

Research Paper

Exploring equity focus of the SHAWN WASH programme in Nigeria

Ngozi Akwataghibe, Madeleen Wegelin, Leonie Postma, Wole Fajemisin, Maingaila Moono Banda, Farooq Khan, Zaid Jurji and Jurrien Toonen

ABSTRACT

This study assesses the extent to which equity was mainstreamed in the UNICEF Sanitation, Hygiene and Water in Nigeria (SHAWN) programme. Mixed methods consisting of desk review, survey of 2,105 households, individual survey of physically disabled people, focus group discussions with community members and in-depth interviews with key informants were used. The WASH project displayed equity considerations in selection of local government areas for its interventions – prioritizing underserved and unserved rural areas, females and places with the greatest needs – leading to increased access to water and sanitation for the poor. However, access was less for people with physical disabilities. Institutional and financial sustainability considerations challenged equity. Gender equality gaps driven by cultural and religious barriers existed in the composition of government WASH departments and community WASH Committees (WASHCOMS) despite the prominence accorded to gender issues. Operationalization of equity was hindered by poor data availability for assessment of poverty and needs; and cultural, environmental and financial barriers. WASHCOMS require specific training to operationalize equity and inclusion at community and household levels. The potential positive effects of a rights-based approach and equity on social and behavioural sustainability should be considered in future programming.

Key words | disability, equity, gender, sanitation, water

Ngozi Akwataghibe (corresponding author)
Madeleen Wegelin
Leonie Postma
Jurrien Toonen
Royal Tropical Institute Mauritskade 63,
1092 AD Amsterdam,
The Netherlands
E-mail: n.akwataghibe@kit.nl

Wole Fajemisin
Society for Family Health,
8 Port Harcourt Crescent,
Area 11, Abuja,
Nigeria

Maingaila Moono Banda
Farooq Khan
Zaid Jurji
UNICEF, UN House,
Plot 617/618, Diplomatic Drive, Central Business
District, PMB 2851, Garki, Abuja,
Nigeria

INTRODUCTION

Achieving equitable and sustainable water, sanitation and hygiene (WASH) services is a long-standing global goal spurred on by the Sustainable Development Goal (SDG) 6 which targets achieving universal and equitable access to safe and affordable drinking water, adequate sanitation

and hygiene for all, with special attention to women and girls and those in vulnerable situations, by 2030 (UN 2016). Evidence from 18 countries across Asia, Africa, the Middle East and South America show significant inequalities in WASH access between urban/rural, poor/non-poor and regional areas (WBG 2017). Roche *et al.* (2017) also described similar spatial and socio-economic inequalities in WASH coverage in 25 sub-Saharan African countries. In Nigeria, about 59.6% and 34% of an estimated population of 190 million (2017) have sustainable access to safe water sources and improved sanitation facilities, respectively

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doi: 10.2166/washdev.2018.020

(NDHS 2013). Disparities in access between the six geopolitical zones, within states, across urban and rural areas also worsen the situation, with the poor and more vulnerable populations at greater risk of WASH-related health and non-health human development problems (Toonen *et al.* 2014). According to a 2013 multiple indicator cluster survey (MICS), people in rural areas were about 1.5 times less likely to have access to safe water and improved sanitation than those in urban areas; and the poorest quintiles were 36 times more likely to defecate in the open than their richest counterparts (UNICEF 2013). These effects also fall disproportionately on women and girls, the main carriers of water and also most at risk from violence and insecurity associated with lack of sanitation facilities. Different studies have highlighted gender inequalities in relation to WASH access and roles/participation in WASH activities (Ivens 2008; Fisher 2010; O'Reilly 2010) and specifically in Nigeria (Ofong 2001; Ogbodo 2003; Suwaiba 2003). Disabilities also increase vulnerability – a study in Malawi found that disabled people who were female, poor and living in urban areas were more likely to face greater number and intensity of WASH-related challenges (White *et al.* 2016).

In 2017, the Federal Government of Nigeria in cooperation with UNICEF commissioned a WASH Operational Research (OR) to inform and guide the programming of the Sanitation, Hygiene and Water in Nigeria (SHAWN) II project (a sub-set of the Country WASH programme). The research focused on community-level aspects of WASH in terms of: behaviour (use of toilets and hygiene behaviour); inclusiveness; equity; impact of WASH improvements on quality of life and reduction of burdens; and the effectiveness and sustainability of WASH Committees (WASHCOMs). This article discusses the aspect of the OR that addressed: equity, focusing especially on issues relating to socio-economic status (SES); disability; gender; whether the targeting of the project was designed and implemented from an equity perspective and what support services were available to the most vulnerable.

Equity in WASH refers to decreased inequalities between different population groups within a context by ensuring access to and benefits from WASH facilities, resources and opportunities for all disadvantaged, vulnerable or marginalized people, based on their needs (UNICEF 2016a). Equity

issues in WASH entail philosophical (driving decision-making) and practical (implementation, resource allocation, etc.) aspects. Therefore, achieving equity requires a multi-dimensional view of issues – recognizing relative disadvantages at family, community, local government, state and national levels (WaterAid 2010) in terms of socio-economic, political, gender, cultural and other issues that drive these disparities.

METHOD

Study design

The study used a mixed method approach. The quantitative component consisted of a household survey (HHS) in local government areas (LGAs) where the SHAWN II project was being implemented and an individual WASH survey targeted at people with physical disabilities, including elderly persons requiring assistance. The qualitative methods included: focus group discussions (FGDs); in-depth interviews (IDIs) with various respondents at different levels including key informant interviews (KII); review of project and programme documents; and observational on-site inspections.

Sampling

The research was carried out in communities within 12 LGAs in the six SHAWN states: Bauchi, Jigawa, Benue, Katsina, Kaduna and Zamfara. LGAs where the WASH interventions had sufficiently taken off to yield information on sustained sanitation and hygiene behaviour/and barriers were selected, ensuring the inclusion of different environmental contexts in terms of distance from the LGA headquarters, accessibility and types of soil. Using a cluster sampling approach, a total of 2,105 households were sampled for the HHS. This approach enabled the capturing of the disabled within the communities. In total, 294 (13%) of the households had a disabled person or an elderly person requiring assistance.

Respondents for the IDI were purposively sampled using the criteria of function/involvement in the WASH programme at different levels and these included policymakers,

implementers, UNICEF staff, religious leaders, latrine builders and WASHCOM representatives. Convenience sampling was used to select physically disabled people in the 12 LGAs for IDI. FGD sessions were held with community members (young/old women; young/old men separately) including WASHCOM members in each LGA. A total of 62 IDIs and 60 sessions of FGDs were conducted.

Data collection

Primary data were collected in May 2017 by 34 enumerators and 12 research assistants trained and supervised by the researchers. HHS 'closed' questionnaires were administered to the sampled community members. Within each household, a 'main' or 'primary' respondent was identified, who provided information on behalf of the family. This was usually the head of the household. Information captured included SES, determinants of sanitation and hygiene behaviour, types of latrines used and access to safe water. The individual WASH questionnaires were administered to the disabled persons within the households in order to capture their perspectives on their use of WASH facilities, challenges experienced, available adaptations, coping strategies and participation in WASHCOMs or WASH-related activities in the communities. Observational data on latrine designs and adaptations were captured during the surveys.

IDIs and FGDs were conducted using topic guides with open-ended questions. Key informants shared their perceptions on the selection of communities for the project, the extent to which equity was mainstreamed in the WASH programming and barriers in implementation. Community including WASHCOM members provided insight into social norms and behaviours related to sanitation, WASHCOM activities, and gender and disability inclusion in WASHCOM/WASH activities. Discussions in the FGDs took place between the participants; however, in some groups one or two people tended to dominate the discussions, in which case, the interviewers had to step in to actively encourage the other participants to contribute their views as well.

The research was guided by UNICEF procedure for Ethical Standards in Research and ethical approval was obtained from the National Health Research Ethics Committee (NHREC) Nigeria.

Data analysis

For the quantitative data, we adapted the 2013 Nigerian National Demographic and Health Survey (NDHS) wealth index. The NDHS assigned indicator weights using principal component analysis, a procedure recommended by [Filmer & Pritchett \(2001\)](#). We derived a wealth index using productive and non-productive household assets, household amenities and other measures of household living standard. Descriptive statistics were calculated using a survey design-adjusted logistic generalized linear model. To assess the association between covariate factors and WASH uptake, univariate models were fit to the data and crude odds ratios were determined for each variable. Adjusted odds ratios correcting for confounding and possible association between individual predictor variables were calculated by fitting a multivariate model, including all covariates, to the data.

Qualitative data analysis was carried out using the NVivo 11 software. A thematic approach (identifying themes through coding and labelling qualitative data) was followed. Triangulation was done to compare data sources for reliability and to identify areas of agreement and disagreement across groups of respondents and within groups of respondents.

RESULTS

This section details the findings from the mixed methods used in the study.

Equity considerations in the selection of target LGAs and communities for the WASH interventions

Equity was taken into account at different levels in the project: at LGA level, in the selection of target communities and in the selection/election of WASHCOM members.

Selection of LGAs

At LGA level, the project used criteria of needs and of commitment for inclusion in the interventions. LGAs were broadly classified into progressive, medium-served and

underserved and the strategy was to prioritize underserved and hard to reach areas. The selection criteria assigned the highest scores for areas with the lowest accessibility during rains and farthest from the state capital; and allocated more weights to LGAs with more social and public health needs (see Table 1).

In addition, higher scores were assigned to sustainability related criteria such as: the willingness of key stakeholders in the LGAs to participate in the project and demonstration of financial commitment to the project if selected. Details are displayed in Table 2.

Table 1 | Score ranking of LGAs by needs

Access to social services and public health situation in the LGA	Score ranking	
	Highest	Lowest
Sanitation coverage	1	4
Enrolment in schools	1	5
Water coverage	1	6
Prevalence of diarrhea	4	1
Routine immunization rates	1	4
Presence of NTDs	2	1

Source: SHAWN II. LGA Self-Selection Criteria document.

Table 2 | Ranking according to commitment and indications of willingness to participate

Level of commitment of LGAs	Score ranking
High level indication of willingness to participate in the project	
Letter signed by chairperson presented as part of the proposal	7
Letter signed by vice-chairperson presented as part of the proposal	6
No letter from any official	0
Attendance to sensitization meeting	
Attendance of sensitization meeting by chairperson	5
Non-attendance	0
High level stipulated time frame for providing counterpart contributions if selected	
Time frame stipulated by chairman	8
Time frame stipulated by deputy chairman	7
No time frame	0

Source: SHAWN II. LGA Self-Selection Criteria document.

The selection process involved stakeholders at national, state, local government and community levels as well as donors and non-governmental organizations constituted within a steering committee, in order to ensure transparency. Many of the stakeholders in the KII perceived the selection process as fair and some of the policymakers were of the view that all categories of LGAs had underserved communities within them and therefore equity was still served no matter what selections were made. However, the question remained on how this process enabled inclusion of LGAs that were underserved and unable to meet the criteria.

Selection of communities

The tactic of the intervention is an 'LGA wide' approach which means that although communities are selected in phases for the intervention, eventually all communities within a selected LGA are expected to be reached. The project details a checklist for selecting communities for its interventions; however, the majority of the implementers could not describe any systematic pattern for this process. All the LGA focal persons reported vulnerability was a core criterion, however, descriptions of the selection process varied. Some respondents reported the use of baseline studies to identify the communities with the greater WASH needs while the majority described a process of involvement of the traditional leaders – in which case, the community leaders were asked to produce a list of the communities that suited the criteria given for inclusion. A few key informants stated that the criterion of population was used as a guide for the selection of communities.

Selection of WASHCOM members

At community level, equity considerations played a role in the selection, establishment, training and functioning of the WASHCOM. The expanded guideline for WASHCOM formation detailed criteria for the selection of WASHCOM members. Each WASHCOM was expected to be constituted of between seven and 13 members depending on the size of the community; membership was expected to be gender balanced and representative of the different age brackets. Where 50:50 gender representation could not be achieved, 40% female membership was acceptable.

The formation of the WASHCOM was regarded by key informants as the most important process in the WASH programme since the committee was recognized as a major driver of success or failure of the WASH initiatives at the community level. Most WASHCOM members were selected at a community meeting anchored by the traditional leader, sometimes supported by a LGA WASH focal person. The selection process was perceived as a fairly open process and stakeholders frequently stressed that membership was based on merit and respect within the community and political interference was discouraged.

Equity issues related to socio-economic status

The WASH project was primarily focused on rural areas and this enabled the targeting of people of lower SES within the focal states. The project used the community led total sanitation (CLTS) approach, whereby people are motivated to construct any type of latrine that they can afford as long as it ensures safe disposal of faeces. No financial subsidies are given with the CLTS approach. The idea is that people will improve their initial – often very basic – latrine with time. Approximately 21% of the households in the HHS had no latrine, 49% had unimproved latrines and 29.7% had improved latrines including water seal latrines (3.8%). Using the wealth index, the HHS population was divided into five groups each consisting of 20% of the population (quintiles). Significantly more of the richest quintiles (Q4 and Q5) reported owning improved latrines and no household from the poorest quintile reported a water seal latrine. More respondents from the poorest quintiles (Q1 and Q2) reported either having no latrines or more unimproved latrines although this was not statistically significant.

Some support structures organized by the WASHCOMs were available for the poor in the communities to enable the building of latrines either in the form of financial support or through help with manual construction. The criteria for support were that a family could not construct a latrine themselves (due to lack or disability of male head of household). Support was more frequently reported for the initial building of latrines to ensure that there was no more open defecation and the community would qualify for open defecation free (ODF) status. The HHS indicated that about 76% of respondents had the intention to improve their latrines,

either gradually or by saving money until a water seal latrine could be constructed. The water seal latrine was the most preferred type but cost was a major barrier.

There were no significant differences between the wealth quintiles in terms of distance to the water points and waiting time for water. However, in terms of satisfaction with the cost of water, significantly more of the poorest quintiles (49%) were satisfied compared with 33% in the richest quintile ($p = 0.000$). This level of satisfaction among the poor may be because most communities did not collect user fees for water and cost of repairs were generated from contributions of WASHCOM members, the more well-off in the communities or according to financial capacity. This may also explain the dissatisfaction of the richest quintile.

Gender issues

The criteria for LGA selection assigned the highest scores to LGAs with the highest female population. Gender equality distribution in the LGA WASH unit and the WASHCOMs was a criterion articulated in project documents but hardly implemented. The selection and operationalization of the WASHCOMs gender (50:50) ratio was not reached in most communities and was reported as very difficult because of cultural and religious barriers, as shown in the quote below:

‘The second gap is the mind-set of people in the Northern states about women. The status of women is poor. Even if you want to include women in meetings, many men will not allow their wives. There is poor social recognition of women during various activities’ (Key informant).

The division of tasks within the WASHCOM was done along gender lines – with the women responsible for hygiene education and control of cleanliness within the households, while planning, design and construction of the latrines were almost exclusively carried out by males, be it male household members or latrine builders. Women were reported only rarely to be involved in decisions on construction and design. This may explain why in some cases (unimproved and improved) latrines used by households in the communities had a very small squat hole, often with a diameter of no more than 100 millimetres which was not user-friendly

especially for women. This was despite UNICEF providing appropriate latrine options during the triggering process.

In the HHS, there was no significant gender difference in reported use of latrines by family members, although each gender self-reported greater use than the other gender. Significant differences existed relating to use of latrines by the elderly, reported by the female respondents (3.81%) and the male respondents (7.21%), but this was likely due to the fact that most caregivers were women and hence better informed. Another gender issue in latrine use was the belief that the heat of the latrine causes rashes in women's private parts – called 'latrine disease' by community members. This was frequently reported as a barrier to latrine utilization by women in the community FGDs, however, this may require further investigation.

Disability and inclusion

The project had some considerations for disability and inclusion at institutional level – specifically schools and health care centres – but not at community or household level. Using the CLTS approach, the intervention begins at community level with a triggering process, carried out by LGA facilitators. The whole community is usually invited and the activities are divided between three groups – men, women and children. However, findings showed that persons with disabilities were not explicitly invited to join in the triggering process. The FGDs with WASHCOMs revealed that no WASHCOM had developed a strategy for inclusion of disabled persons in the WASH mobilization process. Some WASHCOMs did involve physically challenged people in their activities, depending on the disability, while others did not involve them at all because they were deemed to be physically unfit to carry out activities. This was similar to the findings of the individual WASH survey, which indicated that more than 50% of people with physical disabilities did not participate in CLTS activities. Many of the key informants noted that stigmatization resulted in this group not having a voice within the communities and in many cases not having the boldness to participate in communal developmental activities except when specifically invited.

In the survey, 82% of people with disabilities used the same latrine as other household members, and

approximately 25% had access to a latrine less than 5 minutes away. Many of the respondents in the community FGDs stressed that assistance had to be provided for this group because the latrines were difficult for them to use due to lack of adaptations. In the HHS, out of 294 households that had a physically challenged person, 80% had no latrine adaptations and 90% had made no adaptations in the household dwelling to accommodate the disability. Similarly, 93% of the individual survey respondents indicated no adaptations had been made to make the latrine easier for them to use; of these, 65% reported that they would like some kind of adaptation. According to the latrine builders and key informants, such adaptations would not cost much. However, with the CLTS approach, the responsibility (and decision-making) of building latrines and adapting them lie with the community members. Nevertheless, sanitation marketing and financing is being piloted in a few project areas and is expected to support households with such adaptations and moving up the sanitation ladder.

In the HHS, significantly more households with a physically challenged person reported greater distances to a water point than other households. Eighty-five per cent of households with physically challenged people reported that no adaptations had been made to the water points used by the disabled and about half of the people with disabilities were reported as not able to collect water for drinking, cooking, bathing from the water point, because it was too difficult to reach and/or use the water pump. Similarly, in the qualitative interviews, respondents noted that because of their physical condition, going to the borehole, and/or operating the water pump was almost impossible, and as a result they were dependent on others to have access to a safe water source. However, within the house, over three-quarters of the physically challenged including the elderly had access to drinking water by themselves.

Key challenges in operationalization of equity

There were no instances of specifically equity focused situational analysis carried out before the interventions. Indeed, several stakeholders reported that the problem with operationalizing equity was poor availability of official data. Since data were not typically disaggregated to provide

information about vulnerable groups, the project was usually unable to apply equity-based criteria accurately. A key issue was that there was no clear census data to determine levels of poverty of the different LGAs; and determining wealth quintiles of the relevant populations was time-consuming and expensive. Furthermore, situations are always evolving – an instance being the prevailing economic crises in the country at the time, which challenged the ability of LGAs and states to provide counterpart funding.

The majority of the key informants stated that the project was monitored routinely and regularly on functionality, but not with equity-sensitive indicators as these were not yet formulated.

All WASHCOMs except one reported being trained, usually for 2–4 days, but no training was given on equity and inclusion – for instance, by giving guidelines on how to address equity issues – making operationalization at community level difficult.

Equity in reaching ODF status for the community was also compromised by environmental conditions. In communities where the soil is unstable, unimproved latrines collapsed easily especially in the rainy season; similarly, in areas which were regularly flooded, collapse was frequent. Also, construction of latrines was more difficult in rocky areas. Although designs are available to address these issues, their cost is often beyond the capacity of many people in the communities.

In relation to equitable distribution of water points, different mechanisms were put in place to determine the positioning of the water points within the communities and they included participatory meetings with community members (mainly men), and survey and geophysical studies carried out by the programme. However, political interference sometimes led to a skewed distribution – duplication of facilities in some communities while others had none – a situation that generated a lot of discontentment, expressed frequently in the community FGDs.

DISCUSSION

The WASH project clearly documents its equity considerations and approaches but limitations occurred at different points of implementation.

The project strategies have an institutional and financial sustainability focus which, although valid, challenges equity. The criteria of demonstrable political will, ownership and financial responsibility are likely more easily met by progressive LGAs who may have better understanding of the processes and can offer a high level of guarantee to provide counterpart contribution. This tension between sustainability and equity is characteristic of public health and developmental interventions – they are non-linear and complex in nature (Pawson & Tilley 1997). However, it is important to note that social, behavioural and infrastructure sustainability (which is the target of the activities of WASHCOMs) can be positively influenced by a stronger equity focus in the programme.

Although baseline studies were carried out, these were done after selection of the communities, to function as a reference for the assessment of impact at a later stage and not specifically for assessment of equity. Also the use of the traditional and political structures to identify the most vulnerable communities, gives room for politicization of the selection procedure and potentiates the risk of marginalization of some eligible communities. Furthermore, environmentally difficult communities need more investments to get water – sometimes many times higher than other areas – placing them at risk for further marginalization since implementers can achieve more and improve access for a greater population with the same amount of resources in less environmentally challenged areas. These issues present dilemmas that are difficult for implementers to navigate.

It is documented that to accurately identify where the needs are and who the poorest and most marginalized are would involve studies that include the development of wealth indices (Vyas & Kumaranayake 2006; Howe *et al.* 2008) but these are financially (and time) demanding. Although several alternatives were put in place by the project to ensure an accountable and transparent process in targeting the vulnerable – and these have been successful to a considerable extent – many of the equity gaps can be traced to the limitations in available data needed for more objective assessments.

The findings on access to sanitation facilities for the different SES quintiles were not unexpected, considering the associated cost of improving latrines and, indeed, the cost of

digging one. Similar socio-economic disparities are common in many sub-Saharan African and South-East Asian countries (Roche *et al.* 2017; WBG 2017). Even so, the majority of the survey respondents reported that they want to improve their latrines, similar to findings of a UNICEF SMS survey, in which 81% of 87,000 respondents indicated the wish to upgrade their latrines (UNICEF 2016b). The philosophy of the CLTS approach assumes that such improvement will come about by itself. However, as noted by the UNICEF Evaluation Office (based on evidence of evaluation reports between 2007 and 2015): ‘The expectation/hope of many in the sector that households will build better quality latrines to replace their initial low-cost latrine occurs very rarely. Benefits that accrue from better facilities will need to be targeted through renewed mobilization given that it is unrealistic to expect spontaneous improvements’ (UNICEF 2016a). This basically means that after ODF status is reached, continuous support has to be given to and by the WASHCOMs to enable people to climb the sanitation ladder (possibly aided by the sanitation marketing and financing initiative recently implemented by the project).

By design, the project is focused on the poor – and this is supported by the HHS findings on access to water. The surprising finding regarding satisfaction with the cost of water by the poorest quintile is probably due to the social support strategies that are organized. However, the fact that, in general, user fees are not collected for water supply is highly likely to affect its sustainability.

Important gender equality gaps were found in the study. It is well documented that encouraging women’s meaningful participation in WASH initiatives promotes positive outcomes as well as sustainability (Ivens 2008; Fisher 2010; O’Reilly 2010). The limited involvement of women in WASH decision-making, for instance, in the location of water points, and in the designs of the latrines is also mentioned in other research (WSSCC 2015). Operationalization of the project’s gender strategy is hampered by cultural and religious barriers, an issue that is also documented (Ogbodo 2003). Different studies describe the seclusion of women acting as a barrier to their effective inclusion in WASH activities in Nigeria (Ofong 2001; Suwaiba 2003). A key problem noted is the dearth of sanitation-related gender policies to address these gaps in the country (Ofong 2001; Pearson & Mcphedran 2008).

The project did not make design options for disability-friendly latrines available at community level and this resulted in lack or limited adaptation for disabled persons – an important gap noted in this study. This is likely responsible for the low level of use reported for the elderly and the disabled in the HHS (with the likely alternative being open defecation). Difficulties arising from the lack of adaptation are documented as demotivators of latrine use by the disabled (Wasonga & Bukania 2015).

It is not clear why more of the 294 households that reported having a physically challenged person in the HHS also reported more distances to water points. A consideration could be that the disabled persons may tend to live a bit farther away due to some degree of isolation or stigma but this element was not explored in this study. It is also probable that people with disabilities were not usually included in the community participatory meetings held to determine the positioning of water points; or if they were, their views may not have carried as much weight as others. Bosch *et al.* (2000) noted that lack of political voice may prevent the needs of disadvantaged community members from being heard by those in control of allocating the resources for water supply.

It is impractical to expect the WASHCOMs without specific training on equity and inclusion to guide the communities in making adaptations for the disabled. Two to four days of training is insufficient for people to understand equity requirements in addition to the other elements of the WASHCOM training.

CONCLUSION

The selection of LGAs for inclusion in the project are based on clear criteria, and are driven by a transparent process. The project’s requisite tangible demonstrations of commitment entail a level of understanding and ability that may not be present in the poorest and least developed LGAs. Such LGAs will require extra support from the State in the development of their proposals to reduce the equity gap.

There is no standardized format for selection of communities within the LGA – the argument being that it is an LGA wide project, hence all communities will eventually be

covered. While this is valid, the strategy may result in the selection of easier-to-access and easier-to-service communities first. An issue here is areas that are environmentally difficult require more resources, thereby reducing the number of communities covered in the LGA. A strategy to be considered is the deliberate allocation of the number of such challenged areas to be covered in each phase.

The guidelines for selection of WASHCOM members are valid and straightforward but are insufficiently adhered to, resulting in less female WASHCOM members than intended. The division of tasks between male and female members is likely responsible for the construction of latrines that are not user friendly, especially for women. The WASHCOM training focuses predominantly on management and hygiene education and very little on water and sanitation technologies. A strategy to involve women also in technical aspects and in menstrual hygiene management could lead to more female user-friendly sanitation options and to addressing the belief in latrine disease.

The CLTS approach assumes that people will want to improve their initial basic latrine and this is evidenced by the findings of this study. However, evidence from other projects shows that this does not happen automatically and requires an increased focus on sanitation marketing and – again – support to WASHCOMs to guide their communities in (gradually) upgrading their sanitation facilities.

The OR found no evidence of any strategies regarding inclusive WASH for people with physical disabilities at community and household level. No adaptations were found to facilitate WASH access for them, although 65% of respondents indicated that they would want to have these. Guidelines on low cost adaptations need to be made available to community members – especially for latrines. WASHCOMS require specific training to drive operationalization of equity and inclusion at community and household level. This should include guidance on adaptations and strategies that they can use to involve people with physical disabilities at different phases of the project. A suggestion made during the OR to include a disabled person in each WASHCOM, may be a good start.

Overall, equity principles underpin the strategies of the WASH programme and efforts have been made with varying degrees of success to implement those strategies. Availability

of the necessary data for poverty and needs assessments would enhance effectiveness. The project's sustainability and equity considerations need to be reviewed in future programming, bearing in mind that a rights-based approach and a stronger equity focus can positively impact sustainability.

REFERENCES

- Bosch, C., Hommann, K., Rubio, G., Sadoff, C. & Travers, L. 2000 *Water, Sanitation and Poverty*. <https://www.researchgate.net/publication/230557463>.
- Filmer, D. & Pritchett, L. H. 2001 Estimating wealth effect without expenditure data or tears: an application to educational enrollments in states of India. *Demography* **38** (1), 115–132.
- Fisher, J. 2010 *Women in water supply, sanitation and hygiene programmes*. *Municipal Engineer* **161** (4), 223–229.
- Howe, L., Hargreaves, J. & Huttly, S. 2008 *Issues in the construction of wealth indices for the measurement of socio-economic position in low-income countries*. *Emerging Themes in Epidemiology* **5** (3), 1–14.
- Ivens, S. 2008 *Does increased water access empower women?* *Development* **51** (1), 63–67.
- National Population Commission. 2013 *Nigeria Demographic and Health Survey*. Abuja, Nigeria.
- O'fong, I. 2001 Women's rights in water and sanitation issues. In: *People and Systems for Water, Sanitation and Health. Proceedings of 27th WEDC Conference*, Lusaka, Zambia, pp. 260–262.
- Ogbodo, C. 2003 Gender mainstreaming in water and sanitation challenges. In: *29th WEDC Conference*, Abuja, Nigeria.
- O'Reilly, K. 2010 *Combining sanitation women's participation in water supply: an example from Rajasthan*. *Development in Practice* **20** (1), 45–56.
- Pawson, R. & Tilley, N. 1997 *Realistic Evaluation*. Sage Publications, London, UK.
- Pearson, J. & Mcphedran, K. 2008 *A literature review of the non-health impacts of sanitation*. *Waterlines* **27** (1), 48–61.
- Roche, R., Bain, R. & Cumming, O. 2017 *A long way to go – Estimates of combined water, sanitation and hygiene coverage for 25 sub-Saharan African countries*. *PLoS ONE* **12** (2), e0171783. doi:10.1371/journal.pone.0171783.
- Suwaiba, Y. J. 2003 Water and sanitation problems faced by women in seclusion. In: *29th WEDC Conference*, Abuja, Nigeria.
- Toonen, J., Akwataghobe, N., Wolmarans, L. & Wegelin, M. 2014 Impact evaluation of water, sanitation, and hygiene (WASH) within the UNICEF country programme of cooperation. In: *Government of Nigeria and UNICEF, 2009–2013*, Abuja, Nigeria.
- UN 2016 *Sustainable Development Goals Report*. United Nations, New York, USA.

- UNICEF 2013 *Multiple Cluster Indicator Survey*. Abuja, Nigeria.
- UNICEF 2016a Equity, Scalability and Sustainability in UNICEF WASH Programming: Evidence from UNICEF Evaluations 2007–2015. UNICEF, New York, USA.
- UNICEF 2016b *Nigeria SMS Survey*. Abuja, Nigeria.
- Vyas, S. & Kumaranayake, L. 2006 [Constructing socio-economic status indices: how to use principal components analysis](#). *Health Policy Plan.* **21**, 459–468.
- Wasonga, J. & Bukania, F. 2015 [Sanitation and physical disability: challenges to latrine access in Kakuma refugee camp, Kenya](#). *Waterlines* **34** (2).
- WaterAid 2010 *Equity and Inclusion*. London, UK.
- White, S., Kuper, H., Itimu-Phiri, A., Holm, R. & Biran, A. 2016 [A qualitative study of barriers to accessing water, sanitation and hygiene for disabled people in Malawi](#). *PLoS ONE* **11** (5). <https://doi.org/10.1371/journal.pone.0155043>.
- World Bank Group 2017 *Reducing Inequalities in Water Supply, Sanitation, and Hygiene in the Era of the Sustainable Development Goals*. Synthesis Report of the WASH Poverty Diagnostic Initiative. World Bank, Washington, DC, USA.
- WSSCC 2015 *Leaving no one Behind – Voices of Women, Adolescent Girls, Elderly, Disabled People and Sanitation Workers*. Freshwater Action Network South Asia, Secunderabad, India.

First received 13 February 2018; accepted in revised form 30 April 2018. Available online 23 May 2018