

Research Paper

## Sanitation in Borena Pastoral Community of Ethiopia: Pinpointing the Status and Challenges

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### Abstract

In Ethiopia, the pastoralists cover 61% of the land area and constitute 12-15% of the total population. Regardless of this fact, studies confirmed that pastoralists were away from the central government for a long, and have been among the most marginalized group in terms of availability and access to public services including sanitation services. Thus, the objective of the study was to study the status, challenges and prospects of Sanitation in Borena Pastoral Community of Ethiopia. Descriptive survey research design with mixed methods of data collection and analysis, were utilized based on primarily evidences collected from local communities, government sectoral offices, and non-government organizations in the sector. Accordingly, the access to all types of latrine in the zone was estimated to be close 68%, however significant proportion of the latrines were unimproved and traditional pits. Moreover, poor water supply, mobile life style of the community, soil property, lack of qualified man power and habit of open defecation were found to be the major impediments. Regarding the prospect, the health extension program, the availability of multiple actors and the One WaSH program are the prominent ones. In order to improve the sanitation coverage by tackling the aforementioned challenges, inter alia, scaling up the best practices of relatively good performing Woredas and enhancing the engagement of the community are recommended.

**Keywords:** - Pastoralist, Sanitation, Latrine, Hygiene and Development.

### 1. Introduction

Pastoralism is a lifestyle based on the breeding, rearing and grazing of camels, cattle, sheep and goats in dry land. People classified under this life style move from place to place in search of water and ample pasture for their livestock (Blench, 2001). In Ethiopia, the arid and semi-arid areas which cover 61% of the land area of the country are homes for millions of pastoralists of diverse ethnic groups. Moreover, pastoralists constitute 12-15% of the total population of the nation, supports 40% of the cattle, 75% of the goats, 25% of the sheep, 20% of the equines, and 100% of the camel population in the country (Gebru et al., 2004; Abrha, 2015).

Despite the visible and significant role of pastoralists in the national and regional economy, as they are living

in peripheral areas and due to their mobile life style, they are usually marginalized from development and, face many challenges to support their livelihood (Fareh, 2011; Abrha, 2015). Among the many challenges, the issue of sanitation is one and the major.

Estimates of 2.4 billion people in the world are not using improved sanitation. In rural areas of developing countries, seven out of ten people live without improved sanitation facilities, and nine out of ten people live practicing open defecation. The least developed countries did not meet the global sanitation targets, and only 27 % of their current population gained access to improved sanitation since 1990. Statistically 15% of the world population practice open defecation of which

Ethiopia’s share is 38 million people manly pastoralists and agro-pastoralists (JMP, 2012).

In Ethiopia, the emerging regions such as Afar, Somali, Benshangul Gumuz, Gambella and pastoralist areas of Oromia are facing unique challenges in terms of health service delivery in general and hygiene and sanitation in particular. Figures on toilet access and hygiene practice are low, implying high risk to health. As large numbers of livestock and people are competing for limited water supplies, and open defecation is practiced, the areas are vulnerable to rapid fecal-oral disease transmission including outbreaks of Acute Watery Diarrhea (AWD) (MoH, 2011).

In this regard, though there are multiple government and nongovernmental organizations report, little full-fledged research output are available. Hence, this study has addressed the status, challenges and prospects of Rural Sanitation in pastoral community of Borena.

**2. Methods and Materials**

The study has taken different methods and approaches based on each research questions. As it described the sanitary practices, the research took, firstly, descriptive form. Secondly, as the study answered questions such as why and how of sanitary practices and, explains the reasons behind, it took explanatory form. Moreover, as the phenomenon of the study is dynamic by its nature and need to be seen from different dimensions, Mixed-Approach has been utilized with Pragmatist philosophy. In addition, the study utilized both primary and secondary data sources using questionnaire, in-depth interview, Observations, FGD and review of documents as instruments.

Multistage sampling method was employed for this study. Out of the total (13 *woredas* in the Zone) seven *woredas* were purposefully selected based on their relevance to the study and their representations, as recommended by the Zone Administration and official sanitation related reports. 4 of the *woredas* (*Elwaye, Guchi, Dire* and *Yabello*), were chosen to represent areas with poor sanitation records while the other 3 *woredas* (*Moyale, Dillo* and *Miyo*) were chosen to represent areas with relatively better sanitation practices.

These seven *woredas* constitute 78,308 pastoral and semi-pastoral households. Hence, through the application of Kothari (2004) sample size determination

formula, sample sizes of 383 households were drawn. Proportional household’s allocation to the seven *woredas* was also applied. Finally, the allocated proportion for each *woreda* was re-allocated to three judgmentally selected *kebeles* in each *Woreda*. Furthermore, individual households in the selected *kebeles* were targeted by using convenience sampling technique. In addition to this, the researchers used judgmental sampling technique for collecting information from non-governmental organizations (NGOs) and target interviewees and FGD participants. On the other hand, regarding the methods of data analysis the narrative and descriptive methods were utilized.

**3. Results and Discussion**

**3.1. Sanitation: Status, Challenges and Prospects**

**3.1.1. Status of Sanitation in Borena Zone**

**A) Access to Latrine**

Latrine is a basic infrastructure for community health care. It is a basic sanitation facility to reduce water contamination and creates a healthy environment. Latrines, when used by adults and infants for the disposal of feces, can reduce diarrhea by 36%, cholera by 66%, and worm infestations by between 12 and 86% (MoH, 2006). Given this significant contribution, the study assessed the extent to which pastoral households have private or communal latrine. Figure 1, below, revealed that 254 (72.6%) of the respondents do have private or communal latrine while the remaining 96 (27.4%) do not have any form of latrine facility.

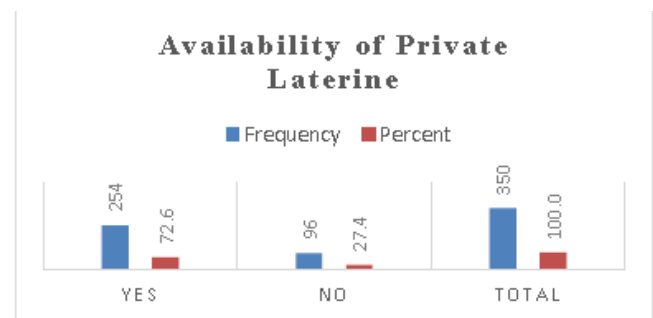


Figure 1: Private or Communal Latrine Ownership (Source: Research Team Survey (2017/18))

The Zonal report also confirmed that 68% of the Borena pastoralists have access to latrines. However, the

coverage varies from one Woreda to another ranging from 27% in Wachile to 97% in Dubluk.

Table 1: Latrine Coverage (Source: Zonal Report, 2017)

| S. No | Sampled Woreda | Households with all types of Latrine |                    |            |
|-------|----------------|--------------------------------------|--------------------|------------|
|       |                | Households                           | All Type -Coverage |            |
|       |                |                                      | Number             | Percentage |
| 1     | Dillo          | 5,680                                | 3,358              | 59         |
| 2     | Dire           | 9,633                                | 9,022              | 94         |
| 3     | Eelwaye        | 9,782                                | 5,418              | 55         |
| 4     | Guchi          | 22,220                               | 9,881              | 44         |
| 5     | Miyo           | 14,313                               | 11,057             | 77         |
| 6     | Moyale         | 33,483                               | 24,376             | 73         |
| 7     | Yabelo U.      | 5,464                                | 5,085              | 93         |
| 8     | Yabelo R.      | 9,252                                | 6,924              | 75         |
|       | <b>Total</b>   |                                      | <b>75,121</b>      | <b>71</b>  |

Table 1 shows that in the sampled seven woredas (including all the pastoral, semi-pastoral and non-pastoral households), the urban part of Yabelo and Guchi were the best and least performers in latrine coverage with 93 and 44 percents respectively.

Table 2: Reason for Not Having Latrine and Latrine Typologies (Source: Research Team Survey (2017/18))

| Reason for not having Private latrine(n=96) | F  | %    |
|---|----|------|
| Economic factor                             | 33 | 34.4 |
| Know-how                                    | 29 | 30.2 |
| Cultural/social                             | 3  | 3.1  |
| Other factors                               | 31 | 32.3 |
| Total                                       | 96 | 100  |

| Latrine Type                             | F   | %    |
|--|-----|------|
| Traditional pit latrine (quasi-improved) | 117 | 46.1 |
| Improved latrine                         | 3   | 1.2  |
| unimproved latrine                       | 134 | 52.7 |
| Total                                    | 254 | 100  |

There are several reasons for non-adoption of latrine. The most common factors are related to poverty, socio-cultural issues, and technical difficulties. As it can be seen from Table 2, 33(34.4%) of the respondents stated that they did not have private latrines because of economic problems while 29(30.2%), 31(32.3%) and 3 (3.1%) of respondents revealed that they did not have private toilets because of lack of know-how, frequent resettlement, and cultural/social factors respectively.

According to similar table, 134 (52.7%) of the respondents had unimproved latrine, and 117(46%) had quasi-improved traditional pit latrine. Only 3(1.2%) of the respondents had a standard improved latrine. The dominant types of latrine that were constructed in the study areas were open pit latrine without slab, open pit latrine without house, pit latrine with walls but without roof, and pit latrine with closed wall and roof but without door. Through the research teams observation it was confirmed that the walls of these latrines didn't totally maintain the privacy of users. Particularly women were forced to use open field far away in the back yard. The above finding is also confirmed by MoH (2011) stating most of the traditional latrines in Ethiopia don't address expressed concerns about smell, rising gas, structural collapse, fear of falling in, flies, privacy and shelter from the elements.



Photo Credit: Research Team (2017/18)

As can be seen from the above photos, the suitability and quality of the latrines is quite poor, and sanitary conditions are deficient. Many of the latrines in the study area are built without proper design, materials or technical assistance from government and partners. Latrine slabs are often difficult to clean and unsafe for users.

**B. Availability of Hand Washing Facilities**

Hand washing is an intervention that is directly related to the accessibility of water, and it can be a primary or secondary barrier to transmission of pathogens. According to MoH (2011), for Ethiopia, it was estimated that a 50% reduction in the incidence of diarrhea can be achieved with the use of latrine and practice of hand washing.

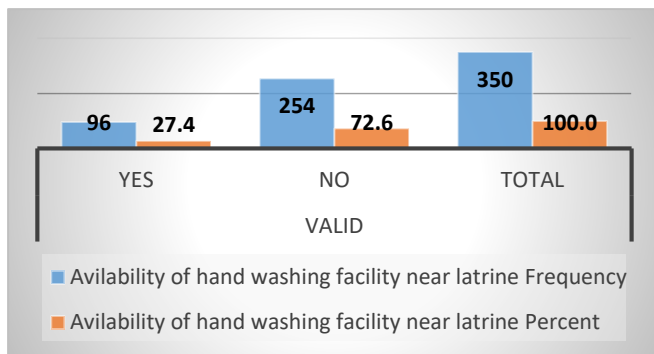


Figure 2: Hand Wash Facility (Source: Research Team Survey (2017/18))

The above figure reveals that 96 (27.4%) of the respondents had hand washing facilities near their latrines, whereas 254 (72.6%) did not have such facilities near their latrines. In line with this, the respondents were asked about their hand washing habit in some of key sanitation indicators like after defecation, after cleaning babies, before preparing food, before eating and before feeding children. Based on this, 159(45.4%), 102 (29.1%) and 89 (25.4%) of respondents replied that they wash their hands sometimes, not at all and frequently respectively. Regular use of toilet and proper hand washing with soap (or substitute) and water at appropriate times by all family members are still not widely practiced in the study areas. This was also confirmed by Curtis et al (2000) who stated that in developing countries only 11% of people washed their hands after using latrine, and even fewer people used soap.

**C. Open Defecation (OD)**

Out of the total respondents, 52 (54.2%) reported defecating in an open air field and back yards because they did not have private latrines, while 45 (44.7%) defecate in forest and bushes. As per respondents response about the daily time spent to find private location to defecate, the study team has made an estimation on the annual time loss per head. Accordingly the finding revealed that each person who practices open defecation spends almost 25 days a year finding a location to defecate leading to large economic losses. This cost falls disproportionately on women as caregivers who may spend additional time accompanying young children or sick or elderly relatives.

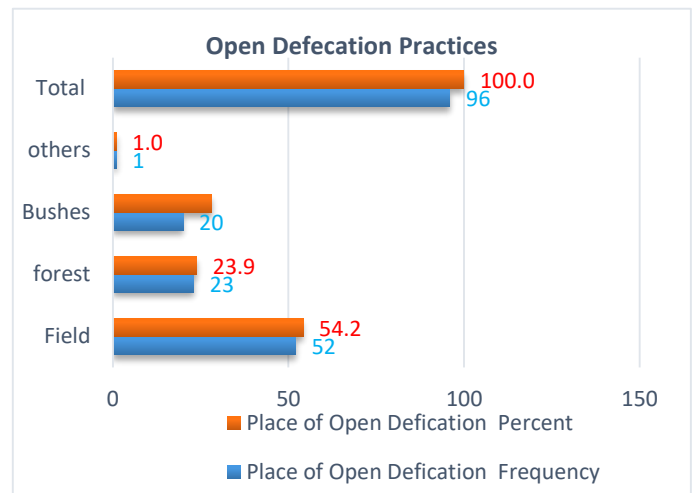


Figure 4: Open Defecation Practices (Source: Research Team Survey (2017/18))

Table 3 shows that, out of the total sample respondents who owns private latrine, only 49 (19.3%) asserted that their latrines were always comfortable to use, while 205 (80.7%) of them revealed that their latrines were not comfortable and not functioning all the time. In addition, the table shows that the latrines of 50.7% of the respondents did not function during rainy seasons while, 21.9% and 15.1% of the respondents said that their latrines were not comfortable to use during day times and night times respectively. Similarly, Worku (2007) reported that 30-80% of the latrines in Ethiopia are non-functional because of unavailability of durable building material and poor design of latrines.

D. Physical Condition of Latrines

Latrine can be built with locally available materials such as wood, bamboo, poles, mud brick, cement brick,

clay, stone, and corrugated iron sheet. In similar vein, the study assessed the suitability of latrine design for usage, its comfort for children, and the hand washing inputs used.

Table 3: Functionality of Latrine (Source: Research Team Survey (2017/18))

| Is the latrine comfortable to use all the time? | Frequency  | Percent    | Reason of Dis-functionality | Frequency  | Percent    |
|---|------------|------------|-----------------------------|------------|------------|
| Yes   | 49         | 19.3       | Discomfort in rainy season  | 104        | 50.7       |
| No  | 205        | 80.7       | Discomfort during daytime   | 45         | 21.9       |
|   |            |            | Discomfort during nighttime | 25         | 12.2       |
|   |            |            | Poor hygiene and bad smell  | 31         | 15.1       |
| <b>Total</b>                                    | <b>254</b> | <b>100</b> | <b>Total</b>                | <b>205</b> | <b>100</b> |

Table 4: Design of Latrines and Comfortably (Source: Research Team Survey (2017/18))

| Does the Design Fit to Purpose |           |         | Children’s habit in using latrine | Percent   |         |
|--------------------------------|-----------|---------|-----------------------------------|-----------|---------|
|                                | Frequency | Percent |                                   | Frequency | Percent |
| Yes                            | 45        | 17.7    | Yes                               | 41        | 16.1    |
| No                             | 209       | 82.3    | No                                | 213       | 83.9    |
| Total                          | 254       | 100     | Total                             | 254       | 100     |

The above table shows that 209 (82.3%) of respondents stated that, the design of their latrine does not fulfill the minimum design requirements. On the other hand, the remaining 45 (17.7%) replied that their latrine fulfills the minimum design requirement. Thus, despite the increasing trend of latrine coverage, the design quality of latrines being constructed in Borena zone is below the minimum requirement. Accordingly, as per the researchers’ observation, most of the latrines don’t have the required facilities. Most of the latrine observed were simply made by digging a hole in the ground and covered by row of woods without roof, door and walls. As a result, the durability of latrines is poor and mostly affected by wind and heavy rain.

In similar vein, 213 (83.9%) of the respondents stated that their children do not use the latrine due to the risky and unhygienic nature of their latrines, while the remaining 41 (16.1%) replied that their children use latrine. Similarly, a report by UNICEF in 2013 showed that Ethiopian latrines are below standard in terms of suitability for children, elderly and disabled persons.

Furthermore, the study investigated the materials they use to wash their hands after defecation. Accordingly, 138 (39.4%), 102 (29.1%), 87 (24.9%) of

the respondents use ashes and water, only water, and soap and water respectively for washing their hands after defecation. The remaining 23 (6.6%) of the respondents use water and traditional plants to wash their hands. Therefore, from the above data, it can be concluded that the number of people who use water and soap to wash their hands is smaller in the study area. This confirms the result in developing countries where less than 11% of people wash their hand after using latrine using soap and water (Curtis et al., 2001).



Figure 5: Hand Washing Materials (Source: Research Team Survey (2017/18))

### 3.1.2. Challenges of Sanitation Service in Borena Zone

**Poor water supply:** Water and sanitation are the two sides of the same coin, and it is a plain fact that sanitation needs access to water supply. In Borena, shortage of water supply is a key challenge confronting sanitation. According to the Zonal WaSH focal person, there is interplay between water supply and sanitation related targets. He further stated that the poor water supply is critically challenging their effort in meeting the sanitation targets as thinking of sanitation without water is just like putting the cart before the horse.

**Mobile life style of the Community:** Traditionally, pastoralism is linked with mobility. Though there are some sedentary and agro-pastoral communities in the area, the lion's share of the Borena pastoral community travels from place to place in search of better pasture and water. This reality is withdrawing the appetite of the people to construct latrines, and if they do, they build only a temporary open pit latrine for provisional usage. According to key informants at Zonal and Woreda health and pastoral affairs offices, recently, due to village settlement programs, the level of sedentary life and basic infrastructural services are booming. However, settlement in new places is a long term agenda in the study area, and mobility is expected to continue to challenge the provision of sanitation services for a long time.

**Soil Property:** As far as the observation and the information obtained from key informants is concerned, the soil in most parts of Borena low land is easily erodible and partly sandy. This made the construction of traditional latrines, with tradition technique and material, very difficult as the constructed latrine facility will easily collapse during the rainy season and by strong wind.

**Lack of qualified man power:** The key informant interviews and FGDs carried out with sectorial experts reveal that, there is lack of health professionals and extension agents who are believed to be the backbones of any sanitation related initiatives. In addition, the problem is getting worse as a result of high degree of health professionals turnover. As a result, six of the 14 woredas in the zone do not even have one environmental health professional while the remaining woredas have a maximum of two professionals. However, none of the woredas have fulfilled the minimum number of

environmental health professional required as per the structure. From this, one can clearly understand the severity of the human resource related challenge in the area.

**Habit of Open Defecation:** The observation and the FGDs conducted revealed that individuals defecate in fields, bushes, and backyards. Besides, as it has been shown in the above section, the quality of latrine facilities is poor and the design of latrines facility is risky. Thus, almost all kids in rural areas practice open defecation. As a result health extension workers are facing challenge to combat this long established habit of open defecation in some Kebeles.

### 3.1.3 Prospects of Sanitation Service in Borena Zone

**Health Extension Program:** As the main objective of health extension program is to provide equitable, preventive and selective basic health services to the community through establishing health posts at local level and training health extension workers, the existence of the program is one of the prospects in the area. The interviews conducted with local dwellers revealed that the health extension workers are creating awareness about sanitation and environmental hygiene. Thus, the availability of local health posts and health extension workers could be taken as opportunities to improve the level of sanitation in the area.

**Availability of Development Partners:** As it has been shown in the above section, multiple actors are engaged in helping the pastoralists particularly in health and sanitation sector. Thus, if partners are coordinated and best utilized through creating synergy and having a forum and consortium, their efforts can orchestrate so that the problem at hand could be curbed.

**One WaSH Program and Its Projects:** The One WaSH national program is the Ethiopian government's main instrument for achieving the goals set out for sanitation and hygiene in the country's Growth and Transformation Plan (GTP). The program is basically aimed at improving the health and wellbeing of communities by increasing access sanitation and adoption of good hygiene practices. In the study area, a total of five woredas, (36%) of the woredas in the Zone, namely Moyale, Yabello, Dhas, Arero and Teltele are currently getting support from the One WaSH program. Hence, the aspirations of the program and the global and

nation resources channeled towards this program are some of the essential prospects identified by the study.

#### 4. Conclusions and Recommendation

The study assessed the Borena zone pastoralist communities' access to sanitation service where the focus was given to latrine coverage and hand washing habit. The study found out that all types of household latrine coverage in the zone is around 72 percent. However improved latrine coverage is only 1.2 percent as most latrines in the area are tradition unimproved pit latrines. The remaining significant number of households does not have access to latrine mainly due to their frequent movement from one place to another in search of water and grazing land, lack of money, and lack of knowledge of the importance of sanitation practices. Meanwhile, poor water supply, property of the soil in the area, lack of qualified manpower, habit of open defecation were the impediments lagging the status of improved sanitation service. While, health extension program, the availability of developmental actors, One WaSH program and the preventive health policy of the country were found to be the untapped potentials available to improve the sanitation service.

In order to enhance the status of sanitation, tackle the challenges and tap the untapped prospects, the following recommendations are forwarded. Firstly, as the level of sanitation related awareness is impressive in some kebeles, there exist relatively poor performances in some others. Therefore, the best practices of the best performing kebeles should be scaled up to the other areas. Secondly, the Woredas and Kebeles sanitation related record keeping and data availability system was very poor. Unless the data is properly recorded and used as a base for decision making, the efforts for access to water and improved sanitation would not be succeeded. Therefore the local governments should carefully and accurately store sanitation related data. Thirdly, the primary stakeholders of sanitation at local government level are two offices-Water and Energy Bureau and Health Bureau. Thus, these two offices need to have qualified human resource with adequate materials and facilities in order discharge their duties. However, the observation made and the empirical fact in the study area is contrary to this premises. Therefore, due attention should be given to fill vacancies by qualified human resource, and train and develop the capacity of the current staff.

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