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## Factors Contributing to Low Sanitation Coverage in Mutare Rural Ward 15 Manicaland Province, Zimbabwe

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### Abstract

The research was carried out to investigate the causes of low sanitation and hygiene coverage in Mutare rural ward 15 in Manicaland province, Zimbabwe. The study aimed at establishing factors contributing to low sanitation and hygiene coverage as well as determining the knowledge, attitudes and practices of the community members on sanitation and hygiene. The study was carried out in Mutare rural Ward 15. The community members and programme implementers were selected as study elements. Information was gathered using focus group discussion, interviews and observations. Data collected was presented quantitatively using tables and also qualitatively, providing facts. The stratified and purposive probability sampling was used to draw out household members in the study population. Other subjects in the research included 2 sanitation and hygiene programme implementers, one from Ministry of Health & Child Care and Mutare rural Ward 15 Councillor respectively. The research findings revealed that, low sanitation and hygiene was due to, the community's negative attitude towards sanitation and hygiene programs, their cultural values, inadequate resources, lack of supervision, as well as the type of soil. This study concluded that knowledge, attitudes and practices of the community, inadequate supervision and resources as well as the type of soil contributed to low sanitation and hygiene coverage. The research therefore recommended that, the community be adequately educated and be provided with enough resources so as to increase coverage in sanitation and hygiene.

**Keywords:** sanitation, diseases, hygiene

### 1.0 Introduction

Inadequate sanitation is a major cause of diseases world-wide and improving sanitation is known to have a significant beneficial on health both in households and across communities. World Health Organisation also states that poor sanitation is linked to transmission of diseases such as cholera, diarrhoea, typhoid dysentery, hepatitis A and polio. World Health Organisation (July 2017) statistics shows that about 68% of the world's population used at least a basic sanitation service and about 2,3 billion people do not have basic sanitation facilities such as toilets or latrines.

In Africa and in other developing countries with poor sanitation and hygiene enabling facilities, diarrhoea affects millions of people having the greatest impact on children. Waterborne diseases remain a cause for concern mainly in these countries. In developed areas, improvement in wastewater disposal, protection of water sources and treatment of water supplies has greatly reduced the prevalence of waterborne diseases.

In Zimbabwe about 40% of its population have access to improved sanitation facilities with the most affected places being the rural areas, (WHO 2014). The country inherited an undeveloped rural water supply and sanitation infrastructure system, and a better urban water supply and sanitation network. Zimbabwe got support from highly ambitious Integrated Rural Water Supply and Sanitation Programme (IRWSSP) in 2005 but some areas were left undeveloped in terms of sanitation coverage.

Ward 15 is a growing rural area which is under Zimunya chieftdom. The area is located nearly 25km from Mutare town and on the south-east direction of Mutare town. The ward has got a population of about 13695 with about

2990 households according to the Manicaland census report (2012). Most of the people in the ward rely basically on farming, fishing and hunting of wild animals to improve their diet. The area's temperatures range from 13 degrees Celsius up to around 32 degrees Celsius depending with season. In summer time, rainfall and temperatures will be at highest levels as compared to winter season where the temperatures fall to around 13 degrees Celsius. According to environmental health department, water and sanitation inventory at district level, the ward had been found with the lowest sanitation and hygiene coverage.

Sanitation coverage in Mutare rural Ward 15 for the past four years.

Year	Completed UBVIP	Coverage
2014	157	18%
2015	98	14%
2016	40	13%
2017	35	11%

Table1: showing sanitation coverage in Mutare rural Ward 15 for the past four years.

## 2.0 Materials and Methods

Both quantitative and qualitative data collection techniques were used since it was a mixed research design. The research involved an empirical investigation using multiple source of evidence which was used to support the outcomes. For data presentation tables, pie charts, and bar graphs was used. The study population of the researcher comprised 13695 people in 2990 households (32 villages) that constitute Mutare rural Ward 15 community.

The researcher first divided the population under study into segments or strata where the sampling units in each stratum are relatively homogenous and after that sample size was determined. Lastly the researcher picked elements randomly from each stratum to get the actual number of respondents needed. Out of 32 villages, 8 villages with smallest number of toilets were sampled. According to WHO (2012), Blair latrines are essential for the sanitation of a community. Other villages were not picked because they have better percentage in terms of toilet coverage which is  $\geq 65\%$  (from the RHC sanitation and hygiene inventory). The researcher used the following criteria to get the sample size from the study population. Firstly, the study population was grouped into 3 strata or segments according to their toilet status as shown on the table below.

Sanitation status groupings

Strata no	Class	Description on toilet status
Strata number1	Satisfactory	With UBVIP
strata number2	Moderate	With pit latrines/temporary toilets
strata number 3	Worst	Without toilets

Table 2: sanitation status groupings

The researcher then selected the worst strata where 5 household heads per village were sampled. The researcher purposely included the VHWS in the study with the reason that, they have the required information on toilets inventory of villages to be sampled.

The researcher conducted a purposive sampling technique because of its capability to reach the targeted sample quickly. The ward councillor and the Environmental Health Technician (EHT) were involved in the study to get information on how people live in the ward in accordance with sanitation and hygiene coverage.

The researcher used interview guides, focus group discussion guides and observation checklist for the collection of data. Photographs were taken where ever necessary. The data collection instruments were used to prevent the researcher from diverting from the scope of the study. Systematic collection of data from the subjects was done through the use of the above mentioned techniques, and presented in a way that shows an oversight about the problem.

### 3.0 Results And Discussion

#### 3.1 Community’s knowledge on sanitation and hygiene

Fig 1 below shows that the community’s knowledge on sanitation is as little as 25 %( proper faeces disposal).This proved that the community has better knowledge on household and food hygiene only other than in the construction of UBVIP.

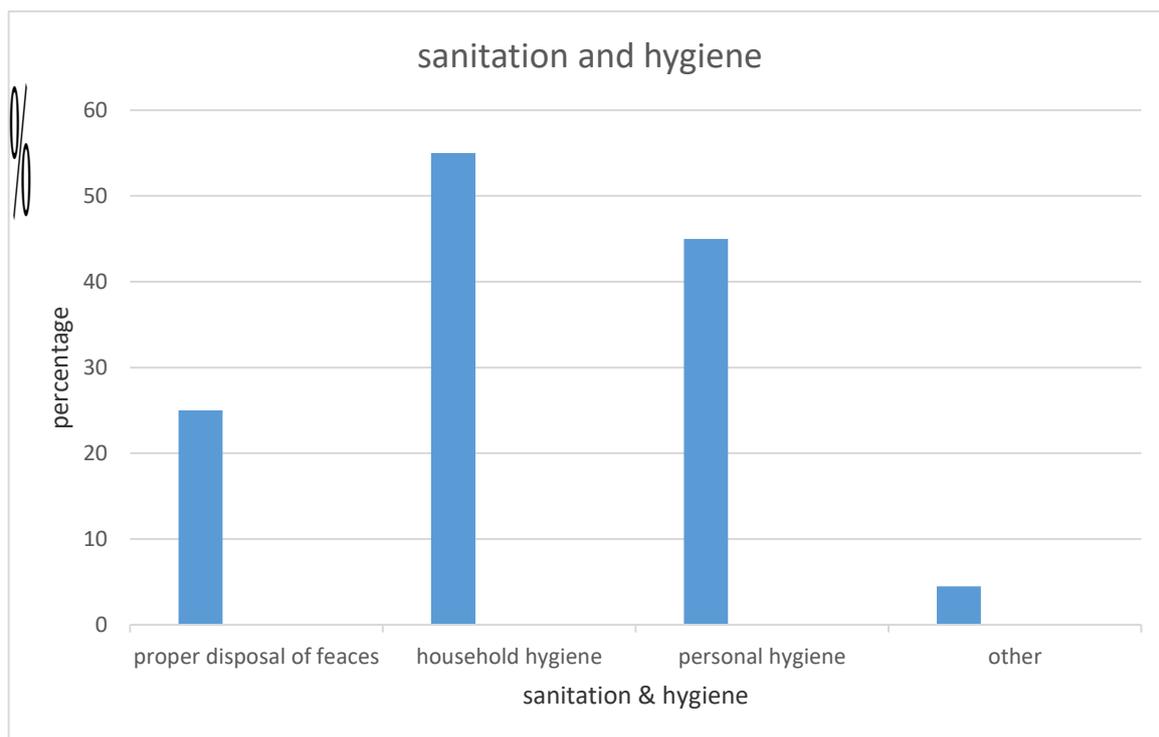


Fig 1: Knowledge of people on sanitation and hygiene facilities.

The community used the following methods for disposal of human excreta i.e. bush toilets, UBVIP, cat sanitation and others. Fig 2 below shows these methods are presented in pie charts.

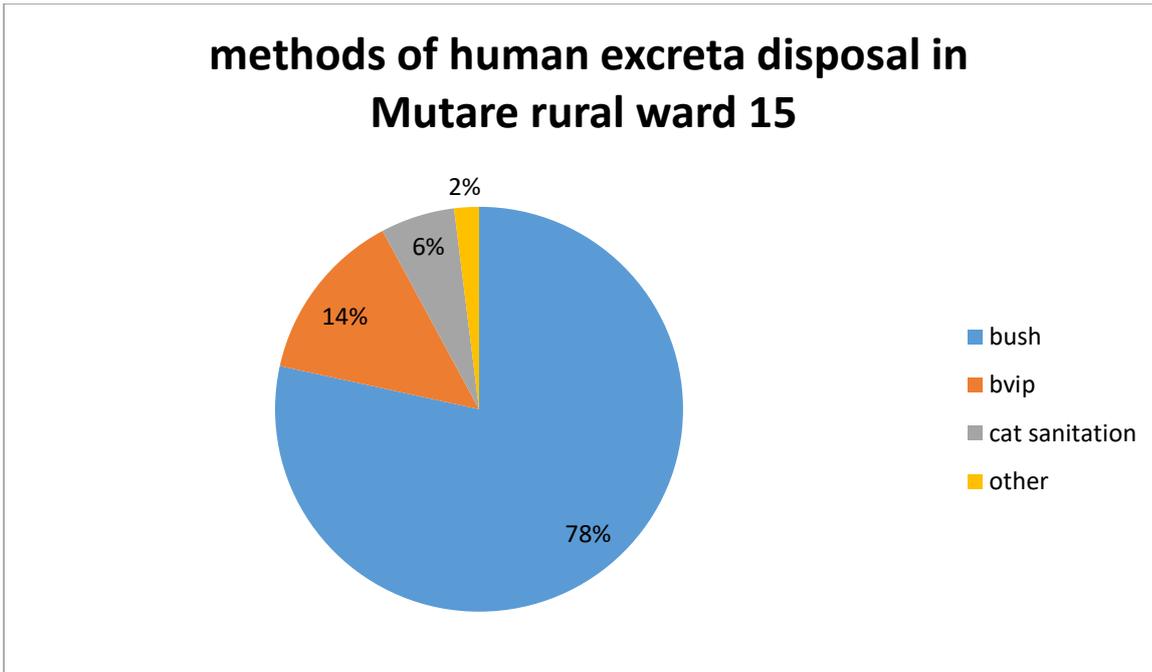


Fig 2: Methods of human excreta disposal.

Fig 2 shows that the majority (78%) of respondents use bush toilets. According to the institute of Water and Sanitation Development, communities fail to accept sanitation programs positively because of the common system of human excreta disposal, the bush system. According to this institution, it is important to discourage bad systems such as defecating in the bush and encourage people to change for better methods. This may be related to Kerr (1990)'s studies and taken as advice which indicate that, if toilets are to incorporate positive features of bushes and eliminate the negative features, they should offer privacy and should be located near people's homes. This may lead to a better acceptance in the implementation of toilets thereby increasing sanitation and hygiene coverage.

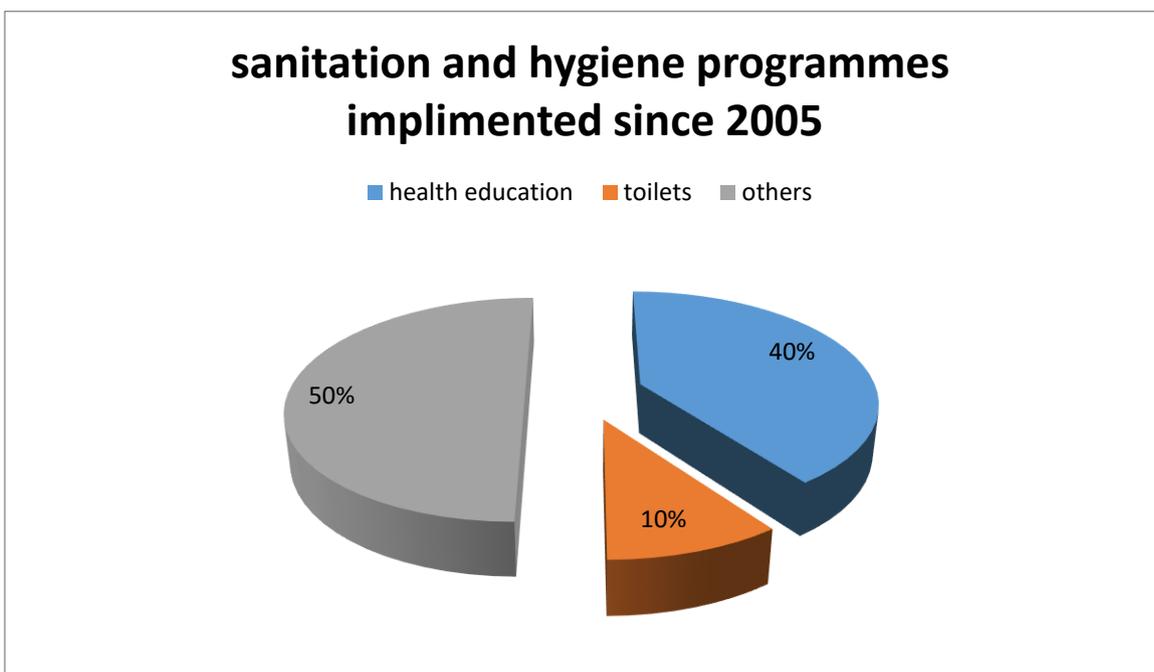


Fig 3: Sanitation and hygiene programs implemented since 2005.

The results showed in Fig 3 show that, only 10% of the total population was helped by the donor in the construction of toilets. For any program to gain support and acceptance, it should have more benefits to the community. In this respect, the community then can participate in that program. Kalbermatten (1980) points out that, failure to involve the community that is intended to benefit from the program would certainly result in failure to the project. This can also be true with the situation in Mutare rural ward 15, only those who were helped by the donor to construct toilets are the ones who supported similar projects since they have been actively involved. So, implementers need to target more beneficiaries, thus increasing sanitation and hygiene coverage. The other 50% of the respondents indicated on fig 3 are the ones who were helped in construction of pot racks instead of toilets.

Table 3 below shows responses that were given by respondents in relation to their cultural beliefs.

Practices	Percentage
In-Laws should not use same toilets	50%
No restrictions	28,6%
Other	21,4%
Total	100%

Table 3: Practices on the use of BVIPLs in Mutare rural ward 15

Low sanitation and hygiene coverage can be caused by cultural practices. According to Kalbermatten (1980), culture, among other factors like economic, environmental and human effects can lead to low success in the implementation of any programme. In this case, the community of Mutare rural ward 15 values their culture to an extent that they should not enter the same toilet with their in-laws. This may have led to poor participation in the implementation of sanitation programmes. According to Kerr (1990), culture is so strong that it can outfit an intention to behaviour change. So, this might be the same with the community of Mutare rural Ward 15. The other 21, 4% indicated that there were spirits which did not allow their mediums to enter into dwellings constructed of cement.

### 3.2 Contributions of culture on Sanitation

From interviews conducted the Councillor and the EHT for ward 15 agreed that they were aware that there is low sanitation in the ward and the two parties have been working hard to increase the coverage.

During the interviewing sessions, responses obtained from all the three interviews showed that, the community's culture contributed to uncooperativeness within the community. The in-laws value their cultures that they say it is a taboo for in-laws to use the same toilet. During the interview sessions, the EHT pointed out that the issue of in-laws refusing to share toilets had negative impact in the implementation of sanitation and hygiene programmes that were implemented and intended to benefit 50% of the household but yielded only 10% success rate. This was the result of the community's refusal to participate fully in the programme, leading to loss of cement and building materials. In addition, the availability of hiding areas like forestry also contributes to the resisting of other community members to build toilets.

### 3.3 Inadequate resources

All parties interviewed showed that, sanitation and hygiene programmes were receiving inadequate resources. This factor of inadequate resources was also pointed out by the Minister of Health & Child Care in 1999 who reported that shortage of resources to increase sanitation and hygiene facilities was a major problem faced by the Ministry. During the interview with the Councillor, it was highlighted that supporting NGOs were facing

financial constraints to advance WASH programmes for the past three years. However, both parties agreed that these organizations could channel more resources to water, sanitation and hygiene problems encountered so far. Results of focus group discussions conducted also show that the community of ward 15 have got donor syndrome as they disclose that, they have nothing so donors must come and provide them with materials such as cement and some incentives for them to implement the WASH activities. Another issue of importance is, most members in the community are less privileged to an extent that they do not afford to buy constructing materials.

### 3.4 Lack of knowledge

The majority of sampled members indicated that they do not have adequate knowledge on the importance of sanitation and hygiene in relation to their health. However, some showed ignorance as they were quoted saying, "we can still live without toilets, what we need is food and money to survive, toilet is a secondary issue." This statement shows that the community need more education about the importance of toilets. The village health workers give detailed information on toilets inventory and the tabled data below shows that the community still needs help towards their sanitation until they reach absolute positive behaviour change.

Toilets inventory for sampled villages

Village number	Completed toilets	Under construction	Total households
1	6	4	48
2	3	3	37
3	9	4	53
4	11	7	58
5	5	4	36
6	4	7	35
7	10	2	46
8	7	8	32

Table 4: toilets inventory for the sampled villages

### 3.5 Lack of incentives

Interview results from the Councillor and the EHT revealed that the community were not cooperative towards sanitation and hygiene programmes. It was indicated that community participation in sanitation programmes was hindered by lack of incentives. According to Mara et al (1980), poor participation in any programme lead to low success rate.

Commenting on what was done to help the community; interview results obtained indicate that, Ministry of Health & Child Care, International Medical Corps and the rural district Council, each contributed in offering help to the community members. The EHT mentioned that, there had been intensification of education and mobilization and the Ministry was determined to improve supervision within all levels. This would help improve community participation and improvement as encouraged by Mara et al (1980) and Kerr (1990) that put emphasis on teaching the community mobilizing them.

According to the Councillor, work was being done by him and the WASH representatives to resuscitate sanitation and hygiene enabling facilities. The NGOs (International Medical Corps) have already started procurement of pre-requisite materials for BVIPLs construction.

The councillor mentioned in passing that the Local Government had asked NGOs (International Medical Corps) to intervene in renovating toilets that were not in good condition and in response to this; they indicated that there is need to carry out an inventory of those toilets that needed renovations.

Commenting on the community's knowledge, attitudes, behaviour and practices towards sanitation and hygiene programmes, the interview results were in agreement with what Kalbermatten et al (1980) found, that low success rate in the implementation of toilets is centred on the community participation, if it is low, then the success rate is low.

The EHT mentioned that the community had a negative attitude towards sanitation and hygiene programmes resulting in low participation. The community's attitude has negative effects towards sanitation and hygiene programmes. Citing examples like absconding meetings, not supporting water point committees and even diverting resources intended for sanitation and hygiene programmes for their own use. For example, others had diverted mesh wires intended for BVIPL construction and use it for fencing their yards. This in turn may be leading to collapsing of some toilets and peeling off of plastering on some toilets. In support of the EHT, on the negative attitudes of the community, the Councillor added that, the people in ward 15 are not the kind of people who would just support a programme for the benefit of the public.

In addition, all the two parties interviewed mentioned that it is too hard to mobilise or work with the community on Sanitation programmes especially during farming season and it's another factor which contributes to low sanitation coverage in the ward. During this period, which starts in mid-November to late April, most families move to and from the fields for sowing and weeding, then protecting their crops from wild animals which roam around the fields destroying crops.

In response to what other contributing factors are, the EHT and the Councillor mentioned of the type of soil. The soil is clay, which cracks and subsides during the dry season and surges during the rainy season. This has been seen to contribute to falling and cracking of superstructures of constructed toilets. According to Walton (1995) soil type has got a major part to play during citing and construction of building structures. Observations were also done which targeted toilets that were not functioning and finding out the reasons why they were not functioning. The researcher visited a number of homesteads that had toilets. The following results were obtained.

Toilet Number	State	Appearance	Probable reason
1	Functional	Plastering peeling off	Type of pit sand used
2	Non- Functional	Cover slab surged	Soil type
3	Non- Functional	Floor slab collapse	Concrete used weak
4	Functional	In good condition	Properly constructed
5	Non- Functional	Super Cracked Structure	Bricks used weak

Table 5: State of functional and non-functional toilets observed

The table shows that of the visited toilets, three were non- functional. Of all the five, four were not in good condition, probable reasons being the type of pit sand and river sand used during construction of the BVIPL.

These are likely to be contributing to the low sanitation and hygiene coverage. Below is a picture of toilets which the researcher observed.



Plate 1

Other important considerations in the construction of Blair toilets are building materials, the type of soil, the sands used, and mixtures used in the building. The Blair Research recommends the use of 8 parts pit sand and 1-part cement for mortar use, Morgan (1989), but Waltan (1995) argues that the type of soil should determine that mixture to be used for construction.

3.6 Suggestions by community members tabled below.

Suggestions	Percentage
Be given cement and provided with builders	57,1%
Implements to build two toilets per household	18,6%
The programme be supervised	17,1%
Be given money to start business	7,1%
Total	100%

Table 6: Community suggestions to increase sanitation and hygiene coverage

The majority of respondents suggested that they want to be provided with cement and builders so that they have toilets established at their homesteads. Lack of resources can also lead to low sanitation and hygiene coverage as indicated by Julius et al (1980), that failure to provide enough resources for any activity to be undertaken may mean low success rate. Thus 57, 1% of the population suggested that they be provided with

cement and builders. It is also true that if the program is supervised, there is likely to be progress as highlighted in the sanitation week (1999) that, lack of supervision in the implementation of sanitation and hygiene programme was delaying progress towards achieving standard health delivery systems. In the table 4 above, only 7,1% suggested that, people be given money to start business, this could help community members to support sanitation and hygiene programmes with capital obtained from the business and will be in a position to pay for labour during construction of toilets.

#### 4.0 Conclusions

- Knowledge, Attitude and Practices were the most contributing factors leading to low sanitation and hygiene coverage.
- Cultural practices also hinder the acceptance and support of the sanitation and hygiene programs by the community leading to uncooperativeness.
- The type of soil also contributed to reduction of the number of functional toilets.
- Inadequate supervision led to low success rate in implementation of sanitation and hygiene programs leading to loss of materials due to delays or thefts.
- Inadequate resources reduce the number of beneficiaries of sanitation and hygiene programs which also lead to decrease in sanitation and hygiene coverage.

#### 5.0 Recommendations

The researcher does hereby as a mitigatory measure recommend the following:

- Health practitioners in particular EHTs, EHOs, FOs and Sanitation and hygiene program managers in NGOs to intensify education putting emphasis on the value of sanitation and hygiene to health of individuals.
- Implementers to supervise sanitation and hygiene program for proper construction of toilets and to reduce thefts.
- Implementers to provide adequate resources that are enough to benefit more community members to increase coverage.
- Implementers to hold health education sessions aimed at changing the behavior of the community especially on sanitation and hygiene programs.
- Influential leaders to coordinate sanitation and hygiene programs to encourage community participation.
- Implementers to choose and test sand collecting sites and recommend sites for soil to be used in molding bricks.
- Implementers to include incentives e.g. T-shirts or other related benefits when undertaking sanitation and hygiene programs and when mobilization is being done to win community support.

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