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Factors Influencing Poor Implementation of Community Led Total Sanitation in Kajiado County, Kenya

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ABSTRACT

The purpose of the study was to investigate the factors influencing poor implementation of CLTS in Magadi Ward, Kajiado County. Specifically, the study wanted to identify the socio-cultural factors influencing the poor implementation of CLTS, assess the accessibility of households to latrines, determine the latrine coverage and find out the community's attitude, practice and knowledge on sanitation. A cross sectional descriptive study was adopted. Magadi was divided into four strata, each stratum represented its villages. The first household head to be interviewed was picked at random from the household register provided by the village headmen. Systematic random sampling was used to determine the number of villages and households to be interviewed. Data was collected by use of questionnaire and observation checklists. This was done by face to face interviewing of the respondents by trained CHVs. Qualitative data was processed through manual cleaning of the questionnaires by counter checking for completeness and then coded for easy entry. SPSS version 22.0 was used and descriptive findings presented in form of tables and pie charts. The study results revealed that 33% of the respondents had fully implemented CLTS while 67% strongly disagreed that OD caused diarrheal diseases and eye infections. Socio-cultural factors such as the community's attitudes, practices and knowledge, low-latrine coverage and inaccessibility of households to latrines are the results of failure to proper implementation of CLTS. The study further revealed that 58% of respondents were not educated and 40% thought that CLTS is not necessary because of their nomadic lifestyle. The study findings concluded that the poor implementation of CLTS was caused by low knowledge levels and negative attitudes due to lack of education, poverty and nomadic lifestyle of the community.

Keywords: Sanitation, CLTS, ODF, Functional latrine, Kajiado.

INTRODUCTION

The concept of Community Led Total Sanitation was introduced and spearheaded by Kamal Kar together with VERC, a partner of Water Aid Bangladesh, in 2000 in Mosmoil while assessing a traditionally subsided sanitation program. He advocated change in institutional attitude and the need to draw on intense local mobilization and waste situation and bring about collective decision-making to stop open defecation. Community Led Total Sanitation was adopted by the government of Kenya Ministry of Health in 2011, as a national sanitation strategy to achieve

ODF in rural areas in Kenya, this was followed by successful piloting by sector players in 2007. A roadmap dubbed ODF Rural Kenya 2013 was created and launched on 11th May 2011. The roadmap involved dealing with organizations and devolves structures throughout Kenya to reach all communities and guarantee that they are ODF. The National ODF Kenya 2020 Campaign Framework builds on the ODF Rural Kenya Roadmap 2013. It aims to eradicate open defecation and declare 100% villages in Kenya ODF by 2030. An estimated 14% of Kenyans practice open defecation. Kenya intends to achieve 100% ODF status by 2030 as per the SDG number 6. The aim of SDG 6 is to ensure accessibility and sustainable administration of water and sanitation for all. A fundamental objective of this goal is to accomplish access to adequate and equitable hygiene for all and end OD, focusing on the necessities of women and girls in vulnerable situations.

In Kajiado County there is no sanitation or sewerage administration provided by the national or county government; and there is also chronic water shortage in the greater part of the year. The region is classified as an ASAL area. Just 28% of the populace has access to sanitation. Nonetheless, this coverage actually remains far beneath the national figure of 85.2% and provincial figure of 78.4%. Because of this low household sanitation coverage, diarrhea and worm infestation remains among the top five leading causes of morbidity in the area. Percentage distribution of persons accessing toilets/latrines is exceptionally low at 26% in rural areas and 47% in the urban areas. OD is still practiced in the county with just 25% ODF certified villages hence the need to focus on the behavior change strategies. Poor sanitation has contributed to contamination of open water sources in the region. Latrine coverage is around 80% in urban areas and 20% in rural areas. There has been no proof of progress in latrine coverage from the earlier years. Evaluating the existing situation in the area is important to enable attainment of relevant information in Community Led Total Sanitation status from a local viewpoint and hence initiating the essential interventions.

PROBLEM DESCRIPTION

Kenya is one of the countries that did not accomplish the MDG for increasing access to water and sanitation. Just 30% of Kenyans have access to improved sanitation, or at least, the use of sanitation facilities that hygienically separate excreta from human contact. This suggests that around 30 million Kenyans are at this point using dangerous sanitation methodologies like simple kinds of latrines, and nearly 6 million are defecating in the open. This poses a challenge in accomplishing Vision 2030 national targets to accomplish universal access to sanitation. Although the figure is higher assuming shared facilities are included, it is the pace of increase in access to improved sanitation that is worrying. Access to improved sanitation increased by only 5% in the scope of 1990 and 2015 in rural and urban areas. In rural areas, people keep on defecating in the open basically on account of open land, yet moreover it is seen as culturally appropriate in certain regions. It is estimated that if the current trend of sanitation coverage is maintained, it would take Kenya 200 years to accomplish universal sanitation coverage. The constitution of Kenya makes access to some fundamental services including sanitation a basic right for all, further building up the need to answer the common prevailing sanitation emergency direly. The initial step is to acknowledge that we have an immense challenge that calls for reconsidering of methodologies, and to have champions of change both at the local and national levels.

RESEARCH OBJECTIVES

1) To identify the socio-cultural factors influencing poor implementation of CLTS,
2) To assess the accessibility of households to latrines,
3) To find out the community's attitude, practice and knowledge on sanitation,
4) To determine latrine coverage in Magadi Ward, Kajiado County.

MATERIALS AND METHODS

The study was conducted in Magadi Ward, Kajiado West sub-county, Kenya. Majority of the population is nomadic pastoralists that practice open defecation due to poor implementation of CLTS. The sub-county is an ASAL region that covers 2,640 Sq. KM. The population is 27,559 and 1021 households. (12) The four selected sub-locations included Oldoinyo-Onyokie, Magadi, Olkiramatian and Entasopia sub-locations.

Study Population

The study population was the heads of households or their spouses in Magadi Ward. These are adult men and women ages 18 – 64 years because this is the definition of an adult in the Kenyan constitution.

Study Design

A cross-sectional descriptive study was conducted to collect data for a period of one month.

Sample Size Determination

The minimum sample size was determined using Fisher's formulae;

$$n = Z^2 \times {}^{pd}/_{d^2}$$

Where n is the required sample size
Z = standard normal deviate set at 1.96 corresponding at 95% confidence interval
p = proportion of the target population estimated to have particular characteristics of interest
d = degree of accuracy desired set at 0.05
n = the sample size desired, sample size (>10,000)

The probability of getting people in the area not using latrines $p = 0.50$

$$q = 1 - 0.05$$

q = 0.5
d = minimum error
Z^2 = $(1.96)^2$
n = $(1.96)^2$ (0.5) (0.5) / $(0.05)^2$ = (3.8416 ×0.25) / (0.0025)
= 0.9604 / 0.0025 = 385
n = 385 individuals.

This number was adjusted to 400 because of potential non-response.

Sampling Procedure

Random sampling was used to determine the number of villages and households, and the intervals from one household to another. A simple random sampling method was used to determine the number of households to be interviewed. After simple sampling to determine the first households, systematic random sampling was done to determine the second households then dividing the number randomly picked by two which gave an interval of three.

Method of Data Collection

Data collection was done by use of questionnaires and observation checklists. This was done by face to face interviewing of the respondents by trained CHVs. The questionnaires consisted of open and close ended questions which were used to interview household heads. They were written in English but the CHVs translated them to Maasai language for interview to ensure accurate answers. The researcher employed seven knowledgeable CHVs who are fluent in both English and Maasai languages to undertake the translations. The questions wee formulated from the objectives of the study in plain language for easier understanding. The questionnaire was designed in such a way as to help the researcher to gain in depth understanding, interpretation, attitudes, beliefs and perceptions of different respondents on CLTS. Observation checklists were used to observe environmental conditions and especially the sanitation around the households for evidence of human excreta.

Method of Data Analysis

Data was first processed through manual cleaning of the questionnaires through counter checking for correctness and completeness. The questionnaires were hen coded for easy entry. Descriptive summary statistics in form of charts (cross-tabulations, pie and bar) are presented. Chi-square tests of association were conducted to assess dependence relationships among potential factors.

Verification Ethical Consideration

The major ethical issue considered in this study was confidentiality and privacy of the respondents and participants involved in the study. This was done using codes instead of heir names so as not to infringe on their rights. Participation in the study was made voluntary and those who consented were considered. The participants of the study included household heads sampled from the specific villages of Magadi Ward of Kajiado West sub-County who lived in the study area for more than six months.

RESULTS AND DISCUSSION

Demographic characteristics of the respondents

Table 1: Summary of demographic characteristics of study participants ($n = 367$)

Independent Variable	Respondent Response	Frequency(n)	Percentage (%)
Age	Above 18 years	367	100
Gender	Male	176	48
	Female	190	52
Marital Status	Single/Separated	80	22
	Married	286	78
No. of family members	Below 2 members	36	10

	2 to 4 members	154	42
	Above 5 members	176	48
Level of Education	Formal education	212	58
	Not formally educated	154	42
Level of Income	Employed	92	25
	Self-employed	84	23
	Unemployed	190	52

The influence that demographic factors have on the implementation of CLTS is varied depending the degree to which a factor is interconnected with sanitation. Results portrayed that there is no link between implementation of CLTS and gender. However, males are observed to be less interested to implement CLTS as compared to females as is observed in their limited use of sanitary facilities in the socio-cultural factors as compared to women. 42 percent of the participants that lacked formal education projected lack of awareness of the need to effectively implement CLTS as compared to 58 percent that had formal education. Majority of them cited lack of adequate income as a factor for not effectively implementing CLTS. Unemployed participants cited poverty as a reason for inadequately implementing CLTS as they considered building latrines and renting with toilets a secondary basic need. The competing basic needs of food, clothing and shelter makes it difficult to consider paying for latrines or hoses with one.

Attitude towards CLTS

Table 2: Attitude of participants on CLTS

Attitude-based question	Strongly Disagree	Disagree	Agree	Strongly Agree
Do you think CLTS is good for the community?	2%	5%	56%	37%
Do you think open defecation is a nuisance?	26%	26%	18%	22%
Do you think implementing CLTS in your home/ community is unnecessary?	7%	13%	60%	20%
Should there be more public toilets?	2%	3%	90%	5%

The nomadic way of life favors the concept of OD as compared to utilizing toilets. Nonetheless, 90% believed that there should be more public toilets in the region as 90% considered that CLTSwould be good for the community. As such, their attitude towards CLTS could be positively altered if public health programs and projects provided subsidized materials for constructing public toilets and would ensure easy availability of sanitary facilities.

Latrine Coverage

Table 3: Latrine coverage among participants

Type of sanitary facility	Frequency (n)	Percentage (%)
Flash toilet	29	8
Public/ private pit latrine	190	52
Personal trench	106	29
None	40	11

Dry weather conditions and inadequate access to clean and safe water favors the use of personal trenches and pit latrines as compared to flush toilets that demand adequate supply of

safe water. Of concern is that 11 percent of the participants lacked any form of sanitary facility. The 11% are representative of the Magadi population that has no coverage of latrines which raises public health concern in regard to the spread of fecal-oral diseases in the region due to rampant OD.

Accessibility of Households to Latrines

Table 4: Accessibility of households to latrines

Accessibility of latrines	Frequency (n)	Percentage (%)
Households with inside toilets	29	8
Households with outside toilets	92	25
Households that share latrines	205	56
Households with no inside/ outside latrines	40	11

Participants preferred personal trenches to pit latrines that could be easily constructed with readily available materials as compared to flush toilets. Households prefer sharing sanitary facilities as compared to constructing individualized latrines that would be costlier. 11 percent of the population lack access to any form of latrine which inevitably contributes to OD practice in the area.

Implementation of Community Led Total Sanitation

The figure below presents the number of respondents who had fully implemented the CLTS program. The figure revealed that a majority 245 (67%) of the respondents had not fully implemented the CLTS program in comparison to only 122 (33%) who had fully done so.

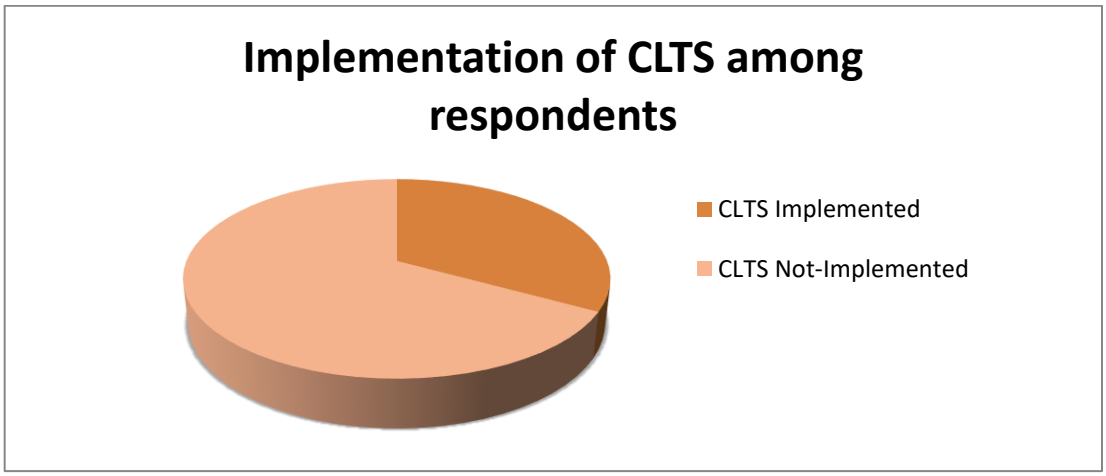

Figure 1: Implementation of CLTS among respondents

Functional Pit Latrine to Household Ratio

The figure below illustrates the ratio of functional pit latrine to the population in Magadi Ward.

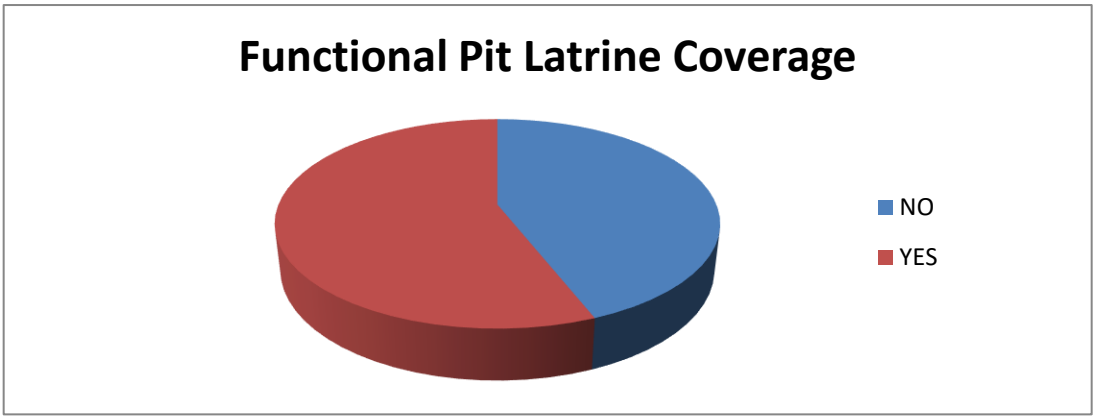

Figure 2: Functional pit-latrine to household ratio among respondents

The results revealed that the majority of respondents (56%) did not have a functional pit latrine. This means that 10 households would share about 3 pit latrines, which is equal to a ratio of 3:10. As a result, there was an acute shortage of pit latrines in the community hence the poor implementation of CLTS program. The implication for the study is that poor latrine coverage was directly associated with poor adoption of CLTS program recommendations within Magadi Ward.

Knowledge on CLTS

Table 5: Knowledge on proper latrine usage and disease prevention

Knowledge on Proper Latrine Usage and Disease Prevention	Number of Respondents	Proportion (%)
Strongly Disagree	34	9.3
Disagree	201	54.8
Agree	78	21.3
Strongly Agree	54	14.7

These findings imply that poor implementation of CLTS interventions in Magadi Ward was a result of the inhabitants' low level of knowledge on how poor sanitation is linked with the causation and spread of fecal-oral diseases. This means that poor implementation of CLTS interventions in the community is directly associated with their low level of knowledge on how pit latrines are useful in prevention of diseases. From the above findings, it is clear that there was a direct relationship between the low level of knowledge on CLTS and the failure of its full implementation in Magadi Ward.

Socio-Cultural Factors and Implementation of CLTS

Table 6: Socio-cultural factors on implementation of CLTS

Socio-cultural Factors	Number of Respondents		Proportion (%)
Poverty is a barrier to CLTS implementation	YES	311	85
	NO	56	15
Nomadic pastoralist lifestyle is a barrier to CLTS implementation	YES	322	88
	NO	45	12
Customs and beliefs affect CLTS implementation	YES	268	73

	NO	99	27
Pit latrines are unsafe, smelly and unnecessary	YES	242	66
	NO	125	34

Since CLTS implementation requires some form of financial input, most of the respondents felt that their financial status was a hindrance towards their adaptation of sanitation practice recommended by CLTS. As a result, CLTS was not accorded financial priority by most of the respondents. As nomadic communities, most respondent of Magadi Ward were reluctant to adopt the use of pit latrines and handwashing facilities as their nomadic lifestyle meant that such an expense would be a temporary solution to their sanitation challenge. As a result, they preferred to use trenches or continue with the disgusting open defecation practices as it was best suited for their nomadic lifestyle. The study also found out that there was direct relationship between the perception of pit latrines being hazardous and the adoption of CLTS. Most respondents (66%) were of the opinion that pit latrines were unsafe. There have been reports of children falling to their deaths in substandard pit latrines within Magadi Ward hence the fear of using pit latrines.

CONCLUSION

The study shows that majority of the inhabitants of Magadi Ward are Maasai semi-nomadic pastoralists community whose major occupation is livestock keeping. Constant droughts causing water scarcity, poverty and insecurity contributes to movements of pastoralists groups and reduce the degree to which sanitation is seen as a high priority. This means that one may sometimes call for triggering meetings and have a very poor turn-out from households or community leaders.

Pastoralists tend to be at least partially mobile. Commonly the men of the households (including morans who are the young men with traditional warrior roles) move their livestock during the dry seasons, while women, children and the elderly remain at the homesteads. In areas closer to urban centers with alternative livelihood opportunities, households may entrust the care of livestock to relatives in more remote rural areas while culturally they continue to consider themselves pastoralists.Among the highly nomadic groups, focus should be on sensitizing rather than full CLTS implementation, as these communities continue to perceive OD as the best option for their mobile lifestyle, are unlikely to adopt latrines at this point, and may be less vulnerable to health risks associated with OD due to their frequent movements. Implementors should meet communities where they are, and these sensitization efforts will be particularly valuable as existing trends towards more permanent settlement progress and people begin to consider latrine adoption.

The study revealed that health education promotions areslowed by high illiteracy levels among adults, which is more than 58%. There are strong negative socio-cultural factors significantly affecting the implementation of CLTS that prohibit sharing of latrines. Even the thought of discussing the challenges caused by open defecation in a community meeting that includes children, parents and in-laws is very much frowned upon thus little attention is paid to the implementation of CLTS despite its launch in Kajiado County since 2011. This study concluded that the overall latrine coverage in the study area was very low. No budgetary allocations by

the government were available to aid in the promotion of sanitation coverage and no government subsidies are put in place despite the MPHS objective to raise latrine coverage by 10% by the end of every financial year.

RECOMMENDATIONS

These are based on the researcher's and respondents' ideas to resolve the OD shame; Health education and promotion should be intensified during the community dialogue days that are held regularly. Discussions on health and sanitation matters are facilitated by PHOs, CHVs and key community leaders to discuss ways to provide support and behavior change within the community. These key leaders should be targeted as sanitation ambassadors to encourage the community to accelerate the uptake and use of available sanitation facilities. The county government should, NGOs and stakeholders should embark on awareness raising activities that emphasize sanitation and also help households to invest in sanitation by creating programs and projects that will alleviate poverty and increase family income such as introducing pre-paid metering of all the communal water sources so that financial sustainability of community water projects can be ensured. In order to address socio-cultural barriers caused by low latrine coverage the government should focus on sanitation financing interventions by creating a strong enabling environment through dedicating funding to sanitation in count budgets with needed subsidies to ensure funds are allocated appropriately and sufficiently to cover complete implementation of CLTS, including ensuring that PHOs and CHVs are able to conduct trainings, facilitation for constructing more public latrines, monitoring and follow-up activities. Due to high levels of illiteracy, effective community sensitization should be intensified by all development partners using simple methods that the community understands like PHAST. The county government should recruit more PHOs and CHVs to address gaps, scale up home visits and actively involve community members in the CLTS programs in order to create a sense of ownership towards their total sanitation. CLTS should be adopted as a government policy for the purpose of policy formulation towards improving implementation rates. In order to improve latrine coverage, partners and stakeholders should endeavor to work together and support the MPHS, consolidate their gains and embed the approach in all the national decentralizes systems to ensure its sustainable spread. The county government should make all efforts to implement the roadmap that aims to make the county ODF by harmonizing approaches between sectors such as health, water, education, urban planning and development. Existing regulations, legislations and policies both at national and county levels should be reviewed and multi-sectoral approach adopted that aims to improve sanitation in rural areas. Further research is needed on the upscaling of CLTS implementation in the community to address the gap between knowledge and practice because the low level of education and its consequences strongly came out. Further studies should be carried out to determine whether the implementation of CLTS has succeeded to improve sanitation standards and reduced disease morbidity in the communities.

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LIST OF SYMBOLS

ASAL: Arid and Sem Arid Land
CHV: Community Health Volunteer
MDG: Millennium Development Goal
MPHS: Ministry of Public Health and Sanitation
NGO: Non-Governmental Organization
OD: Open Defecation
ODF: Open Defecation Free
PHAST: Participatory Hygiene and Sanitation Transformation
PHO: Public Health Officer
SDG: Sustainable Development Goal
VERC: Village Educational Resource Centre

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