

An Investigation of Biblical Approach to Sanitation in Deuteronomy 23:13: A Model to End Open Defecation in Nigeria and Ghana.

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ABSTRACT

Nigeria and Ghana are two Sub-Saharan African countries that are notoriously and incurably noted to be bedeviled by the prevalence of open defecation. Written thousands of years before the emergence of modern medicine, Deuteronomy 23:13 is one of the Old Testament Pentateuchal sanitary laws of God that provides an excellent model for dealing with the menace of open defecation. The text has hygienic undertones as it promotes proper disposal of human waste. In this article, the author harnesses various scholastic interpretations of the text to tackle open defecation challenges in Nigeria and Ghana. The author defines open defecation as the practice of emptying the bowels outside a designated toilet and argues that it hinders public health, pollutes water, and affects sanitation negatively. The article, through the biblical model, advocates for proper hygienic and environmental practices to help deal with the current sanitation threat. The article reviews literature from scholarly publications relevant to open defecation, with a focus on open defecation prevalence, factors influencing open defecation, and impacts in Nigeria and Ghana.

Keywords: Sanitation, Open Defecation, Excreta, Bible, Health, Diseases

INTRODUCTION

Sanitation Tussle

The World Health Organization records that more than 40% of the world's population did not have access to a toilet by the end of 2011 (WHO/UNICEF, 2012). Globally, one billion people practice open defecation, and an estimated 2.5 billion people do not have improved sanitation facilities such as flush toilets (WHO/UNICEF, 2014). The World Health Organization estimates that about 946 million people in the world defecate in the open, such as in street gutters, behind bush, or open bodies of water (WHO/UNICEF, 2015).

In efforts to end open defecation, the UN General Assembly has mandated November 19 as World Toilet Day. The need for universal access to water and sanitation is among the 12 universal goals of the United Nations Report (2015). Dishearteningly, open defecation continues to pose a critical health challenge globally, affecting almost 1 billion people worldwide and contributing significantly to an estimated 842,000 people who die yearly from sanitation-related diseases (European Union, Ukaid, & UNICEF, 2017). It is one of the major unsanitary practices and environmental health problems facing many countries in sub-Saharan Africa, particularly Nigeria and Ghana.

Open defecation is noted to be more prevalent in sub-Saharan Africa than in other regions of the world

(WHO/UNICEF, 2017). Specific figures indicate that 90% of people who practice open defecation are found in rural areas of three regions, i.e., sub-Saharan Africa, Central Asia, and Southern Asia (WHO/UNICEF, 2017). According to Niwagba (2007), out of the about 2.6 billion people who lack access to improved sanitation, roughly 437 million of them live in sub-Saharan Africa. Saleem *et al.* (2019) reveal that in spite of 15 years of concerted efforts under global action plans like the Millennium Development Goals (MDGs), 2.3 billion people have no access to improved sanitation facilities, such as flush latrine or pit latrine, and about 892 million of the total world population are still practicing open defecation.

Sanitation Textbook

Written thousands of years before the emergence of modern medicine, the Bible has a lot to offer in terms of hygiene and health. In agreement with that statement, Anthony (2015) believes that the Bible rates health highly on its scale of preference. Adu-Gyamfi and Marfo (2018, p. 419) endorse the Bible as a valuable resource for public health practices that are useful in contemporary times. Jeffery (1998) gives shocking statistics, saying that a total of 213 out of the 613 biblical commandments found in the Torah are detailed health regulations.

The Bible may be considered a sanitation textbook because it gives unequivocal sanitation directives regarding infection control (Leviticus 13, 14), personal hygiene (Leviticus 12, 15), community sanitation (Numbers 3:19; Deuteronomy 23:12–14), and moral cleanliness (Leviticus I 8, 19). It is no wonder that Troster (n.d., p. 4) perceives that the Torah has numerous laws that attempt to redress the power and economic imbalances in human society and creation. Environmental justice is a biblical value. In the Bible, laws were set for virtually every aspect of human life, from dealing with sickness to personal hygiene and the environment, establishing the fact that God paid detailed attention to personal hygiene (Adu-Gyamfi & Awuku 2018, p. 41). There are numerous biblical sanitation models that may be applied to deal with contemporary sanitation challenges. A classic example is Deuteronomy 23:13.

DEUTERONOMY 23:13: SANITATION MODEL

“And thou shalt have a paddle upon thy weapon; and it shall be, when thou wilt ease thyself abroad, thou shalt dig therewith, and shalt turn back and cover that which cometh from thee:” (Deuteronomy 23:13, King James Version).

The Paraphrase

Deuteronomy 23:13 enjoins the Israelites to dig and defecate at a place far from their camp and then cover it. According to Butt (2006), this text is the most advanced, flawless medical prescription that has ever been recorded. God put this principle in the Bible thousands of years before mankind’s science understood its benefit (Winnail, 2009). Constable (2021, p. 99) upholds that the Israelites were to regard human waste products as unnatural and therefore unclean, as the Mosaic Law considered unclean everything that proceeded out of the human body.

Human excreta always contains large numbers of germs. When people defecate in the open, flies sit on the excreta and carry some amounts of the excreta away on their bodies. When these flies sit on food, the germs in the excreta are passed onto the food, which, when eaten, can lead to health issues. During the rainy season, excreta may be washed away by rainwater and can run into water bodies. The germs in the excreta can contaminate the water, which may be used for drinking (Alom *et al.*, 2020, p. 130).

The Purpose

Deuteronomy 23:13 is about primary disease prevention. It is about the avoidance and prevention of

communicable diseases. The text describes physical purity rules with a special emphasis on personal hygiene and physical cleanliness (Bokser, 1985, p. 280; Levinson, 2004, p. 419). According to Wright (1999, p. 358), the text is strictly about sanitation. Crüsemann (2001, p. 247) argues that Deuteronomy 23:13 is a divine call to the maintenance of the purity of nature. Borowski (2003, p. 79) adds in his voice that God gave Deuteronomy 23:13 to ensure healthy living conditions (Borowski, 2003, p. 80).

The emphasis of the text, according to several scholars, is on sanitation and the proper disposal of waste so as to maintain environmental care (Faniran & Nihinlola, 2007; Richter, 2010; Saxey, n.d., p. 125; Crüsemann, 2001, p. 247; Christensen, 2002, p. 544; Bruckner, n.d., p. 13; Borowski, 2003, p. 80).

Burying human waste, according to Adu-Gyamfi and Marfo (2018, p. 418), breaks the life cycle of many parasitic organisms that spread disease. In line with this, McMillen and Stern (2000) argue that countries that observe the Deuteronomy 23:13 model have invariably eliminated cholera and other diseases. According to Anthony (2015), in the Middle Ages, Jews were accused of sorcery because they escaped many of the illnesses that afflicted others. To him, it was because the Jews observed sanitary laws such as Deuteronomy 23:13.

For Unger (1988, p. 201), the purpose of Deuteronomy 23:13 is to preserve the health of the Israelites and the holiness of the camp as the dwelling place of the holy God. This is not very different from the view of Yamoah (2015, p. 25), who asserts that the text is basically on sanitation and specifically on the prevention of diseases. Sprinkle (2000, p. 637–39) adds that the text contributes immensely to hygiene.

Apart from creating a holy environment for the dwelling of the holy God, this also guarantees a proper sanitary culture and environmental care. Hall (2000, p. 348) remarks that hygienic cleanliness (health) and ritual purity are closely related. The holy God expects humanity to care for nature, ensure the cleanliness of the environment for a healthy life on earth, and also to enjoy His continuous presence (Stott, 1999, p. 123). The Israelites were to acknowledge God's presence among them by burying their own "excrement," thereby keeping their camp free of human refuse. This would honor His name as He walked among them (Constable 2021, p. 99). Several scholars are of the view that the foundation for Deuteronomy 23:13 is ritualistic/cultic and moral/ethical (Adeyemo 2006, p. 240; Cothey 2005, p. 132; Moskala 2000, p. 13; Sprinkle 2000, p. 646; Klawans 2003, p. 21). Other scholars, like Lioy (2004, p. 1721) and Rae (1995, pp. 24–25), consider Deuteronomy 23:13 to be ethical, social, religious, and functional law. Atkinson (1956) concludes that a thorough study of all that the Bible has to offer about sanitation will do great good to this generation and the generations beyond.

OPEN DEFECATION

The Meaning of Open Defecation

Open defecation, in simple terms, is the human practice of defecating outside in an open field rather than into a toilet (Oyegbade, 2019). Abubakar (2018, p. 367) defines open defecation as the act of disposing of human waste in garbage bins, water bodies, public areas, forests, farmlands, or other open and green spaces. Similarly, it is the practice of defecating in open fields, waterways, and open trenches without any proper disposal of human excreta (WHO/UNICEF, 2017; Boschi-Pinto *et al.*, 2009). Open defecation also refers to the practice of emptying the bowels outside a designated toilet. It may be practiced in places like beaches, parks, along the streets, etc. (United Nations Children's Fund/WaterAid, 2010). Jones *et al.* (2012) define open defecation as the practice of defecating in fields, forests, bushes, bodies of water, or other open spaces. In his view, Rodriguez (2018) defines open defecation as the practice whereby people go into fields, bushes, forests, open bodies of water, or other open spaces to defecate.

Open defecation in Nigeria and Ghana

The prevalence of open defecation practices among some communities in Nigeria and Ghana is a serious concern and a call for public health education and sanitation intervention. Kalu *et al.* (2019, p. 2333) are emphatic that open defecation is practiced in all the regions of Nigeria (North, South, East, and West). It is reported that 39 million people in Nigeria practice open defecation (Sarkin Gobir & Sarkin Gobir, 2017, p. 2). The prevalence of open defecation in Nigeria is also estimated at 46 million people (Federal Ministry of Water Resources, 2018). Alom *et al.* (2020, p. 130) mention that defecating in the open is one of the leading devastating menaces to public health in Nigeria. Rotowa (2020, p. 10), on the other hand, emphatically opines that safe and hygienic disposal of human wastes is an increasing problem in most cities in Nigeria.

In the case of Ghana, Osumanu & Kosoe (2013, p. 19) disclose that households without toilets at home have to use the bush or beach for their toilet needs. According to the World Development Report (2015), the number of people practicing open defecation in Ghana was reported at 18.75% in 2015. Some years ago, Ghana ranked second after Sudan in Africa for open defecation, with almost 5 million Ghanaians not having access to any toilet facility (WHO/UNICEF, 2015). A total of 19% of Ghana's population practices open defecation (GSS, 2014). Adu-Gyamfi and Awuku (2018, p. 40) lament that Ghanaians are dying from diseases such as diarrhea and cholera, which are the result of poor hygiene and sanitation. Figures from the Water and Sanitation Sector Monitoring Platform (2013) indicate that due to the lack of access to toilet facilities, open defecation is prevalent in all regions of Ghana, but most widespread in the Upper East Region, with about 82% of households without any form of latrine, followed by the Upper West Region with 78.7%. The Ghana Statistical Service Report (2013) affirms that diarrhea is the third most common of the diseases in communities due to the continuous practice of open defecation. Ghana is classified as a country with 5–25% of the population engaging in open defecation (WHO/UNICEF, 2019).

Causes of Open Defecation

Studies show that there are several factors that promote open defecation in most of the regions where it is prevalent. According to Eja *et al.* (2020, p. 61), the factors may be the absence of sanitation facilities, socio-economic and cultural factors, remoteness from urban centers, little or no education, and behavioral patterns. Ahmad (2014) says that people practice open defecation due to poverty, culture, and a lack of accessible toilet facilities. Scholars who argue that poverty is a major cause of open defecation back their arguments that poor households are often unable to afford a toilet facility at home (Benneh *et al.*, 1993; Songsore & McGranahan, 1998). For Giné-Garriga *et al.* (2017), open defecation is the worst form of sanitation and one of the clear manifestations of poverty. Ajayi and Philip (2018, p. 2185) declare that open defecation mostly occurs where there is a large population with few or no access to toilet facilities. O'Reilly *et al.* (2017) believe that inaccessibility is a determinant of open defecation as a function of physical and social distance.

Rotowa (2020, p. 10) is of the view that financial constraints on the part of the Nigerian local government, coupled with the combined effects of rural-urban migration and the congregation of the urban poor, are the major causes of overstressing of sanitation facilities. Studies conducted by Coffey *et al.* (2014) indicate that the absence of sanitation facilities, among other factors, promotes open defecation in many rural communities in developing countries.

Research findings by O'Connell (2014) prove that behavioral patterns or social norms influence open defecation in different communities in Asia and sub-Saharan Africa. Lack of toilet facilities forces women to resort to open defecation, thereby affecting their safety and dignity. O'Connell (2014) notes that it is important for people, especially women, to avoid being seen exposing body parts.

According to Ngwu (2017), many communities in sub-Saharan Africa rarely have access to sanitation facilities, either because of government neglect or because they are not economically viable enough to own latrines and therefore defecate in the open.

Consequences of Open Defecation

The impact of open defecation is water and food pollution by fecal material through run-off input into drinking water sources and pests and rodents that transfer disease-causing organisms or pathogens into food. These pathogens are associated with diarrhea, typhoid fever, cholera, giardiasis, poliomyelitis, etc. (Eja, 2003). According to a report by NewsBank (2019), tons of human feces from open defecation by Nigerians find their way into canals, rivers, gutters, and places where human daily activities occur, hence putting the people at risk of various communicable diseases. Improper disposal of sewage, according to Faniran and Nihinlola (2007, p. 50), leads to the outbreak of disease.

Reports by Miles (2014) and the UN (2014) indicate that diarrhea, polio, trachoma, typhoid, hepatitis, and intestinal worm infection are fecally transmitted diseases (FTDs) due to open defecation. It is also reported that children are more vulnerable to the effects of open defecation since they are usually found crawling, walking barefoot, and often inserting their hands into their mouths (Sarkin Gobir, Y., & Sarkin Gobir, S. 2017, p. 3). Tarraf (2016) is of the view that the number of deaths of children and the contamination of agricultural produce caused by the practice of open defecation can lead to severe economic losses.

Open defecation is a public menace capable of resulting in the outbreak of serious health complications and communicable diseases like cholera, typhoid, diarrhea, intestinal infections, respiratory diseases, and tuberculosis. It is also responsible for increased air and water pollution (Ngwu 2017, p. 203). Open defecation, according to Tarraf (2016), can affect women's genitourinary tract, which can cause miscarriage and stillbirth. Improper, unsafe, and unhygienic disposal of human excreta has a direct relationship to environmental quality (Pathak, 1991).

Open defecation promotes global warming as it leads to the influx of methane and carbon dioxide. It also reduces the aesthetic value of places, thereby hampering tourist attractions (UNICEF, 2015). According to Water Aid (2019), some of the effects of open defecation and poor hygiene are economic loss, health impact, impact on child development, low productivity, poor education outcomes, and loss of dignity and security.

Dealing with Open Defecation

Sanitation is one of the basic needs and an important element of human rights recognized worldwide (Guterres *et al.*, 2014, p. 191). Sanitation refers to any system that promotes the proper disposal of human and animal waste, the proper use of toilets, and the avoidance of openspace defecation (United Nations Children's Fund/WaterAid, 2010).

Deuteronomy 23:13 promotes the proper disposal of human waste. This is a preventive approach to disease control endorsed by the divine. The same God who heals with the curative approach (Exo. 15:26) commands His creation to adopt the preventive approach (Deuteronomy 23:13). The popular maxim „Cleanliness is next to godliness“ is derived from the pronouncement at the conclusion of the Mishna of the writing Sota, which is literally rendered as „Outward cleanliness leads to inward purity“ (Adler, 1893, p. 4). Safe disposal of excreta and hygienic behaviors are essential for the dignity, status, and wellbeing of every person, irrespective of whether they are rich or poor, live in rural or urban areas, small towns, or cities (Abogan, 2014, p. 33).

Proper disposal of human waste prevents the influx of most diseases. Umegbolu and Offor (2017, p. 64) explain that sanitation is all about the proper disposal of human and animal waste, the proper use of toilets, and the avoidance of open-space defecation, all aimed at protecting the environment from contamination with potential pathogens. Esrey *et al.* (1998) posit that improved sanitation can reduce rates of diarrheal diseases by 32%–37%.

Rotowa (2020, p. 11) believes that toilet facilities reduce the spread of infectious diseases such as cholera and diarrhea. Greed (2006) makes the vital comment that the need to control disease and pollution in large cities and the desire to create a beautiful, hygienic city form the impetus to build a good toilet (Greed, 2006). Abubakar (2018) is also of the view that identifying the factors that influence open defecation is among the vital components of any intervention program aimed at tackling open defecation. Sara and Graham (2014) also suggest that an understanding of the causes of open defecation helps identify the drivers and barriers to sanitation facility utilization.

When sanitation is improved, it leads to a significant reduction in the prevalence of many neglected tropical diseases (NTDs), such as trachoma, soil-transmitted helminthiasis (e.g., the large human roundworm, the human whipworm, and human hookworms), and schistosomiasis (Blóssner & Oni, 2005; World Bank, 2008).

As suggested by Water Aid (2019), both governments in Nigeria and Ghana should develop strong political commitments to improve sanitation and end open defecation. There should be increased budgetary allocation for the fight against open defecation. The governments of Nigeria and Ghana should create more jobs to address poverty, which has been identified as one of the triggers of open defecation.

CONCLUSION

The holy God calls humanity to care for nature, ensure the cleanliness of the environment for a healthy life on earth, and also to enjoy His continuous presence. Deuteronomy 23:13 is a divine sanitation model that teaches proper disposal of human waste, proper use of toilets, and the avoidance of open-space defecation. This is a divine choice of safety measures to prevent diseases. The religion of the Bible can be an effective and efficient tool to deal with the open defecation issues in Ghana and Nigeria.

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