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**ENSURING AVAILABILITY AND SUSTAINABLE MANAGEMENT  
OF WATER AND SANITATION FOR ALL**

**Intra-household access to WASH in Uganda and Zambia –  
do variations exist?**

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*This paper explores intra-household variations in access to WASH through analysis of baseline data from the Undoing Inequity project in Zambia and Uganda. The purpose of which is to explore whether differences exist between head of household and 'vulnerable' individuals (disabled, older or chronically ill persons) reports on access and use of WASH at the household level. The results indicate that water indicators reported by the household head e.g. use of the same water source, showed high levels of agreement between the head of household and the 'vulnerable' individual. On the contrary, indicators on access to sanitation facilities and consumption of drinking water showed divergence. Indicators on hygiene were found to show poor levels of agreement. These results indicate that there is a specific need to ask particular questions to vulnerable and marginalised individuals themselves in national WASH surveys in order to obtain accurate information to monitor intra-household inequalities.*

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## **Introduction**

The importance of disability and inclusiveness are widely referenced in various parts of the Sustainable Development Goals (SDGs), an area which was previously neglected in the Millennium Development Goals (MDGs) (United Nations 2013). Founded on the principles of equality and non-discrimination the SDGs aim to 'leave no one behind' (ibid). Consequently this is explicit in the goal on water, sanitation and hygiene (WASH). The mechanisms to measure inequalities, beyond wealth quintile and geographic area now need to be developed and agreed.

The current forms of Joint Monitoring Programme global WASH indicators focus largely on the use of large scale national household surveys. These are invariably asked to the head of household. Given the distinct needs of persons with disabilities and marginalised groups in accessing WASH, it is most likely that the current forms of data collection do not effectively capture intra-household inequalities (Wilbur, Jones et al. 2013). Given that people with disabilities are disproportionately represented and do not experience equal rights in their access to WASH as facilities are often not designed to meet their needs and those of other marginalized groups including older people and the chronically ill, it is important to consider these groups when assessing and measuring access to WASH indicators (Van de Lande 2015). Other groups and individuals who are commonly identified to experience disadvantage and marginalisation in access to WASH include groups and individuals on the basis of sex and gender commonly women and girls, race, ethnicity, religion, national origin, birth, caste, language and nationality (ibid). The short and long term implications of lack of access to safe WASH faced by the millions of persons living with physical, intellectual, sensory (blindness, deafness) or mental health impairments is not routinely measured or evaluated (Groce, Bailey et al. 2011). There is also limited data on the social, economic or health implications that a lack of access to WASH might have on the health, economic status and social inclusion of these individuals and their families (ibid).

## **Scope of the paper and background**

The aim of this paper is to investigate:

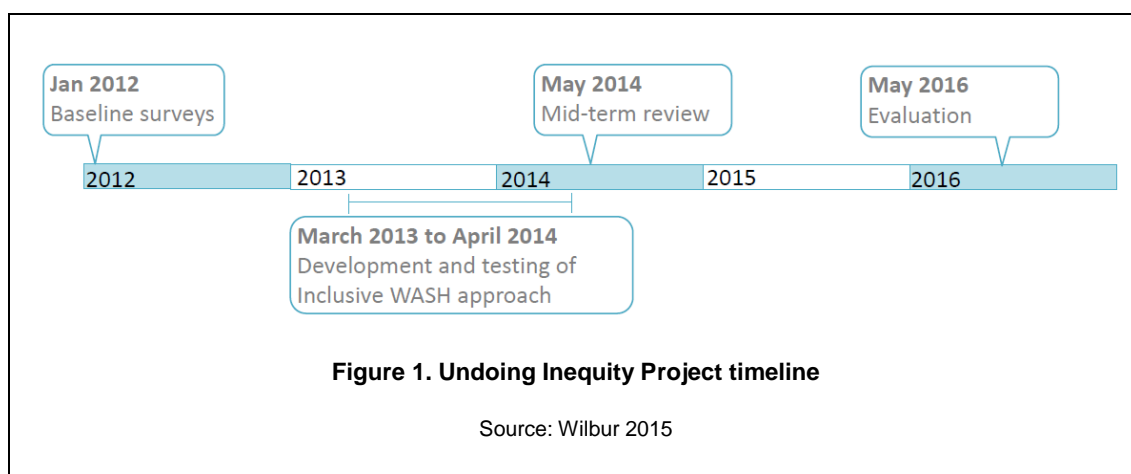
- Intra-household inequalities in WASH

- If there are proxy indicators that could be included and tested in national WASH household surveys by the Joint Monitoring Programme to measure and monitor intra-HH inequalities.

These aims will be achieved by firstly exploring intra-household dimensions in access to WASH through results from a baseline study of the Undoing Inequity project in Uganda and Zambia (Wilbur, Jones et al. 2013). Questions asked at baseline to the household head to report on behalf of a disabled, older or chronically ill person (collectively referred to as ‘vulnerable’ people in this paper) in their household, will be compared to answers to the same questions asked directly to the vulnerable person. Where the household head and vulnerable person report the same answers, proxy indicators will be proposed. Where answers differ it will show that a vulnerable person needs to be interviewed directly within household surveys to effectively measure intra-household inequalities.

### The Undoing Inequity action research design

The Undoing Inequity project is an action research project implemented in 13 sub-counties in the Amuria and Katakwi districts of North Eastern Uganda and the Monze district in Zambia (Wilbur, Jones et al. 2013). The aim of the action research is to understand and address the barriers that persons with disabilities, chronically ill and older people face when attempting to use standard WASH facilities in low and middle income countries (Wilbur and Danquah 2015). A pre-intervention baseline survey gathered quantitative and qualitative data with a target sample size of 175 vulnerable households (identified using government lists) and 175 non vulnerable households in thirteen sub-counties in Amuria and Katakwi Districts in Uganda and the Mwanza West ward in Zambia’s Monze District. Informants included heads of households, individuals identified as vulnerable, local officials, community leaders and selected community members. Observation and inspection tools were administered in schools, communal water points and household latrines. Analysis of the findings led to the development, implementation and monitoring of the inclusive WASH approach in these areas where WaterAid partners are working. Mid-term and process reviews were conducted following the completion of the implementation in 2014 to assess the early impacts of the intervention (Danquah 2014, Danquah 2015). An endline study is planned for 2016 (ibid).



## Baseline finding results

### Access to drinking water

In both countries at baseline, household heads were asked whether everyone in the household had enough access to drinking water on a daily basis. The vulnerable person was then asked the same question. In Zambia, 121 of 122 (99.2%) household heads reported that everyone in the household had enough access to drinking water daily. The same question, when asked directly to the vulnerable individual among the same sub-sample of households, indicated a similarly high level of agreement with. 115 of 120 (95.8%) vulnerable individuals reporting that they had enough access to drinking water daily.

<b>Table 1. Comparison of baseline head of household and vulnerable individual self-reported access to drinking water indicators<sup>1</sup></b>						
<b>Indicator</b>	<b>Overall BL 2012 (n %)</b>	<b>Overall BL 2012 (n %)</b>	<b>Difference</b>	<b>Overall BL 2012 (n %)</b>	<b>Overall BL 2012 (n %)</b>	<b>Difference</b>
Level	Household head	Vul Ind		Household head	Vul Ind	
	<b>Uganda</b>			<b>Zambia</b>		
	131	131		128	128	
Daily access to enough drinking water	113/131 (86.3)	81/111 (72.9)	-13.4	121/122 (99.2)	115/120 (95.8)	-3.4
Use of the same water source as other household members	126/128 (98.4)	123/125 (98.4)	0	123/123 (100.0)	120/122 (98.4)	-1.6

<sup>1</sup> See note section above references section for explanation of numbers in Tables 1, 2 and 3.

The results did not show the same level of convergence in Uganda where of the 131 household heads with a vulnerable member, 113 (86.3%) reported that everyone in the household had enough access to drinking water each day. When compared with the reports from 111 vulnerable individuals of the same 113 sub-sampled households heads that answered the question, 81 (72.9%) of the 111 vulnerable individuals reported that they had enough access to drinking water daily. The difference (-13.4%) between the head of household report and the vulnerable individual indicate that some head of households were over-reporting that all household members had enough access to drinking water daily when the reports from the vulnerable individual themselves indicate differences.

### **Use of the same water sources**

The results for the use of the same water source for both countries indicated a high level of convergence between the head of household reports among vulnerable households with reports from the vulnerable individual themselves for the same question. In Uganda, with the exception of missing data for one vulnerable individual, there was the same percentage level of reporting by both the household head and the vulnerable member. In Zambia, all of the 123 heads of households reported that everyone used the same source of drinking water. For the vulnerable individuals in the same subset of households, 122 answered the question and 120 (98.4%) reported that they used the same source indicating a difference between the head of household report and the vulnerable member of 1.6%. This minor difference in reporting suggests that a question asked to the head of household is a reliable indicator due to the high levels of convergence between the answers.

### **Access to sanitation**

The results for use of the same toilet facility indicated a fairly high level of agreement in Uganda, with slightly higher reports of same usage by the vulnerable individual themselves. However there was a disparity in agreement in Zambia where the reports by the head of household was moderately higher than that of the vulnerable individual themselves.

In Uganda, of the 127 heads of households responding to the question, 104 (81.9%) reported that all household members used the same facility. However of the 101 vulnerable individuals in the 104 households where the head of household reported that all household members used the same facility, 88 (87.1%) reported that they used the same facility as other household members. This indicated a slight discrepancy in reporting. In Zambia, there was a high level of reporting for use of the same facility by the head of household with 125 of 127 (98.4%) of heads of households reporting that all households members used the same facility. Of the 125 households where the head of household reported that all household members used the same facility, a slightly lower number 105 of vulnerable individuals (84%) reported that they used the same facility. These results indicate that some heads of households were over reporting the use of the same facility at the household level.

Indicator	Overall BL 2012 (n %)	Overall BL 2012 (n %)	Difference	Overall BL 2012 (n %)	Overall BL 2012 (n %)	Difference
Level	Household head	Vul Ind		Household head	Vul Ind	
	Uganda			Zambia		
Number	131	131		128	128	
Use of the same toilet facility	104/127 (81.9)	88/101 (87.1)	+5.2	125/127 (98.4)	105/125 (84.0)	-14.4
Reported changes to toilet facilities	24/128 (18.8)	14/24 (58.3)	-39.5	45/125 (36.0)	11/45 (24.4)	-11.6

### Reported changes to toilet facilities

The results for reported changes to toilet facilities indicated a low level of agreement in both countries. In both countries it was found that the head of households over reported changes while the vulnerable individual themselves under reported changes.

In Uganda, 24 of 128 (18.8%) of household heads reported changes to the facility. Of those 24 household heads that reported changes, 14 (58.3%) of vulnerable individuals themselves also reported that there had been changes indicating a difference of 39.5%. This indicates that the household head was over reporting changes to toilet facilities. In Zambia, 45 of 125 (36%) of household heads reported changes, however only 11 (24.4%) of vulnerable individuals from the same sample also reported changes indicating a difference of 11.6%. Again this indicates that household heads over reported changes.

### Access to hygiene

Overall, the results for access to hygiene assessed through questions on daily bathing/washing, general satisfaction with the level of bathing and use of a bathing facility at home in a closed room all indicated divergence between the head of household and the vulnerable individual. The results for both countries demonstrated that asking the head of household on the hygiene needs and access to hygiene facilities for the vulnerable individual was generally an unreliable indicator.

Indicator	Overall BL 2012 (n %)	Overall BL 2012 (n %)	Difference	Overall BL 2012 (n %)	Overall BL 2012 (n %)	Difference
Level	Household head	Vul Ind		Household head	Vul Ind	
	Uganda			Zambia		
Number	131	131		128	128	
Daily bathing/washing	115/131 (87.8)	81/114 (71.1)	-16.7	105/126 (83.3)	70/104 (67.3)	-16.0
Satisfaction with level of bathing	88/130 (67.7)	61/84 (72.6)	- 4.9	119/128 (93.0)	92/116 (79.3)	-13.7
Use of bathing facility at home in a closed room	68/124 (54.9)	50/66 (75.8)	- 20.9	89/125 (71.2)	55/88 (62.5)	-8.7

The actual reported numbers (not percentages) of heads of household answering ‘yes’ were all higher than the numbers reported by the vulnerable individual themselves for each question. Though direct review comparing the percentages for some questions shows the head of household overall percentage is higher than that of the vulnerable individual. However, assessment of the direction of the results indicates that lower reports were identified for the vulnerable individual. For example, for the satisfaction with bathing question in Uganda, 88 of 130 (67.7%) household heads reported that everyone was satisfied with the level of bathing. However the reports from the 84 vulnerable individuals from the same 88 households (information is missing for four individuals) where the head of household reported ‘yes’ had only 61 of 84 (72.6%) vulnerable individuals also reporting that they were satisfied with the level of bathing. This gave a discrepancy of 4.9% between the two reports.

## Discussion

This paper aimed to investigate intra-household inequalities in WASH through exploring baseline study data from the Undoing Inequity project in Uganda and Zambia. The results of the analysis indicate that intra-household inequalities do exist in relation to access to drinking water particularly in the Uganda results. However use of the same water source showed high levels of convergence in both countries. Access to sanitation results and reported changes to facilities showed that differences existed particularly with regards to reported changes to facilities.

While overall, it appears that at the household and level of the vulnerable individual, daily access to drinking water was high (over 70%), the divergence in results from the baseline data from Uganda indicates that the head of household is substantially over reporting that the vulnerable individual has enough access to drinking water daily. In Zambia the reports by the head of household and the vulnerable individual were found to have little divergence. This may indicate that using a head of household indicator on questions related to measurement and consumption may not be indicative of the true consumption needs and levels of the vulnerable individual in particular settings. This also highlights that the head of household may not be fully aware of needs of the vulnerable individual. Questions related to use of the same water source indicated near perfect convergence between the head of household report and vulnerable individual in both countries. This indicates that a household level question to the head of household is likely to provide a reliable indicator of whether the same water source is used by everyone in the household. It is possible that as the water source is a more definitive and actually used source, this type of indicator is easier to measure than daily consumption.

The use of the same toilet facility showed a higher level of convergence than reported changes to toilet facilities. The latter showed a large convergence between the head of household and the vulnerable person. While over 80% of both household heads and vulnerable individuals reported that they used the same toilet facility, a slightly lower percentage of vulnerable individuals reported that they used the same facility. These results indicate that asking the head of household on use of the same facility is not likely to be a reliable indicator and the vulnerable person should be asked directly. Similarly, the marked discrepancy in reporting of changes to the facility indicates that asking the question to the vulnerable person themselves would be more reliable than using the head of household report.

The high divergence in reports by the head of household and the vulnerable individual in access to hygiene indicators for all three indicators in both countries showed that using a head of household report is not likely to be a reliable indicator of hygiene practices and needs of the vulnerable individual. Therefore asking questions at the individual level to the vulnerable person themselves will provide a more accurate reflection of an individual’s hygiene practices, level of satisfaction and use of facilities.

## Conclusion

This paper proposes that proxy indicators on use of the same water source can be asked to the head of household with reasonable confidence that the same applies for the vulnerable member. However, specific questions on consumption and daily access to drinking water, access to sanitation facilities and reported changes to these are best asked to the vulnerable individual themselves. If possible, observation of changes should be undertaken. These findings are important: in order to have reliable information to assess and measure inequalities in access to WASH, questions alone to the household head in a national or household survey may not provide an accurate reflection of the needs of vulnerable and marginalised groups. The lessons from this research are that in order to understand the access and use of WASH of vulnerable groups, it is important to ask questions directly rather than relying on head of household reports for some indicators.

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### Note/s

<sup>1</sup> The total numbers reported for the vulnerable individuals in all tables may be less than the total number of household heads that reported yes to the same question as some vulnerable individuals did not answer the questions.

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