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Barriers and enablers to becoming and staying open defecation free in remote Timor-Leste

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The barriers and enablers to becoming and staying open-defecation-free (ODF) following interventions which include Community-Led Total Sanitation (CLTS) are not well documented for remote communities in Manufahi District, Timor-Leste. This case study sought to address this gap in knowledge through a thematic analysis of interviews (which took place in 2014) with 21 participants affiliated with two communities which underwent the WaterAid program between 2012 and 2013. Whilst the cost and effort of constructing toilets was cited as a significant barrier, competing priorities for resources is likely to be more important. Trust in the implementing organisation as well as being able to acquire the household's preferred toilet are important enablers to becoming and staying ODF. There is a perception among participants that vulnerable households face specific challenges to becoming and staying ODF. Including vulnerable households, especially those with people with disabilities, in both interventions and research remains challenging.

Introduction

This paper documents the preliminary findings of a case study of the barriers and enablers to becoming and staying[1] open-defecation-free (ODF) following WaterAid's water, sanitation and hygiene (WASH) program which took place in Manufahi District, Timor-Leste in 2012-13. This case study is part of a cluster randomised control trial called 'WASH for Worms' which integrated a community-based WASH program with mass albendazole distribution to reduce intestinal parasites in Timor-Leste (for the full trial protocol see Nery *et al*., 2015). The community-based WASH program was implemented by WaterAid and included new water infrastructure, a localised Community-Led Total Sanitation (CLTS) approach and hygiene promotion.

Much has been written about the barriers and enablers to the attainment and sustainability of positive outcomes in WASH interventions (see Ashley *et al*, 2010; Chambers, 2009; Sah & Negussie, 2009; and, Mukherjee *et al*., 2012); however, little of this literature pertains to the Timor-Leste context specifically. The aim of this research is to address this gap in knowledge with the intention of assisting WASH program planners and implementers in Timor-Leste, and similar contexts in other countries, to work more effectively.

Whilst outcomes related to water and hygiene are considered in this study, there is a focus on sanitation outcomes. In WASH programs with a CLTS component it is common for some members of the target community to respond positively (for example by building and using toilets) in the early stages of the program but to later revert to their original behaviour (Mukherjee *et al*., 2012). Others may never become ODF and yet others will maintain and continue to use their toilets (Mukherjee *et al*., 2012). The primary objective of this study was to better understand the factors which lead to these varied responses within the context of remote Timor-Leste between 1 and 2 years following the WASH intervention inception.

One of the potential barriers to becoming and staying ODF is the vulnerability[2] of a household. However, the founder of CLTS, Kamal Kar (2012), argued that in communities that are dedicated to becoming 100-percent ODF after taking part in CLTS, social solidarity and cooperation will mean that households that are unable to become ODF independently will be assisted by others. Hence, a secondary objective of this study was to better understand the response of vulnerable households to WASH interventions which include CLTS in Timor-Leste.

Method

This case study was conducted with qualitative research methods and included participants who were connected to two target communities where the WaterAid program had started 15 months prior and 25 months prior respectively. This time-frame was necessary to capture data about participants who might have responded positively at first but later reverted to previous practices.

Data collection

Most of the data for this study was collected in late 2014 through semi-structured interviews between the lead researcher and the participants, and with the aid of an interpreter when necessary. A question guide (which was first piloted) included questions about: program activities; WASH-related changes in the participants' households and communities since the program started; barriers and enablers to becoming and staying ODF; and, barriers and enablers for vulnerable households to becoming and staying ODF.

In one of the communities included in this research, the lead researcher observed the WaterAid program inception which is a community meeting that includes CLTS activities; the formation of the WASH management committee, that is the *Grupo Maneija Facilidade* (GMF); and, health promotion activities. This process is in accordance with the Timor-Leste Government guidelines.

Sampling framework

In order to get a variety of perspectives, the participants for this case study were selected such that there were representatives of households; village and water management committee chiefs from participating villages; and implementing staff. The WASH for Worms team had collected household-level data from their project sites every six months since 2012, including information about sanitation practices. With this data, it was possible to categorise each household in terms of their sanitation practices at different time points ('good performers' = those who had and used a toilet; 'poor performers' = those who were open defecating).

Two project sites were selected because of the availability of household-level data for villages which had undergone the WaterAid intervention at least 12 months prior as well as their geographic locations: one was close to a main road and the other was more remote.

Eight household representatives from each community participated. Every effort was made to get equal representation of 'good', 'poor', 'improving' and 'declining' performers (in relation to sanitation practices). WaterAid assisted with identifying some of the vulnerable households in each community and many of these households were specifically invited to participate. The final categorisation of household participants is shown in Table 2.

Table 2. Categorisation of participating households

Type of sanitation performance	Total number of households	Number of households identified as vulnerable (out of the total number)
Always 'good'	5	0
'Improving'	7	1 – hearing impairment, 1 – mobility impairment (arm), 1 –age-related impairments, 1 - mild hearing impairment
'Declining'	2	1 – female-headed-household, 1 – mental illness
Always 'poor'	2	1 - female-only-household

In addition, the chief of the GMF (from each community) and the village chief (from one community only) participated. Both GMF chiefs were classified as 'always good' performers and the village chief was classified as 'improving'. None of these participants were identified as coming from vulnerable households. Finally, a representative of each of the WaterAid and WASH for Worms field work teams were included to total 21 participants.

Analysis

The data for this study was analysed using thematic analysis. All interview transcripts were coded using Nvivo according to the types of barriers and enablers to becoming and staying ODF as well as the particular experiences and responses of vulnerable households to the WASH intervention.

Ethics

Ethics approval for this research was obtained from the Government of Timor-Leste's Ministry of Health; the University of Queensland; the University of Melbourne; and, the Australian National University.

Results

Barriers and enablers to becoming and staying open-defecation-free

In discussing the barriers and enablers to becoming and staying[1] ODF, the participants identified several factors, most of which were barriers and several of which were potentially *both* barriers *and* enablers.

The most commonly raised factor by household representatives was the financial **cost** of constructing a toilet. Those who could afford to, bought the cement needed for a 'permanent' toilet[3] which was the style of toilet preferred by most participants. Some said they had the funds, and even the cement, for building a 'permanent' toilet but needed to finish building their house or other projects first.

The amount of **time or effort** required to construct a toilet was cited by several participants as a barrier. Those who had too much other work to do did not have time to build a toilet or they would stop after digging the pit because it was too much effort to gather the bamboo and sand needed for the toilet and superstructure. Some participants saw this lack of prioritisation of time or effort toward building a toilet as **laziness**, although this comment was only ever made about others.

One participant mentioned **location** as being both a barrier and an enabler to becoming ODF. Her perception was that people who lived close to the road (meaning the main road between Dili and Same) could build toilets but because she lived far from the main road (a full day's walk) she was unable to. She explained this as being because those who lived near the road 'understood how to build toilets'.

Some participants referred to being **instructed what to do** as a factor in whether households became and stayed ODF. Some had mistaken WaterAid to be representing a government agency and therefore built toilets to act in accordance with the law. However, even some of those who knew that WaterAid was not a government agency explained that if people **trusted and liked the implementing staff**, then they would follow their instructions.

Durability and lifetime of the toilets was mentioned by some participants as a factor for *sustaining* ODF status. Whilst many people built toilets initially, as the toilets broke down or filled up some would become frustrated at having to construct another toilet and revert to open-defecation.

To the factors mentioned above by household representatives, the village and GMF chiefs added that households with children attending school in the nearby regional centre might be more likely to have toilets because of the **pressure put on parents by children to have the same standards as the town or city**. They also mentioned that those unwilling to have merely a 'traditional' toilet might be deterred by the **discomfort** of such toilets due to the flies and smell; therefore, preferring to defecate in the open.

The WaterAid and WASH for Worms staff representatives raised some factors which were not mentioned explicitly by the household representatives or chiefs. The **perceived incentive of the new water supply system** may have been an enabler for some households at the start of the program because some community members believed that this was dependent on households building their toilets (although this is not what WaterAid does nor claims). Later this became a barrier because once the water system was operating the (perceived) incentive to maintain toilets was gone.

The **expectation that International Non-Governmental Organisations (INGOs) will provide subsidies or resources** may be a barrier in a program like that of WaterAid which has a strictly non-subsidy approach. The staff representatives explained that in Timor-Leste the presence of INGOs which provide resources or funding is widespread. In one of the communities another INGO had provided materials for building toilets just two years' prior (although they sold the materials or used them for other projects). The WaterAid staff representative suspected that the community were disappointed with them for not also providing material subsidies and therefore did not bother to build their toilets.

Finally, both the staff representatives explained that some households just **do not want to be told or instructed about what to do** and would not be coerced nor enticed into becoming ODF. One of the staff pointed out that one of the communities in this study had ongoing issues related to the resistance movement

against the Indonesian occupation and thus it was difficult for outsiders such as WaterAid to bring about change, even in the two years they had been working there.

Vulnerable households

Overall, the household representatives (regardless of whether they came from a household identified as vulnerable) felt that acquiring a toilet was especially challenging for vulnerable households. This is somewhat supported in the fact that none of the 'always good' performers (in terms of sanitation) were identified as vulnerable. It was thought by all participants that those households with people with disabilities or people with age-related impairments would likely find it difficult to build a toilet themselves. Each of the four participating households with people who had a disability either had a completed toilet or a toilet under construction and several participants said that this was because family or other household members had helped them. Indeed, there was a general perception amongst the participants that it was the responsibility of relatives and family to assist people with a disability; in particular their children. If this was not possible, then there was a perception that they should pay others to help them using the pension they receive from the government. One of the participants with a disability explained that in his community if people with a disability wanted to be helped by others (outside of the family), then they needed to be 'well-behaved'.

There was a perception by the household representatives in general, as well as the two female-headed-household representatives, that constructing toilets was something that only men could do. Neither of the two female-headed-households in this research had a toilet and both were therefore defecating in the open. Although they offered to pay others to help them build a toilet this had been refused because others were too busy to help. An additional household was effectively female-headed as her father had a mental illness and her husband was in jail. This prevented the household from acquiring a toilet both because of a lack of income but also because of the perception that women could not build toilets.

The village and GMF chiefs agreed that vulnerable households would find it extra challenging to build and maintain toilets and that it was the responsibility of their families to assist them. One chief felt that WaterAid should be helping households with people with disabilities directly.

The staff representatives of WaterAid and WASH for Worms also agreed that vulnerable households faced extra challenges in becoming and staying ODF. Given that building and maintaining toilets was already difficult for many households which were not vulnerable, the staff felt that it was hard to expect the community to help others. The exception to this would be toward elderly people because of the high respect in Timorese culture for one's elders.

Finally, the WaterAid representative explained that, at the time, WaterAid was in the process of implementing a global strategy for equity and inclusion which covered the specific needs of people with disabilities. In the meantime, assisting people with disabilities in these two communities had been hindered by the difficulties of identifying households with people with disabilities. people with disabilities are often absent from community activities and when staff go to visit their households their families often hide them, most likely because of the pervasive stigma around disability.

Discussion

Combinations of barriers and enablers

The factors (presented mostly as barriers in this case study) which contributed to households becoming and staying ODF following the WaterAid program in two remote villages in Manufahi, Timor-Leste are manifold, and appeared generally to manifest in combination with other factors. For example, the cost or effort of building a toilet was only a barrier in the context of competing priorities such as building or improving participants' houses.

Subsidies

Whilst some participants suggested that the unfulfilled expectation of a subsidy for toilet materials by community members was a barrier it was also revealed that even when that same community had received materials for toilet construction in an earlier intervention they still did not become ODF. Altogether these findings suggest that subsidies have little or no impact upon whether households become or stay ODF in the context of this case study. However, only further research comparing interventions which have subsidies to those which do not could determine whether a subsidy is indeed an important factor in remote communities of Timor-Leste.

Vulnerable households

The participants agreed that vulnerable households would generally face specific challenges in becoming and staying ODF compared to non-vulnerable households. The findings in this study neither fully supported nor opposed the argument that those who struggle to become and stay ODF will be assisted by others out of a commitment to ensure an entire community becomes ODF. Many participants believed that it was the responsibility of the relatives of vulnerable households to assist them and gave examples of this taking place. In communities such as those in this study, which are small and relatively isolated, many households are related and assistance between households is not uncommon. What is unclear from this case study is whether assistance in becoming ODF is rendered because of a commitment to making the entire community ODF or a sense of obligation to relatives. One of the chiefs' suggestion that WaterAid should provide extra assistance to households with people with disabilities indicates that it may take more than social solidarity alone to ensure that all households become and stay ODF. However, given that the WaterAid program in this context is not strictly CLTS (as defined by its founders) and that the motivation for helping others is unclear in this study, this research was unable to ascertain the accuracy of the assumption that communities dedicated to becoming 100-percent ODF through a CLTS process will always help those households which are struggling to do so.

Limitations

Every effort was made to include a diverse range of respondents with respect to sanitation performance, vulnerability, relative status or power (due to leadership) and type of involvement in the intervention. However, due to the small sample size the generalisability of these findings beyond the context of this case study must be treated with caution.

In addition, these findings may be affected by the sample selection process in that it was challenging to include households with people with disabilities in the study. This was likely for the same reasons that WaterAid representatives said it was difficult to include such households in their interventions; that is because of stigma and shame about disability. Hence, although people with disabilities were amongst the participants it is almost certain that these were not the most vulnerable or isolated within their communities.

Conclusion

This research sought to better understand the barriers and enablers to becoming and staying ODF in remote villages of Timor-Leste. The findings suggest several factors (which could be considered barriers or enablers) that are worthy of further investigation to determine, for example, what are the *most important* or *common* barriers and enablers (or combinations thereof).

Although the cost and effort required to construct toilets is considered a significant barrier to constructing toilets, it is more likely due to competing priorities rather than an absolute dearth of resources. Therefore, increasing the priority of improved sanitation within households is likely something that implementers might need to focus on; which may be challenging in a context where programs include perceived (or actual) incentives or where communities expect subsidies from implementers. In recognition of this, WaterAid plan to work alongside the government to conduct monthly monitoring once water supply systems have been installed. In addition, further research comparing interventions with incentives or subsidies to interventions without incentives or subsidies is needed to properly understand the impacts of these factors on whether households in remote villages in Timor-Leste become and stay ODF.

The findings from this research suggest that an important enabler to staying ODF is households acquiring the type of toilet they would prefer - which in this case is the 'permanent' type. However, only further studies which consider approaches that include means for all households to gain access to the necessary materials for 'permanent' toilets, such as sanitation marketing or subsidies, would be able to determine whether this is indeed an enabler to becoming and staying ODF.

Each group of participants (household representatives, chiefs and implementing staff) suggested that trust in the implementing agency is a key factor for whether households will become and stay ODF. In turn, relationship-building with and long-term commitments to communities are vital for building trust.

This research identified some of the issues in becoming and staying ODF that are specific to vulnerable households. Further study which properly identifies and includes the most vulnerable households, especially female-headed-households, is necessary to better understand this aspect of WASH interventions. It is reassuring that at the time of data collection WaterAid had already begun the process of forming strong

partnerships with both local and international disability-focused organisations in order to bring about positive, as well as inclusive, WASH outcomes.

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Notes

[1] 'Staying' ODF refers to those who were still ODF at the time data was collected which in this case study is either 1 or 2 years after WaterAid began their WASH activities in the participating communities.

[2] 'Vulnerable' here includes but is not limited to female-headed households, households with people with a disability or people who are chronically unwell (physically or mentally), people with age-related impairments, racially or culturally marginalised households, and extremely poor households.

[3] There were two definite 'toilet classes' according to the participants: 'traditional' and 'permanent'. A 'traditional' toilet is a direct pit latrine with bamboo or wooden slats to squat on with a simple superstructure made of natural materials. A 'permanent' toilet is generally a pour-flush latrine with an off-set pit made of concrete. 'Permanent' toilets often had a concrete tank next to the squatting plate for washing and flushing.

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