource Centre (Bangladesh NGO)
<b>WASCOM</b>	Water and Sanitation Committee
<b>WASH</b>	Water, Sanitation and Hygiene (Sector)
<b>WASCOM</b>	Water and Sanitation Committee
<b>WASU</b>	Water and Sanitation Units
<b>WES Unit</b>	Water and Environmental Sanitation Unit (Local government)
<b>WHO</b>	World Health Organisation

## Executive summary

WaterAid has been closely linked with Community-led Total Sanitation (CLTS) since the development of the approach in Bangladesh by the Village Education Resource Centre (VERC) in early 2000. WaterAid’s own body of experience includes several variants of the CLTS approach with common elements:

- working with the entire community rather than with selected individuals and households
- focusing on the elimination of open defecation rather than on latrine construction.

This report summarises research conducted in Nigeria as part of a study into the sustainability and equity of Total Sanitation programmes supported by WaterAid in Bangladesh, Nepal and Nigeria. The central research hypothesis examined by the study was:

**Achieving ODF status is a necessary but not sufficient condition for the entire community to use and maintain hygienic latrines in the long-term**

Where possible, the study also explored the additional factors that enhance the probability that ODF status translates into entrenched behaviour change, as well as the capacity of communities to move onwards up the ‘sanitation ladder’.

### Research sampling and methodology

The research design envisaged the selection of study communities as coming from the set of programme villages where WaterAid and its partners have carried out *community-wide ODF* sanitation programmes and ‘where the period since the intervention is as long as possible’.

WaterAid introduced CLTS into its sanitation programmes in Nigeria in 2005, and for this reason had covered only 98 communities at the time of the research. Excluding community interventions started in the 2007-08 financial year, 44 project communities remained as the sample frame for the study.

These 44 project communities were grouped into three categories:

- High performers (latrine coverage > 95%)
- Median performers (30% < latrine coverage < 95%)
- Low performers (latrine coverage <30%).

Three communities were randomly selected from the high performing groups; two communities from the median; and a further three communities from the low performers, making a total of eight research communities (8% of the total number of CLTS communities in Nigeria).

In these eight communities, more than 200 household sanitation facilities were observed in order to determine proxy indicators of the following:

- Use and maintenance of latrines
- Hygienic status of latrines
- Long term use, repair and replacement of latrines

The observation findings were verified through key informant interviews and Focus Group Discussions (FGDs). In addition, the observation surveys sampled disadvantaged households and special case (open defecation, collapsed latrine owning) households to assess any differential outcomes among these groups.

### Sustainability of sanitation behaviour change

Prior to the CLTS interventions, less than 20 percent of households were using latrines in all of the research communities except one;<sup>1</sup> and neither of the two study communities in Jigawa state contained a single latrine. Following the CLTS interventions, three of the communities declared themselves open defecation free (ODF), while the remaining five communities reported between 11% and 86% latrine coverage.

#### Open defecation status among declared ODF communities

Community	Performance	State	WaterAid in Nigeria data OD%	Study data OD%	Reasons for open defecation
Igba	High	Benue	0%	0%	–
Efopu-Ekile	High	Benue	0%	18%	Pit collapse, tenants
Duhuwa: <i>Hausa</i> <i>Fulani</i>	High	Jigawa	0% (73 hhds) (71 hhds)	31% 1% 76%	<i>Pit collapse</i> <i>Mobility</i>

Key: OD% = percentage of households practicing open defecation, hhds = households.

<sup>1</sup> Igba in Benue State had 41% latrine coverage prior to the CLTS intervention

The research found that only one of the three ODF communities had remained open defecation free. Heavy rains during the research period caused the collapse and abandonment of latrine pits in Efopu-Ekile, and the research in Duhuwa revealed that, while only one *Hausa* household had reverted to open defecation, very few of the semi-nomadic *Fulani* households had ever built or used latrines.

#### Open defecation status among non-ODF communities

Community	Performance	State	WaterAid in Nigeria data OD%	Study data OD%	Reasons for open defecation
Mbagbor	Median	Benue	26%	38%	
Molori: <i>Molori A</i> <i>Molori B</i>	Median	Jigawa	14% (34 hhds) (34 hhds)	71% 56% 85%	30% collapsed latrines 34% collapsed latrines
Mbaazenger	Low	Benue	76%	49%	38 new latrines built
Amegu-Ada	Low	Enugu	79%	78%	Only 3 new latrines built
Mburubu	Low	Enugu	90%	90%	No new latrines

Key: OD% = percentage of households practicing open defecation, hhds = households

In the other five study communities, the proportion of households practising open defecation was generally higher than expected in the median-performing communities, and marginally lower than expected in the low-performing communities.

### Equity of sanitation outcomes

The data confirmed relatively equitable outcomes in the three high-performing communities: there was no open defecation among disadvantaged households in either *Igba* or *Efopu-Ekile*; and the open defecation rate was only 9% higher among the disadvantaged households in *Duhuwa*. However, the disadvantaged households fare less well in the median and low performing cases, with open defecation rates 26% to 59% higher among disadvantaged households than in the rest of the community.

Given that the baseline (pre-intervention) latrine coverage in these communities was largely among rich and middle-income households, it seems likely that these differentials in open defecation rates reflect the starting conditions, with much higher open defecation among the poor and disadvantaged, thus that the successful sanitation interventions have had a significant impact on open defecation rates among these disadvantaged groups.

In the high-performing communities, the data also suggested that the disadvantaged households had generally built similar latrines to those built by the bottom 35% to 45% of the community, and had maintained them to a similar standard. While the latrines built in these communities were fairly basic, these observations suggest that the interventions provide similar opportunities to all income groups, and that low-income households are not prejudiced by their lack of resources.

## Latrine types

All of the latrines observed in the study communities were pit latrines. Out of the 109 latrines surveyed, only 5% were pour-flush toilets; fully 95% of the latrines were dry pit latrines. The latrine pit was usually covered with some form of slab. The majority were mud-covered timber slabs, with some concrete slabs observed where sani-centres were in operation; and a few slabs made from loose-fitting timber planks.

## Shared latrines

Shared latrines were common in the study communities. On average, 58% of all households that used a latrine were sharing it with at least one other household. Typically, shared latrines were used by between two and four households. In most cases, because of compound household arrangements, the households sharing the latrine were related to the household that built the latrine. In general, there was little difference between the quality and hygiene of the shared latrines when compared to private household latrines. When questioned, most users of shared latrines noted that the other households were part of the same family and that sharing the latrine was therefore not a problem.

## Maintenance: cleanliness of latrines

In the five communities with the lowest open defecation rates, only three latrines out of 93 (3%) were found to be dirty. In the other three communities, seven of the 15 latrines observed (47%) were found to be dirty. More than half of these dirty latrines were constructed prior to the interventions, which suggests that the CLTS latrines were at least as clean and well-maintained as the existing latrines.

## Fly-proof latrines

Very few of the latrines observed in the study communities were fly-proof. During the survey, the latrine pits were inspected internally using a torch. In almost every case, the contents of the pit were covered with fly maggots and, in many cases, flies exited from the pit when the cover was lifted. Clearly, this is a significant hygiene issue, as the latrine pits appear to be acting as fly-breeding sites in close proximity to the home, with a substantial risk that flies will transfer pathogens directly from excreta to food consumed by household members. Neither the facilitators nor the householders appeared aware of the health hazard associated with flies in latrine pits.

## Vent pipes

The WES Unit (Water and Environmental Sanitation Unit) in Ado LGA (Local Government Authority) (Benue State) had encouraged households in *Igba* and *Efopu-Ekile* to add vent pipes to their latrines. As a result, the sani-centres provided PVC vent pipes along with the concrete domed slabs, and other households made their own bamboo vent pipes.

Every household latrine in *Efopu-Ekile* had a PVC vent pipe, as did 48% of the latrines in *Igba*. Unfortunately, neither the WES Unit nor the community members were aware that the gases that vent from pit latrines are extremely corrosive, and the

fly screen sealing the top of the vent pipe needs to be regularly checked: as a result, 75% of the vent pipes in *Igba* were open; as were 55% of the vent pipes in *Efopu-Ekile*. Vent pipes attract flies (because of the smell of the exiting gases); open vent pipes provide a ready fly entry and exit point, and are likely to encourage fly breeding inside the latrine pit.

## Latrine use by new and in-migrant households

Another important indicator of collective sanitation behaviour (and outcomes) is the response to new adult or in-migrant households. The data from the observation surveys suggests that sustainability is good in the three high-performing communities (with the exception of the *Fulani* households in *Duhuwa*), as every new household was found to be either sharing an existing latrine or using its own latrine. Conversely, 50% or more of new households in the low and median performing communities was found to be practicing open defecation.

## Sanitation behaviour by those with collapsed latrines

The rebuilding of collapsed latrines or latrine pits, or temporary use of a neighbour's latrine, are good indicators of sustained sanitation behaviour change. Most of the pit collapses were due to recent heavy rains, thus none of the households had had time to rebuild or replace their latrines (although several of the households claimed that they would rebuild their latrine when the rainy season ended). In the high-performing communities, the majority of the households with collapsed latrines were sharing other people's latrines; while in the low- and median-performing communities, every household with a collapsed latrine had reverted to open defecation.

## Water supply impact on sanitation outcomes

Among the eight water supply projects in the study communities, only three are working without problem. The WaterAid handpumps are non-functional in two other communities, the WES Unit has been unable to find water in another, and both communities in Enugu complain that, while their handpumps are working, the water quality is so poor that only a few households use them.

The benefits of an integrated water supply and sanitation approach are called into question by the impact of the failed water supplies on the sanitation interventions. Several of the lower-performing communities stated that the water supply problems had caused them to lose interest in the sanitation programme. In addition, all of the latrines are dry (ie no water seal latrines), thus do not require water for flushing. These findings suggest that, even when operational, the water supply investments have had a limited impact on sanitation or hygiene behaviour improvements.

## Sani-centres: rotating funds and facilities for sanitation improvement

The only successful sani-centre observed was in *Duhuwa*, where the sani-centre has become the only store in the community, and continues to stock a wide range of sanitary wares. However, even there, the sani-centre had supplied only four latrine slabs to the community. In all other cases, the sani-centre funds had been used to

purchase materials (mostly cement, sand and gravel) which had then been distributed to a small number of households without any charge. Only a handful of households (usually Water and Sanitation Committee (WASCOM) members) claimed to have paid for the slabs given to them by the sani-centre, and most households using sani-centre slabs were unaware of the price that they were supposed to have paid.

Free latrine slabs were provided to almost every household in one small community but, in total, only 16 sani-centre slabs were in use in the other research communities. Therefore, each of the sani-centre slabs in use cost WaterAid in Nigeria about US\$300. The main people to benefit from the free slabs were community leaders and committee members, who were generally non-poor households.

### WaterAid in Nigeria sanitation costs

WaterAid in Nigeria provided data on its sanitation programmes from the central financial system. In terms of cost-efficiency, the project cost per CLTS latrine is currently US\$71. Almost half of this amount is consumed by support costs, with \$31 per latrine reported for software costs. The total cost including external expenditures and household contributions is estimated at \$98 per latrine, with 72% financed by WaterAid, 7% by other agencies (UNICEF and local government), and 20% contributed by the household itself.

## Conclusions

The WaterAid in Nigeria CLTS programme is only in its third year. As a result, some of the problems uncovered by this study are due, at least in part, to the early stage of the CLTS programme in Nigeria. It should also be noted that the research for the study took place in the middle of a severe rainy season. Several of the communities visited were flooded; access roads were almost impassable; and both latrines and houses were collapsing under the heavy rains.

In general, the CLTS process has been more successful in triggering sustained and equitable sanitation outcomes in the communities that achieved ODF status. These communities had a better understanding of the reasons for stopping open defecation, and seemed more concerned and upset when exceptions were uncovered. The non-ODF communities tended to have a far more relaxed approach to their sanitation situation. Open defecation was not considered especially problematic, and there was less sense of the need to achieve a collective sanitation outcome.

### Little upgrading or innovation in latrine design

The research team found that only one household had upgraded its latrine. This finding appears to reflect a lack of technical innovation and knowledge sharing, which has resulted in very few indigenous latrine designs emerging from the interventions.

Most of the latrines built under the CLTS programme were little different from existing traditional latrines; and there was very little variation between households – those that built new latrines tended to build identical models to those already used by others in the community. As a result, many of the latrines are barely hygienic:

excreta is separated from human contact, but the latrines are hard to keep clean, and generally unpleasant to use.

### Unimproved latrines important for achieving ODF

A lower proportion of improved latrines was found in the communities that had largely stopped open defecation. While this might suggest that reducing open defecation leads to lower quality latrines, it demonstrates how CLTS allows poor households to build very low-cost latrines, provided that they stop open defecation. Without this approach, which gets poor households on the first rung of the sanitation ladder, it is extremely difficult to convince poor or disadvantaged households to build or use latrines.

### Limited follow-up reducing sustainability

The current approach, with implementation financed by WaterAid but conducted almost entirely by local government, allows no follow-up after the first year of the intervention. The local government WES Units confirmed that they are reluctant to visit remote communities unless paid a travel allowance and, once the intervention finishes, no funds are available for allowances.

The WES Units are relatively new institutions, with little experience of sanitation improvement, and few incentives to do their jobs well. Moreover, the current institutional arrangements provide little regular support from the WaterAid programme staff, other than a couple of training courses every year. This arrangement allows little monitoring of either the process or the outcomes, and is an important factor in the large variation in the quality and commitment of the WES Units.

The cost-effectiveness of the interventions could be improved. Similar interventions in Asia cost approximately US\$10 per household latrine, whereas the costs in Nigeria average about \$77 per latrine, with another \$20 contributed by the household. Efforts need to be made to improve the efficiency of the process: to prune the unsuccessful elements, to monitor the relative cost-effectiveness of the various activities, and to focus on the core business of achieving collective sanitation outcomes that have a real impact on the health and economy of the target communities.

## Recommendations

### a) Develop formal guidelines on community units

The definition of the community unit used in the CLTS intervention is critical. WaterAid in Nigeria has already developed informal guidelines that suggest that large villages should be broken down into smaller units that target ODF status one by one, with a separate (but linked) process in each sub-village.

### b) Introduce follow-up interventions to review and improve outcomes

One of the key recommendations for improving the sustainability of the outcomes is to introduce a second phase intervention that aims to review the sanitation outcomes and promote small improvements and upgrades to the sanitation facilities. It is proposed that this intervention should follow about one year after the completion of the initial CLTS intervention, and should utilise a sanitation marketing approach.

### c) Encourage, capture and disseminate local innovation

At present, little effort is being made to encourage or capture local innovation. It is recommended that each of the State Programmes establishes an annual latrine competition, with prizes awarded to the most innovative and affordable designs.

### d) Separate water supply from sanitation interventions

It is also recommended that the water supply interventions be de-linked from the sanitation interventions. Integrated interventions should allow water to be available for handwashing after defecation, for latrine flushing, and for improved hygiene, but, in practice, this study confirms that many of the water supply interventions encounter problems that limit their usefulness and sustainability. In addition, it is difficult to determine genuine demand for sanitation when water supply development is part of the package. Water supply requirements tend to dominate institutional arrangements, thus sidelining those that might contribute significantly to sanitation improvements.

## Section 1

# Introduction

WaterAid has been closely linked with Community-led Total Sanitation (CLTS) since the development of the approach in Bangladesh by the Village Education Resource Centre (VERC) in early 2000. A number of organisations and governments have since adopted, and adapted, the core elements of CLTS as organising principles for wider rural sanitation programming. Nevertheless, most 'total sanitation' programming involves:

‘facilitating a process to inspire and empower rural communities to stop open defecation and to build and use latrines’ *Kar and Pasteur (2005)*

WaterAid’s own body of experience includes several variants of the CLTS approach, but with common elements:

- a) All approaches attempt to work with the entire community rather than with selected individuals and households
- b) The focus is always on the elimination of open defecation rather than on the construction of a particular type of latrine.

WaterAid now has significant experience of implementing community-wide ODF sanitation programmes in rural areas. The three WaterAid country programmes with the broadest experience are Bangladesh, Nepal and Nigeria. WaterAid is now in a position to contribute to the empirical knowledge of CLTS (and its variants) by examining the rich body of experience in these three countries.

## Section 2

# Objectives

The purpose of the study is to contribute to the global understanding of community-wide ODF approaches, with a focus on the extent to which these approaches result in sustained and equitable improvements in sanitation behaviour. The study examines a set of similar WaterAid interventions in three countries – Bangladesh, Nepal and Nigeria – to test the following research hypothesis:

**Achieving ODF status is a necessary but not sufficient condition for the entire community to use and maintain hygienic latrines in the long-term**

Where possible, the study will also explore the additional factors that enhance the probability that ODF status will translate into entrenched behaviour change, as well as the capacity of communities to move onwards up the ‘sanitation ladder’.

Key research questions include:

- What sanitation behaviour change has taken place?
- Are sanitation facilities hygienic?
- Does sanitation behaviour change last?
- Does sanitation behaviour change result in lasting benefits?
- Is there any differential sanitation behaviour change (ie do the improvements include all members of the community, even disadvantaged and vulnerable groups)?
- Are the poor able to build durable latrines without any external subsidy?
- Has there been any upgrading or improvement of latrines?

These questions respond both to the global CLTS debate and to WaterAid’s internal debate on the effectiveness, sustainability and equity of CLTS-based approaches. A number of other current studies, some of which utilise far greater resources and expertise than is available to WaterAid, are examining CLTS outcomes and impacts, so WaterAid has decided to limit the scope of its assessment. In particular, WaterAid has decided not to examine wider environmental sanitation outcomes (solid waste, wastewater, drainage); hygiene behaviour change (handwashing, safe water use, food hygiene etc); or health and economic impacts.

## Section 3

# Overview of study plan

The study will be conducted in three countries. In each case a research team will follow a similar programme of research, with some variations to allow for differences in local circumstances. The research team will use a combination of desk review, interviews and fieldwork in sample communities to test the research hypothesis. The philosophy of the study embraces the concepts of self-reflection and internal learning. The design provides for a number of internal meetings to enable staff to contribute to the study design and to review the lessons arising from the study.

In each country the study will have three phases as follows:

### **Inception phase: Data review and design of field work (two weeks)**

WaterAid country teams will collect all relevant records and data on project communities, and carry out a preliminary analysis. This preliminary work will be carried out by the Country Sanitation Specialist or through contracted research capacity. The Country Researcher will provide support for this analysis and the inception phase will end with a consultation meeting with the Country Consultative Group. The purpose of the inception consultation meeting will be to cross check the data analysis and to finalise the selection of communities for fieldwork. At the close of the inception phase the Country Researcher will be responsible for producing a brief inception report summarising the data analysis.

The inception phase will identify a set of communities (between three and 12) for detailed field study. The communities will be selected from within the set of ‘programme villages’ where WaterAid and its partners have carried out community-wide ODF programmes. The exact criteria for selection will be determined in the inception period but to the extent possible, the selection will include communities where the period since the intervention is as long as possible. Broadly the study will identify communities that have generally comparable contexts (social, economic, geographic). At least one community will be from a group considered to be ‘high performers’ (ODF), one a ‘low performer’ (non ODF) and one ‘median’ case. Where the data set is sufficiently rich, the selection process will also take into account areas with specific technical challenges such as high water table areas.

### **Fieldwork phase: Fieldwork and preparation of case studies for selected study villages (three weeks)**

Fieldwork will be carried out by the Country Researcher and the Country Sanitation Specialist. Fieldwork will be focused over a period of two to three days in each community. Where possible a second visit will be carried out after about a week to provide an opportunity to triangulate field observations. The fieldwork will include:



- Background data collection: facilities and services available in the community (including water supply), previous development interventions, government links, main livelihoods and seasonal variations in community life
- Mapping exercise: produce map (and list) of every household including its sanitation status, its socio-economic status etc. Use (and verify) mapping data during transect walk
- General observation of sanitation behaviours – status (ODF or non-ODF) and latrine use. Application of PRA tools (transect walk etc) to analyse community views of the situation
- Detailed observations of a selection of latrines
- Focus group discussions with selected groups (including focus groups designed to work with communities deemed to be ‘at risk’ of exclusion or other disadvantage in the programme)
- Interviews with key informants (community facilitators, village leaders, local government officials, local health extension workers)
- Interviews with project staff
- Identify and interview open defecation households/members, households owning non-functioning sanitation facilities, and early latrine adopters (in a non-stigmatising and supportive manner)

It is estimated that the fieldwork will take about two and a half weeks in total.

#### **Analysis phase: Review of results and writing up (three weeks)**

At the end of the fieldwork phase, the Country Researcher and Country Sanitation Specialist will present their preliminary findings to the Country Consultative Group at a half/one day workshop. The group will discuss and agree on general findings from the study, including identifying areas of agreement and areas where the data do not allow for indisputable conclusions. The Country Researcher will write up a draft final report for comments by the group and a final report after two weeks.

## Section 4

# Sanitation sub-sector in Nigeria

*The text in this section has been extracted (with minor revisions) from either the Federal Government of Nigeria’s Strategy for scaling-up rural sanitation and hygiene to meet the Millennium Development Goal (MDG) in Nigeria, or from the National Task Group for Sanitation and Hygiene’s International Year of Sanitation (IYS) 2008 – Action Plan for Nigeria.*

### Coverage and targets

According to the 2003 Demographic and Health Survey (DHS03), 15% of households in Nigeria use flush toilets, 57% use traditional pit latrines, and 28% have no facility. Urban households are more than four times as likely to have a modern flush toilet as households in rural areas (29% and 7% respectively). However, KAP studies conducted in 1999 indicated that most traditional pit latrines were unsafe.

The majority of rural dwellers still use unsanitary methods of human waste disposal such as open defecation, or defecation directly into watercourses. Sullage control and disposal are inadequate, not only in the urban areas, but also in peri-urban and rural areas. Crude dumping is the most popular method of solid waste disposal. From a survey conducted by UNICEF in 1999 for rural households to prioritise their needs, lack of potable water was identified as their greatest problem, while the lack of a latrine was considered the least of their problems<sup>5</sup>. This finding is due to limited understanding of the benefits of improved sanitation (such as reduction of diarrhoea and other water related disease), and is one reason for the low prioritisation of sanitation at all government levels.

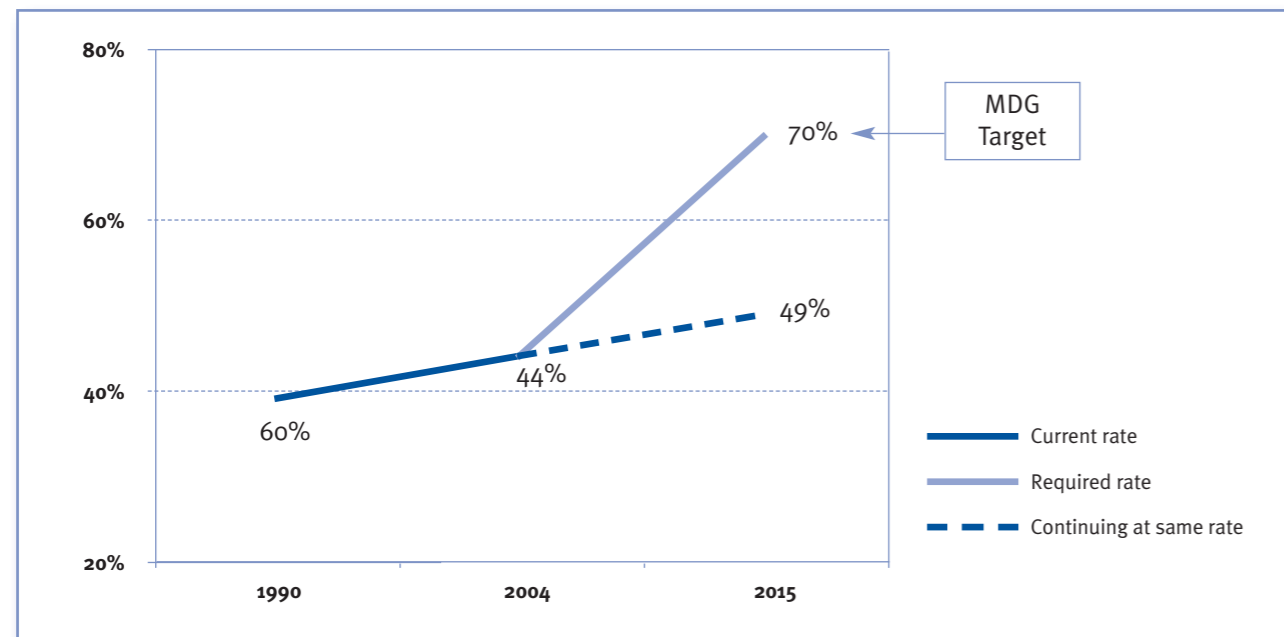
Nigeria is not on track to meet the MDG target for sanitation of 70% access by 2015. United Nations sources estimate that in the last 15 years, rural sanitation access rates have risen just 3% from 33% in 1990, to 36% in 2004, while urban sanitation access has gone from 51% to 53%.<sup>2</sup> (Note that the Federal Ministry of Agriculture and Water Resources (FMAWR) is finalising a new baseline survey that will help to determine current access levels more accurately).<sup>3</sup>

<sup>2</sup> WHO/UNICEF (2006) *Meeting the MDG drinking water and sanitation target : the urban and rural challenge of the decade*, Joint Monitoring Programme for Water Supply and Sanitation (JMP)

<sup>3</sup> National Task Group for Sanitation and Hygiene (2008) *International Year of Sanitation 2008: Action Plan for Nigeria (draft)*

While these access and progress rates are comparable to sub-Saharan Africa averages, Nigeria's large population means that more people are living without sanitation (72 million in 2004)<sup>4</sup> than in any other country in Africa. At the current rate of progress, the MDG target for sanitation will not be met.

### Sanitation trends



But more important than targets is the impact of the lack of improved sanitation on Nigerian communities. Poor sanitation causes diarrhoea, and the Nigeria diarrhoea prevalence rate, at 18.8%, is high.<sup>5</sup> This disease burden leads to high child mortality rates due to direct deaths from diarrhoea (diarrhoea is the second largest killer of children in the country, behind malaria) and to other diseases linked to high diarrhoea prevalence, including acute respiratory infection, cholera, polio and others. Poor sanitation is also a major contributing factor to low education enrolment and achievement rates, to malnutrition, to lagging economic and social development, and to poverty as a whole.

Institutional sanitation and water coverage rates are also low in Nigeria. A UNICEF-sponsored study in 2003 showed that on average there is only one toilet for every 500 students in schools, ten times the widely-used standard of 50 students per latrine. The study also revealed that safe water sources were available in less than a third of all schools in the country.

The draft Action Plan for the International Year of Sanitation in Nigeria<sup>6</sup> contains three significant and ambitious targets to be achieved by the end of 2008:

- 1 Develop enabling environments for the sustainable expansion of sanitation and hygiene programmes

<sup>4</sup> WHO/UNICEF (2006) *Meeting the MDG drinking water and sanitation target: the urban and rural challenge of the decade*, Joint Monitoring Programme for Water Supply and Sanitation (JMP)

<sup>5</sup> National Planning Commission and ORC Macro (2003) *Nigeria Demographic and Health Survey (DHS)*

<sup>6</sup> National Task Group for Sanitation and Hygiene (2008) *International Year of Sanitation 2008: Action Plan for Nigeria (draft)*

- 2 Build one million latrines
- 3 Conduct handwashing campaigns at federal level, in all states, and in all LGAs (to reach 30 million people)

Recent MDG monitoring figures from the WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP)<sup>7</sup> suggest that: assuming an average of 10 people per household, 7.75 million toilets need to be built by 2015 in order to meet the Nigeria MDG sanitation target of 70% coverage by 2015. This figure implies that 775,000 household toilets must be constructed every year over the next eight years (including 2008). In practice, more than this number of household latrines will need to be constructed because of the inevitable collapse, breakdown and abandonment of some low-cost latrines during the period 2008-2015.

Table 1: IYS Action Plan calculation for MDG sanitation progress

Data points	Total population	Sanitation coverage (number of people)
1990 JMP data = 44% coverage	91 million	35 million
2004 JMP data	129 million	57 million
2007 FGN estimate	145 million	61 million
2015 MDG target of 70% coverage	176 million	123 million
No. people that need to gain access from 2008 to 2015		62 million
Annual increase in sanitation coverage (over eight years)		7.75 million
<b>No. latrines per year (@ 10 people per latrine)</b>		<b>775,000</b>

Sources: JMP and UN Population Division calculations and estimates

In addition to household latrines, additional latrines and toilets will need to be constructed in institutions (schools and health centres) and public places (markets, bus stations, autoparks, etc). Current estimates suggest that over half a million latrine stances are required in primary schools alone, with more required for health centres and in public places. Therefore, the overall target has been set at increasing access to improved sanitation facilities by one million new latrines per year.

Interestingly, the draft National Water-Sanitation Policy (discussed further below) notes that the 'average household size in Nigeria is five persons', which suggests that the number of household latrines required is actually double that calculated by the IYS Action Plan (which assumed 10 persons per latrine). Using the same target population of 62 million people, the lower household size suggests that 12.4 million latrines are required (to provide improved sanitation facilities to each household), which is equivalent to **1.55 million latrines per year over the next eight years**.

<sup>7</sup> The WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation data are the official figures for monitoring global and regional MDG progress on water supply and sanitation Nigeria

## Sanitation policy

The current main policy instrument governing the rural sanitation sector in Nigeria is the National Water Supply and Sanitation Policy, which was developed by FMAWR and enacted in 2000. The policy is limited in scope, and is notably weak in the area of rural sanitation. Efforts are currently under way to update this policy, with support from the World Bank.<sup>8</sup>

In 2004 the FMAWR prepared a draft National Water-Sanitation Policy, which focuses primarily on sanitation. The term ‘water-sanitation’ refers to water-related sanitation, as opposed to more general environmental sanitation. The draft policy further defines water sanitation as:

‘effective hygiene practice, handling and disposal of excreta, liquid (sewerage, sullage and storm water) and leachates from dump sites (solid wastes) in so far as it affects water sources.’ (Section 1.2)

The National Water-Sanitation Policy, while still in draft form, defines service levels, coverage targets (80% by 2015) and a broad range of strategies, but provides limited details on institutionalisation and financing. The national policy also defines a cost-sharing formula for the three tiers of government and communities.<sup>9</sup> A set of implementation guidelines is currently being developed for the above policy, of which this scaling-up strategy will form a module of those guidelines. It is anticipated that the policy, and its accompanying implementation guidelines, will be approved by the Federal Executive Council in the near future.

The National Water-Sanitation Policy defines the following service levels:

### Rural:

Each household in rural areas (population less than 5,000) shall own and have access to a safe sanitary facility with at least minor improvements that will reduce flies, odour, etc (at least an upgraded pit latrine)

### Semi-urban:

Each household in semi-urban areas (population of 5,000 to 20,000) shall own and have access to a safe sanitary facility that is easily adaptable to existing traditional pit latrines and has a superstructure that blends well with other buildings within the community (at least a sanplat latrine)

### Urban:

Each household in urban areas (population above 20,000) shall own and have access to a safe sanitary facility that uses suitable and affordable water conveyance systems (at least a pour-flush toilet)

In 2005, the Federal Ministry of Environment released the National Environmental Sanitation Policy. This policy is very broad in scope, and overlaps considerably with the FMAWR sanitation policy – including policy statements on household excreta disposal and school sanitation. It is fairly generic.

<sup>8</sup> Federal Government of Nigeria (FDN) (2007) Strategy for scaling up rural sanitation and hygiene to meet the Millennium Development Goal in Nigeria

<sup>9</sup> The formula for rural sectoral projects is 50% funding by federal government, 25% by state government, 20% by LGAs and 5% by communities. Different funding formulas have been defined for small towns and urban projects

Table 2: Key water and sanitation laws, policies and strategies

Title	Year	Lead ministry
Water Resources Decree, No. 101, enacted	1993	–
National Water Supply and Sanitation Policy, enacted	2000	FMAWR
National Water Policy (draft)	2004	FMAWR
National Water-Sanitation Policy (draft) (awaiting approval by Federal Executive Council)	2004	FMAWR
The National Water Resources Management Policy (second draft)	2003	FMAWR
National Environmental Sanitation Policy (approval status unclear)	2005	Federal Ministry of Environment
Rural Water and Sanitation Strategic Framework (awaiting approval by Federal Executive Council)	2004	FMAWR, States
National Water Law (under draft)	2007	FMAWR

There is an urgent need to harmonise policy instruments and implementation guidelines related to the sanitation and water sector, and to ensure that they fully complement each other. Moreover, in undertaking this harmonisation exercise, it would be most appropriate to draw from the current Rural Water Supply and Sanitation Strategic Framework. This document, issued in 2004, was developed with support from UNICEF and with wide participation of stakeholders including state governments, the EU and the World Bank. The document is comprehensive and includes sector reform principals such as a **zero subsidy approach to household sanitation**, the promotion of technology options, and a clear shift towards decentralised programming. It is also the only policy instrument that specifically includes hygiene promotion as a sector strategy.

The National Economic Empowerment and Development Strategy (NEEDS) is of key importance to the sector since it defines national development priorities, as well as State (SEEDS) and LGA (LEEDS) priorities. As in many other poverty reduction strategies, WASH is not defined as a full sector in the NEEDS, SEEDS and LEEDS documents. However, the sector gets prominent mention, particularly water supply which is listed as the number one priority for rural communities. An updated version of the national document (NEEDS2) is under preparation and this provides a golden opportunity to ensure that sanitation and hygiene is firmly incorporated into this new update.

## Sector stakeholders and programmes

The Federal Ministry of Agriculture and Water Resources (FMAWR), which was created in 2007 by combining the Ministry of Agriculture with the Ministry of Water Resources, is the lead agency in the sector with a mandate that covers sector policy development, coordination, monitoring and evaluation. Activities are carried out primarily through the Department of Water Resources and Water Quality, which includes a dedicated rural water and sanitation division that is divided into four sub-divisions: Community Mobilisation and Hygiene Education, Sanitation Development, Rural Water Supply, and Monitoring and Evaluation. The department is in the process of setting up a new Donor Coordination Division. The National Water Resources Institute, a parastatal under the FMAWR, is responsible for training, research and information management.

The Ministries of Environment and Health also have sector-related mandates in Nigeria. The Ministry of Environment's mandate impacts on the sanitation and water sector in several ways, especially in the areas of environmental sanitation and water pollution (for which it has formulated a national environmental sanitation policy and policy guidance on school sanitation). The Ministry of Health mandate includes standards formulation and regulation of drinking water quality, as well as policy development, and control and prevention programmes for water and sanitation related diseases through its Public Health Department. Other ministries with some involvement in the sector include Education, Women's Affairs and Intergovernmental Affairs, Youth Development and Special Duties.

At the state level, rural sector programmes are implemented through a variety of ministries, including water resources, and works and public utilities. In 22 of 36 states, dedicated Rural Water Supply and Sanitation Agencies (RWASSAs) have been established, in most cases with support from UNICEF. RWASSAs typically have water supply, sanitation, mobilisation, and monitoring and planning units. In most states, however, RWASSAs do not yet have full departmental status, thus staff are seconded from other departments (such as Works and Health).

At present, most LGAs do not have WES Units or departments, except where they have been created recently with assistance from UNICEF-supported programmes. With or without WES Units, LGAs generally have limited budget and human resource capacity for implementing sector activities, thus tending to rely on external support from state governments and donor agencies.

Civil society participation in the sector is very limited in Nigeria. While some international NGOs engage in the sector (notably WaterAid and Concern Universal), national NGOs are few and of limited capacity. Local NGOs and Civil Society Organisations operating at the LGA level are notably absent. However, a National Civil Society Network on Water and Sanitation has recently been incorporated (with assistance from WaterAid), and is generating significant interest.

External support agencies with significant ongoing programmes of support in the rural sector are UNICEF, DFID, the EU, WaterAid and JICA. UNICEF has the largest, most comprehensive programme of support; followed by its implementing partner, WaterAid.

The largest single donor in the rural sub-sector is the EU, with approximately US\$45 million over five years (all through UNICEF). DFID is the next largest, with about \$20 million over six years, implemented through UNICEF and WaterAid. The JICA programme focuses on individual states, currently Kano State, with a budget of about \$3 million. The most significant potential new source of donor funding in the sector is a proposed African Development Bank loan of \$75 million for 2006 to 2010. The World Bank is currently active only in urban and small town projects in Nigeria, but may include a rural component in future programmes.

External support programmes, including the UNICEF programme, increasingly promote a sector reform agenda. The EU Water Supply and Sanitation Sector Reform Programme, which includes small town and urban components as well as the UNICEF-implemented rural component, is specifically designed to improve water governance. The DFID-supported programme implemented through UNICEF and

WaterAid also has a strong focus on governance issues, and the proposed African Development Bank loan includes strong reform-based conditionalities.

### Sector co-ordination and monitoring

The National Task Group on Sanitation (NTGS) was inaugurated in August 2002 as part of the government's commitment towards improving the sanitation situation in Nigeria. The NTGS, composed of nine federal ministries and departments, Civil Society Organisations (eg WaterAid) and development partners (eg UNICEF) was, among other things, given the mandate to develop the National-Water Sanitation Policy and the corresponding implementation strategy. More recently, the task group has also been mandated to develop and implement the International Year of Sanitation Action Plan.

## Section 5

# WaterAid in Nigeria sanitation programme

*The majority of this section was extracted (with minor revisions and updates) from two WaterAid internal reports:*

WaterAid (2006) *Evaluation of Pilot phase of CLTS in Nigeria*

Burton S (2007) *Community-led Total Sanitation: an evaluation of WaterAid's CLTS programme in Nigeria*

## 5.1 Background in Nigeria

Since establishing a programme in Nigeria in 1995, WaterAid in Nigeria and partners have tried several approaches to sanitation including hardware subsidies, promotion through sani-centres,<sup>10</sup> as well as in some communities making the construction of latrines a pre-condition for gaining access to water supply. However, to date, WaterAid in Nigeria and partners have faced many challenges in terms of achieving sustainable changes in the behaviour of local communities, or even the sustained use of latrines after the withdrawal of project support.

WaterAid in Nigeria carried out a 'Looking back' study in 2003 and an impact assessment of the WaterAid in Nigeria Oju and Obi Project in 2004, both of which suggested that projects were not sustainable once subsidies for latrine construction were removed. In addition, another study: 'Sustainable sanitation research: Drivers and barriers' Nigeria Country Report (2005) highlighted that the main enabling factor for the adoption of latrines was the introduction of Water and Sanitation Units (WASU) who encouraged communities to adopt improved sanitation practices, using a subsidy-based approach.

The outcomes of the impact assessment led WaterAid in Nigeria to seek a more sustainable sanitation promotion model. In October 2004, WaterAid in Nigeria sent two staff members (Head of Advocacy and Communication and Country Programme Hygiene/Sanitation Promotion Focal Person) and a sanitation promotion volunteer (from Oju Project) to Bangladesh to study CLTS, with a view to replicating the approach in Nigeria.

<sup>10</sup> Community-based production and sales centres which manufacture concrete latrine slabs and sell the slabs and a range of other sanitary wares to members of the community

## 5.2 First CLTS pilot project (four communities)

On the return of the WaterAid in Nigeria team from Bangladesh, a decision was taken to pilot CLTS in two communities – each in Logo and Vandeika LGAs of Benue State. The chosen communities were Abeda and Tse-Ibon in Logo LGA, and Bilaja and Mbaikyo in Vandeikya LGA. It is important to note here that the four communities initially selected were not new intervention sites. This meant that the communities were already exposed to the subsidy model. The initial plan was to have four communities in each LGA, two where subsidy has been introduced and the other two without subsidy for the CLTS. Two new communities were not however selected at inception, so CLTS was piloted in communities where some members of the community have benefited from the subsidy to build VIP latrines. Piloting in two other communities – Maga and Tor Kukwa in Logo LGA – started from January 2006.

Another issue of note is that the WASCOM for each of the communities were already selected as part of the previous project in 2004 and were not selected at the inception of the CLTS. Inception training for four days was conducted for the WASU officials in the two LGAs by WaterAid in Nigeria. This inception training was followed by training for WASCOM for two days in the LGA/community by WASU officials with support from WaterAid in Nigeria in June 2005. The pilot therefore did not begin until June 2005.

The initial approach was for the WASU official, together with WASCOM members and community members, to conduct a transect walk to observe the sanitation situation of the community and identify areas of open defecation, then hold a community meeting to discuss the harmful effects of open defecation, prepare an action plan to totally eradicate open defecation, set targets, and select youth volunteers. These volunteers were expected to keep baseline information about household toilets and to monitor the implementation of the action plan.

## 5.3 Review of first CLTS pilot project

In November 2006, WaterAid in Nigeria conducted an internal evaluation of the pilot phase led by Dr Muhammod Abdus Sabur of WaterAid in Bangladesh (with support from representatives and partners from other West African WaterAid country programmes). Key findings from the evaluation included many positive outcomes as well as a number of challenges:

- Impressive improvement in hygiene and sanitation – many more toilets constructed with hand-washing arrangements, refuse disposal, clean premises, clean environment
- Community feel proud about the positive changes yet aware they need to do more
- All the institutions involved are working and aware of their respective roles
- Majority of people involved are committed to the process and goals
- Community has confidence in WASCOM
- People are changing habits – sharing others' toilets instead of open defecation
- Local materials are used instead of concrete slabs

## 5.4 Second CLTS pilot project (24 communities)

Responding to the challenges observed, WaterAid in Nigeria redesigned the CLTS methodology and initiated a second phase of pilot projects in November 2006 in four States: Benue, Enugu, Ekiti and Jigawa. Twelve LGAs were involved across the four states, with interventions in two communities in each LGA, making a total of 24 communities.

As the second phase proceeded, there were indications of the potential of CLTS to yield better results than any approach previously used in Nigeria. Following intensive field visits in June 2007, the NTGS drafted a strategy for scaling up sanitation that anticipated that the CLTS methodology would be the basis for scaled up sanitation improvement across the entire country.

The second phase of the pilot followed a number of steps. Representatives of WASUs and NGOs who had participated in the November 2006 CLTS training carried out step-down training to other WASU members. WASU members then visited the project communities, conducted community meetings, guided the formation of WASCOMs, trained the WASCOMs<sup>11</sup> in CLTS methodology, planned the community-led initiative, and together with the WASCOMs, monitored the process of implementation of the CLTS processes. At around the same time, sani-centres were established in most of the communities, and water points were either renovated or constructed. In each community, artisans were trained on how to construct various types of latrines. In some communities, Volunteer Hygiene Promoters were also selected to visit households and promote hygienic practices, although there was a lack of clarity on the different roles of Volunteer Hygiene Promoters and WASCOM members.

## 5.5 CLTS evaluation (2007)

Before moving to a full-scale activity, WaterAid in Nigeria commissioned an evaluation of CLTS to assess the effectiveness, efficiency and relevance of the CLTS programme and to recommend ways of improving and scaling up the CLTS programme in Nigeria.

Analysis of information gathered from 13 communities in Benue and Jigawa showed a number of positive outcomes of the CLTS programme. There was a significant reduction in the extent of open defecation in the communities with some communities declaring ODF status. All communities reported health improvements such as fewer skin infections and reduction in diarrhoea and vomiting, particularly amongst children. Large numbers of latrines had been constructed with locally available materials so that almost half the communities studied had either 100% or nearly 100% access to latrines. One of the most significant results was the positive effect of CLTS on the dignity of women and girls who no longer had to risk being assaulted on their way to and from the bush. People felt it was much safer now that they do not have to go to the bush where in the past snake bites were common.

<sup>11</sup> Formation of WASCOM is a requirement in all WaterAid in Nigeria programme planning and implementation

The most significant outcome was that community members felt that it was **their** programme. The ‘software’ in terms of training provided by WaterAid in Nigeria, was not considered an external input and although all the communities identified the importance of water for the success of CLTS, they have developed fund generation and other systems for maintaining the facilities and ensuring sustainability. The evaluation provided wide ranging evidence that that CLTS is an effective approach to establishing hygiene and sanitation practice in Nigeria, but the effectiveness varied depending on certain conditions which will need to be taken into consideration when scaling up the initiative.

CLTS is more effective in communities where it is used as the only approach to promoting hygiene and sanitation. In the absence of other initiatives, the initial triggering activities are more effective in convincing the community to take action. CLTS was not particularly effective in communities that had previously been exposed to the subsidy approach. CLTS was also less effective in more urbanised communities, perhaps due to the limited sense of community and the large number of tenant occupied houses. CLTS effectiveness was strongly associated with the quality of the entry processes, including a more participatory approach to facilitation, training and step-down training to community level, clear initial messages, effective formation of WASCOMs, and establishment of working water points. CLTS also appeared to work better in smaller communities (below 3000 people).

## 5.6 Sanitation data provided for the current study

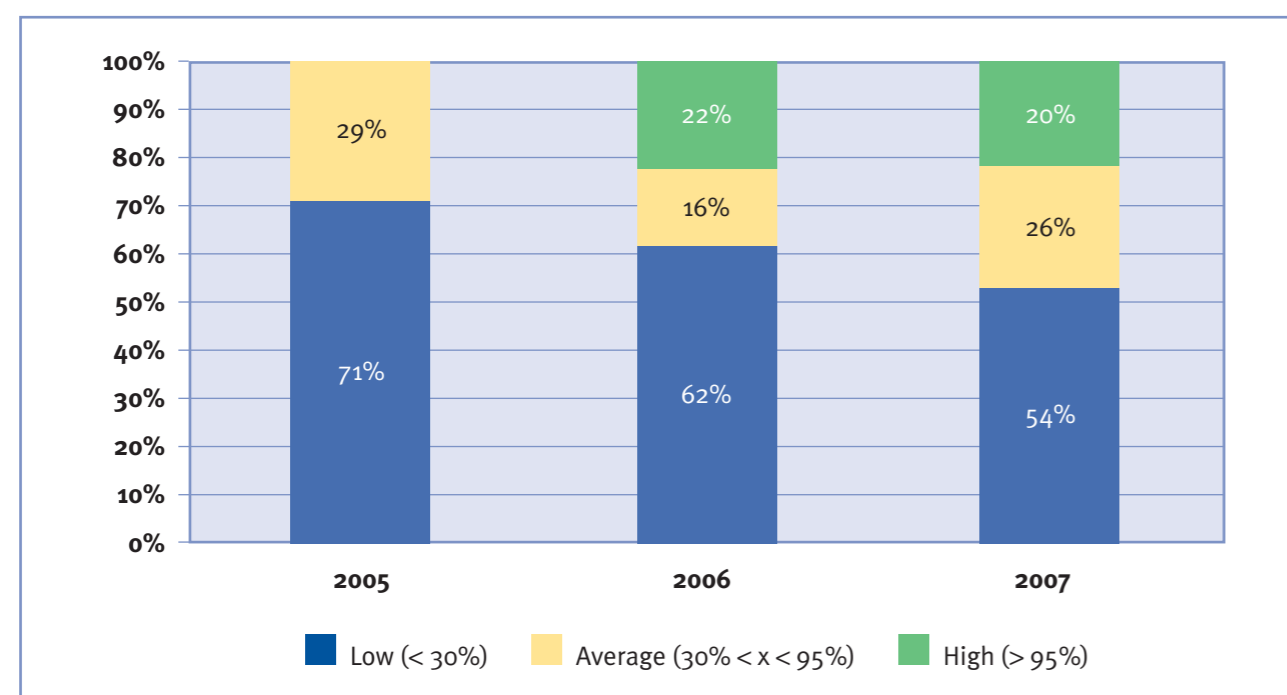
In July 2008, WaterAid in Nigeria conducted a survey of its field offices in order to collect up to date data on the status of its CLTS interventions. The survey data provided to the consultant team suggested that there is currently a total population of 98 relevant project communities (ie communities where WaterAid has promoted a community-wide ODF approach) in Nigeria. Of these, 54 community interventions were started in the 2007-08 financial year, 37 in 2006-07, and the remaining seven started in 2005-06.

The survey data confirm that CLTS is still new to Nigeria. Only seven CLTS interventions are more than two years old, and several of the LGA WES Units did not receive training in the implementation of CLTS until late 2006. As a result, awareness of the approach, participatory methodologies, and technical solutions to local physical challenges are still evolving.

Nevertheless, the survey data confirm that, despite the steadily increasing scale of the programme, the performance of the WaterAid CLTS interventions is improving year on year. As per the research design, the interventions have been categorised into:

- High performers (communities that achieved greater than 95% latrine coverage)
- Median performers (achieved between 30% and 95% latrine coverage)
- Low performers (achieved less than 30% latrine coverage)

CLTS performance 2005-2007



The chart above clearly shows that the percentage of high and median performing communities has increased from 29% in 2005 to 46% in 2007, despite scaling up implementation from only seven communities in 2005 to 54 intervention communities in 2007:

2005 = 7 communities in 2 states (71% low performers)  
 2006 = 37 communities in 4 states (62% low performers)  
 2007 = 54 communities in 6 states (54% low performers)

However, the real measure of success for a CLTS programme is the proportion of ODF communities achieved. The ODF success rate in Nigeria remains relatively low, at approximately half the rate currently being achieved by total sanitation programmes in other countries:<sup>12</sup>

Nigeria = 15%–19% ODF rate  
 Cambodia = 31% ODF rate  
 India = 35% ODF rate  
 Indonesia = 37% ODF rate  
 Pakistan = 38% ODF rate

These findings confirm that the CLTS programme in Nigeria remains in a fairly early stage of its evolution, and that the first two years of the programme (during which the interventions to be studied took place) were less effective than the more recent 2007-08 interventions.

<sup>12</sup> Based on data collected by the author for the WSP Gates Foundation Total Sanitation and Sanitation Marketing Project (Himachal Pradesh, India; and Indonesia); from Mark Ellery, WSP Pakistan (Pakistan); and Heino Guellemann, Swiss Red Cross Cambodia (Cambodia)

## 5.7 Features of CLTS in Nigeria

The WaterAid in Nigeria CLTS programme includes several features that differentiate it from more conventional CLTS programmes (which focus exclusively on stopping open defecation through participatory and promotional activities).

### Water supply

All CLTS interventions carried out by WaterAid in Nigeria (through their LGA and NGO partners) include a water supply component. In most cases, WaterAid provides the project community with a borehole-sourced handpump; the development and installation of the water supply usually takes place in parallel with the CLTS activities.

The water supply component of the intervention means that both the technical and managerial aspects of the intervention are significantly different from those of a normal CLTS intervention. Additional requirements include: tests need to be conducted to check the feasibility (and location) of a borehole or well, the WES Unit (of the LGA) must have suitable technical expertise, the WASCOM must be trained in the operation and maintenance of the handpump, a handpump operator and mechanic must be appointed, and funds need to be collected for the maintenance and repair of the communal water facility.

Importantly, the water supply component also affects community demand for the intervention (as demand for the water supply may influence community representatives to exaggerate their demand or interest in sanitation), and the long term sustainability of the intervention (as the outcomes of the sanitation improvements may be influenced by the success and sustainability of the water supply component).

The 2007 CLTS evaluation found that ‘one of the key entry processes is access to water ... communities clearly associated the effectiveness of CLTS to availability of water’.

### Hygiene promotion

The WaterAid CLTS interventions also include hygiene improvement components. Each household is encouraged to construct a handwashing station alongside their latrine, and to ensure that this station is furnished with a water supply (usually an open container on a stand beside the latrine) and some soap. The community is also encouraged to keep yards clean and dispose safely of solid waste.

Obviously, the promotion of the handwashing stations is closely linked to the availability of water supply close to the home, thus reinforcing the importance of the success and sustainability of the water supply component.

## Establishment of sani-centres

In Nigeria, WaterAid has promoted the establishment of a *sani-centre* in each project community. The sani-centre approach was developed to tackle the transport and market access problems faced by remote rural communities in Nigeria. The intention is to establish a production centre selling concrete latrine slabs (manufactured using a mould provided by WaterAid) and a permanent store selling sanitary wares in each project community.

WaterAid trains several community members as artisans (able to construct low cost concrete latrine slabs) and provides each community with N80,000 (US\$700) as seed money for the sani-centre. Depending on demand, the seed money is used to buy a mixture of construction materials (mould for slab, cement, aggregate and sand) and household sanitary wares (plastic potties, soap, washing powder, brooms, toothbrushes, water pots, filter cloths, etc). The selection and purchase of these materials, as well as the transport of the materials to the community, are supervised by the LGA WES Unit.

The goods supplied to the sani-centre are supposed to be sold to the community members at affordable prices, with any income used to replenish the material stocks held by the sani-centre. In most cases, the WES Unit and the WASCOM members set the price for a concrete latrine slab at about N1,300–N2,000 (US\$11.50–\$17.70).<sup>13</sup>

## Shame and disgust as triggers for sanitation behaviour change

The CLTS literature emphasises the importance of shame and disgust as triggers for sanitation behaviour change. Several of the main CLTS tools focus on confronting community members with: the unpleasantness of defecation sites close to their homes (transect walk), the volume of human excreta deposited around the community (excreta calculation), and an increased understanding of the contamination routes between this excreta and their homes, their food, and their mouths (contamination mapping).

During the planning meeting for this study (and again in the research design note), it was noted that WaterAid in Nigeria staff had found that shame and disgust were not effective drivers of change, and that alternative (more culturally appropriate) approaches had been developed within the community-wide facilitated approach. Specific challenges were stated to be the more scattered nature of the rural settlements in Nigeria, which mean that it is often difficult to find evidence of open defecation even in communities with very few latrines, and the difficulty of conducting effective transect walks in scattered communities surrounded by thick bush. It was also suggested that the significant cultural and contextual differences between West Africa and South Asia reduce the relevance and effectiveness of these triggers in Nigeria.

However, a review of the CLTS materials developed by WaterAid in Nigeria, as well as discussions with staff from WaterAid in Nigeria and from LGA WES Units, confirm that the core CLTS tools that trigger shame and disgust (transect walk, faeces calculation, faeco-oral route transmission) remain important parts of the CLTS process in Nigeria.

<sup>13</sup> The exchange rate at the time of the fieldwork was US\$1 = Naira 113

Several Nigerian CLTS practitioners interviewed for the study noted that the faeces calculation, and the disgust that it engenders, is the single most effective tool in the CLTS process. Furthermore, the 2007 CLTS evaluation confirmed that ‘the success of CLTS has been linked to triggering community action as a result of the shame of seeing and observing their own open defecation. The communities studied clearly showed that they had been triggered to be ashamed of the habit of open defecation: ‘I was embarrassed that someone from outside had to come and show us the rampant defecation in my community – why not we do it ourselves?’’. The 2007 CLTS evaluation also noted the importance of the realisation that ‘we may be eating people’s shit’ and ‘that the fly sitting on my child’s lips could give him diarrhoea’.

One explanation for this contradiction (reports that the process had been radically changed versus evidence from the fieldwork that the process retains a reliance on the disgust trigger) is that each country feels the need to put its own imprint on any externally developed process. Nigerians are a proud people, and several respondents noted that most Nigerians would not find it acceptable or pleasing that a process developed in Bangladesh should be used without any adaptation in Nigeria. Therefore, it appears that CLTS in Nigeria has been repackaged, but without altering the fundamental principles that make CLTS work.

## Institutional issues

WaterAid in Nigeria has a relatively small team in each of its focus states. The typical arrangement is for WaterAid to employ only two programme staff (State Manager and Programme Assistant) in each state, supported by an administration officer. The Programme Assistant is often seconded from the State Rural Water Supply and Sanitation Agency. Two zonal offices (North and South) used to provide additional support to the state teams, but the zonal offices were dissolved in 2007, thus all higher level support is now provided by WaterAid’s headquarters in Abuja.

The planning and implementation of the CLTS interventions are conducted by the WES Units of the LGA, usually without any direct involvement of WaterAid staff. Most of the WES Units were established in 2004-05, with support and training from the UNICEF programme and WaterAid; thus capacity and experience are fairly limited. Where available, the WES Unit contracts a local NGO to undertake specific tasks, such as the baseline survey, community mobilisation, and some training events.

As a result of their limited capacity, the WaterAid state teams do not generally take an active part in implementation activities, and are heavily reliant on the WES Units for reports of progress and outcomes. WaterAid in Nigeria recently recruited a Sanitation Officer who will be based in Abuja, and will be responsible for ensuring stronger technical and monitoring and evaluation support to the state teams.



## Section 6

# Fieldwork

The research design envisaged the selection of study communities from the set of programme villages where WaterAid and its partners have carried out community-wide ODF sanitation programmes and ‘where the period since the intervention is as long as possible’. Therefore, the sample frame will exclude all community interventions started in the 2007-08 financial year.

The remaining 44 communities will provide the sample frame for the study in Nigeria (community details provided in Annex 1: Background data):

- 7 high performers (latrine coverage > 95%) = 16% sample population
- 14 median performers (30% < latrine coverage < 95%) = 34% sample population
- 23 low performers (latrine coverage < 30%) = 52% sample population

Further analysis of these categories reveals that three of the seven high performers are the smallest communities in the sample frame (each comprising less than 300 people and 25 or fewer households). Given that the median community size of the sample frame is 150 households, and that only five other communities comprise less than 100 households, these three communities are not considered representative of the sample frame (or of the larger population of communities in Nigeria). However, given the apparent success of the approach in these small communities, as also noted in the 2007 evaluation of WaterAid’s CLTS programme in Nigeria,<sup>14</sup> it is recommended that one of the small, high-performing communities is included in the study sample.

In addition, all of the high performers except one are in either Benue (Ado LGA) or in Jigawa. This finding suggests that either the conditions in these two states are more conducive to the community-wide ODF approach used; or that the support and facilitation in these states has been substantially better than in the other states. Therefore, the study will also examine communities in one of the lower performing states (eg Ekiti or Enugu) in order to ascertain whether there are any significant differences in either local conditions or implementation.

Otherwise, the data review suggests no substantial differences between the different WaterAid in Nigeria focal states. However, a comparison with data from the 2003 Demographic and Health Survey (DHS03) suggests that the sample frame communities differ substantially from typical Nigerian rural communities: the average household size in the sample frame communities is 13 people, ranging from

eight people per household in Plateau to 14 people per household in Benue; whereas the DHS03 survey<sup>15</sup> suggests that the average household size in rural areas is smaller, at only 5.1 persons per household.

The larger household size found in the WaterAid project communities may be linked to poverty levels (eg if larger households are found in poorer communities, and if WaterAid in Nigeria has selected poorer target communities) but insufficient poverty data is available to confirm this hypothesis, as the poverty data reported by WaterAid are relative (based on community assessments of rich, poor and very poor households).

Interestingly, the DHS03 data also suggest that about two-thirds of rural households in Nigeria have some form of sanitation facility: either a flush toilet (7%), a ventilated improved pit latrine (2%) or a traditional pit toilet (57%). The WHO-UNICEF Joint Monitoring Programme for Water and Sanitation considers that half of the traditional pit latrines are *unimproved sanitation facilities*, thus should not be counted as access to improved sanitation, which explains why the JMP estimates that rural sanitation coverage in Nigeria is only 30%.<sup>16</sup> However, the DHS03 survey suggests that more than half the households in a typical rural village should have a latrine, even if it is an unhygienic traditional pit latrine. The DHS03 data also suggest that open defecation is particularly prevalent (38%) in the North Central Region, which includes Benue and Plateau, compared to a rural average of 34% open defecation in Nigeria (with only 10% open defecation found in urban areas).

The WaterAid in Nigeria background data suggest that pre-intervention levels of latrine coverage are almost zero in all of the communities in Jigawa and Plateau; and that average latrine coverage ranges between 22% and 38% in the other focal states. These data contrast significantly with the DHS03 data, implying that the sample frame contains communities with significantly lower access to sanitation facilities than is typical in the rural areas.

### Community selection criteria for the WaterAid in Nigeria programme

The community selection criteria used in the WaterAid in Nigeria programmes has evolved as the LGA WES units have developed and improved their capacity. At the outset of the CLTS interventions, WaterAid in Nigeria tasked the WES Units with conducting their own vulnerability rankings (based on poverty data, vulnerability indicators, and sanitation coverage data). The communities with the highest vulnerability ranking were then supposed to be selected for interventions, subject to any specific LGA or political criteria (such as ensuring equitable distributions of development aid across the LGA).

More recently, the LGAs have produced Local Development Plans that provide a formal ranking (based on similar criteria). Where available, the WES Unit now uses the Local Development Plan as the basis for the selection of intervention communities, subject to approval by the LGA management committee.

<sup>14</sup> Burton S (2007) Community-led Total Sanitation: an evaluation of WaterAid’s CLTS programme in Nigeria processed

<sup>15</sup> Based on a cluster randomised survey of 7,225 households

<sup>16</sup> WHO-UNICEF (2008) *Progress on drinking water and sanitation: special focus on sanitation*, New York: WHO-UNICEF Joint Monitoring Programme for Water Supply and Sanitation

The community selection criteria imply that the project communities should be significantly poorer, and have significantly lower access to sanitation, than an average rural community in Nigeria.

### Selection of study communities

The research design recommends that the sample communities be clustered in similar physical and social contexts in order to minimise differences between the study communities. The limited time available dictates that a maximum of three states can be included in the fieldwork, and that at most two to three communities can be visited in each state.

Benue state provides 23 of the 44 sample frame communities (52% of the total) and, therefore should be one of the states visited during the fieldwork. Enugu state adjoins Benue state, and was one of the two states with particularly poor performance, thus it is recommended that it should also be visited. Finally, Jigawa state represents the North West Region, with particular interest because of its high success rate: three of the six project communities in Jigawa achieved latrine coverage of 95% or higher, despite starting from pre-intervention coverage levels of less than 2%.

The random stratified selection of communities in Benue state:

- Two of three high performers in Ado LGA = Efopu-Ekile (small) and Igba (non-small)
- One of eight median performers = Mbagbor (Vandeikya LGA)
- One of twelve low performers = Tse-Agera (Logo LGA)

The random stratified selection of communities in Enugu state:

- Two of seven low performers = Mburubu (Nkanu East LGA) and Amagu-Ada Obollo (Udenu LGA)

The random stratified selection of communities in Jigawa state:

- One of three high performers = Duhuwa (Gumel LGA)
- One of two low performers = Molori (Maigatari LGA)

### Consultation meeting with the National Task Force for Sanitation

WaterAid in Nigeria invited members of the National Sanitation Task Force to the inception consultation meeting on Friday 8 August (held in the Parkview Hotel, Abuja). WaterAid in Nigeria also invited its State Programme Managers from Benue and Jigawa to attend the inception meeting.

The purpose of the meeting was to discuss the objectives and methodology of the study, to cross-check the data analysis that formed the basis for the fieldwork design, and to finalise the selection of communities for the fieldwork.

During the meeting, the WaterAid State Programme Manager for Jigawa presented some updated monitoring data on Molori (Maigatari LGA), which suggested that the

number of latrines in use had increased dramatically from the survey report of 42 household latrines in use, up to 112 household latrines (out of 138 households). The higher sanitation coverage suggests that Molori should have been classified as a 'median performer' rather than a low performer. The table below summarises the updated data set (based on the latest WaterAid in Nigeria monitoring data).

### Completed fieldwork schedule

In practice, the collapse of a road bridge meant that the visit to Tse-Agera (Logo LGA, Benue state) was not possible in the allotted time, thus an alternative low-performing community in Benue state was selected: Mbaazenger (Vandeikya LGA, Benue state).

**Table 3: Community data provided by WaterAid in Nigeria (prior to fieldwork)**

Community	Performance	State	Population data			Sanitation data (household latrines)		
			No. hhds	No. size	Hhd size	Initial (No.)	Current (No.)	Coverage (%)
Duhuwa	High	Jigawa	1,398	128	10.9	0	128	100%
Efopu-Ekile	High	Benue	300	15	20.0	3	15	100%
Igba	High	Benue	2,600	124	21.0	49	124	100%
Molori <sup>17</sup>	Median	Jigawa	1,431	130	11.0	0	112	86%
Mbagbor	Median	Benue	4,800	264	18.2	24	195	74%
Mbaazenger <sup>18</sup>	Low	Benue	4,180	330	12.7	34	35	38%
Amegu-Ada	Low	Enugu	5,070	230	22.0	41	48	21%
Mburubu <sup>19</sup>	Low	Enugu	2,720	280	9.7	29	?	?
	<b>Average</b>	<b>2,812</b>	<b>158</b>	<b>19.8</b>	<b>23</b>	<b>94</b>	<b>59%</b>	

Source: WaterAid in Nigeria monitoring data (from state programmes)

Key: No. = number, Hhd = household

In addition, the WES Unit in Ado LGA informed the research team that, because of recent heavy rains, it was unlikely that we would be able to reach either of the two communities selected (Efopu-Ekile and Igba) as both were about 20 kilometres from the main road down narrow, muddy tracks that become impassable after rain. Despite concerns that these constraints might mean that our time in the communities was limited, the research team decided to stick to the randomly selected communities in order to preserve the integrity of the sampling process and avoid the risk that the study only examined communities that were easily accessible (and thus likely to receive more regular support and monitoring visits).

<sup>17</sup> Molori data is based on the revised figures provided by the WaterAid State Manager for Jigawa

<sup>18</sup> The WaterAid in Nigeria survey data suggested only 91 households in Mbaazenger (household size 46), but further investigation revealed these were 'compound households' and that the correct total was 330 households. In addition, about half of the existing latrines are shared by several households

<sup>19</sup> The current sanitation coverage in Mburubu was not available



Vehicle bogged in soft soils near Duhuwa



Motorbikes were used to reach Efopu-Ekile

In the end, the research team managed to visit a total of eight communities (as planned): four communities in Benue state, two communities in Enugu state, and two communities in Jigawa state. As predicted, the heavy rains experienced throughout the fieldwork period hindered access to the communities, reduced the ease with which communities could be gathered for meetings and discussions, and made the observation surveys difficult (resulting in fewer households being covered in several communities).

Despite these constraints, the research team spent two days in each of the three high-performing communities, and one full day in each of the other five communities. In all, the team studied communities in six different LGAs, across three different states.

## 6.1 Methodology

The fieldwork team consisted of the following members:

- Country Researcher: consultant (Andy Robinson)
- Country Sanitation Specialist: consultant (Ademola Adeagbo)
- WaterAid in Nigeria Sanitation Officer (Micah Mendie)
- WaterAid in Nigeria Senior Manager<sup>20</sup> (Francis Ogunpitan or Ada Oko-Williams)
- National Task Group on Sanitation member (Musa Mohammed or Ayo O)
- WaterAid State Programme Manager (in Jigawa only)
- WaterAid State Programme Assistant (in Benue only)
- WES Unit officers (usually two or three people)

<sup>20</sup> Francis accompanied the fieldwork team during the Benue and Enugu visits; Ada during the Jigawa visits.

For each community, the following sequence of activities was followed:

### A. Pre-information by WES Unit

In most cases, the study community was pre-informed of the forthcoming visit by a member of the WES Unit. Whilst this pre-information risked the community improving the condition or cleanliness of their latrines prior to the research, both the WaterAid team and the WES Unit members felt that, during the rainy season (when many community members spend all day working in the fields away from their homes), it was important to forewarn the community of the visit in order to ensure a reasonable attendance during the discussions and surveys.

### B. WES Unit visit

The research team spent an hour or so at the WES Unit office before proceeding to each study community. During this time, the available WES Unit members were asked some general questions about the unit and its history and about the particular community intervention that the research team was due to visit. The WES Unit was also asked to show the research team the file containing all the background data and reports on the study community.

A standard checklist (included as Annex A) was used for the interviews with the WES Units. The checklist included questions on:

- Programme data (number of staff, their experience and positions, the size of the programme, number of communities covered per year)
- General info on water and sanitation interventions (how project communities were selected, total budget, role of local government, role of UNICEF or other agencies and NGOs, the influence of the WaterAid in Nigeria programme on the WES Unit)
- Information on the study community (copy of baseline data, any deviations from standard procedure, duration of intervention, number of visits made, division of labour between different sectors, costs in the community, outcomes)
- Intervention issues (local issues that affect implementation or outcomes, CLTS factors of success, support from LGA, equity in community, sustainability issues)

### C. Community: Introductory meeting

As many community members as possible were called together for an open meeting. The purpose of the meeting was:

- To explain the purpose of the visit (and the study)
- To collect background community data (on access to non-water and sanitation services, previous development interventions, main livelihoods, and links to government)
- To determine the type of community (rural, peri-urban, commercial, remote, scattered, multi-ethnic) and assess how the community compares with the other study communities
- To examine the number of sub-villages (or other groupings) within the community
- To examine the typical household and family unit found in the community (typical size of household, clustering of households, extended family compounds, definition of household used in the household list and counting of latrines)
- To investigate the representivity of the WASCOT membership
- To investigate the representivity of those attending the introductory meeting.

In each community, the following data were recorded (in addition to the data required by the community data form):

- The number of community members at the meeting (men, women, children)
- The number of community members from each sub-village at the meeting (to check representation of the different sub-groups within the community)
- The number of WASCOM members at the meeting (and their sub-village)

A standard pro-forma was used to facilitate collection of data in activities 3-5 (community data, water and sanitation information, and mapping data). The forms are included as Annex C.

At the end of this activity, the WASCOM members were asked whether they could show the research team their records: the visit book (which should record all visits by the WES Unit and other support staff) and the file containing the intervention documents (including baseline survey data, wealth ranking, and any lists of households detailing changes in sanitation status).

#### D. Community: Water and sanitation information

The same community group was used for the next activity: the collection of information on water and sanitation services within the community (see Annex C).

The community group was asked to provide details of the water supply situation before and after the intervention and the sanitation situation (number of latrines, number of open defecation households, location of open defecation sites) before and after the intervention. The women and children in attendance were asked (separately) to confirm that the situation described was accurate, and to note any differences in their understanding and use of water and sanitation services in the community.

The community group was also asked for details about whether an application was made for the intervention and, if so, the reasons for applying, and the main drivers of the application and subsequent activities. The community was then asked to describe the process (the main steps involved) and the sanitation outcomes.

Specific questions were asked about the role of the sani-centre: what was its current status; how many latrine slabs (and other major latrine components) had been sold (for what price), what other goods had been bought, supplied and sold, and what had been done with any income obtained, or with any unsold materials.

Finally, the community group was asked about any problems faced during the construction of the latrines and during the subsequent use and maintenance of the latrines. In particular, the numbers of collapsed, damaged and abandoned latrines were recorded, along with the community suggestions as to the cause of these problems.

#### E. Community: Mapping data

The mapping exercise was conducted with a smaller group – usually a couple of WASCOM members, at least one representative from each sub-village in the community, and a couple of women. The purpose of this exercise was to collect and verify more detailed information on different groups within the community. The starting point for this exercise is a complete list of the households in the community.

The size of each of the following groups was determined and, wherever possible, individual households (from these groups) were identified on the household list:

- Migrant households (new households from outside)
- New adult households (young adults that have formed new households)
- Female-headed households
- Elderly-headed households
- Orphan households
- HIV/AIDS households
- Households with disabled member(s)
- Landless or extremely poor households (no assets or income)
- Minority ethnic groups
- Minority religious groups

In each case, the sanitation status of the group was determined (number of households with improved sanitation facilities, traditional latrines, or practicing open defecation). The focus group were also asked whether any latrine pits had filled, and whether any households had built improved latrines with twin pits, or had upgraded their latrines in any way since the original intervention.

#### F. Community: Observation survey

The mapping data and the household list were then used to select a sample of households for the observation survey. Wherever possible, the sample set included:

- All of the disadvantaged households identified
- All of the new households identified
- All of the open defecation households
- All of the households with collapsed latrines
- A random sample of the rest of the households

In large communities, or communities where one or more of the disadvantaged or special case groups was too large to be visited in the time available, a sample was taken from the relevant groups.

The random sample was chosen by selecting between one in three and one in seven<sup>21</sup> of the non-disadvantaged and non-special households, using interval sampling (every third to seventh name, depending on the sample fraction chosen) starting from a randomly chosen name on the household list. Where specific divisions had been identified within the community, for example, the two ethnic groups in Duhuwa, and the distinct sub-villages in Mbagbor, stratified random samples were taken (ie specific groups were identified for visits – three of the eight sub-communities in Mbagbor – and interval samples were selected from within each of the separate groups).

<sup>21</sup> The sampling fraction was chosen to provide an appropriate total number of households to visit (based on the time available for the survey)

### Methodology note: Measurement of open defecation status

In each case, visits were made to sample households from three different categories:

- Disadvantaged households (purposely selected from a list of those with known disadvantages – generally female-headed households, elderly-headed households, or households containing disabled members)
- Special case households (purposely selected from lists of known special cases, such as open defecation households, households with collapsed latrines, and new households)
- Random households (randomly selected from a community list that excluded the disadvantaged and special case households, with the sample size determined by the time remaining to complete the observation fieldwork).<sup>22</sup>

The proportions of open defecation (as reported by the household, or where no latrine observed by the team), collapsed latrines, shared latrines, and private latrines found in each of the three observation sample sets were then applied across the entire category population (eg the percentage of open defecation among the sample disadvantaged households was applied to the total number of disadvantaged households in the community). These totals were then summed to give the overall open defecation and latrine status in each community, as reported below.

The fieldwork team divided into two groups for the observation surveys in order to cover as many households as possible. In most cases, the survey teams did not manage to cover the entire list of sample households due to the large distances between settlements in most of the communities, the adverse weather conditions (heavy rain during most of the fieldwork period), and difficulties in finding some of the households on the community list. Nevertheless, 276 households were surveyed,<sup>23</sup> which means that almost one in five (18%) of the households in the eight study communities were visited and observed directly by the research team.

The observation survey also acted as a partial transect walk. The two survey teams visited most parts of each community during their search for the sample households, which enabled them to inspect and verify the facilities and issues raised during the earlier community discussions.

### G. Community: Focus Group Discussions

After completing the observation surveys, the research team held Focus Group Discussions (FGDs) to probe more deeply into any issues uncovered during the community discussions, mapping exercise, and observation surveys. By this stage of the process, the research team had a much better understanding of the community and the key issues, thus the FGDs could be more targeted and effective. The research team usually split into two groups to hold the FGDs.

In general, FGDs were held with a group of women (who were often hard to involve in the open community discussions), and with any minority groups, for example, with *Fulani* households in *Duhuwa* community, or with members of sub-villages that had below average access to services. The checklist that was used during the FGDs is included as Annex B.

<sup>22</sup> The number of randomly sampled households visited in each community varied between 17 and 32, except in Amegu-Ada Obollo and Molori (where a smaller number of purposively sampled households were visited, due to time and weather constraints)

<sup>23</sup> The survey households included 203 selected households (either randomly or purposively selected) and an additional 73 households found to be sharing the sanitation facilities of the survey household

## Section 7

# Findings and analysis

The research hypothesis is that ‘achieving ODF status is a necessary but not sufficient condition for the entire community to use and maintain hygienic latrines in the long term. Therefore, the main focus of the study was intended to be on the long term outcomes (sustainability and equity) in communities that have declared ODF status.

In Nigeria, only seven communities (from among all of the 45 community interventions initiated in 2005 and 2006) have reached ODF status, which limited the extent to which the research hypothesis could be investigated. Furthermore, the seven ODF communities are found in only four of the fifteen LGAs in which WaterAid operates.

Three of the seven ODF communities were included in the study sample; the remaining five study communities were either median performers or low performers, included in order to examine the factors that influence the achievement of ODF status.

### 7.1 Community boundaries

Rural communities in Nigeria rarely comprise one homogeneous settlement, which makes it difficult to decide where one community starts and another ends. Most communities comprise several sub-villages (or hamlets), and the project community may form part of a larger community.

The criteria that define a community are important in a community-wide ODF approach, as the boundaries of the project community define the extent of the intervention and, therefore, the impacts and benefits generated by any improvements in sanitation behaviour.

The critical issue for a total sanitation programme is that the community’s defecation sites, hence the contamination routes between these sites and the community members, are generally distinct from those of the neighbouring communities. Where it becomes difficult to separate the defecation sites or the contamination routes, then it makes more sense to treat the larger, combined settlement as one community.

### Efopu-Ekile: not a distinct community

The visit to *Efopu-Ekile* (Ado Lga, Benue state), reported to contain only 15 households in the WaterAid in Nigeria data, revealed that it is actually a small hamlet surrounded by a much larger community. Efopu is one of the ten hamlets of Ekile but, unlike some other communities in Benue in which each hamlet is a distinct settlement, Efopu is bordered on all sides by other hamlets. Akpoge, Ogbilolo and

Unogwu hamlets border Efopu directly, with some houses less than 10 metres from those in Efopu. To an outsider, there is no obvious boundary between the hamlets, which all appear part of a larger, relatively homogeneous community. From a total sanitation perspective, it is clear that open defecation by any of the adjacent hamlets will impact directly on the inhabitants of Efopu, whether or not this hamlet has managed to become ODF.

The visit to Efopu-Ekile also confirmed another common problem: the exaggeration of the community population by the community representatives. The first baseline survey of Efopu-Ekile reported the community population as 2,600, which would imply about 300-500 households. However, when compiling the wealth ranking, the WES Unit realised that this was a significant exaggeration and investigated further. The wealth ranking forms listed 36 households but it transpired that even this list had been exaggerated, as more than half the people on the list (mostly family members) lived elsewhere.

The final twist was that, when a list of completed and in-use latrines was compiled, the WASCOM under-estimated the population (at 15 households) in order to claim that they had achieved ODF status. In fact, whilst all 15 households on the completed 'monitoring checklist for household latrine' had received latrine slabs and built latrines, one of those on the list (who happened to be the WASCOM Chairman's daughter) lived several kilometres away in another hamlet of Ekile, and the transect walk and observation survey revealed that another eight households were not listed, including several tenant households that do not have access to a latrine. The final population of Efopu-Ekile was estimated at 164 people in 22 households.

### Duhuwa and Molori: a tale of two settlement types

Another important issue was uncovered in the two study communities in Jigawa. Two main ethnic groups are found in the Gumel and Maigatari LGAs: *Hausa* and *Fulani*. Apart from their cultural differences, the most obvious distinction between the two groups is that many of the Fulani households remain semi-nomadic, shifting their huts and homesteads a short distance every year. Discussions with Fulani households from the two study communities suggested that they do not normally move outside of their grazing plots, thus that most annual movements are of less than 500 metres.

Some Fulani live in the main Hausa settlements in permanent, closely-clustered, mud-built housing, but the majority live in small clusters of round, thatched huts, which are moved and rebuilt every year. As a result of these distinct living practices, as well as cultural differences, the two groups respond very differently to development interventions.



Duhuwa: *Hausa* mud buildings in main settlement



*Fulani* thatched huts in remote compound

Yet, in both *Duhuwa* and *Molori*, the Fulani households that live outside the main settlement are still considered part of the community. When asked why this was so, the WASCOM members in both communities noted that they share their water supplies with the Fulani, and that both groups are ruled by the same community head.

Further investigation in Duhuwa revealed that the community is divided more or less equally, with 73 Hausa households living in the main settlement and 69 Fulani households living largely in scattered family groups within one to three kilometres of the main settlement. The main settlement is closely packed, making it hard to practice open defecation without being observed by a neighbour; but some of the Fulani households have no one living within 500 metres of their compound, are surrounded by fields, and therefore have few external constraints on their behaviour.

In Molori, the community was split between two main *Hausa*-dominated settlements located about one kilometre apart, with scattered Fulani compounds. Each settlement had its own community headman, but (prior to the intervention) both settlements shared the use of a single water supply (a 60 metre deep hand-dug well situated in the fields in between the two settlements), and this common resource use appears to be the main reason that the two settlements were considered as one community.

Interestingly, the WaterAid in Nigeria data reports a total of 130 households in the community. Unfortunately, the WES Unit was unable to find the relevant file (as all of the documents were either in a huge pile of loose paper, or piled outside the office being eaten by termites), and the community was unable to produce any documentation that showed a complete list of households. The only relevant document uncovered was partial: two pages of the wealth ranking, detailing only 68 households. At the outset, the wealth ranking list of 68 households was assumed to be incomplete (missing the remaining 62 households from the total of 130 households). However, when asked to detail the number of households using latrines or practising open defecation, those present at the community meeting listed only 62 households (and, when asked, confirmed that this included every household in the community).

Heavy rain brought a premature end to the visit and meant that it was not possible for the research team to explore this discrepancy any further. However, the community confirmed during earlier discussions that there were numerous Fulani households living outside the two main settlements, and it seems likely that the larger number (130 households) includes these Fulani settlements, while the smaller numbers (62-68 households) comprise only the population living in the two main settlements.

### Mbaazenger and Mbagbor: big, scattered communities

The two communities from Vandeikya LGA (Benue state) are both large, scattered communities: the baseline surveys suggest 4,800 people in *Mbagbor* and 4,180 people in *Mbaazenger*, although these estimates seem on the high side (as average household size appeared smaller than these population estimates suggest).

*Mbagbor* is divided into eight sub-villages, each of which contains enough people, and is geographically distinct enough, to comprise a separate community. The *Mbagbor* community meeting attracted more than 40 people, but 88% of them were from only two sub-villages, leaving only five people to represent the other six sub-villages. Within sub-villages, the housing compounds (usually an unfenced cluster of three to six huts) were scattered and the sub-villages were as far as 1000 metres apart in some cases. In general, it appeared that the defecation sites of one sub-village would have little impact on adjacent sub-villages, and that many of the housing compounds would be unable to observe the sanitation behaviour of even the nearest of their neighbours (due to the distance between compounds, and the relatively dense bush).

In *Mbaazenger*, the baseline survey reported 330 households, but the more recent WaterAid in Nigeria monitoring data reported only 91 households. It transpires that, following the introduction of the CLTS approach, the WES Unit and the WASCOM members decided that each compound household (which comprises an average of three to four individual households living in a small cluster of huts) should share a latrine, and that the compound household should be used as the unit of measurement. While this decision would not affect the declaration of ODF status, as the key issue is use of latrine (rather than use of an individual household latrine), it did make the CLTS process in *Mbaazenger* appear more successful than it should, as fewer latrines had to be completed before the WES Unit and the community could report a high latrine coverage. In order to assess more accurately the proportion of shared latrines, and any exclusion issues, this study has used the original baseline population of 330 households.

## 7.2 Cultural issues

### Language

Nigeria is a country of more than 500 languages, and communication proved difficult in several communities. For instance, the people in *Igba* community speak the local *Ufia* dialect, which is so different to other local languages that, not only could none of the Nigerian members of the research team understand it, even the members of the local WES Unit, who live only 50 kilometres away, could not understand a word.

In *Igba*, where there was no common language, all of the discussions had to be held in English and then be translated into *Ufia* by a member of the community. As the English-speakers were the more educated and influential members of the community, efforts were made to select a translator that was not a member of the WASCOM, as they might be tempted to alter the tone and emphasis of the discussion in their favour. However, despite our best efforts, the translation situation was not ideal – the translator appeared to mis-translate some questions and answers, the translator was not trained in asking open and positive questions in a participatory manner, and the community responded differently to questions posed by one of their own (including some heckling of the translator's efforts from rowdier members at the community meeting).

### Gender

The participation and involvement of women in the research discussions and activities was relatively low, despite the best efforts of the research team. A small number of women (and girls) were present at almost all of the meetings, but were often relatives of the WASCOM members (therefore unlikely to raise any issues that might cast the WASCOM in a bad light), and rarely contributed unless asked a direct question by a member of the research team.

FGDs were held with a group of women in several communities, but in some communities it was not possible to gather a group of women together. Male community members noted that women were busy working in the fields during the rainy season, that women had to cook the meals (when meetings were held during the midday period), and generally made it clear that women had little to do with the decision-making and management of either community or household resources.

*Fulani* women are not allowed to say the name of their husband, as this practise is thought to bring bad luck, thus it proved difficult to hold detailed discussions with the female members of *Fulani* households during the observation surveys (for instance, when no male household members were available).

## 7.3 Initial conditions: Basic services

The community background data confirmed significant differences in the context and development status of the study communities. Broadly speaking, the two study communities in Enugu state were large, relatively urban in nature, and easily accessible by road; with better access to basic services (schools, health posts, electricity, markets) and water supply (majority of households had private hand-dug wells) than found in the other states.

The four study communities in Benue state were more remote, scattered settlements with lower access to basic services. Small groups of households form open compounds, often with large distances (up to 1 kilometre) between compounds in the same village. Access to water supply was variable, with fewer private water sources than found in Enugu.

The two study communities in Jigawa state were located relatively close (within 10 kilometres) to larger settlements, and both contained primary schools. But the Jigawa communities contained no private water supplies, thus every household was dependent on public water sources.

**Table 4: Communities ranked by access to basic services**

Community	Performance	State	Schools		Health Post	Electricity	Market distance
			Primary	Secondary			
Amegu-Ada	Low	Enugu	Yes	Yes	Yes	Yes	3 km
Mburubu	Low	Enugu	Yes	Yes	Yes		0 km
Duhuwa	High	Jigawa	Yes		Yes		9 km
Igba	High	Benue	Yes		Yes		8 km
Mbagbor	Median	Benue	Yes				3 km
Molori	Median	Jigawa	Yes				20 km
Efopu-Ekile	High	Benue					25 km
Mbaazenger	Low	Benue					20 km

Source: Focus Group Discussions with community members  
Key: Prim. = Primary school, Sec. = Secondary school

Access to water supply and sanitation facilities before the WaterAid in Nigeria interventions is shown in Table 5. *Igba* (Ado LGA, Benue) is the only study community in which more than 20 percent of the households used latrines prior to the intervention, while neither study community in Jigawa contained a single latrine before the WaterAid in Nigeria interventions.

**Table 5: Access to water supply and sanitation (before intervention)<sup>24</sup>**

Community	Performance	State	Hhds (No.)	Water supplies			Sanitation	
				Private	%	Public	No. latrines	%
Amegu-Ada	Low	Enugu	230	150	65	0	41	18
Mburubu	Low	Enugu	280	150	54	0	29	10
Mbaazenger	Low	Benue	330	50	15	0	34	10
Mbagbor	Median	Benue	264	40	15	0	24	9
Igba	High	Benue	120	6	5	1	49	41
Efopu-Ekile	High	Benue	19	1	5	0	3	16
Duhuwa	High	Jigawa	123	0	0	4	0	0
Molori	Median	Jigawa	62	0	0	1	0	0

Source: Focus Group Discussions with community members Key: HHds No. = number of households

<sup>24</sup> Ranked by proportion of households with private water supplies

The pre-intervention data confirm the low access to both water and sanitation services in Jigawa, as well as the significantly higher access to water supply found in the study communities in Enugu state. It had been hoped that, because the WaterAid project communities are selected based on a vulnerability (and development) ranking, there would be relatively little difference in access to services across the states. However, these data make it clear that the starting conditions are different, and suggest that these factors need to be allowed for in the analysis of the study findings.

## 7.4 Socio-economic status

WaterAid in Nigeria has trained the LGA WES Units to conduct a thorough baseline survey in each project community. The baseline survey includes social mapping and wealth ranking exercises, which should produce a detailed map of the community and a list of households (with relative wealth ranking scores provided by three or four key informants from within the community).

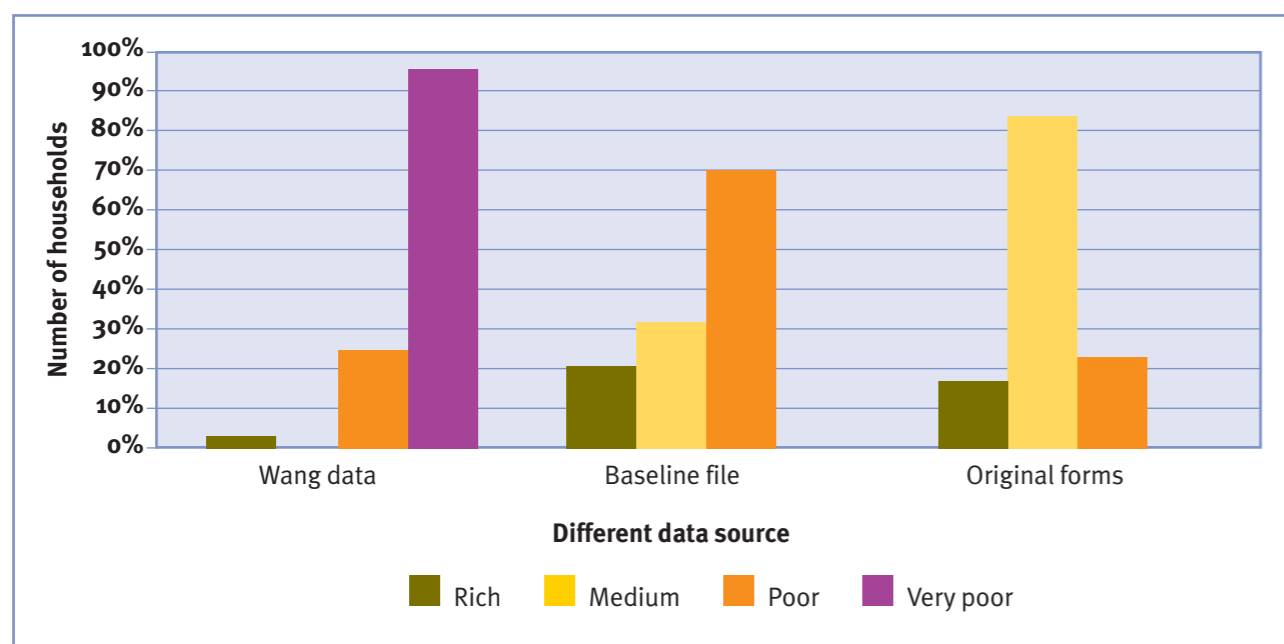
These data are supposed to be kept within the files of both the WES Unit and the community WASCOM as they provide valuable reference points for the monitoring and evaluation of the interventions. In practice, it proved difficult to locate either the social maps or the wealth ranking data in a number of cases. Several of the WES Units were unable to locate any of the baseline information regarding the study communities (usually due to storage problems, or loss of paperwork following relocation of the office), and it became clear that this information was rarely consulted or utilised during their normal activities. Unfortunately, the WaterAid state teams do not keep copies of this information (other than the summary figures).

In addition, a number of anomalies were uncovered regarding the wealth ranking exercise. In several cases, the summary wealth ranking data reported by WaterAid in Nigeria (from the WaterAid state offices) did not tally with the baseline survey data, or with the data contained on the original wealth ranking forms. In every case where the wealth rankings did not match, the number of poor households reported in the data held by WaterAid in Nigeria was higher than the original numbers from the wealth ranking forms.

*Duhuwa* (Gumel LGA, Jigawa) provides a good example of this problem. Three sets of wealth ranking data were uncovered for Duhuwa: WaterAid in Nigeria data (reported by the State Programme Manager), baseline data summarised in the WES Unit file, and the original data extracted from the wealth ranking forms (see chart below). The data provided by WaterAid in Nigeria prior to the fieldwork suggested that 76% of the community were classified as very poor, whereas the data extracted from the original wealth ranking forms reports 0% very poor households, and only 17% poor households.



### Duhuwa: Wealth rankings



The reasons for such dramatic variation in the wealth ranking of this community remain unclear, although it is suspected that either the community or the WES Unit/LGA wished to exaggerate the proportion of poor households reported by the baseline. For the purposes of this study, the original wealth ranking data has been used wherever available.

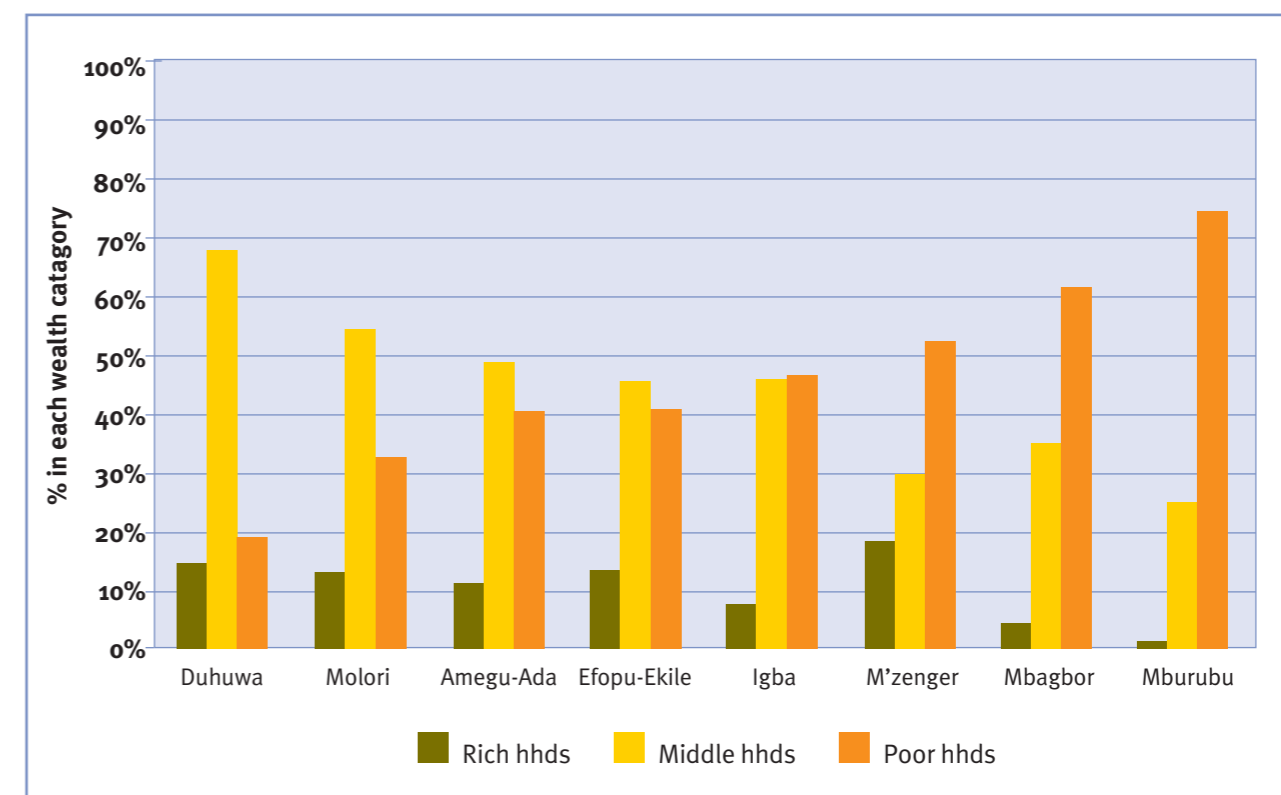
Few other reliable indicators of socio-economic status were readily available for comparison. The community groups were asked how many community members received salaries, which provided some idea of the level of subsistence within the community, as well as providing a check on the wealth ranking data (see Table 6). In general, the number of rich households maps reasonably well to the number of latrines in the community prior to the intervention (with the exception of the Jigawa communities, which had no latrines before the intervention).

**Table 6: Socio-economic indicators (pre-intervention)**

Community	Perform	State	No. salaries (%)	No. rich Hhds (%)	No. latrines (%)
Efopu-Ekile	High	Benue	4 (18%)	3 (16%)	3 (16%)
Amegu-Ada	Low	Enugu	20 (9%)	25 (11%)	41 (18%)
Igba	High	Benue	No data	10 (8%)	49 (41%)
Mburubu	Low	Enugu	15 (5%)	3 (1%)	29 (10%)
Duhuwa	High	Jigawa	3 (2%)	17 (14%)	0 (0%)
Molori	Median	Jigawa	2 (3%)	9 (13%)	0 (0%)
Mbagbor	Median	Benue	No data	11 (4%)	24 (9%)
Mbaazenger	Low	Benue	5 (1%)	60 (18%)	34 (10%)

Key: No. = number, Hhd = household

### Wealth rankings in study communities



The socio-economic data suggest that the wealth ranking for *Mburubu*, for which no supporting documentation was available, under-estimates the relative wealth of the community. The baseline survey found that 51% of households lived in cement-block houses with zinc-tin roofs, that 15 people (10 teachers and five local government workers) had salaries, and that a wide range of livelihoods were practiced: farming, palm wine tapping, trading (food, materials, *gare*), artisanry (brickwork, carpentry), and sand quarrying. Yet the wealth ranking suggests that only 1% of the community are rich households (compared to 4%-18% in other study communities), and that only 25% are middle-income households (compared to 30%-67% in other study communities).

The wealth ranking chart suggests that *Mbaazenger*, *Mabgbor*, and *Mburubu* contain a significantly higher proportion of poor households (and fewer middle-wealth households) than the other study communities. In practice, this finding does not match either the community data (showing high access to water supply in all three communities) or the observation survey data.

These three communities are the largest of the eight study communities, thus it seems likely that there is a greater range of wealth, and that their wealth rankings correspond to different (higher) categories than those used by the other communities. If the poor and middle categories in these three communities are mapped to the middle and rich wealth ranks, then their wealth rankings would match more closely with the other communities.

Given these issues, the main usage of the wealth ranking data has been to compare access among the different wealth categories. For example, whether those defined as rich households have similar access to sanitation as those defined as poor households.

## 7.5 CLTS process

The focus of the fieldwork was on the outcomes of the interventions, rather than the details of the process. Nevertheless, a few points on the process are relevant to an understanding of the different outcomes and issues encountered.

One of the key elements in a WaterAid intervention is the establishment of a WASCOM. The guidelines for this process instruct the WES Units that the WASCOM should cover the entire community, even if the water, sanitation and hygiene intervention is only targeted at one sub-village within a much larger community. The guidelines on WASCOM formation also advise that the committee should include at least one member from each sub-village, even if these sub-villages are not involved in the planned intervention.

As a result, the dominant institution in the development process sometimes includes only one, or a few, members from the target community. Whilst this encourages the WaterAid intervention to fit within larger development processes, and ensures that the rest of the community is aware of the intervention, in large villages this approach often results in diminished interest and responsibility by the WASCOM.

The sanitation component of the intervention requires the selection of Community Hygiene Volunteers, whose role is similar to the Natural Leaders utilised in many versions of the CLTS approach. However, there appears to be no common policy on the role and constituency of the community hygiene volunteers. In some states, only two hygiene volunteers were selected (one male and one female), whereas others (eg Benue) selected ten hygiene volunteers.

### Length of process

The time taken to achieve ODF status is an important process indicator in Bangladesh, but only three of the study communities in Nigeria were declared ODF prior to the research. In Igba, the entire process (including water supply intervention) took eight months, in Efopu-Ekile, it took only six months to reach the 22 households, and in Duhuwa it took six months (to declare ODF status in the main settlement).

## 7.6 Open defecation status

The research design brief notes that the study should utilise the country programmes' own internal definitions of ODF. In Nigeria, there is no national process for verifying or declaring ODF status, and WaterAid in Nigeria has not established any internal criteria or verification process. The sole criteria utilised (by WES Units and WaterAid State Programmes) has been the achievement of 100% latrine usage (including use of shared latrines), as reported by the community during the monitoring visits.

The remainder of this section reports the open defecation status of the study communities, based on the observation surveys conducted in each community.

Table 7: Open defecation status among declared ODF communities

Community	Performance	State	WaterAid in Nigeria data OD%	Study data OD%	OD%
Igba	High	Benue	0%	0%	–
Efopu-Ekile	High	Benue	0%	18%	
Duhuwa: <i>Hausa</i> <i>Fulani</i>	High	Jigawa	0% (73 hhds) (71 hhds)	31% 1% 76%	Pit collapse, tenants <i>Pit collapse</i> <i>Mobility</i>

Key: OD% = percentage of households practicing open defecation, hhds = households

### Open defecation status: Igba

All three of the high-performing communities claimed to be ODF in the community meetings, but observation data from the three communities (including 49 households in Igba)<sup>25</sup> confirmed that *Igba* is the only study community that is currently ODF (see Table 7). Four latrines had collapsed in the recent heavy rains, but the owners reported that they were currently sharing their neighbours' latrines, and affirmed that they would rebuild the collapsed pits as soon as the rains were finished.

Assessment of the impressive performance in Igba should be tempered by a reminder of the unusual starting conditions: Igba started with 41% latrine coverage, more than double the sanitation coverage found in any of the other study communities. The reasons for this above-average sanitation status are unclear, but it suggests that both hygiene practices and receptiveness to sanitation promotion were better than normal in this community.

### Open defecation status: Efopu-Ekile

Efopu-Ekile is a small community, with only 22 households, every one of which was visited during the observation survey. Our observations disproved the claim of ODF status, but only four households were found to be practising open defecation (18%): one of whom owns a recently collapsed latrine. However, three other households with collapsed latrines reported that they were sharing their neighbours' latrines. It appears that the presence of open defecation households in the immediately adjacent sub-villages has limited the sense of achievement and empowerment that normally accompanies ODF status and recognition, thus reducing any stigma attached to a reversion to open defecation.

<sup>25</sup> Sample size equivalent to 40% of the total number of households (Note: 32 randomly sampled households, plus 16 sharing households and 1 purposively selected disadvantaged household)

### Open defecation status: Duhuwa

As noted earlier, *Duhuwa* comprises two distinct ethnic groups. The data above confirm that 31% of the combined population practices open defecation, but most of this open defecation takes place in the scattered Fulani settlements (where 76% of households practice it). All except one household in the central Hausa settlement use toilets, thus the open defecation proportion drops to only 1% among the Hausa households.

This finding explains why several previous assessments have verified *Duhuwa* as an ODF community. It appears that previous assessors were unaware that the households listed in both the baseline wealth ranking (123 households) and, importantly, in the 2007 'list of household building a toilet in Duhuwa' (128 households) included a large number of *Fulani* households living in scattered compounds outside the main settlement. As a result, few of the *Fulani* households (reported to have built a toilet by the WASCOM-prepared list) had been visited during previous assessments.

Furthermore, the WES Unit members accompanying the study team confirmed that, while a few Fulani men attended the initial CLTS sessions, little effort had been made to involve the Fulani in subsequent sessions, to monitor the progress of the intervention among the Fulani households, or to adapt the activities to match the different culture and livelihoods of the Fulani. The WES Unit members also confirmed that they had not verified in person whether all of the people on the list of those 'building a toilet in Duhuwa' had actually stopped open defecation and started using a toilet; instead, the WES Unit monitoring was entirely reliant on the information provided by the Duhuwa WASCOM.

**Table 8: Open defecation status among non-ODF communities**

Community	Performance	State	WaterAid in Nigeria data OD%	Study data OD%	OD%
Mbagbor	Median	Benue	26%	38%	
Molori: <i>Molori A</i> <i>Molori B</i>	Median	Jigawa	14% (34 hhds) 34% (34 hhds)	71% 56% 85%	30% collapsed latrines 34% collapsed latrines
Mbaazenger	Low	Benue	76%	49%	38 new latrines built
Amegu-Ada	Low	Enugu	79%	78%	Only three new latrines built
Mburubu	Low	Enugu	90%	90%	No new latrines

Key: OD% = percentage of households practicing open defecation, hhds = households

In the other five study communities, the proportion of households practising open defecation was generally higher than expected in the median-performing communities, and marginally better than expected in the low-performing communities.

### Open defecation status: Mbagbor

The WaterAid in Nigeria data for *Mbagbor* suggested that 195 households were using latrines, whereas the observation data suggests that 166 households are using latrines (37 households with private latrines and 129 households sharing latrines).

Ten of the forty-three (23%) community members present at the community *Mbagbor* meeting reported that their household latrines had collapsed during the rainy season, while the mapping exercise confirmed that a total of 15 latrines had collapsed. Given that about half the latrines observed were shared (by an average of four households), it seems realistic that these 15 latrine collapses have resulted in about 30 households reverting to open defecation (as in every case observed, the latrine collapse had caused the households using the latrine to revert to open defecation). In summary, 195 households were using latrines at the end of the intervention (estimated total of 78 latrines), but 15 latrines (including some shared latrines) have since collapsed, leaving only 166 households using latrines and 103 households practising open defecation.

### Open defecation status: Molori

In *Molori*, it appears that the proportion of latrines constructed (and in use) had been over-estimated by the WaterAid in Nigeria monitoring process, in addition to some confusion over the total number of households in the community.

The baseline survey reported 130 households; the original WaterAid in Nigeria monitoring data reported 42 households using latrines, but, immediately prior to the fieldwork, the WaterAid State Programme Manager reported that 112 households were now using latrines. However, the research team found that the two main Molori settlements contain only 68 households, while the mapping activity suggested only 34 latrines (of which 20 had collapsed in the recent rains).

It seems likely that the original monitoring data was correct: that 42 households were using latrines at the end of the intervention and that, due to numerous pit and slab collapses, only 14 households were using latrines at the time of the research. Based on the experience in Duhuwa, the additional 60-70 households (included in the baseline survey but not listed during the research) are likely to be *Fulani* households living outside the main settlements.

The WASCOM confirmed that the Fulani households had not been included in the mapping data, and that none of these Fulani households use latrines. Unfortunately, the original list of 130 households could not be found, thus the team was unable to confirm the exact names and location of those covered by the baseline survey.

The reason for WaterAid in Nigeria reporting higher sanitation coverage than found in reality (for instance, at the presentation to the NTGS in the inception meeting held prior to the fieldwork) appears to reflect a mis-communication. It seems likely that the WES Unit reported that sanitation coverage in the main settlements had increased from the original 67% (42 households out of a total of 62 households), and that the WaterAid State Programme office applied a higher proportion (86%) to the household population held on its files, hence calculating that 112 households were now using latrines. This error highlights significant issues within both the WaterAid baseline surveys (which have failed to establish the correct number of households in several study communities) and in the WaterAid sanitation monitoring system (which has an inadequate checking and verification process).

### Open defecation status: Mbaazenger

The research found that the number of households practising open defecation had decreased significantly since the last WaterAid in Nigeria monitoring report. The WaterAid in Nigeria data suggested that only one household had built a new latrine following the intervention (in addition to the 34 existing latrines before the intervention), whereas the research team found that an additional 38 latrines had been built since the intervention.

The situation in Mbaazenger was further complicated by compound households: the WaterAid in Nigeria monitoring data reported only 91 households, whereas the baseline survey reported 330 households. Based on the observation data and the mapping exercise, the research team estimates that 36 households now use private latrines, and another 136 households are sharing latrines. The open defecation rate estimated at 49%, is thus significantly lower than the 76% open defecation rate indicated by the WaterAid in Nigeria monitoring data.

### 7.7 Child excreta disposal

The difficulty of obtaining reliable data on child excreta disposal (due to confounding issues when primary carers are asked about excreta disposal practices) and the rapid, observation-based approach used to assess household latrines meant that little data was collected on child excreta disposal.

In the few cases where primary carers (usually mothers) were available and willing to respond, little of interest was discovered: in households with (or using) latrines, the mothers reported that the child faeces were disposed of into the latrine, in households practicing open defecation, the mothers reported that the child faeces were thrown into the bush behind the house (or to the nearest public place). In a handful of households, the parents reported that they had bought (or been given) a plastic potty from the sani-centre, and that this was used to collect and dispose of infant excreta (either into the latrine or into the bush).

One of the male *Fulani* household heads in Duhuwa noted that, while the adults were happy to continue with their life-long practice of open defecation far from the house (as, apparently the *Fulani* do not like anyone to see them defecate or even to know that they defecate), the young children often defecate in and around the huts in the compound, especially during episodes of diarrhoea. It was noted that this was a bad practice, and that the mother, or other women in the household, had to gather up and dispose of this excreta (to the bush). In answer to a question about whether he could see any advantages to latrine use, this *Fulani* household head noted that it would be useful to have somewhere for the children to defecate in order to avoid this problem of child excreta around the compound.

Given the apparent cleanliness of the *Fulani* people, as evidenced by the well-kempt and tidy compounds found in almost every case, it appears that simple latrines designed for child excreta disposal would be useful as entry points to convince *Fulani* households that latrine use has some advantages over open defecation.

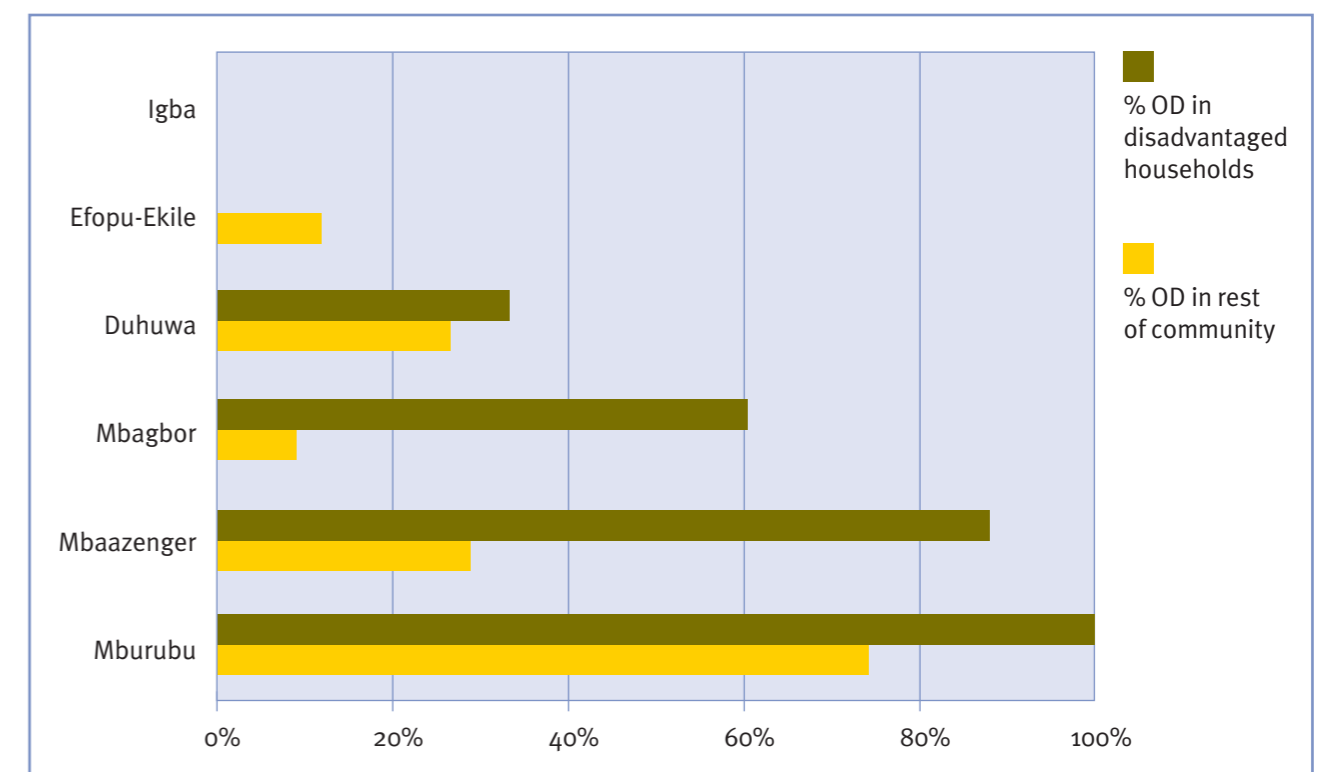
### 7.8 Equity

Wherever possible, disaggregated data were collected in order to allow an assessment of the equity of the interventions.

#### Equity: Disadvantaged households

In six of the study communities, sufficient disaggregated observation data was available to compare the rate of open defecation in disadvantaged households with that in the rest of the community. The main disadvantaged groups present in these six communities were female-headed households, elderly-headed households, and households with disabled members.

#### Equity: open defecation



Key OD: open defecation

The data confirm relatively equitable outcomes in the three high-performing communities: there is no open defecation among disadvantaged households in either *Igba* or *Efopu-Ekile* and the open defecation rate is only 9% higher among the disadvantaged households in *Duhuwa*. However, the disadvantaged households fare far less well in the median and low performing cases, with open defecation rates 26% to 59% higher among disadvantaged households than in the rest of the community. Given that the baseline (pre-intervention) latrine coverage in these communities was largely among rich and middle-income households (with the exception of *Igba*, which had 41% latrine coverage), it seems likely that these differentials in open defecation rates reflect the starting conditions, with much higher open defecation among the poor and disadvantaged. Therefore, the

successful sanitation interventions have managed to have a significant impact on open defecation rates among these disadvantaged groups.

In the high-performing communities, the observation data also suggested that the disadvantaged households had generally built similar latrines to those built by the bottom 35% to 45% of the community, and had maintained them to a similar standard. While the latrines built in these communities were fairly basic, these observations suggest that the interventions provide similar opportunities to all income groups, and that low-income households are not substantially prejudiced by their lack of resources.

The only exception was in Efopu-Ekile, where the community had apparently built a latrine for a female-headed household with a disabled member (Grace Ocheje). However, this assisted latrine was generally inferior to the others in the community, and had not been well maintained by the household: the latrine pit was only 0.5 metres deep, there was no cover on the squat hole, and the superstructure walls had collapsed. It appears that those that had built this free latrine did so because they were instructed to, rather than because they wanted the community to become open defecation free (and realised that Grace would be unable to build her own latrine). Given that digging a deeper pit would have taken less than half a day (for a few able-bodied men), this finding is an indicator of limited commitment to the ODF process.

### Equity: Ethnic groups

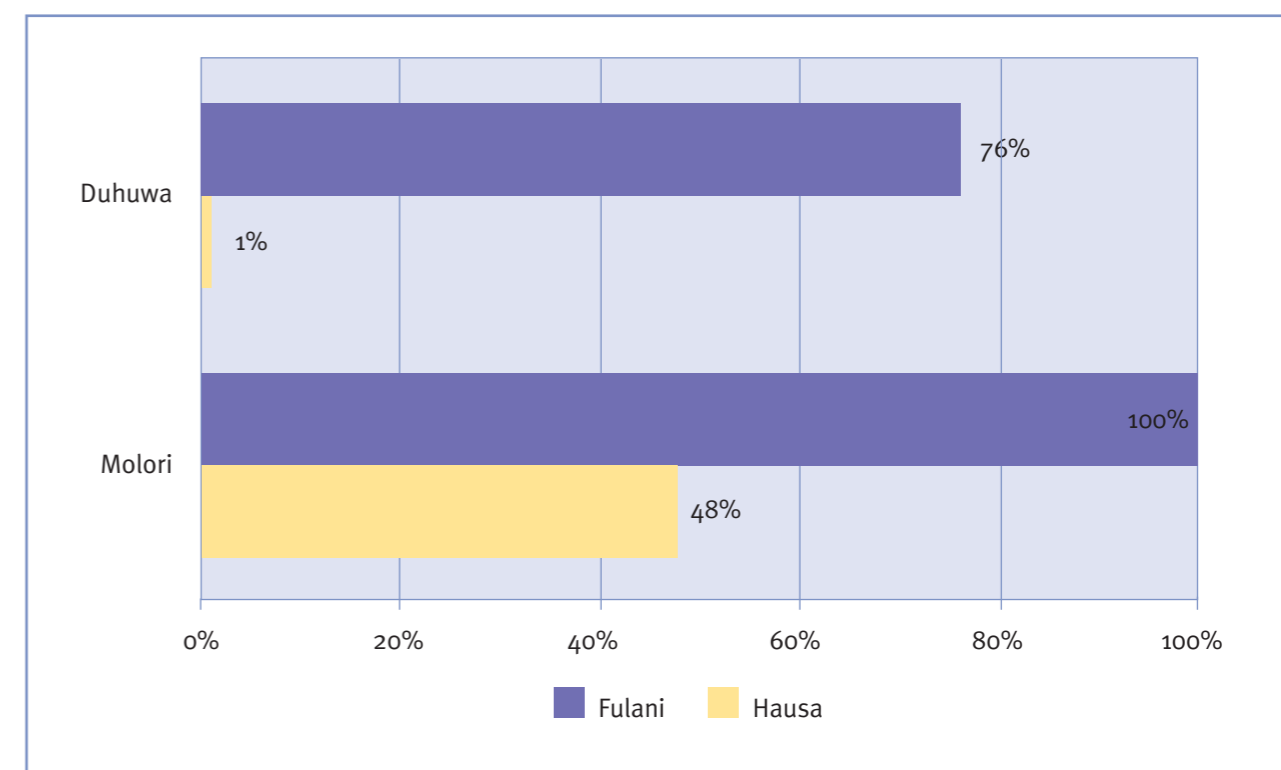
Only two of the eight study communities contained more than one ethnic group. As commented earlier, the two communities in Jigawa state, *Duhuwa* and *Molori*, are both made up of a mix of households from the *Hausa* and *Fulani* ethnic groups.

In both cases, the *Fulani* households comprise about half of the community population:

- 71 Fulani households out of 144 households in Duhuwa (49%)
- 62 Fulani households out of 130 households in Molori (48%)

Despite an understanding that the CLTS approach requires that every household stops open defecation, and the inclusion of the *Fulani* households in the baseline survey lists in both communities, it appears that the *Fulani* households did not play an active part in the CLTS process and, as a result, constructed very few latrines.

### Equity: open defecation by ethnic group



The open defecation rate among *Fulani* households is more than 50% worse than that found in *Hausa* households. This issue was discussed with the *Fulani* households visited during the observation surveys, and at an FGD held with *Fulani* households in *Duhuwa*. In both discussions, it was noted that the *Fulani* are semi-nomadic, and that this mobility prevents them from investing in a permanent latrine. As mentioned earlier, another cultural factor is the *Fulani* cleanliness and preference to defecate in private well away from their home, and even to conceal the practice from the other members of their household. As a result, it was felt that the *Fulani* are reluctant to defecate in a latrine situated close to their home.

It was also stated that, although the *Fulani* requested to be included in the project, they keep themselves fairly separate from those in the main settlements and tend to stay outside on their farms. Further discussion revealed that only one of the 15-member WASCOM in *Duhuwa* was a *Fulani*.

Several *Fulani* households, generally the richer ones, are more settled and have built permanent latrines. The focus group agreed that these *Fulani* should promote the use of latrines among the rest of the *Fulani* households, and work with the WES Unit to develop suggestions for a low-cost mobile latrine that would fit with the *Fulani* semi-nomadic lifestyle. It was agreed that, if a *Fulani* compound household can construct six to eight new huts on a new site every year (usually with new materials to limit termite damage), then it should not be difficult to construct a simple latrine.

### Equity: Relative wealth

The household wealth rankings were used to compare open defecation status and latrine status across the different wealth categories (based on the observation data). The sample sizes in each wealth ranking were relatively small (2-7 rich households, 1-16 middle income households, and 3-18 poor households) as some names on the wealth ranking list did not match with those surveyed, but the smallest sample comprised 12 ranked households in Molori and the largest sample comprised 29 ranked households.

In *Mburubu*, where the CLTS intervention had no impact (no new latrines or change in open defecation practice), the proportion of improved latrines was higher (33%) among rich households than poor households (8%) and the open defecation rate was substantially lower (33%) among rich households compared to 83% among poor households.

In *Duhuwa*, the results were equitable among the *Hausa* households, with zero open defecation and less than 50% improved latrines in all wealth categories. However, among the *Fulani* households, where the CLTS intervention had not been effective, the rich households were substantially better off – there was 100% open defecation among both middle and poor *Fulani* households, but only 50% open defecation among the rich *Fulani* households.

In *Igba*, all of the rich households had improved sanitation facilities with concrete slabs, compared to only 8% of the middle-ranked households and none of the poor households. However, open defecation was zero across all wealth categories.

### Equity: Tenants

Most of the household heads encountered in the study communities were owners (or co-owners) of their homes. However, tenant households were observed in two communities.

In *Efopu-Ekile*, several of the households practising open defecation were tenants renting their houses from absentee landlords. The houses did not have latrines when the tenants moved in, and the tenants were reluctant to invest any of their own time or money in constructing a latrine in a temporary residence owned by someone else.

Similarly, tenants in Mburubu noted that live-in landlords locked the latrine when they were away, forcing the tenants to revert to open defecation during these short periods.

### Equity: Geographical favouritism

In several of the study communities, the open defecation rate was substantially higher in some sub-villages than in others. For instance, in *Mbaazenger*, all of the new latrines were located in the three southern sub-villages, and the only latrines found in the northern sub-villages were built prior to the intervention.

In Mbagbor, the WASCOM reported that the open defecation rate varied from zero in *Tse Nyam* to 64% in *Tse Anshager*. The observation survey (which only covered three of the eight sub-villages) found that the open defecation rate was, on average, about

30% higher than that claimed by the WASCOM. Nevertheless, it seems clear that the intervention was significantly more effective in sub-villages that contained active WASCOM members and hygiene promoters.

## 7.9 Latrine use and maintenance

### Shared latrines

Shared latrines are common in the study communities. In five of the communities, between 65% and 89% of households using a latrine share it with at least one other household. *Igba*, the only ODF community, has the lowest proportion of shared sanitation, with only 19% of those using latrines sharing with another household.<sup>26</sup>

Typically, shared latrines are used by between two and four households. In most cases, because of compound household arrangements, the households sharing the latrine are related to the household that built the latrine (and the sharing households may also have contributed to the construction of the latrine).

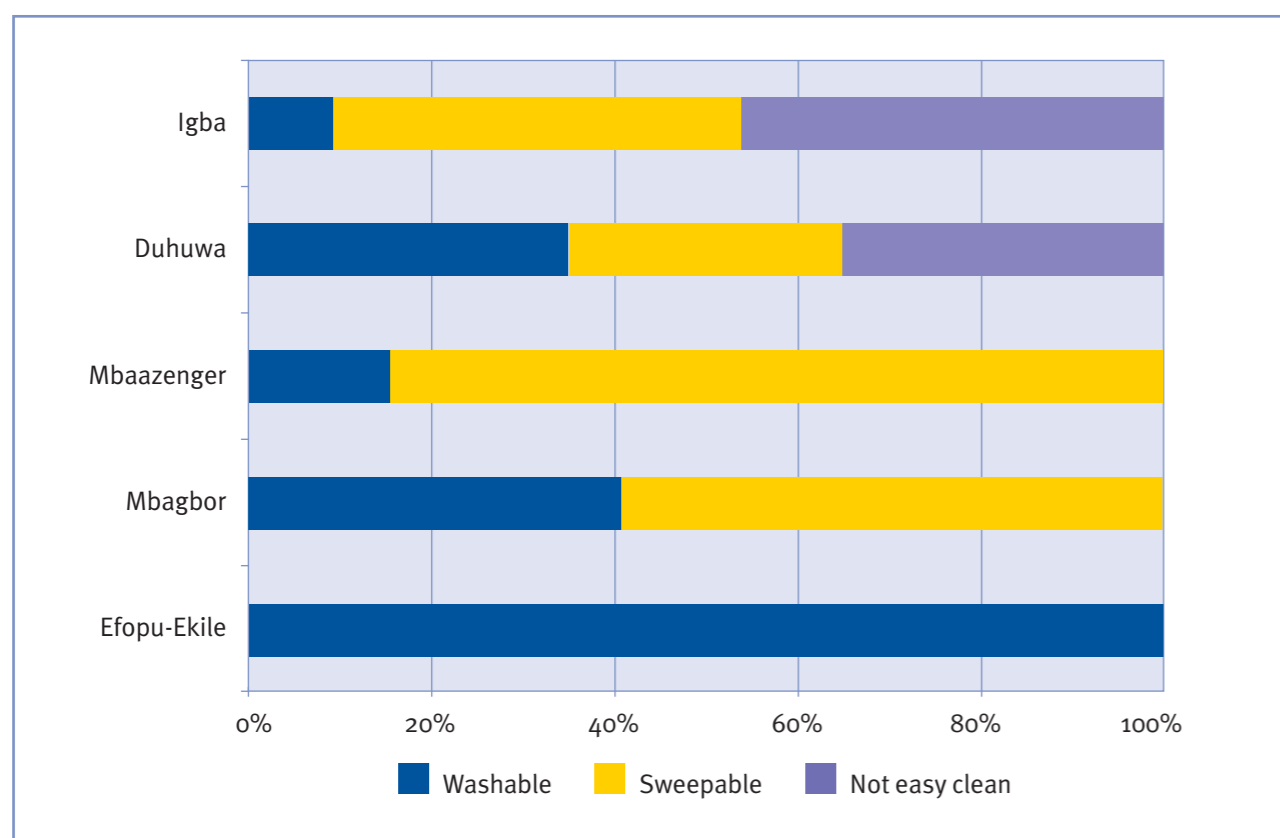
In general, there was little difference between the quality and hygiene of the shared latrines (as compared to the private household latrines). In some cases, the sharing of a latrine by a large number of households (five or six) reflected the wealth of the household head and the fact that he had several wives and several adult children still living within his compound. When questioned, most users of shared latrines noted that the other households were part of the same family, and that sharing the latrine was therefore not a problem. However, in one or two cases, the women of the household reported that some of the other households did not clean the shared latrine after use, and noted that they did not like having to clean up other people's excreta or mess.

### Improved sanitation facilities

The WHO-UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP) define a 'pit latrine with slab' as an improved sanitation facility (which counts towards MDG sanitation targets) if the slab is 'easy-to-clean', raised above ground level, and supported on all sides. The definition of an 'easy-to-clean' slab is a matter of some debate among the international water and sanitation community but, for the purposes of this study, it will be assumed that any slab that is washable (eg concrete or some other impermeable surface) or sweepable (a regular, smooth surface) will be considered to be 'easy-to-clean'.

<sup>26</sup> Insufficient data was collected to report on the proportion of shared latrines in the two Enugu communities: *Mburubu* and *Amegu-Ada*

### Improved sanitation facilities



In the five study communities where at least ten latrine observations took place, it is clear that two of the communities with the lowest open defecation rates (*Igba* and *Duhuwa*) also have the lowest proportion of easy-to-clean latrine slabs. Whilst this may seem counter-intuitive, it demonstrates that reducing or eliminating open defecation is often achieved by allowing some households to build extremely basic, low-cost latrines.

The high proportion of washable (concrete) slabs in *Efopu-Ekile* reflects the small size of the community, which means that the sani-centre budget was sufficient to provide each household with a domed concrete slab. In *Mbagbor* and *Mbaazenger*, 38% and 49% of the population (respectively) continue to practice open defecation, which may explain why few unimproved latrines were surveyed. The last population group to be covered often includes the poorest and most reluctant households, usually those most likely to build very low-cost, unimproved latrines.

### Maintenance: Cleanliness of latrines

The observation data includes assessments of latrines that were dirty and badly maintained. In the five communities where more than ten latrines were surveyed, which also happen to be those with the lowest open defecation rates, only three latrines out of ninety-three (3%) were found to be excessively dirty.



Improved latrine:  
washable slab



Improved latrine:  
sweepable slab



Unimproved latrine:  
hard to clean

Only five latrines were inspected in each of the other three communities (due to limited numbers of latrines, lack of interest by the WASCOM, and time constraints), yet seven of the fifteen latrines observed (47%) were found to be excessively dirty. More than half of these dirty latrines were constructed prior to the interventions, which suggests that, despite being very low-cost, the latrines built under the CLTS approach are at least as clean and well-maintained as the existing latrines.

### Latrine distance to house

Household latrines built within large compounds or settlements tended to be situated in or close to the compound (within 5-10 metres). Household latrines serving individual houses, or small groups of isolated houses, tended to be located some distance from the house (20-30 metres away). The users of the more distant latrines usually reported that they were concerned about the smell, or did not want anyone to know when they were in the latrine, thus locating it some distance from their home.

## 7.10 Hygienic latrines

The research design brief identifies four proxy indicators of hygienic latrines:

- Separates human excreta from human contact
- Fly-proof (prevents flies moving from faecal matter to the wider environment)
- Eliminates smell
- Does not contaminate surface water

All of the latrines observed in the study communities were pit latrines. Out of the 109 latrines surveyed, only five (5%) were flush or pour-flush toilets and 95% were dry pit latrines. None of the 109 pit latrines had overflow pipes or effluent outlets, therefore none of them are likely to contaminate surface water.

A few open latrine pits (exposing unconfined excreta) were observed when the latrine slab or pit had recently collapsed. Several households stated that they were still using these open pit latrines, although on further questioning it transpired that these households were usually defecating at the side of the collapsed latrine and then sweeping the excreta into the open pit. In these cases, the household was recorded as practising open defecation (and owning a collapsed latrine).

In all other cases, the latrine pit was covered with some form of slab. The majority of latrine slabs were mud-covered timber, with some concrete ones observed where sani-centres were in operation, and a few slabs made from loose-fitting timber planks. In general, all of the slab-covered latrines examined met the condition that the excreta in the latrine pit were separated from human contact. The only exceptions were a handful of cases where an extremely shallow latrine pit (less than 0.5 metres deep) had been dug, which meant that the excreta were within reach of the squat hole.

The two remaining hygiene parameters examined were whether the latrines were fly-proof, and whether the latrines eliminated smell.

### Fly-proof latrines

Very few of the latrines observed in the study communities were fly-proof. During the survey, the latrine pits were inspected internally using a torch (wherever possible). In almost every case, the contents of the pit were covered with fly maggots, and, in many cases, flies exited from the pit when the cover was lifted. Clearly, this is a significant hygiene issue as the latrine pits appear to be acting as fly-breeding sites in close proximity to the home, with a substantial risk that flies will transfer pathogens directly from excreta to food consumed by household members. In several cases, the fly population within the latrine pit was so large that removal of the squat-hole cover released a cloud of buzzing flies. This is likely to be a deterrent to regular use of the latrine.

This finding contrasts significantly with observations of comparable latrines made by Country Researchers in Asian countries, where very few of the latrine pits were infested with fly maggots. This observation may reflect the timing of the observations during a particularly wet period of the rains, as well as the inadequate

fly-proofing of the latrines. Either way, it seems apparent that fly nuisance is greater in Nigeria and, therefore, that greater attention needs to be paid to reducing fly entry and breeding in latrine pits.

### Vent pipes

The WES Unit in Ado LGA (Benue state) had encouraged households in *Igba* and *Efopu-Ekile* to add vent pipes to their latrines. As a result, the sani-centres provided PVC vent pipes along with the concrete domed slabs, and other households made their own bamboo vent pipes.

Every household latrine in *Efopu-Ekile* had a PVC vent pipe, as did 48% of the latrines in *Igba*. Unfortunately, neither the WES Unit nor the community members were aware that the gases that vent from pit latrines are extremely corrosive and that the fly screen sealing the top of the vent pipe needs to be regularly checked. As a result, 75% of the vent pipes in *Igba* were open, as were 55% of the vent pipes in *Efopu-Ekile*. Vent pipes attract flies (because of the smell of the exiting gases), hence open vent pipes provide a ready fly entry and exit point and are likely to encourage fly breeding inside the latrine pit.

Ventilated Improved Pit latrines reduce fly nuisance (compared to simple pit latrines) but their successful operation is dependent on three critical features:

- Darkened interior (in order that flies inside the pit are attracted up the vent pipe)
- Flow of air through the open squat-hole and out of the vent pipe (encouraged by suction at the top of the raised vent pipe, and by air inlets in the superstructure)
- Durable fly screen at the top of the vent pipe

None of these three features were present in the two study communities in Ado LGA. Most of the latrines had no roof (91% in *Igba*, 82% in *Efopu-Ekile*), the majority of the latrines had covers on the squat holes (61% in *Igba*, 55% in *Efopu-Ekile*), and, as already noted, the majority of the vent pipes were not adequately screened. The observation data confirms that 27% of the latrines surveyed in *Igba* had severe fly problems (indicated by flies exiting the pit immediately on lifting the squat-hole lid, flies seen exiting from the vent pipe, or clouds of flies around the squat-hole), and that 18% of the latrines in *Efopu-Ekile* had severe fly problems.

The community members (and WES Unit) agreed that the vent pipes were encouraging fly nuisance and fly-breeding in the latrine pit, and agreed that they would ensure that the vent pipes were properly screened in future (using either corrosion-resistant plastic mesh or coarse cloth). However, despite the concerns of the research team, the community members insisted on two perceived advantages of the vent pipes (which were deemed significant by the users). Firstly, the vent pipes were thought to reduce smell and, secondly, to reduce 'heat' emanating from the latrine pit.

The observation data confirm that none of the latrines in *Igba* or *Efopu-Ekile* had problems with smell (even those without vent pipes).



### Heat phenomenon

The ‘heat’ issue is a more complex and unusual one. Several members of the research team were familiar with this problem from their own experiences, and they characterised the issue as hot gases emerging from the pit (usually after lifting the latrine lid) and causing an unpleasant feeling and a strong, lingering smell. It was suggested that this problem was worse on hot days, particularly in the afternoon, and that it was most common in institutional latrines with large, lined pits (most references were to school latrines). A vent pipe would release any hot gases that have collected in the pit, although it may also increase the smell in the vicinity of the latrine.

Apart from being an unusual issue, the research team noted that the heat was thought to cause illness and infection and that Nigerian girls, in particular, were often reluctant to use pit latrines because of the heat problem (and the perceived risk of infection). It was also remarked that, because of these experiences, some adults living in urban areas still prefer to defecate in a potty (then empty the contents into the latrine) rather than sit over a latrine (or even a flush toilet).

In relatively small, unlined latrine pits, any gases that are generated by the decomposition of the pit contents should, theoretically, be absorbed by the soil surrounding the latrine pit. The only exceptions would be in impermeable or waterlogged soils, or where the latrine pit has been solid-lined (so that it acts as a septic tank). However, as far as the research team is aware, there are no disease transmission routes (eg that could cause urinary-related infections in users) possible from contact with gases produced by either aerobic or anaerobic decomposition.

The same issue was discussed in several communities, and most of the Nigerian members of the research team agreed that it was a common problem. Therefore, it is an issue that needs to be examined and addressed (even if it turns out to be largely a cultural issue, based on urban myths).

### Smell

Four of the five communities with the lowest open defecation rates had no reports of a smelly latrine. Yet in *Duhuwa*, fourteen of the twenty latrines surveyed (70%) were reported to be smelly, and five of them (25%) also had serious fly infestations. Furthermore, in *Molori*, every single latrine inspected was reported to be smelly (100%).

The research team noted that, in general, the hygiene and environmental sanitation conditions in the *Hausa* households in the two Jigawa communities (*Duhuwa* and *Molori*) were not good. Stagnant water was seen sitting in many compounds, flies were abundant, there was little space between buildings, and animal dung and solid waste were prevalent inside the walled compounds. The same pattern was evident with the latrines, which were generally less well maintained than those seen in other communities. In addition, it appeared that some of the latrines were also used as washing areas, resulting in drainage problems, damage to the mud slabs, and increased water flow into the pit (with greater risk of collapse).

The lack of private water supplies in these Jigawa communities may be a factor that limits good hygiene practice, although the Fulani households within the same community were observed to be substantially cleaner and tidier.

## 7.11 Sustainability of sanitation outcomes

The research design brief suggested three proxy indicators of sustainability:

- Full latrine pits are emptied or replaced
- Some households have upgraded and improved their latrines
- New households and in-migrant households are using latrines
- Breakages, pit collapses, and latrine damage are replaced or repaired

### Full latrine pits

One of the most foolproof indicators of latrine usage is a full latrine pit; what happens after the latrine pit becomes full is a useful indicator of the sustainability of improved sanitation behaviour. Unfortunately, the relatively recent initiation of the interventions in the study communities, and the tendency of many households in Nigeria to dig large, deep latrine pits (more than 10% of the latrines observed had latrine pits deeper than 3 metres), meant that no full latrine pits were reported.

Therefore, little attention has been paid to what will happen when the latrine pits become full and need to be replaced or emptied. The majority of the latrines observed in Nigeria had unlined latrine pits, and relatively simple (easily moved or replaced) slabs and superstructures. As a result, the best option in most cases will be to dig a new latrine pit and reconstruct the latrine. WaterAid in Nigeria needs to address the issue of latrine replacement and pit emptying in the near future, in order that households know the safe practices to use in emptying latrines (where necessary) and that some thought is given to the latrine design in order to simplify future movement or replacement.

### Latrine upgrades and improvements

One of the arguments for the CLTS approach is that, while the first latrines built may be basic, unimproved sanitation facilities, an important behaviour change has taken place – the household has chosen to stop open defecation. As the household becomes slowly more familiar with using a latrine, it is expected that small improvements and upgrades will be made both to the latrine and to the household’s sanitation behaviour.

However, the mapping data and observation surveys report that only one of the latrines built as a result of the CLTS interventions has been upgraded. In *Molori*, one rich household used cement plaster to form an impermeable layer on top of its original mud and timber slab.

This finding suggests that most communities are likely to require some form of technical assistance and advice before improving or upgrading their latrines. The WaterAid State Programme in Benue has already started piloting some latrine improvements (including appropriate technology pit linings made from bamboo or timber poles), but there was no evidence of these innovations being adopted in the four study communities in Benue.

## New households and in-migrant households

Another important indicator of collective sanitation behaviour (and outcomes) is the response to new adult or in-migrant households. In a community that genuinely wants to reduce or eliminate open defecation, the new households should be persuaded either to share an existing latrine, or to construct their own latrine.

**Table 9: Observed outcomes among new households**

Community	Performance	State	No.	New households		
				OD%	Shared %	Latrine %
Igba	High	Benue	4	0	100	0
Efopu-Ekile	High	Benue	3	0	100	0
Duhuwa:	High	Jigawa	19	47	37	16
<i>Hausa</i>			9	0	67	33
<i>Fulani</i>			10	90	10	0
Mbaazenger	Low	Benue	2	50	0	50
Mbagbor	Median	Benue	4	50	50	0
Molori	Median	Jigawa	6	100	0	0

Key:

OD% = percentage of households practicing open defecation, Shared = shared latrines, No. = number.

The data from the observation surveys suggests that sustainability is good in the three high-performing communities (with the exception of the *Fulani* households in *Duhuwa*), as every new household was found to be either sharing an existing latrine or using its own latrine. Conversely, 50% or more of the new households in the low and median performing communities was found to be practicing open defecation.

## Collapsed latrines

The sanitation behaviour of households whose latrine slabs or pits collapse is another good indicator of the sustainability of the sanitation outcomes. If households with collapsed latrines either rebuild their latrine or start sharing a neighbour's latrine, then the sanitation outcome is deemed sustainable. Conversely, if the household reverts to open defecation after the collapse of its latrine, then the sanitation outcome is deemed questionable.

Observation surveys were conducted at 23 collapsed latrines in six of the study communities.<sup>27</sup> Most of these pit collapses were due to recent heavy rains and therefore none of the households had had time to rebuild or replace their latrines (although several of the households claimed that they would rebuild their latrine when the rainy season ended).

<sup>27</sup> No collapsed latrines were reported in the two Enugu communities

**Table 10: Observed outcomes among households with collapsed latrines**

Community	Performance	State	No.	New households		
				OD%	Shared %	Latrine %
Igba	High	Benue	4	0	100	0
Efopu-Ekile	High	Benue	4	25	75	0
Duhuwa:	High	Jigawa	3	67	33	0
<i>Hausa</i>			2	50	50	0
<i>Fulani</i>			1	100	0	0
Mbaazenger	Low	Benue	1	100	0	0
Mbagbor	Median	Benue	4	100	0	0
Molori	Median	Jigawa	7	100	0	0

Key:

OD% = percentage of households practicing open defecation, Shared = shared latrines, No. = number.

The findings are very similar to those for new households. In the high-performing communities, the majority of the households with collapsed latrines are sharing other people's latrines, while in the low- and median-performing communities, every household with a collapsed latrine has reverted to open defecation.

In *Mbagbor*, latrine coverage has dropped 12% since the intervention ended. The mapping data suggest that this drop is entirely the result of 15 collapsed latrines, as all of the households with collapsed latrines have reverted to open defecation since the collapses.

## 7.12 Programmatic issues

### Water Supply

The previous (2007) WaterAid in Nigeria CLTS evaluation noted the centrality of water supply development to the success of the sanitation interventions. However, the water supply outcomes observed in the eight study communities question this association.

The water supply development ran in parallel with the sanitation intervention in each of the study communities. In several of the communities, it was suggested that people were asked to dig latrine pits as a condition for the water supply development, and, in general, the relationship between the water supply and the sanitation interventions, and the relative priority and demand that the community accord to each, remains unclear.

WaterAid in Nigeria reports that the CLTS interventions are now unconditional, but the State Programme Manager for Benue noted that 40% latrine coverage is usually required before the water supply development is started. In *Mbagbor*, the WASCOM members noted that some households dug latrine pits in order to meet the water supply requirement (of 40% latrine coverage), but abandoned the latrine pits (and did not finish the latrine construction) once the water supply work was completed.

Few of the water supply interventions have been successful. Among the eight water supply projects in the study communities, only three are working without problem. In Mbaazenger, where most households already shared private hand-dug wells, the handpump is functional but the community estimate that it is used by only about 10 households (3% total population). The other two successful handpumps are in the two Jigawa communities, where no private water supplies exist and the community water supply is an important resource. However, in Duhuwa, the WaterAid handpump is one of five public handpumps shared by the community, and the community reported that the main utility of the WaterAid handpump was in reducing the length of the queue at the other water points.

The WaterAid handpumps are non-functional in two other communities (borehole ran dry soon after completion in Igba, broken handpump in Mbagbor), and the WES Unit has been unable to find water in Efopu-Ekile, despite twelve borehole attempts and two failed shallow wells. Finally, both communities in Enugu complain that, while their handpumps are working, the water quality is so poor that only a few households use the handpumps, and even these households use the water only for washing.

In addition, there is little correlation between good sanitation outcomes and good water supply outcomes, as the water supplies failed in the two study communities with the lowest open defecation rates.

The benefits of an integrated water supply and sanitation approach are called into question by the impact of the failed water supplies on the sanitation interventions. Several of the lower-performing communities stated that the water supply problems had caused them to lose interest in the sanitation programme. In addition, all of the latrines are dry (ie no water seal latrines), and therefore do not require water for flushing. There was also little evidence of regular handwashing in any of the communities.<sup>28</sup> These findings suggest that, even where operational, the water supply investments have had a limited impact on sanitation or hygiene behaviour improvements.

The integrated water supply and sanitation approach also complicates the process. The water supply development requires far more technical skills than are needed for the sanitation intervention and requires a community management structure designed to manage and maintain a communal facility, as well as collect money for repairs. As a result, the WASCOM tends to be designed more for water supply than for sanitation, and to be dominated by the more influential male members of the community (rather than by the women that are responsible for most aspects of domestic hygiene and sanitation).

<sup>28</sup> Handwashing stands and water containers were present in several communities, but few of them contained water, and when they did, mosquito larvae were generally present (indicating that the water had been sitting in the container for at least a week)

## Community selection

Several questions were raised regarding the community selection process. In particular, the two communities studied in Jigawa were sufficiently low on the LGA vulnerability ranking for their selection to be questionable:

- *Duhuwa* was ranked number 28 on the vulnerability ranking for Gumel (out of 35 communities, which were the only ones that returned the ranking forms in time – another 54 communities failed to return the forms and were excluded from the vulnerability ranking)
- *Molori* was not included in the original vulnerability ranking for Maigatari LGA (although the nearby town of Galadi was ranked number 23 out of 40 communities) and was only selected because the first choice (Zazzabou) had already benefited from a UNICEF subsidy-based sanitation programme.

## Institutional latrines

Six of the eight study communities contained primary schools, or had schools located within their larger community. None of these schools had functional latrines and open defecation was observed immediately behind one of the schools in Enugu State. The WaterAid intervention did not address school sanitation and hygiene, and none of the communities or WASCOMs noted it as a problem. When asked about where the students defecated during school hours, the standard response was that they went home (or had to wait until they went home).

The one institutional latrine observed was in a recently completed rural health clinic in Duhuwa, where the community was very proud of the fact that a latrine had been constructed (in recognition of their efforts to create an ODF settlement).

## Barriers to latrine use

The only obvious barrier to latrine use encountered during the fieldwork was among the *Fulani*: both the strong cultural preference for defecation away from sight and home, and the semi-nomadic lifestyle, create some barriers to latrine use.

There were some reports of gender barriers to latrine use in parts of Benue state, with some communities apparently refusing to allow women to share latrines used by men. In most cases, only rich households could afford to build two latrines, thus most other households continue with open defecation rather than tackling this cultural issue.

## 7.13 Cost of sanitation outcomes

The financial cost of the WaterAid in Nigeria sanitation programme was examined at two levels: at the WES Unit (based on actual costs reported from the community level activities), and at national level (based on the WaterAid in Nigeria financial reporting system).

## WES Unit sanitation costs

Financial costs were gathered from four different WES Units. In most cases, the available financial data were incomplete, but sufficient data were collected to establish a reasonable picture of the costs of the sanitation programme at the community and WES Unit levels.

**Table 11: Typical WES Unit costs per community: CLTS interventions**

Activities	Cost per community		Cost per household	Cost per latrine <sup>29</sup>
	Naira N	US\$		
Programme costs (training, baseline)	N 45,000	\$ 391	\$2.40	\$ 6.50
Software (hygiene/IEC)	N 10,000	\$ 87	\$0.50	\$ 1.40
Software (CLTS and follow-up)	N 100,000	\$ 870	\$5.30	\$ 14.50
Software (sani-centre training)	N 80,000	\$ 696	\$4.20	\$ 11.60
Hardware (sani-centre)	N 80,000	\$ 696	\$4.20	\$ 11.60
<b>Programme Total</b>	<b>N 315,000</b>	<b>\$ 2,740</b>	<b>\$16.00</b>	<b>\$ 45.60</b>
Local government expenditure <sup>30</sup>	N 31,500	\$ 247	\$1.60	\$4.60
Household contributions	N 135,600	\$1,200	\$7.40	\$20.00
<b>Total cost</b>	<b>N482,100</b>	<b>\$4,187</b>	<b>\$25</b>	<b>\$70.20</b>

All implementation activities are conducted by the local government WES Unit and therefore some allowance needs to be made for the value of the time spent by the WES Unit on the WaterAid interventions (as a proportion of their salaries). In addition, UNICEF has provided some indirect support to the WES Units in the form of capacity building, and the purchase of assets (computers, vehicles, office equipment). Unfortunately, this cost data was not available, thus it has been estimated that these external expenditures amount to 10% of the intervention costs.

The financial cost data from the WES Units show that the average external cost per community of the CLTS interventions is about \$3,000. Given an average community size of 165 households, this equates to about US\$18 per household (even though some of these households may not have built or used latrines). The household cost compares relatively well with cost data from programmes in Asia, which typically average about US\$10 per household for large-scale CLTS programmes.

However, the cost-effectiveness of the CLTS interventions (cost per outcome) is less impressive. The current WaterAid in Nigeria CLTS interventions are only managing to increase sanitation coverage by about 37% (from initial coverage of 10% up to 47%), equivalent to an average of about 60 new latrines in each community. Based on this outcome, the costs provided by the WES Units suggest that the average cost of each CLTS latrine is about US\$50, including \$11 in direct support costs (22%), \$28 in software costs (55%), and \$12 in hardware costs (24%).

<sup>29</sup> Based on an average of 60 new latrines per community (calculated from the WaterAid in Nigeria CLTS data for 2006-07 and 2007-08)

<sup>30</sup> Salaries and resources paid by local government. Expenditure data were unavailable, thus it was estimated that these costs might amount to 10% of the intervention costs

An analysis of the reported investments by households in constructing their latrines suggests that the average household contribution (including materials, imputed cost of labour, and transport costs) was about US\$20. This contribution amounts to 28% of the total cost per latrine, with another 7% provided by the local government, and the remaining 65% provided by the WaterAid programme. The total cost, including household contributions, is \$ 70 per latrine.

The combined sani-centre costs (training and seed money) account for almost 50% of the project costs (excluding household contributions). The software costs include the training of artisans to build domed concrete slabs (called 'sanplats' in Nigeria) and latrine pits. The hardware costs are for the 'seed money' provided to the community to establish a small store selling a range of sanitary materials, chosen depending on the local demand.

In *Molori* (Maigatari LGA, Jigawa), the following materials were supplied to the sani-centre (with purchase and transport arranged by the WES Unit):

- Ten bags cement
- Ten sacks gravel
- One cart of sand
- Three large sacks of Omo washing powder
- Two cartons of soap bars
- Salt
- Batteries
- 40 plastic potties
- 50 rakes
- 50 kettles (plastic water pots with spouts)
- 50 dustpans
- Three shovels
- 60 brooms
- Ten plastic bins

The intention is that the cement, sand and gravel are used to manufacture concrete latrine slabs, each of which requires a half-bag of cement. Therefore, 20 slabs could be manufactured with the *Molori* materials. However, in practice, only one slab was made by the *Molori* sani-centre, and it was provided to the Village Head (who is also the WASCOM chairman). The rest of the cement was sold to individuals at N1,600 per bag (US\$14), which appears to be a discount as the current price in Maigatari town is N2,600 per bag (US\$23).

The rest of the sani-centre materials are meant to be sold to the community members, with any income used to re-stock the sani-centre. In practice, the materials were distributed around the community. Most households appear to have benefited from the materials, but there was little evidence that anyone had paid for either the sanitary wares or the bags of cement. As a result, the sani-centre seed money is effectively a hardware subsidy.

The problem with this approach is that the WASCOM is left to allocate the materials given to the sani-centre. The only successful sani-centre observed was in Duhuwa, where the sani-centre has become the only store in the community, and continues to stock a wide range of sanitary wares.<sup>31</sup> However, even here, the sani-centre had supplied only four latrine slabs to the community. In all other cases, the sani-centre funds had been used to purchase materials (mostly cement, sand and gravel) which had then been distributed to a small number of households without any charge.

**Table 12: Sani-centre production**

Study community	Sani-centre slabs in use	New latrines In use (No.)	% households benefitting
Efopu-Ekile	14	8	100
Igba	9	36	25
Duhuwa	4	42	10
Mbagbor	1	44	2
Molori	1	13	8
Mburubu	1	0	0
Amegu-Ada	0	10	0
Mbaazenger	0	60	0
<b>Total</b>	<b>30</b>	<b>213</b>	<b>14</b>

Key: No. = number

Only a handful of households (usually WASCOM members) claimed to have paid for the slabs given to them by the sani-centre, and most households using sani-centre slabs were unaware of the price that they were supposed to have paid. None of the sani-centres (except Duhuwa) were able to provide evidence that any money had been paid, or that any money was available to purchase more materials for the sani-centre.

In *Amegu-Ada*, the sani-centre was reported to have produced 30 concrete slabs, but not one slab has been sold or put to use (as the community reported that they were concerned that the unreinforced concrete slabs would be unsafe). Thirteen of the slabs were lying unused in the grass beside the school building.



<sup>31</sup> Slab-making materials, soap, mosquito coil, potties, permethrin (for impregnating mosquito nets), washing powder, candy, rubber sandals, tools for handpumps, maggi stock cubes, cotton buds, toothpaste

*Efopu-Ekile* was the only community where everyone benefited from the sani-centre slabs. All of the new latrines were built using sani-centre slabs, and several of the existing latrines were renovated using a new slab. In addition, a slab was provided to the WASCOM Chairman's daughter (living in another community), and to two households in the adjoining community. The sani-man claimed that the WASCOM Chairman had paid for his slab, and that the Secretary had paid for half of his slab, but agreed that no one else had paid for their slab. On further questioning, the sani-man was unsure of the price paid and could not produce any evidence of the current status or usage of the money collected. It appears that, in this small community, the sani-centre seed money was sufficient to provide a free slab to almost every household: effectively, a hardware subsidy of US\$50 per household.

In total, only 16 sani-centre slabs were found in use in the other seven study communities. Assuming that the seed money provided to each sani-centre was N80,000 (US\$700), this means that each of these slabs cost WaterAid in Nigeria about US\$300. In addition, the main people to have benefitted from these free slabs are the community heads and WASCOM members, who are generally non-poor households.

### WaterAid in Nigeria sanitation costs

WaterAid in Nigeria provided data on its sanitation programmes from the central financial system. These costs have been broken down into four categories, as shown in Table 13, which presents the CLTS costs from the financial year 2007-08.

**Table 13: WaterAid in Nigeria sanitation costs (2007-08 financial year)**

Activities	Annual cost (US\$)	Cost per community	Cost per household	Cost per latrine
Programme costs (training, support)	\$100,058	\$1,853	\$14	\$33
Software (hygiene/IEC)	\$70,768	\$1,311	\$10	\$23
Software (CLTS and follow-up)	\$24,699	\$457	\$3	\$8
Hardware (sani-centre)	\$24,198	\$448	\$3	\$8
<b>WaterAid Total</b>	<b>\$219,724</b>	<b>\$4,069</b>	<b>\$30</b>	<b>\$71</b>
Local government and UNICEF support	\$22,000	\$407	\$3	\$7
Household contributions	\$60,640	\$1,140	\$8	\$20
<b>Total</b>	<b>\$302,364</b>	<b>\$5,616</b>	<b>\$41</b>	<b>\$98</b>

Several interesting findings arise from this examination of costs. Firstly, that the national costs are allocated differently to the local level costs, as both the CLTS software and sani-centre hardware costs are substantially lower (per community), whereas the hygiene and IEC software costs appear significantly higher.

The WaterAid support costs appear to almost double the cost per household, with US\$16 in local costs increased to a total of US\$30 per household. The additional US\$14 per household is spent on direct support costs such as consultancies, workshops and trainings, studies, and substantial spending on advocacy campaigns.

According to the national-level accounts, project support costs account for 47% of the sanitation expenditures, software costs for 43%, and hardware costs for 11% of the total sanitation expenditure. However, it remains unclear why the local level costs indicate that the sani-centre costs are equivalent to 50% of the implementation costs, whilst the national accounts suggest only 11% for the sani-centre costs.

In terms of cost-effectiveness, the project cost per CLTS latrine is currently US\$71. Almost half of this amount (\$33 per latrine) is consumed by support costs, with \$31 per latrine reported for software costs. These figures compare reasonably well with the local costs, which suggested \$28 per latrine for software costs. However, the total cost including external expenditures and household contributions is estimated at US\$98 per latrine, with 72% financed by WaterAid, 7% by other agencies (UNICEF and local government), and 20% contributed by the household itself.

Another measure of cost-effectiveness is the cost per ODF community. To date, only 15 ODF communities have been declared by WaterAid in Nigeria, which suggests a project cost per ODF community of about US\$25,000 (although this analysis ignores the benefits accrued due to increases in sanitation coverage in non-ODF communities).

### Influence of expenditure on outcomes

There was little evidence that expenditure varied across the study communities. In other words, WaterAid in Nigeria provided similar finance for training, implementation activities, and support in all of the states and LGAs visited during the research.

However, it was clear that the utilisation of these resources varied across the LGA WES Units. The WES Units in Ado and Gumel LGAs had obviously made numerous, regular visits to the study communities throughout the intervention period. In general, the CLTS concept was well understood (and acted upon) by the communities in these LGAs, suggesting that the participatory triggering activities had been implemented effectively.

In contrast, the WES Units in Enugu state appeared less engaged with the intervention. A more top-down process had been utilised, with fewer visits to the community, which resulted in less interest and engagement by the community. For instance, it remains unclear why the sani-centres in the Enugu study communities had produced tens of concrete slabs, knowing that none of the community members were interested in either buying or using them, but it seems likely that the WES Unit told the sani-man to produce the slabs without first examining local demand (as per the previous subsidy approaches). The expenditure was the same as in the other communities, but none of the materials or investment (in artisan training) has ever been used.

The unit costs of the WaterAid in Nigeria CLTS intervention are relatively high, and the outcomes remain relatively poor. The ODF success rate in Nigeria is only 15 ODF communities from 99 CLTS interventions (15%), which compares badly with success rates of 35% to 40% achieved in large-scale programmes in Asia. Furthermore, the observation surveys found that several of the communities previously declared ODF (notably *Duhuwa* and *Efopu-Ekile*) were no longer open defecation free, which suggests that the sustained ODF rate is actually lower than 15%.

### Institutional or financial Incentives

The provision of a water supply facility with every intervention was a significant incentive to most of the study communities. The poor performance of these water supply facilities appears to have had a negative impact on the outcomes of the interventions.

The only other incentive provided by WaterAid was through the seed money provided to the sani-centre (see section below). This finance was supposed to establish production centres and sanitary ware shops in project communities, with the latrine slabs and goods paid for by the community members. In practice, the sani-centre seed money acted as an incentive to the WASCOM members to take part in the intervention (as some of them received free slabs) and to the community members (as some of them received free sanitary wares). Unfortunately, the provision of the sani-centre funds was not linked in any way to the performance of the CLTS intervention (ie whether the community reached ODF status) or to the performance of the sani-centre (as no funds had to be repaid, whatever happened to the sani-centre).

No other financial or performance-based incentives were present.

## Section 8

# Conclusions

The WaterAid in Nigeria CLTS programme is only in its third year. In order to examine the sustainability of the sanitation outcomes, the study communities were selected from interventions that took place only in the first and second year of the CLTS programme. Inevitably, some of the interventions started while the implementation teams were in transition from the previous subsidy-based approach and, therefore, were still learning about the CLTS process.

As a result, some of the problems uncovered by this study are due, at least in part, to the early stage of the CLTS programme in Nigeria. In particular, the WES Units in Enugu noted that, in 2006, they began implementing CLTS several months before they attended the CLTS training course. Understandably, both the WES Units and the communities were slightly confused by the transition from a subsidy-based approach to a CLTS approach, and it has taken some time for the implementation teams to become comfortable with the new approach.

### Seasonality issues

It should also be noted that the research for the study took place in the middle of a severe rainy season. Several of the communities visited were flooded, access roads were almost impassable, and both latrines and houses were collapsing under the heavy rains. As a result, the study presents a fairly unflattering view of the sanitation situation in the eight study communities – undoubtedly, some of the collapsed latrines will be rebuilt as the dry season sets in and the maintenance of the latrines will be easier.

### Validity of the research hypothesis

The findings of the Nigeria study confirm that communities that have declared themselves ODF tend to have more equitable and sustainable outcomes than non-ODF communities. However, two of the three study communities that had declared ODF status were no longer open defecation free less than two years after the end of the intervention. In both cases, only a handful of households had reverted to open defecation (four households in Efopu-Ekile, and one household in the main settlement of Duhuwa), and several of these had only reverted to open defecation because of latrine collapses in the recent heavy rains. Nevertheless, these findings confirm that ODF status is not a fixed outcome.

In general, the CLTS process has been more successful in triggering sustained and equitable sanitation outcomes in the communities that achieved ODF status. These communities had a better understanding of the reasons for stopping open defecation

and seemed more concerned and upset when exceptions were uncovered. The non-ODF communities tended to have a far more relaxed approach to their sanitation situation. Open defecation was not considered especially problematic and there was less sense of the need to achieve a collective sanitation outcome.

### Local context and community type

It was clear that the nature and definition of the intervention communities also played an important role in the success of the CLTS approach. Several of the communities contained multiple sub-villages spread over a large area, which made it hard to convince the community that open defecation was a collective problem. How could open defecation by someone in this sub-village affect the situation or health of latrine-using members of another far away sub-village?

The reverse problem was found in Efopu-Ekile, where the defined community was one tiny sub-village (only 22 households) within a much larger cluster of sub-villages. Open defecation by people living in the immediately adjacent sub-villages clearly had a direct impact on this community, which limited the sustainability of the collective outcome (as it is hard to maintain pressure on households to stop open defecation when their neighbours are practising open defecation with impunity).

The study communities in Enugu showed little interest in the homemade CLTS latrines that were discussed with them, as many of them aspire to a much higher level of service. In communities where individuals own cars and satellite dishes, it is clear that sanitation improvement will require more than just the promotion of mud-floored latrines. Nevertheless, the CLTS concept – of encouraging ODF communities – remains valid, as even non-poor households experience disgust when made aware of the contamination caused by open defecation.

### Worse outcomes among semi-nomadic groups

The preceding sections of this report have referred frequently to the exclusion of the *Fulani* households from the CLTS interventions in the Jigawa study communities. Once again, the definition of the community created problems, firstly by including the *Fulani* households in the original community and then by failing to extend or adapt the intervention to reach the semi-nomadic *Fulani* households.

### Little upgrading or innovation in latrine design

The research team found that only one household had upgraded its latrine. This finding appears to reflect a lack of technical innovation and knowledge sharing, which has resulted in very few indigenous latrine designs emerging from the interventions.

In most other countries, the CLTS approach has encouraged ‘village engineers’ to find novel uses for local materials and solve local problems with ingenuity rather than expensive materials. The designs that emerge from these innovative individuals are then shared with other households and communities, leading to reinforcing cycles of innovation and development. However, there was little evidence of any innovation in the CLTS interventions in Nigeria.

Most of the latrines built under the CLTS programme were little different from existing traditional latrines and there was very little variation between households. Those that built new latrines tended to build identical models to those already used by others in the community. As a result, many of the latrines are barely hygienic – excreta is separated from human contact, but the latrines are hard to keep clean and generally unpleasant to use. The lack of variation in latrine design suggests that the process was fairly top-down, with the latrine designs being promoted by the WES Unit and WASCOM members rather than emerging from the household's own thoughts on how best to separate excreta from human contact and utilise the materials to hand.

### Unimproved latrines important for achieving ODF

A lower proportion of improved latrines was found in the communities that had largely stopped open defecation. While this might suggest that reducing open defecation leads to lower quality latrines, it demonstrates how CLTS allows poor households to build very low-cost latrines, provided that they stop open defecation. Without this approach, which gets poor households on the first rung of the sanitation ladder, it is extremely difficult to convince poor or disadvantaged households to build or use latrines. In non-ODF communities, the majority of the latrines are normally found among non-poor households, those more likely to afford improved latrines, which explains their higher improved sanitation coverage.

### Limited follow-up reducing sustainability

The current WaterAid in Nigeria approach allows no follow-up after the first year of the intervention. The WES Units are supposed to continue with routine monitoring of the water and sanitation situation in their project communities, but the difficulty that WaterAid in Nigeria faced in collecting up to date sanitation data (prior to the start of the study) confirms that this monitoring produces little useful data. The WES Units confirmed that they are reluctant to visit remote communities unless paid a travel allowance and, once the intervention finishes, no funds are available for allowances (other than those provided by the LGA).

The lack of any formal follow-up is a serious constraint to sustainability. Even the high-performing communities benefitted from the review and discussion held with the research team. New issues (such as the risk of fly breeding caused by open vent pipes) were raised, and suggestions for latrine improvements were discussed.

### Additional factors that may assist entrenched behaviour change

Another important factor was the timing of the intervention. The timing of the WaterAid in Nigeria financial year tends to release funds in the middle of the rainy season, when latrine pits are difficult to dig and people are working in their fields, which limits the effectiveness of the intervention. One of the critical factors (found in other CLTS interventions) is the intensity of the initial activities; once triggering has taken place, and people are interested in building latrines and solving their sanitation problems, it is important that support is on hand to encourage and assist in the process. The current timing of the release of funds tends to result in gaps in the process, which reduces the intensity and effectiveness of the activities.

The CLTS process relies on outreach by external and internal facilitators (natural leaders) to small groups of households, often within clusters of households in small villages, or in neighbourhoods within larger settlements. The larger number of active community health volunteers utilised in the Benue communities was clearly a factor in the success of these sanitation interventions. However, the Jigawa interventions utilised only two community hygiene volunteers, yet managed similar results. The more detailed examination provided by this research has highlighted the problem of exclusion of the *Fulani* households in Jigawa state, and how the outcomes might have been different if additional hygiene promoters had been selected from outside the main densely-packed settlements.

A number of technical issues were identified: collapse of unlined pits in loose soils, failure to construct easy-to-clean (sweepable) slabs, failure to fly-proof latrines and vent pipes, and the use of latrines as bathrooms. WaterAid in Nigeria has already responded to the pit collapse problem by developing and piloting a number of low-cost solutions in Benue state, and by encouraging mud-brick linings in Jigawa state. But few of the other technical issues have been addressed.

### Role of local government

The WES Units are relatively new institutions, with little experience of sanitation improvement, and few incentives to do their jobs well. Moreover, the current institutional arrangements provide little regular support from the WaterAid programme staff, other than a couple of training courses every year. This arrangement allows little monitoring of either the process or the outcomes, and is an important factor in the large variation in the quality and commitment of the WES Units.

The WaterAid in Nigeria members of the research team suggested that LGA financial support to the WES Unit is an important factor of success. Following impressive performance by its WES Unit over the last two years, Ado LGA has agreed to provide N 500,000 of its own funds (US\$4,300) to the WES Unit. Whilst the WES Unit agree that this money will assist in their work, it also pointed out that this amount will barely pay for a single handpump.

### Perverse incentives

WaterAid in Nigeria has promoted two unusual features in its CLTS programme: the water supply interventions and the establishment of sani-centres in each community. Unfortunately, the findings of this study suggest that both features are unsuccessful distractions from the main business of stopping open defecation. Only three out of the eight water supply interventions are functional less than a year after the interventions finished, and an expenditure of more than US\$11,200 on eight sani-centres in the study communities resulted in only 30 latrine slabs being used – at an average cost of \$373 per slab!

Finally, the cost-effectiveness of the interventions could be improved. Similar interventions in Asia cost approximately \$10 per household latrine, whereas the costs in Nigeria average about \$77 per latrine, with another \$20 contributed by the household. Efforts need to be made to improve the efficiency of the process, to prune the unsuccessful elements, to monitor the relative cost-effectiveness of the various activities, and to focus on the core business of achieving collective sanitation outcomes that have a real impact on the health and economy of the target communities.



## Section 9

## Recommendations

a) **Develop formal guidelines on community units**

The definition of the community unit used in the CLTS intervention is critical. WaterAid in Nigeria has already developed informal guidelines that suggest that large villages should be broken down into smaller units that target ODF status one-by-one, with a separate (but linked) process in each sub-village. The overall aim should still be for the entire village to achieve ODF status, but the process is likely to work better if enacted in smaller, more closely-clustered settlements (where the evidence and practice of open defecation is more visible and relevant to the other inhabitants). WaterAid in Nigeria should develop formal guidelines on how best to determine the community units used in the CLTS process.

b) **Introduce follow-up interventions to review and improve outcomes**

One of the key recommendations for improving the sustainability of the outcomes is to introduce a second phase intervention that aims to review the sanitation outcomes and promote small improvements and upgrades to the sanitation facilities. It is proposed that this intervention should follow about one year after the completion of the initial CLTS intervention, and should utilise a sanitation marketing approach.

After one year of latrine use, some of the households will be more familiar and comfortable with the use of their facilities, and more willing to invest time and resources in improving them. The research suggests that WaterAid in Nigeria may be able to reduce unit costs significantly by removing the sani-centre element of the CLTS intervention. The sani-centres consume 50% of the local implementation costs and, as shown in Table 12, the benefits generally reach less than 10% of the community, most of whom are non-poor households.

Some of the good ideas that went into the unsuccessful sani-centre approach could be better utilised during the second phase, provided that any production or manufacture is run on a commercial basis. The finance of these second phase interventions could be partially sourced by removing the sani-centre investments from the initial interventions, and by using the sani-centre funds to finance the marketing of low-cost products, short-term promotions and discounts, and business development training for local sanitation enterprises (masons, retailers, manufacturers).

c) **Encourage, capture and disseminate local innovation**

At present, little effort is being made to encourage or capture local innovation. It is recommended that each of the State Programmes establishes an annual latrine competition, with prizes awarded to the most innovative and affordable designs. In Cambodia, the latrine prize winners have their designs added to a latrine catalogue, which is updated annually to show any local innovations, as well as low-cost solutions to common latrine design and sustainability problems.

d) **Separate water supply from sanitation interventions**

It is also recommended that the water supply interventions be de-linked from the sanitation interventions. Integrated interventions should allow water to be available for handwashing after defecation, for latrine flushing, and for improved hygiene but, in practice, this study confirms that many of the water supply interventions encounter problems that limit their usefulness and sustainability. In addition, it is difficult to determine genuine demand for sanitation when water supply development is part of the package. Water supply requirements tend to dominate institutional arrangements, thus sidelining those that might contribute significantly to sanitation improvements.

Sanitation coverage currently lags behind water supply coverage both nationally and at community level. It is unlikely to catch up unless some sanitation-only interventions are designed and implemented. Furthermore, the failure to tackle sanitation problems (such as open defecation) results in a far greater concentration of pathogens in the community, which tends to reduce the benefits available from water supply investments. Finally, there is increasing support for interventions designed to focus on only one or two behaviour changes. These interventions are simpler, making performance monitoring easier, and creating more accountability for outcomes and impacts.

All communities need an ODF intervention, whereas not all communities need a water supply intervention. One of the members of the Ado LGA WES Unit made the point that sanitation improvement would work much better if separate from water supply. To quote, he said that “you should focus on sanitation, and change your name to SanitationAid”!

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## Annex A

# Checklist for interviews with WES Units

### Location

State/LGA/town

Staff data: names, positions and time with WaterAid in Nigeria (of those present at interview)

*Note: OK if more than one respondent present at interview (as few of the topics are likely to be overly sensitive or subjective)*

### Programme data

Size of programme: number of staff in state office (plus levels/positions)

Programme reach: number of LGAs covered (number in state), number of communities (number in each LGA, and number in state) = percentage coverage of WaterAid in Nigeria programme in this area

### General information on interventions

Start date of current (non-subsidy) interventions

Number of LGAs/communities covered since the start of the CLTS interventions?

What defines the number of communities covered per year (who sets the total)?

Selection criteria for project communities.

Budget: total amount spent per year, amount spent on the interventions that included CLTS elements? *Note difference between budget figures and actual expenditures*

Role of local government: LGA WES Unit (when established, current capacity), other local government partners/requirements?

Role of other international agencies: UNICEF involvement? Other agencies/NGOs?

Role of local partners: local NGOs/CBOs?

### Intervention data for study communities

*\*\* collect copy of baseline data for study communities \*\**

Anything unusual about the study communities?

General process followed – any deviations from WaterAid in Nigeria standard process (due to local difference/context)?

Duration of interventions: when was last visit made?

Number of visits: by WaterAid in Nigeria staff, by LGA WES Unit, by others?  
 Division of labour between water supply, sanitation and hygiene: possible to estimate proportion of time (or specific visits) spent on each sub-sector?  
 Costs: typical cost for one visit (number of staff, transport, fuel, per diems, community payments, other)?  
 Costs: direct cost elements – water supply scheme, sani-centre, payments to LGA?  
 Costs: cost estimate for each study community (number visits, plus direct costs and other)  
 Costs: covered by others eg UNICEF expenditures (WES Unit)?

### **Intervention issues**

Any local issues that affect interventions?  
 Why CLTS is successful in some communities but not others?  
 Why it's successful in some states (eg Jigawa) but not others (eg Enugu)?  
 Is there any difference in facilitation quality?  
 What about buy-in by LGA (and other support agencies)?  
 How equitable are interventions (reaching disadvantaged groups)?  
 How could the sustainability of the sanitation improvements be improved?

## **Annex B**

# **Checklist for Focus Group Discussions**

### **Location**

State/LGA/community name  
 Present at FGD: note criteria for selecting FGD members and number

### **Community data**

Present summary of the community data collected so far. Ask the FGD members if this information is correct/representative/up-to-date  
 Verify specific information about the FGD members (number of households, household sizes, sanitation access, types of latrine, open defecation practices)

### **Intervention process**

Ask the FGD members about their involvement in (or exclusion from) the intervention process. What was their role? How did they interact with others? How were they informed of the purpose and nature of the intervention? Have any groups in the community been excluded from the process? If so, why? What has been the role of local government in the process?

### **Intervention outcomes**

Is there any open defecation in the community?  
 If none: how are the FGD members certain that there is no open defecation – how is it monitored?  
 If some: who practices open defecation? Where? And why?  
 What happens when people spend time outside the household – where do they defecate?  
 How does open defecation affect the members of the FGD?  
  
 Has the intervention produced a good outcome for the FGD members?  
 What do the FGD members think of their latrines (if they are using latrines)?  
 How do the latrines of the FGD members compare to those of others in the community? Is there any difference – if so, why?  
 Does anyone share a latrine (use someone else's latrine)?  
 What about migrants – any new households? If so, do they use latrines?

Have there been any problems with the new latrines? What caused the problems?  
(among FGD members, among others in the communities)

Has anyone stopped using their latrine (and returned to open defecation)?  
If so, why?

Has anyone improved (upgraded) their latrine? If so, in what way?

Would the FGD members like to improve their latrines? What are the barriers?

What benefits do the latrines bring to the FGD members?

Is the situation in the community any different from that of before the intervention?

What visible/obvious changes can the FGD members report?

### Spread effects

How is the sanitation situation in other nearby communities?

Have any other nearby communities tried the same approach (CLTS)?

## Annex C

# Research tools: examples of community form

WaterAid Nigeria - WATSAN information				
Community	Igba		Completed by	Andy Robinson
State/LGA	Benue/Ado		Date	13-Aug-08
Data source	Community meeting in school: 21 men (5WASCOM+2chiefs) & 1-2 women			
<b>Water Supply</b>	Before WA-NG	After WA-NG		
Handpumps (nr)	1 handpump at school	WA/LGA handpump (March 2007);		
Dug wells (nr)	6 private wells	FGN-MoWR handpump (April 2008)		
Pumped systems	No pumped systems			
Other	Ponds (in rainy season)			
WS problems	Health problems	WA/LGA handpump dried up soon after		
(unserved hhds)	Time lost due to queuing for	completion (now not working).		
(distance)	water (at handpump); often	Small change: less sickness; less queuing		
(quality)	return home without water.			
<b>Sanitation</b>	Before WA-NG	After WA-NG	% change	
Nr latrines	49	49	124	124
Nr OD hhds	75	71	0	0
Defecation sites	Bush, forest.	No OD reported: now health		
	Sometimes bury (cat style)	improvements (less death, less		
		disease).		
<b>WA-NG intervention</b>				
Why?	LGA WESU selection based on vulnerability ranking			
Who applied?	Nobody applied			
Start date	10 Oct. 2006	End date	before July 2007	
Nr visits	Many.	Last visit date	April 2008 (monitoring)	
Who led process?	WASCOM & WES Unit			
Latrine designs	84 VIP latrines	9 latrines with concrete slab	7 % hhds	
(typical/popular)	40 Traditional latrines	74 latrines with vent pipe	60 % hhds	
		41 traditional pit latrines	33 % hhds	
WS conditions				
<b>Sani-centre</b>	Sanplats	Slabs	Cement bags	Other
Sales (nr)		9 nr	+ vent pipe (cost = N2,540 include. N340 labour)	
Status	N80k seed money; 6 slabs in year 1; 3 slabs in year 2 (new hhds)			
Materials	Vent pipes sold alone for N550; no other products sold (or available)			
<b>Latrine problems</b>				
Collapsed pits	Rain and loose soil caused four pits to collapse (at surface?)			4 nr hhds
Damaged slabs	None			nr hhds
Abandoned	2 nr (due to collapse) - now reported to be sharing neighbours'			2 nr hhds
	latrines; other two still using, despite unsafe/open pit			nr hhds
<b>Notes:</b> Sanplat = used here to mean low-cost domed concrete slab (1.2m dia)				
Why change to ODF? talks from WESU trained hygiene promoters (understood that excreta from forest flushes into streams and ponds (used for WS). Taught how to dig/build latrines by WESU.				
Difficulty to afford N2,540 slab and vent pipe package (too expensive). 10 nr hygiene promoters monitor OD on regular basis (?); last check yesterday?				
Sani-centre: materials for 20-70 slabs (10 bags cement; 140 pans sand; 100+ pans of chippings). Only 12 slabs produced (3 not sold including one unused at Chief's house); 3 bags of cement loaned out to community members (one a WASCOM member); to be repaid in dry season. No records of amounts collected in payment to sani-centre; sani-man extremely embarrassed when amounts (savings, receipts) discussed, suggesting that either no money was paid, or that money has been spent?				

## Annex D

## Background data

## WaterAid in Nigeria Community-wide ODF sanitation interventions in the financial years 2005-06 and 2006-07

	State	LGA	Community	Approach	Year	Population	Hhds	Size	Before	After	Initial	Cover	Incr	Status	Notes
1	Benue	Ado	Unogwu (Replication)	CLTS	2006	210	10	21.0	2	10	20%	100%	80%	Completed	Excluded as not WaterAid in Nigeria intervention
2	Benue	Ado	Efopu-Ekile	CLTS	2006	300	15	20.0	3	15	20%	100%	80%	Completed	
3	Benue	Okpokwu	Ubegba	CLTS	2006	148	25	5.9	4	35	16%	140%	124%	Completed	38 in Evaluation
4	Benue	Logo	Tse-Yugh	CLTS	2006	442	54	8.2	4	9	7%	17%	9%	Completed	
5	Benue	Logo	Abur Norsua	CLTS	2006	235	74	3.2	4	8	5%	11%	5%	Completed	
6	Benue	Logo	Ruam Nyam	CLTS	2006	668	88	7.6		40	0%	45%	45%	Completed	
7	Benue	Vandeikya	M/Zenger/Sharagba	CLTS	2006	4,180	91	45.9	34	35	37%	38%	1%	Completed	
8	Benue	Logo	Tse-Agera	CLTS	2006	1,428	104	13.7	13	20	13%	19%	7%	Completed	
9	Benue	Logo	Tse-Ikyule	CLTS	2006	951	113	8.4	16	19	14%	17%	3%	Completed	
10	Benue	Vandeikya	Mbaaji	CLTS	2006	1,550	123	12.6	21	80	17%	65%	48%	Completed	
11	Benue	Ado	Igba	CLTS	2006	2,600	124	21.0	49	124	40%	100%	60%	Completed	
12	Benue	Okpokwu	Ondo	CLTS	2006	742	124	6.0	10	67	8%	54%	46%	Ongoing	
13	Benue	Ogbadibo	Ipiga	CLTS	2006	1,129	129	8.8	42	94	33%	73%	40%		Semi-urban (Eval: 4,205 in 313 hhds=57 latrines)
14	Benue	Vandeikya	Ikyumbur	CLTS	2005	4,200	149	28.2	16	42	11%	28%	17%		
15	Benue	Vandeikya	B. Atser	CLTS	2005	3,450	159	21.7	40	103	25%	65%	40%		
16	Benue	Logo	Ubaver	CLTS	2006	1,308	184	7.1	2	24	1%	13%	12%	Completed	
17	Benue	Vandeikya	M/Kyulen	CLTS	2005	1,932	190	10.2	18	48	9%	25%	16%		
18	Benue	Vandeikya	Anongo	CLTS	2005	3,905	200	19.5	36	95	18%	48%	30%		
19	Benue	Vandeikya	Jape	CLTS	2005	3,290	213	15.4	36	99	17%	46%	30%		
20	Benue	Vandeikya	Idyegh	CLTS	2005	1,060	221	4.8	34	169	15%	76%	61%		
21	Benue	Vandeikya	Mbagbor	CLTS	2006	4,800	264	18.2	24	195	9%	74%	65%		
22	Benue	Vandeikya	Alakali	CLTS	2006	4,646	282	16.5	24	98	9%	35%	26%		
23	Benue	Vandeikya	Gusha	CLTS	2006	4,982	331	15.1	26	60	8%	18%	10%		
24	Benue	Vandeikya	M/Adigan	CLTS	2006	4,996	1048	4.8	40	766	4%	73%	69%		
25	Ekiti	Ekiti South West	Iro	CLTS	2006	821	102	8.0	23	39	23%	38%	16%	On-going	
26	Ekiti	Ilejemeje	Ijesamodu	CLTS	2006	3,837	222	17.3	13	69	6%	31%	25%	On-going	
27	Ekiti	Ekiti South West	Oke-Ode	CLTS	2006	1,802	363	5.0	37	126	10%	35%	25%	On-going	
28	Ekiti	Ikole	Irele	CLTS	2006	2,542	388	6.6	9	15	2%	4%	2%	On-going	
29	Ekiti	Ilejemeje	Iludun	CLTS	2006	7,510	390	19.3	25	49	6%	13%	6%	On-going	
30	Ekiti	Ikole	Ootunja	CLTS	2006	3,501	568	6.2	119	129	21%	23%	2%	On-going	
31	Enugu	Igbo-Etiti	Ezi-idoha	CLTS	2006	439	80	5.5	50	68	63%	85%	23%		
32	Enugu	Igbo-Etiti	Ozeachara-Ekwegbe	CLTS	2006	576	108	5.3	8	14	7%	13%	6%		
33	Enugu	Udenu	Amagu-Ada Obollo	CLTS	2006	5,070	230	22.0	41	48	18%	21%	3%		
34	Enugu	Nkanu East	Ovuorie-Ugbawka	CLTS	2006	2,798	280	10.0	34	70	12%	25%	13%		
35	Enugu	Nkanu East	Mburubu	CLTS	2006	2,720	280	9.7	29		10%	0%	-10%		
36	Enugu	Udenu	Ugbabe-Uwani	CLTS	2006	4,352	304	14.3	29	96	10%	32%	22%		
37	Enugu	Nkanu East	Amankanu	CLTS	2005	870									
38	Jigawa	Suletakankar	Darare	CLTS	2006	929	102	9.1	1	90	1%	88%	87%		
39	Jigawa	Gumel	Duhuwa	CLTS	2006	1,398	128	10.9	0	128	0%	100%	100%		
40	Jigawa	Suletakankar	Bagade	CLTS	2006	1,284	137	9.4	3	135	2%	99%	96%		
41	Jigawa	Maigatari	Molori	CLTS	2006	1,431	138	10.4	0	42	0%	30%	30%		
42	Jigawa	Maigatari	Bagware	CLTS	2006	2,314	151	15.3	0	36	0%	24%	24%		
43	Jigawa	Gumel	Dan'Ama	CLTS	2006	2,325	247	9.4	0	234	0%	95%	95%		
44	Plateau		Kanke	Gwang	CLTS	2006	152	19	8.0	0	18	0%	95%	95%	
45	Plateau		Kanke	Piri	CLTS	2006	1,928	241	8.0	0	2	0%	1%	1%	
			Totals			101,751	8,793	12	919	3,663	10%	42%	31%		
			Average:			2,261	200	13	21	85	12%	48%	36%		
			Median:			1,802	150	10	18	60	12%	40%	28%		
		Benue		23		Average:	2,215	180	14	22	15%	53%	39%		
						Median:	1,489	127	13	21	13%	47%	34%		
		Ekiti		6		Average:	3,336	339	10	38	11%	24%	12%		
						Median:	3,022	376	7	24	8%	27%	19%		
		Enugu		7		Average:	2,404	214	11	32	20%	29%	9%		
						Median:	2,720	255	10	32	11%	23%	12%		
		Jigawa		6		Average:	1,614	151	11	1	11%	73%	72%		
						Median:	1,415	138	10	0	109	0%	91%	91%	
		Plateau		2		Average:	1,040	130	8	0	10	0%	48%	48%	
						Median:	1,040	130	8	0	10	0%			

**Key:**

LGA = Local Government Authority,

Hhds = Households,

Size = average household size,

Before = number of latrines before intervention,

After = number of latrines after intervention,

Initial = latrine coverage before intervention,

Cover = latrine coverage after intervention,

Incr = increase in latrine coverage arising from intervention

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## Notes



WaterAid's vision is of a world where everyone has access to safe water and sanitation.

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