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**LOCAL ACTION WITH INTERNATIONAL COOPERATION TO IMPROVE AND
SUSTAIN WATER, SANITATION AND HYGIENE SERVICES**

**Achieving and sustaining open defecation free (ODF)
villages: a study of four rural districts in Zimbabwe**

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Community led total sanitation was adopted and implemented in 33 rural districts of Zimbabwe with the majority of communities failing to achieve Open Defecation Free (ODF) within the lifespan of the project. Africare initiated a study to determine the determinants of attaining ODF in four rural districts where it implemented the project. Findings will be used by government and developmental partners to achieve improved and sustained outcomes in future. Green and Kreuter's PRECEDE MODEL was the theoretical framework used to guide the study. Expecting subsidies from the project, having and enforcing community constitutions, existence of income savings and landings (ISALs), having active sanitation action groups and community health clubs were found to be statistically significant factors associated with attainment of ODF status.

Introduction

Africare was one of international non-governmental organisations which implemented the Rural Water, Sanitation and Hygiene (WASH) Programme in Zimbabwe from 2013 - 2016 funded by DFID through UNICEF. Africare implemented the programme in four districts namely Bikita, Mhondoro, Gokwe North and Gokwe South in Zimbabwe where communities were triggered by local government extension workers with support from the district and the province. Community health clubs and sanitation action groups were used to promote and support the construction of latrines. Despite the cost associated with them, the programme recommended the Blair Ventilated Improved Pit-latrines (BVIP) and the Upgradable Blair Ventilated Improved Pit-latrines (UBVIP) to ensure long term benefits and sustainability. Significant progress was made in three of the four thematic areas except the demand led sanitation thematic area. Communities gave various reasons to the failure to achieve ODF which includes lack of resources due to the drought. However despite the fact that some communities were failing to achieve ODF, others managed to achieve ODF under the same circumstances. Africare therefore resolved to carry out a scientific study to determine factors associated with the attainment of ODF in the four districts in which it was operating in.

Objectives of the study

The overall objective of the study was to determine factors associated with the attainment of ODF by triggered villages in the four districts in which Africare was supporting and specifically, the study wanted to:

- Identify predisposing factors associated with the attainment of ODF
- Determine the enabling factors associated with the attainment of ODF
- Explore the reinforcing factors associated with the attainment of ODF.

Justification of the study

The Rural Water Sanitation and Hygiene (WASH) Programme was the first to implement the demand led sanitation approach in Zimbabwe hence failures and successes were expected. Findings from the study will be used to perfect the implementation of the same programme in the other three provinces which were not

part of the phase which ended in June 2016. This study provides the first scientific evidence in Zimbabwe on factors associated with the attainment and sustaining ODF. The results of this study will be used by the National Coordination Unit (NCU), Provincial Water and Sanitation Sub Committees (PWSSCs), District Water and Sanitation Sub Committees (DWSSCs) and developmental partners to improve on the implementation of demand led sanitation approach thereby increasing the chances of targeted villages becoming ODF.

Conceptual framework

Green and Kreuter's PRECEDE MODEL was the theoretical framework used to guide the study. The model predefines predisposing, enabling and reinforcing factors as the key determinants to the attainment of ODF.(Green L, 2005)The framework was used by the authors to design data collection tools.

Methodology

Study design

A case control study was conducted where villages which had attained ODF status were classified as cases whilst non ODF villages were the controls.

Sampling procedure

All the villages which had attained ODF status within the first year after triggering were selected as cases. Each ODF village was matched with two non ODF villages which were randomly selected. All non ODF villages from the four districts were written on small pieces of paper which were then placed in a hat and randomly selected. A total of 54 non ODF villages were selected and included in the study as controls.

Data collection

Data was collected per each selected village through a focus group discussion with at least seven members from the village. The seven were coming from the leadership, Sanitation Action Group (SAG) and community health club. A focus group discussion guide with 30 discussion points was used to guide the discussion with two members from the DWSSC and Africare administering the discussions.

Findings

A total of 27 ODF villages were conveniently selected and included in the study. Fifty four non ODF were sampled however data from 49 of these was valid. Focus group discussions were held with at least seven members from each village present during the discussions. Table 1 shows the number of ODF and non ODF villages selected per district.

Table 1. Number of ODF and Non-ODF villages selected per district with valid data			
District	ODF villages	NON ODF villages	Total
Bikita	8	12	20
Gokwe North	3	14	17
Gokwe South	6	14	20
Mhondoro - Ngezi	10	9	19
Total	27	49	76

Predisposing Factors

Knowledge of the rural WASH project and its expectations was exhibited in all the 76 villages; however 75% of the villages expected to receive subsidies from the project despite the project being demand led. All the villages were triggered when the project started however about (10.5 %) were not triggered as the whole community, with only the leadership and few individuals being triggered and in most villages (85.5%) only one triggering tool was used. Triggering in most villages (61.8%) was done by an Environmental Health

Technician (EHT) with the remainder being done by other government extension workers. Village heads from 90.8 % of the villages participated in the triggering sessions.

Enabling factors

Agriculture was reported to be the main source of livelihoods by 89.5 % of the villages with 10.5 % reporting relying on piece jobs. The concept of Upgradable Blair Ventilated Improved Pit-latrline (UBVIP) was accepted in 72.4 % of the villages. Builders from 55.3 % of the villages were charging more than \$30-00 which was regarded as expensive. Cement was found locally in 63.2 % of the communities, however very few (3.9 %) of the villages reported existence of credit terms for procurement of cement. The presence of Income Savings and Lending (ISAL) groups was reported by 64.5 % of the villages and these helped the communities to save towards procurement of cement.

Reinforcing factors

More than half (57.9 %) of the villages had constitutions which were developed by all community members and were being enforced. The majority (85.5 %) of the villages had active Sanitation Action Groups (SAGs) though 21.1 % of the SAGs had less than seven SAG members being active with 60.3 % of the villages reported to have SAGs which were visiting households at least four times per month. Almost half (52.6%) of the villages had active community health clubs which were conducting lessons with community members. The DWSSC support was experienced by 71.1 % of the villages with 82.9 % reporting to have been supported by local EHTs and other government extension worker were seen in 63.2 % of the villages. The spirit of working together helping each other to achieve ODF was witnessed in 69.7 % of the villages though with varying degree.

Significance testing

To determine the factors associated with the attainment of ODF in selected villages, Epi info 3.5 was used to conduct a bi-variate analysis looking at each exposure variable against the outcome of being ODF. The variables indicated in the table below were found to be associated with the attainment of ODF by the selected communities.

Communities which expected subsidies from the project were less likely to achieve ODF compared to those who didn't expect subsidies. The association was statistically significant. (OR=0.28, 95 % CI: 0.10 – 0.83) P-value=0.012***. Communities with ISALs had a 2.6 more chance of achieving ODF compared to those without ISALs. The association was statistically significant. (OR: 2.63) P-value = 0.039. A statistically significant association was found where communities which managed to develop a constitution after triggering were five times more likely to achieve ODF compared to those without constitutions. (OR: 5.4, 95 % CI: 1.76 – 16.59) P-value = 0.002. An even stronger and statistically significant association was found where communities which managed to enforce their constitutions were ten times more likely to achieve ODF compared to those which were not enforcing their constitution. The association was statistically significant. (OR: 9.9, 95 % CI: 2.95 – 33.22) P-value = 0.00002. Having active SAG with all the seven members active was significantly associated with the attainment of ODF with villages with active SAGs having a five times more chance of achieving ODF compared to those without active SAGs. (OR: 5.0, 95 % CI: 1.04 – 23.99) P-value = 0.015. Communities with active community health clubs had a seven times more chance of achieving ODF and the association was statistically significant. (OR: 7.58, 95 % CI: 2.44 – 23.49) P-value = 0.000095.

Discussion

Predisposing factors

Despite the fact that high knowledge of the rural WASH project and its expectations was exhibited in all the 76 selected villages; a high percentage (75%) of communities still expected to receive cement from the project and this definitely affected the communities in attaining ODF. A significant proportion (10%) of villages was not triggered as a whole community hence the concept of demand led sanitation was not properly executed thereby affecting the outcomes. In most villages (85.5%), only one triggering tool was used as opposed to using at least two triggering tools hence technically compromising the quality of triggering. There was no significant difference in terms of outcome between the villages triggered by EHTs and those by other government extension workers (OR=1.08: 95 % CI: 0.4083 – 2.8394). Those

communities which had received subsidies before had a 60 % more chance of achieving ODF compared to those which didn't receive a subsidised WASH project before. This might be due to the fact that when they received the subsidies before, they were educated on the need of using latrines and they have realised the benefits of such facilities hence despite not having to be given the cement, they committed their own resources to keep on enjoying the same facilities. Those who have been practising open defecation before the project were less likely to achieve ODF as they might have been finding it difficult to desist from using the bush.

Table 2. Significant factors associated with attaining ODF ***						
		ODF		OR	P-Value	95 % CI
Exposure Variable		Yes	No			
Predisposing factors						
Expected subsidies ***	Yes	16	41	0,2838	0,0124348906	0,0965 - 0,8345
	No	11	8			
Enabling factors						
ISALs present in the community ***	Yes	21	28	2,6250	0,0387275441	0,9011 - 7,6473
	No	6	21			
	No	25	48			
Reinforcing factors						
Constitution available ***	Yes	22	22	5,4000	0,0010317248	1,7576 -16,5904
	No	5	27			
Constitution being enforced ***	Yes	23	18	9,9028	0,0000408839	2,9522- 33,2180
	No	4	31			
SAG active with all seven members active ***	Yes	25	35	5,0000	0,0261218438	1,0423- 23,9852
	No	2	14			
Active community health club ***	Yes	22	18	7,5778	0,0000951056	2,4442- 23,4933
	No	5	31			

Enabling factors

Agriculture emerged as the main source of livelihoods in most communities hence considering that the country has experienced two successive El-nino induced drought, families have been struggling to find resources to buy the food as well as to construct latrines. Latrine construction suffered a setback. This has led to families failing to pay builders who were charging more than \$30 to construct a latrine. Those communities which have managed to have ISALs found it easy to construct latrines hence working in groups is critical in achieving ODF. Acceptance of uBVIP by communities reduced the chances of such communities to achieve ODF. This might be due to the fact that communities would have relaxed to upgrade the uBVIP and they use them to a point they cease to save the purpose.

Reinforcing factors

The study findings revealed that supporting structures and initiatives for the communities were critical to the achievement of ODF. Communities which managed to develop and enforce constitutions after triggering managed to encourage each other to construct latrines and achievement of ODF was more likely. Having active SAG with all the seven members being active helped in the attainment of ODF as households will be supported more regularly. The home visits by the SAGs will act as cues to action among most households. Having active community health clubs ensures that the concept of demand led sanitation is instilled in people's minds. Support and monitoring visits by EHTs and the DWSSC always ensure that communities are following their work plans and constitutions. The communities also realises the seriousness of the project when they see the commitment from the government.

Lessons learnt

- The concept of no subsidies including the vulnerability criteria should be clearly explained to the beneficiaries from the onset of the project and further expectations need to be dismissed.
- Ward based triggering is not as effective as the village based. There is need to ensure that triggering is done properly from the onset with every community member being triggered and facilitators using at least two triggering tools to ensure that communities are properly triggered for action.

- In communities where every government extension worker took part in the project monitoring at regular intervals, ODF was attained quickly.
- Hygiene promotion is key in attaining and sustaining ODF. Once the communities have accepted and realised the need to have latrines, they will commit their own resources.
- Latrine construction in communities with income generating projects or having access to credit facilities was easy.
- If there is no continuous monitoring and support to communities to upgrade their uBVIPs within a reasonable time there will be relapses with communities going back to practicing OD.
- Communities which managed to develop and enforce their constitutions managed to achieve ODF. The constitutions should be endorsed by every community member and the relevant authorities.
- Having active community health clubs to support the sanitation action groups increased the likelihood of villages to attain ODF status.
- Continuous support of SAGs and CHC by government extension workers including EHTs is essential in ensuring that communities attain ODF status. Regular support to communities by the DWSSC increased the likelihood of villages to become ODF.

Conclusion

Demand led sanitation approach is key in ensuring sustained access to dignified sanitary facilities however prescribing one model of latrine (BVIP) which is expensive made it difficult for the poor and vulnerable to construct their own latrines hence affected the rate at which villages attained ODF status. Understanding the predisposing, enabling and reinforcing factors associated with the attainment of ODF is important if the project is to achieve intended results.

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