SANITATION AND HUMAN SECURITY IN SOUTH SUDAN

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Candidate's Declaration

This thesis is the result of the author's original research. It is composed by the author and have not been previously submitted for examination, which has led to the award of a degree. I would like to present this thesis to London South Bank University (School of Law and Social Sciences) in partial fulfilment of the requirements for the award of Doctor of Philosophy Degree (Ph.D.) in Social Policy. I have fully acknowledged and referenced all the academic contributions of others in my thesis.

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Dedication

This thesis is dedicated to the people of South Sudan who have suffered grim hardship for decades.

Acknowledgements

Abstract

This research investigated the pathways through which sanitation affects human security using the case of South Sudan. The country has faced multiple intermittent and devastating disasters since 1955, the cumulative effect of which has impacted sanitation and human security leaving about two-thirds of the population in need of humanitarian assistance. In consequence, it becomes a necessity to examine implications of these on achieving a target of the sustainable development goal which aims to end open defecation particularly among people in vulnerable situations by 2030. Reviewing the literature revealed that there are theoretical and empirical gaps on the relationship between sanitation and human security resulting in the sanitation security model being designed to create starting points for data collection, analysis, interpretation and discussion. Site visit to South Sudan and use of qualitative data collection methods highlighted contextual nuances and processes required in addressing research question. By applying case study research design and contextually appropriate research methods, the differences, similarities, variations and contradictions in rural, urban and displaced persons site regarding the research topic were investigated. It is found that the sanitation and human security nexus is complex and bidirectional with security and sustainable sanitation as intervening factors. There is the need for more appropriately contextualised research, policy and practice on sanitation and human security both together and apart if the sustainable development goals are to be met and poverty eradicated.

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List of abbreviations

ACF	Action Contre La Faim (Action Against Hunger)
ASEAN	Association of South East Asian Nations
BAI	Bureaucratic Access Impediment
BDA	Bilateral Donor Agencies
BRACED	Building Resilience and Adaptation to Climate Extremes and Disasters
BSF	Basic Services Fund
CBOs	Community Based Organisations
CCCM	Camp Coordination and Camp Management
CERF	Central Emergency Response Fund
CIA	Central Intelligence Agency
CLTS	Community-Led Total Sanitation
DfID	Department for International Development
DS	Development Studies
ECHO	European Commission for Humanitarian Operations
ERP	Emergency Response and Preparedness
FAO	Food and Agricultural Organisation
FY	Financial Year
GDP	Gross Domestic Product
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GoSS	Government of South Sudan
HDR	Human Development Report
ICRC	International Committee of the Red Cross
IDA	International Development Assistance
IDP	Internally Displaced Person
IMF	International Monetary Fund
INGO	International Non-governmental Organisation
IOM	International Organisation for Migration
IRC	International Red Cross
JMP	Joint Monitoring Programme
KAP	Knowledge, Attitude and Practices
MDTF	Multi Donor Trust Fund
MLHPP	Ministry of Lands, Housing and Physical Planning
MWRI	Ministry of Water Resources and Irrigation
NBS	National Bureau of Statistics
NFIs	Non-food Items
NNGO	National Non-governmental Organisations

NRC	Norwegian Refugee Council
OCHA	Organisation for the Coordination of Humanitarian Activities
OFDA	Office of Foreign Disaster Assistance
PoC	Protection of Civilian
PPP	Purchasing Power Parity
RRF	Rapid Response Fund
RSS	Republic of South Sudan
SFP	State Focal Point
THESO	The Health Support Organisation
UN	United Nations
UNEP	United Nations Environment Programme
UNDP	United Nations Development Programme
UNESCAP	United Nations Economic and Social Commission for Asia and Pacific
UNESCO	United Nations Economic, Social and Cultural Organisation
UNGA	United Nations General Assembly
UN-HABITAT	United Nations Human Settlements Programme
UNHCR	United Nations High Commission for Refugees
UNICEF	United Nations Children Education Fund
UNMISS	United Nations Mission in South Sudan
UNRISD	United Nations Research Institute for Social Development
UNTFHS	United Nations Trust Fund for Human Security
USAID	United States Agency for International Development
VIP	Ventilated Improved Pit
WDR	World Development Report
WFP	World Food Program
WHO	World Health Organisation

Thesis matrix for sanitation and human security in South Sudan

Objectives	What questions to ask?	Where?	How?	Who?
Develop a conceptual model for sanitation and human security	1. What is the importance of sanitation to human development? 2. What are the major arguments on sanitation in developing countries? 3. What are the major arguments on sanitation in sub-Saharan Africa? 4. What are the theories of human security? 5. What is the state of human security in developing countries? 6. What conceptual framework best suit the research question?	1. Library; Online; Conferences; Workshops; 2. Library; Online; Conferences; Workshops; 3. Library; Online; Conferences; Workshops; 4. Library; Online; Conferences; Workshops, 5. Library; Online; Conferences; Workshops; 6. Library; Online; Conferences; Workshops;	1. Books (electronic/print); Journal articles; Multilateral organisations reports; 2. Books (electronic/print); Journal articles; 3. Books (electronic/print); Journal articles; NGO reports; 4. Books (electronic/print); Journal articles; 5. Books (electronic and print); Journal articles; 6. Sanitation security model	1. Scholars; Multilateral organisations; 2. Scholars; Multilateral organisations 3. Scholars; Multilateral organisations; 4. Scholars; Multilateral organisations 5. Scholars; Multilateral organisations; 6. Researcher;
Describe the case of South Sudan	1. What is the geography of South Sudan 2. Who are the South Sudanese? 3. What is the state of sanitation in South Sudan 4. What is the state of human security in South Sudan	1. Library; 2. Library; 3. Library; Seminars; 4. Library; Seminars;	1. Books (electronic/print); NGO reports; Government reports; 2. Books (electronic/print); NGO/Government reports; 3. Books (electronic/print); NGO/Donor/Multilateral organisations/Government reports; 4. Books (electronic/print); NGO/Donors/Multilateral organisations/Government reports;	1. Geographers; Historians; Multilateral organisations; 2. Historians; Anthropologists 3. NGOs; Multilateral organisations; Government of South Sudan; 4. NGOs; Donors; Multilateral organisations; Government of South Sudan;
Design a suitable research method	1. What is research? 2. What makes research scientific? 3. How are research methods applied in	1. Library; Online; Seminars; Conferences; 2. Library; Seminars; Conferences;	1. Books (electronic/print); 2. Books (electronic/print); 3. Books (electronic/print),	1. Scholars; 2. Scholars; 3. Development scholars/practitioners;

	Development Studies? 4. What research design is appropriate to study sanitation and human security in South Sudan? 5. What research methodology is appropriate to studying sanitation and human security in South Sudan? 6. How were ethical challenges navigated during the fieldwork?	3. Library; Conferences 4. Library; Conference; 5. Library; Seminars; 6. Fieldwork;	Seminar/ Conference Papers, Project/Programme reports 4. Books (electronic/print); 5. Books (electronic/print), Seminar/ Conference papers, Project/Programme Reports 6. Informed consent; Confidentiality and anonymity; Reimbursement;	Donor/Multilateral agencies; 4. Development scholars/practitioners; Researcher; 5. Development scholars/practitioners; Researcher 6. Researcher
Analyse collected data for causal relations between sanitation and human security	1. How did the researcher gain entry into South Sudan 2. How did the researcher gain research permission? 3. What are the case study locations and the rationale behind their choice? 4. What analytical approaches are adopted for the study findings? 5. What are the study findings?	1. Fieldwork 2. Fieldwork 3. Fieldwork 4. Fieldwork 5. Fieldwork	1. Site visit 2. Institutional authorisations 3. Accessibility; Institutional authorization; Security; Theoretical illumination 4. Causal process tracing; Congruence analysis; 5. Triangulation (research methods); Coding; Data presentation (extended text, quotes, pictorial images and matrixes)	1. Researcher 2. Researcher 3. Researcher 4. Researcher 5. Researcher
Discuss findings in the context of South Sudan	1. What are the major findings of the study and their implications for South Sudan? 2. What explanations or deductions are available for the results? 3. How does the findings enrich, complement or contradict existing theory?	1. Post-fieldwork 2. Post-fieldwork 3. Post-fieldwork	1. Data collected during fieldwork 2. Data collected during fieldwork 3. Data collected during fieldwork	1. Researcher 2. Researcher 3. Researcher

Definition of key terminologies

Basic needs concern those goods, services and possessions which the people of a society renders as indispensably necessary for the support of life.

Capability is combinations of functionings that are feasible for a person to achieve which contribute to their freedoms.

CLTS is a methodology of mobilising communities to conduct their own appraisal and analysis of open defecation and take actions to eliminate it.

Disabled are a group of people with limited mobility or various physical impairments.

Excreta is a by-product of human digestion in liquid or in semi-solid form discharged during an act called urination and defecation. It is one of the elements of sanitation.

Flying toilet is the practice of defecating in a bag or carton which is then thrown away or dumped in the surrounding environment.

Freedom from fear is to be free from acts of fear of physical aggression or threat to bodily integrity. It is one of the elements of human security.

Freedom from indignity is to not have feelings of those qualities or engage in activities which are attributed to by individuals, collectives or communities as contributing to disrespect or attack on self-esteem. It is an element of human security.

Freedom from want concerns access to adequate standard of living in which basic physiological and material needs are met based on what they feel suits them and expresses who they are.

Functionings are the things a person may value doing or being.

Human agent is the capacity of a human being to undertake the act of defecation or excreta disposal in whichever manner drawing on his cognition, perception and behaviour within his ever-changing social milieu. It is one of the elements of sanitation.

Human security is a state where individuals or collectives are free from fear, want and indignity required to support their capability to pursue life goals.

Interpretivism is a research paradigm whereby knowledge of reality is a social construction by human actors to understand the world as it is from a subjective point of view of the participant.

Latrine is an enclosed defecation facility with just a pit or trench on the ground. It is a type of toilet.

Mental health refers to a human's state of wellbeing in which he/she realises his/her own abilities, can cope with the normal stress of life, can work productively and is able to make a contribution to his/her community.

Open defecation is the practice of defecating outside in the open, often in public places.

Payam is the local administrative unit in South Sudan and is composed of a group of Bomas (village or communities).

Poverty refers to deprivation in material and non-material things required for the full physical, mental, and social development of the human personality.

Protection of Civilian Site is a camp-like settlement for internally displaced persons established within existing United Nations Mission in South Sudan compounds and guarded by UN peacekeepers.

Psychosocial stress is the state of suffering from a range of mental disorder conditions manifesting as sadness, anxiety, depression, trauma, aggression, antisocial behavior, poor concentration, lack of self-worth, shame and fear which may result from humiliation, abuse, violence, social exclusion, and stigma with implications for effective functioning, health, and general well-being.

Sanitation is the practice whereby people during or after defecation dispose of their excreta in a toilet or place.

Sanitation chain is the process by which excreta is disposed, contained, transported, treated or reused safely so that it does not come into contact with people or contaminate the environment.

Security concerns threats, vulnerabilities and risks facing individuals, collectives and institutions and the strategies adopted in protection of their respective values.

Space is a frame of reference for the physical material world in which the act of defecation and excreta disposal occurs.

Sustainable sanitation is the measures to sanitation service provision set up by various stakeholders to shield people from menaces accruable from sanitation with the aim of protecting and empowering them in making informed choices and to act on their own behalf.

Traumatised is used to describe individuals experiencing longer-term psychosocial distress as a result of experiencing a very stressful, frightening or distressing event and whose ability to manage daily life activities is compromised.

South Sudan is the world's youngest country with a population of about 13 million people located in East Africa.

Violence refers to the use of force or power, threatened or actual, against another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm or deprivation.

Geographical map of South Sudan

United Nations (2011)

Chapter One
Sanitation and human security in South Sudan

1.0   Introduction to sanitation and human security in South Sudan

South Sudan is a fragile and conflict affected country in sub-Saharan Africa where armed conflicts and intercommunal violence have compromised human security and destabilised how sanitation is organised individually and collectively across population groups. The subsequent economic crisis has fragmented both the institutional and household capacity to meet sanitation needs. Climatic shocks have added to these stressors resulting in disease outbreaks and further exhausting the coping capacity of the people to undertake sanitation with human security. This introductory chapter presents the theoretical and practical need for this research by listing its aim and objectives, explaining the research problem, describing the background context, identifying the research gap, stating the research question and suggesting the hypotheses.

1.1   Background to sanitation and human security

According to the global sanitation report of the Joint Monitoring Programme of WHO and UNICEF in 2017, approximately 2.3 billion people lack access to basic sanitation services globally and 892 million people worldwide still practice open defecation (WHO/UNICEF, 2017) which includes defecating in bushes, buckets, the banks of streams or rivers, plastic bags, rail tracks and backstreets. A further 4.5 billion people worldwide lacked a safely managed sanitation service in 2015, the majority of whom lived in Asia and sub-Saharan Africa (UN-Water, 2018). In the opinion of the United Nations (2015), this condition affects the vulnerable that is the poorest, and those disadvantaged because of their sex, age, disability, ethnicity or geographic location the most. The consequences of the aforementioned include diseases, under-nutrition, violence, psychosocial stress, maternal and newborn deaths, disability, difficulties in menstrual hygiene management, poor food hygiene and indignity (UNDP, 2006). These conditions have made reducing inequities in access, promoting adequate access and ending open defecation priority targets for sustainable development (World Bank, 2017a).

Between 2000 and 2015, sub-Saharan Africa was the only sub-region where the number of open defecators increased from 204 million to 220 million, with South Sudan having the least basic access to sanitation globally standing at 10 per cent of the population (WHO/UNICEF, 2017). South Sudan is said to have the worst sanitation practices and fewer safe and hygienic latrines than any other country in the world (WaterAid, 2015). In a bid to fund the ongoing war, the government has devoted little to no funding to basic services including sanitation since 2013 leaving the sector in the hands of humanitarian and development partners creating an extremely difficult operation context for them (World Bank, 2019). These conditions have had implications for human security in terms of the ability

to protect people from the threat of disease, exposure to violence, and a lack of empowerment to make choices that advance their life goals.

Conflicts, violence and climate shocks in the country since the December 2013 civil war has displaced nearly 4.2 million people and has left 7.1 million, constituting about two-thirds of the population, in need of humanitarian assistance and 6 million residents in need of water, sanitation, and hygiene aid (OCHA, 2018). According to Vernon and Bongartz (2016), warfare and conflict lead not only to unsanitary practices but also affects the sustainability of sanitation projects and programmes. Also, human security is mostly endangered in armed conflict situations where people are exposed to not just the risk of violence but also threats to their basic human needs (Nishikawa, 2010) of which sanitation is part. Forced displacement also puts people under greater vulnerability in meeting their sanitation and human security needs (WWAP/UN-Water, 2019).

Recently, there has been much interest in the concept of sustainable development. Sustainable development goals launched in September 2015 listed sanitation as a global development priority for the next 15 years under goal number six (UN, 2015). The sustainable development discourse has imbued sanitation narrative to include environmental, economic, social, citizen participation, technology, human rights, equity and development cooperation debates (WWAP/UN-Water, 2019). Beyond their intrinsic value, water, sanitation and hygiene together have been argued by practitioners as central to the achievement of other development goals like goal three, focused on health and wellbeing (World Bank, 2017a). Attention to human security can identify and address deprivations that impede sustainable development (UNTFHS, 2016). Against this background, the role of development and humanitarian assistance must be identified. International assistance is critical in sanitation and human security because it constitutes a significant share of service funding, often establishes a benchmark for programming and project conduct among stakeholders, and provides the largest if not the only source of service provision in the least developed countries including fragile and conflict-affected states (World Bank, 2019).

Furthermore, there are assumptions about close relations between sustainable development and human security (HDR, 1994). Mapping the relations between sustainability and human security, considering their similarities in terms of sharing social, economic and ecological dimensions and aiming to meet current human needs has been the preoccupation of the UNTFHS. This sub-unit of the United Nations in a handbook suggested that a human security approach is crucial for achieving sustainable development. (UNTFHS, 2016). Natural disasters, violent conflicts, chronic and persistent poverty, health pandemics, international terrorism, and sudden economic and financial downturns impose significant hardships and undercut prospects for sustainable development and security of people. The Commission on Human Security in pushing the viability of the human security approach further maintained that it can be adopted as a doctrine to guide foreign policies and international development

assistance, as well as a policy tool for programming in the fields of security, development and humanitarian work (UNTFHS, 2009).

1.2 Statement of the research problem

The establishment of SDG 6, to ensure availability and sustainable management of water and sanitation for all, reflects the increased attention on water and sanitation issues in the global political agenda (WWAP/UN-Water, 2019). Target two of goal number six of the United Nations sustainable development goals seeks, "by 2030, to achieve access to adequate and equitable sanitation for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations" (United Nations, 2015: 20). Accompanying indicators of this target are twofold; first, the proportion of the population using safely managed sanitation services and second, the proportion of the population using a handwashing facility with soap and water available (UNICEF/WHO, 2019). In achieving the SDGs, a human security approach is being proposed by the UN to governments, non-governmental entities and communities as a means of identifying and addressing widespread and cross-cutting challenges to the survival, livelihood and dignity of people (UNTFHS, 2016). This study is about examining how the target manifests in a complex emergency setting like South Sudan.

1.3 Research gap

First, studies on sanitation in South Sudan are rare. Second, a major limitation of research on the phenomenon is that conflict situations and complex emergencies have been largely neglected. Third, with the growing debate around sustainability and its plan to 'eradicate poverty in all its forms' and 'boost shared prosperity', it is important to examine what this means for conflict affected settings. Fourth, much recent research suggests that it may be related to human security but empirical evidence of the interconnections between them, including an understanding of cause-effect relationships, is unavailable. Finally, human security research is predominantly focused on the macro level development debates and less on the people's own narratives of their insecurities.

1.4 Justification of the research

First, since it gained independence in 2011 from Sudan after about fifty-two years of secessionist wars, South Sudan, the world's newest and Africa's fifty-fifth independent country, is at a crossroads and could be labelled a failed state. At the onset of independence, the country's developmental challenges can be said to be political, security and socioeconomic (Johnson, 2016) and these must be addressed if it is to achieve any measure of sustained and inclusive human development for its peoples. Four major peace agreements between 2013, when the first post-independence civil war broke out, and the end of 2018 have failed to bring concrete positive change in the lives of South Sudanese. Widespread insecurities have promoted a legacy of conflict, violence and abuse, destroyed livelihoods, constrained the provision of basic services, and escalated assistance (OCHA, 2018). In addition, South Sudan is reported to be the country, globally, where one is least likely to find a latrine and where open defecation

is possibly most prevalent. All these factors converge to make the country an interesting case study for examining target two of goal six of the sustainable development goals.

Second, there is distaste of topics that revolve around sanitation like excreta, toilets and waste which are oftentimes viewed as dirty hence its lack of appeal to governments, policymakers, donors and researchers (George, 2011). For several decades even till today, sanitation is considered a topic unworthy of scholarly investigation or interest. With an increasing acceptance of sanitation as important to human flourishing, we still know surprisingly little about the phenomenon in conflict situations. Around 677 million people are estimated to live in countries that are either politically fragile, environmentally vulnerable or both and the world is currently witnessing the highest levels of human displacement on record (WWAP/UN-Water, 2019). Inadequate and inequitable sanitation could be more acute in these settings than non-fragile settings. In addition, poor sanitation is one of the top risks, alongside water stress, climate change and food crisis, facing people forcibly displaced (World Bank, 2017b). This research is important because nearly all conflict-affected and fragile countries missed the sanitation target of the millennium development goals, in light of this, it will examine the implications in meeting those sustainable development goals which are even more ambitious.

Third, strong criticisms remain about the usefulness of human security as a practical tool in influencing policy and practice to ensure poverty reduction strategies are effective (Tadjbakhsh and Chenoy, 2007). In today's age of globalisation, policymaking is horizontal and not the exclusive preserve of the state as it covers layers of players including various non-state actors, the majority of whom are becoming increasingly influential and authoritative in their roles as managers of risk and architects of freedom. Since human security policy prioritises a focus on people rather than institutions (Alkire, 2003), inappropriate risk framings, strategies and practices by these risk managers may have far-reaching implications on the welfare and wellbeing of the people. Thus, policy harmonisation needs to be incorporated to avoid unfair practices (Picciotto *et al.,* 2010) by service-providing institutions. Although integration of human security into policy preferences is increasing (Bae, 2015), attention has not been paid to how policies and practices of these risk managers sustain security and insecurity at the local level. This research will interrogate the interpenetration of human security and sustainable development objectives in a conflict context.

There is little doubt to many today that the traditional state-based security paradigm is failing in its primary objective of enabling people to meet their own survival needs. In the past decades, tens of thousands of people have been killed by hunger, communicable diseases, environmental disasters, and civil wars, none of which fall under the mandate of traditional security thinking. Also, there have been instances where these threats to humanity are perpetrated by purveyors of the traditional mode of security thinking, either deliberately (Picciotto *et al.,* 2010) or by design (Frerks and Goldwijk, 2007). As a result, prioritising the protection of the individual rather than the state is argued to be critical in the 21st century (Ogata and Sen, 2003), a gap which human security is expected to fill most importantly

for reasons of increasing complexities and interweaving of economic, social, political and environmental insecurity. While climate change (O'Brien *et al.,* 2010), armed conflicts (Andersen-Rodgers and Crawford, 2018), and environmental change (Brauch*,* 2009) have attracted most human security discourse in the literature, the same cannot be said about people's daily concerns like sanitation.

The 2030 Agenda for Sustainable Development has opened a frontier of development research and policy engagement. UNRISD (2015) undertook an assessment of contemporary development trends, policy concerns and scholarly debates, and aims to fill identified knowledge gaps, while also anticipating social issues that are not yet part of mainstream discourse. Among these contemporary development trends is a global commitment to support countries in complex and challenging environments. Forging new directions for international policy to enable and assist national institutions of low-income countries, particularly those experiencing civil wars, to provide human security to their citizens has been an enduring concern of international assistance (WDR, 2011). Within the context of social development,[1] the areas highlighted as needing to be filled for research analysis and exploration regarding pathways that can lead towards more inclusive development outcomes are inequalities, conflict and unsustainable practices (UNRISD, 2015). But our understanding of links between human basic needs as bundles of social development goods (Streeten *et al.,* 1981) and related freedom implications from the process and opportunity aspects (Sen, 1999) in the context of humanitarian crises is generally less well explored.

1.5   Research question
Does sanitation affect human security in South Sudan?[2]

1.6   Aim of the study
The aim of the research is to investigate and explore the pathways through which sanitation affect human security both at the communal and at the individual level by drawing accounts on towns, villages and PoC Sites in South Sudan.

1.7   Objectives of the study
- Develop a conceptual model for sanitation and human security
- Describe the case of South Sudan
- Design a suitable research method

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[1] This includes material achievements, such as good health and education; sustainable access to the resources, goods and services necessary for decent living in a viable environment; social and cultural attributes, such as a sense of dignity, security and the ability to be recognized as part of a community; and political achievements related to agency, participation and representation.

[2] According to Stake (2006), the choice of words in the formulation of research questions have implications on the research design and the conclusions drawn from the findings. For example, using the word "does" in a research question in a case study research implies the understanding of findings beyond the case(s) to the general. Also, the question implies causality.

- Gather and analyse collected data for causal relations between sanitation and human security
- Discuss findings in the context of South Sudan.

1.8   Hypotheses of the study

This research proposes that sanitation affects human security and the prevailing level of security and the adopted sustainable sanitation approach will also determine this effect.[3]

1.9   Organisation of chapters

This introductory chapter has presented the broad goal of introducing sanitation and human security in South Sudan by providing preliminary background information to place the study in context and clarifying the focus of the study. The second chapter assesses and synthesises what is known based on previous research about the topic and how this study positions itself in relation to current discussions, and then maps a conceptual model for the study. Chapter three describes the setting of South Sudan and situates the research topic in that context. The fourth chapter provides a research design and methodology for sanitation and human security and then draws up suitable research methods for the case study of South Sudan. Chapter five concerns the presentation and analysis of data using extended texts, maps, photographs, and tables. The sixth chapter will discuss findings gathered in South Sudan while chapter seven, which concludes this study, explores its implications for the development field and case study area based on the key concepts that have been used in the study and their relation to the research problem.

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[3] Hypothesis here is a theoretical hypothesis which are used as tentative answers to explore 'why' and 'how' research questions. It can also be called 'propositions' though they serve the same purpose.

Chapter Two

Sanitation and human security: a theoretical review and conceptual model

2.0   Introduction to theoretical review on sanitation and human security

The most often recommended strategy for gaining perspectives on a research topic is to consult the relevant literature already published on the topic. It will help to explain how this study fits in current scientific discourse and why this research is worth doing. Theories, which stimulate scientific inquiry and are the building blocks of empirical research, can be found in the literature. The goal of this section is to design a conceptual model for the study by reviewing the theoretical arguments in the literature on sanitation and human security. Section one reviews the human development benefits accruable from sanitation. The second section focuses on reviewing current debates on sanitation in developing countries while section three examines sanitation in sub-Saharan Africa. The concept of human security is the content of section four while section five discusses human security in major regions of the developing countries. Section six presents a conceptual model for sanitation and human security in South Sudan. The last section concludes by giving a summary of the discussions in the previous sections and describes the purpose of the next chapter.

2.1   Sanitation and human development

Human development means the continuous investment and improvements in human beings' physical, spiritual, cultural, cognitive, personality, economic, and social capabilities. Sanitation can make or break human development as having access to it is critical to the capabilities of humanity and is a condition for attaining wider human development goals (UNDP, 2006). Inadequate sanitation not only results in various ailments and even death for the population particularly children, girls and women (Ray, 2016), but also indignity (Black and Fawcett, 2008), diminished productivity and missed opportunities for education (Graham, 2011). Kolsky *et al.* (2005) maintains that sanitation services are required to achieve equity and lack of it is a major cause of deprivation in other dimensions of human wellbeing. Njoh (2016), on his part, reflects that adequate sanitation can produce desirable outcomes like reduction in poverty levels, reduction in mortality and female empowerment. George (2008) reveals that wherever good sanitation exists, people are wealthier, healthier and cleaner.

Chase and Ngure (2016) emphasise the role sanitation can play in alleviating under-nutrition which contributes to food insecurity. Sanitation is also acknowledged to be important to water safety for health life (Charles, 2015). Sorkin (2009) sees the relationship between them as mutually constitutive and that poor human development conditions can also limit people's ability to access adequate sanitation. Reed *et al.* (2013) argues that providing sanitation to people in areas hit by disaster is essential for their dignity, safety, health and wellbeing. Although there has been mention of the term 'safe sanitation' in the literature, a curious but largely ignored insight is the interaction between sanitation and human

security, how sanitation can contribute to human security and alternatively how the latter influences the former particularly in complex emergencies.[4] Also, emphasis on basic needs, which sanitation is part, is an important strand of human development discourse and practice, but the complementarity between them and freedoms of different kinds has not been given much attention.

2.2   Sanitation in developing countries

Despite wide disparities among them, countries classified as developing countries are so grouped together on the basis of their history rather than their level of development (national income category – low income, lower-middle income, upper middle income and high income; industrial base – newly industrialised countries, emerging markets, frontier markets, least developed countries; and lower human development index – life expectancy, education and income (Sanford and Sandhu, 2003).

2.2.1   Sanitation and culture in developing countries

Sanitation in developing countries are diverse and are classified by the Joint Monitoring Programme, an annual report by the World Health Organisation and UNICEF using what is called the sanitation ladder (HDR, 2006). The sanitation ladder is a scale based on the extent to which human beings are separated from excreta broadly ranging from open defecation, unimproved, limited, basic and safely managed (WHO/UNICEF, 2017). Disposal of human faeces in fields, forests, bushes, open bodies of water, beaches or other open spaces, or with solid waste are termed open defecation (WWAP/UN-Water, 2019). The use of pit latrines without a slab or platform, hanging latrines or bucket latrines are termed unimproved, while the use of improved facilities shared between two or more households is classified as limited (UN-Water, 2018). Improved facilities that are not shared with other households are referred to as basic. Improved facilities that are not shared with other households and where excreta are safely disposed of in situ or transported and treated offsite is the desired rung and termed to be safely managed (Cardone *et al.,* 2018). These facilities include flush/pour flush to piped sewer systems, septic tanks or pit latrines; ventilated improved pit latrines, composting toilets or pit latrines with slabs while unimproved covers those deemed to be below minimum hygiene standards to cover open defecation, pit latrines without slabs, hanging or bucket latrines and shared facilities (WHO/UNICEF, 2015).

Encouraging the adoption of sanitation by households or individuals through the health narrative is flawed administrative strategy as sanitation is more a matter of ethics, educational, aesthetic and status values (Sachchidananda and Pandey, 1999). Culturally sanctioned gender roles are mentioned to have profound influence on sanitation practices. Lenton *et al.*, (2005) emphasise the likelihood of women to place higher value on sanitation facilities than men for several reasons including religious rituals, cultural norms, and caregiving responsibilities.[5] To other scholars, cultural influence on sanitation

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[4] Complex emergencies are man-made disasters resulting from multiple factors including political, economic and social and typically exact greater human tool than any other disaster (Andersen and Gerber, 2018).

[5] For instance, women in Odisha, India perceive sanitation facilities beyond attending to defecation needs to include opportunities for washing, bathing, menstrual management, and changing clothes (Sahoo et al., 2015).

practices is not only about societal norms but also those utilities that are considered necessary within a community. Franceys (2008) refers to the urban slum household in most cases value other utilities like cable television subscription, electricity and mobile phone within the context of limited household incomes. Regarding construction, sanitation infrastructures must also conform to particular cultural dynamics relevant for acceptability and ways of use by households like facing a particular direction, availability of water in close vicinity, and separation of toilets from bathrooms (Oosterveer and Spaargaren, 2010). There is a knowledge gap regarding sanitation practices and role of culture in complex emergencies and their implications for human security and this is worthy of investigation.

2.2.2   Sanitation, inequality and gender in developing countries

Inequality is one of the major narratives of sanitation discussed in the literature. Inequality concerns differences in social and economic status between different population groups (World Bank, 2006) and denial of legally binding obligations to ensure all people enjoy their rights equally (WWAP/UN-Water, 2019). According to UNICEF/WHO (2019), inequality in sanitation overlaps between regions, among countries within a region, and within a country, between geographic locations, socioeconomic groups, and individual characteristics. In the opinion of Krause (2009), removing inequality in sanitation access is important as it is a factor that causes inequality in human development outcomes like ill-health and diminished productivity. WWWAP/UN-Water (2019) determines that leaving no one behind on the road to sustainable development require a rights-based approach to sanitation policy and programme which is particularly sensitive to social and cultural drivers of inequality. Mulas (2009) argue that inappropriate budgetary mechanisms and not allocating expenditure to promote social equity in service delivery are the key causes of inequality in sanitation today.[6] For Cavill *et al.* (2016), although CLTS has considerable potential to enhance sustainability, it will worsen inequality if participation is not inclusive.

Inequality in access within countries is fundamental taking both spatial and social forms, the former refers to people living in locations like slums, rural and urban, and the latter refers to conditions like poverty, disability, age, gender and ethnicity (Graham, 2011). Ray (2016) notes that sanitation is more germane to eliminating gender inequality than water since males and females have different sanitation needs for biological and social reasons. For instance, Greed (2015) submits that having access to a toilet in a South American and Indian home is not just shaped by gender but also by class and income. To Prakash *et al.* (2015), women and girls bear the most burden of inadequate sanitation thus making them achieve fewer development outcomes compared to men and boys. The literature is inadequate as regards

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[6] At the national level, the low-income groups and the poorest in both rural and urban areas bear the greatest burden of disease and economic costs (Son, 2014) forcing them to engage in open air defecation, a practice which though reducing in other regions of the developing world is increasing in sub-Saharan Africa (WHO/UNICEF, 2015).

empirical knowledge on roots of inequality and its consequences for human security in complex emergencies and this study offers new insights in that light.

2.2.3   Sanitation financing in developing countries

Three key players are seen in sanitation sector financing: the public sector, donors, and communities through community-based organisations and households (UNESCAP, 2009).[7] Household finance has been the main source of financing in the sanitation sector (Banerjee and Morella, 2011) as well as local community-driven initiatives supported by NGOs (Satterthwaite *et al.,* 2005). Affordability is a key determinant of poor people's access to infrastructure services including toilets (Briceno-Garmendia *et al.,* 2004). People are more likely to be willing to pay for or invest in luxury goods than in sanitation (Whittington *et al.,* 2009), socio-cultural acceptability, technical feasibility, and environmental impact also come into play (UN-HABITAT, 2006). WWAP/UN-Water (2019) links affordability of sanitation services to equity particularly regarding marginalised and vulnerable people who disproportionately suffer higher losses during disasters and suggested different means of addressing this including targeted subsidies, reduction in cost, and outright provision regardless of cost or ability to pay.

Although microfinance was a vital element of poverty alleviation programmes, the approach rarely reaches the most vulnerable and could derail achievement of the SDGs (Robinson and Gnilo, 2016). Currently, neoliberal financing strategies like sanitation marketing, cross-subsidies and cost recovery are believed to be the panacea to sanitation financing, particularly among the poor, in reducing open defecation and moving up the sanitation ladder (Munkhondia *et al.*, 2016). Martin-Simpson *et al.* (2018) suggest these, alongside cash-based transfer, could be effective especially in fragile and conflict-affected contexts. Financing sanitation is a huge challenge among governments, donors and people in developing countries and there is little knowledge about its dynamics especially in complex emergencies. There is a need for better understanding of the relationship between the public sector on the on hand and donors including implementing agencies on the other hand in a complex emergency, the potential conflict of interests and impact these might have on both people's access to aid and achieving sanitation finance objectives.

2.2.4   Sanitation technology in developing countries

Sanitation technology refers to the facilities adopted in disposing of excreta and separating it from human contact.[8] Specifications with regard to sanitation technology has to protect against groundwater contamination, assess local hydrogeological conditions to select the right technology for the local

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[7] The six major sources of sanitation financing are national budgets, internal cash generation, self-provisioning, international finance institutions, bilateral donors and private investors.
[8] Sanitation technologies are broadly categorised into sewer-based sanitation and non-sewer based sanitation technologies. The first directly imply those technologies which require the use of water to flush the excreta to a connected sewer while the latter refers to those which do not require water for flushing but may use water for anal cleansing or not like the dry toilets, ecological pit toilets, and composting toilets.

environment, community preferences like methods of anal cleansing, available resources and costs of technology options, and maintenance (Howard *et al*., 2006). Sanitation technologies used in developing countries include flush or pour/flush toilets/latrines connected to a piped sewer or septic tank, simple pit latrines, pit latrines with slabs, ventilated improved pits, composting toilets, open pit latrines, public latrines and bucket latrines (Krause, 2009).[9] Those who have no access to any of these types of toilets practice open defecation or wrap and throw (Black and Fawcett, 2008). According to Lenton *et al.* (2005), households frequently cite convenience, privacy, dignity, safety, status, or reduction of odours and insects as reasons for investing in sanitation technologies but rarely cite health. Whittington *et al.* (2009) note that outcomes of availability of sanitation technology or its presence depends on economic and social conditions in the neighbourhood where it is being used. There is low academic curiosity about links between sanitation technologies and spatial arrangements particularly in conflict settings which qualifies and constrain social choice.

Pit latrines of various styles, said to be the most common and fastest growing sanitation technology in developing countries (Graham and Polizzotto, 2013), are argued to be inappropriate for densely populated neighbourhoods, areas susceptible to flooding and areas of high water tables in order to avoid contamination of water sources (Banerjee and Morella, 2011) but could be more appropriate in rural areas with low densities, lower populations, and large plot sizes (Satterthwaite *et al.,* 2015). Ecological sanitation toilets like fossa alterna, urine diversion dry toilets and arborloo are applicable to rural and peri-urban areas as well as locations with no access or irregular access to water, while simplified sewerage is deemed appropriate for urban areas (Graham, 2011).

Lettinga *et al.* (2001) posit that a centralised urban system applicable to flush toilets conflicts with sustainable sanitation by wasting a large amount of clean water, which is becoming increasingly scarce in developing countries particularly sub-Saharan Africa and South Asia, (Ujang and Henze, 2006) to transport feaces. The pour/flush water closets connected to sewers, developed in nineteenth century Britain, is not ubiquitous in developing countries because of the belief that such sanitation systems are too complex and inappropriate for the majority of developing countries (Njoh, 2016) mainly due to financial, technical, topographical and political reasons (Black and Fawcett, 2008). However, George (2008) mentioned these systems had added twenty years to the average life expectancy. McConville *et al.* (2014) also argue that apart from water closets being costly to build and maintain they also waste scarce water supplies, which could have been used for better purposes, even though they effectively keep places clean and hygienic. Technological aspects of sanitation, in the opinion of Sachidamanda and Pandey (1996), is probably acceptable if it conforms to sociocultural values, existing lifestyle, and local environment. The literature has not adequately examined the factors that go into the design of a

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[9] This list is not exhaustive as there are numerous other variants of toilets even some can be designed to adapt to the user tastes or local environmental conditions. Sewerage toilets has been said to offer no additional health benefits than on-site sanitation technologies.

sanitation technology and their implications for security in complex emergencies and particularly amongst internally displaced populations.

2.2.5 Sanitation in emergency contexts in developing countries

In emergency contexts, humanitarian response prioritises sanitation as one of the key lifesaving sectors for crises-affected people. Since populations affected by humanitarian emergencies are particularly vulnerable to sanitation related diseases, a package of water supply, safe disposal of human excreta and improved personal hygiene are implemented (Weber *et al.*, 2018). Most of these activities are focused on populations in displaced persons or refugee camps although it also covers those in other settlement types (Carter, 2015). Frison *et al.*, (2018), in an evaluation of sanitation humanitarian activities, offer possible explanations for their limited effectiveness. Weak operational applicability of SPHERE Project indicators, numerous unquantifiable indicators, focus on input and outcome rather than impact and rise in intensity and complexity of emergencies are highlighted. Ersel (2015) on the contrary finds that the failure of sanitation humanitarian standards and activities originates from cultural habits. Research is inadequate regarding the factors that promotes and hinders the knowledge, skills, motivation, and enabling conditions to undertake safe sanitation in complex emergencies in interventions. Assessing this is crucial not only because it bears on issues of inequality but also because much attention goes to the installation of hardware and distribution of hygiene items.

2.2.6 Sanitation and violence in developing countries

Violence can be described as the use of force against another person which results in or has a high likelihood of resulting in injury, death, psychological harm, or deprivation, it can be sexual, physical, psychological and sociocultural. Interest is growing about a range of situations in which vulnerability to violence is identified in accessing sanitation facilities particularly in displaced peoples' camps, (Sommer *et al.,* 2015) slums or informal settlements (Winter and Barchi, 2016). Lack of adequate sanitation has been said to contribute to psychosocial stress disorder in women and adolescent girls through feelings associated with fear of harassment, bullying, and shame while seeking a space to answer the call of nature (Mills and Cumming, 2016). Taylor (2011) discusses the sanitation challenges of female garment factory workers on the outskirts of Phnom Penh, the majority of whom have experienced assault while attending to their defecation and menstrual needs.

Women and children are likely to experience violence while accessing sanitation facilities in neighbourhoods which lack cohesion, just as fear of assault can prevent women and children from using toilets or latrines outside of their homes (Mills and Cumming, 2016). In households where there is no access to household-level sanitation, adolescent girls and women are specifically at risk from violence like assault and rape when they go out to access communal toilets or defecate in the open, particularly at night (Mara and Evans, 2011). Sahoo *et al.* (2015) revealed that females in Odisha, India, experienced psychosocial stress during routine sanitation practices ranging from environmental to social and sexual factors. The literature, however, has not investigated this phenomenon regarding complex emergencies,

the experience of other population categories and the adaptive strategies developed by people to navigate their sanitation needs in the context of lived social realities. Also, evidence is lacking about links between sanitation related violence and security.

2.2.7   Sanitation and dignity in developing countries

According to Lenton *et al.* (2005), dignity is indispensable to sanitation.[10] Said to be at the heart of human development and our sense of wellbeing, Winkler (2012) claims that dignity is lacking in people who have no privacy when defecating and who have to use buckets and plastic bags. Lane (2006) concludes that better sanitation provides convenience, privacy, safety and dignity which are as important to women as access to meaningful work, education and medical care. Diminished productivity and significant time losses through the practice of open defecation are other undignified effects of the unavailability of proper sanitation (Mills and Cumming, 2016) which women and girls suffer from the most (Chant and McIlwaine, 2016). UNDP (2006) states that not having access to sanitation threatens life, destroys opportunity, undermines human dignity and is a source of insecurity. Black and Fawcett (2008) argue that promoting girls and women's dignity through sanitation goes beyond the provision of facilities and that such facilities must not only be appropriate for use but must not demean them and cater for their menstruation management needs. Unavailability of culturally appropriate toilets may force women to stay indoors till dusk thus having a negative effect on their bladders, bowels, other medical conditions and general wellbeing (Greed, 2015). Substantive empirical evidence is lacking about the pathways through which sanitation can contribute to or hider hinder dignity in conflict settings across rural, urban and displaced persons contexts.

2.2.8   Sustainable sanitation in developing countries

There is recent debate among sanitation stakeholders about the need to promote and provide sanitation sustainably. According to WWAP/UN-Water (2015), pursuing sustainable sanitation goes through stages and varies considerably between countries depending on their level of sanitation development. Franceys (2008) maintain that demand-responsive approaches can result in greater access and effective use of services which are critical to sustainability while Njoh (2016) lists appropriate technology, public dialogue and advocacy, social change in hygiene practice, capacity development, knowledge exchange and participatory planning processes as the most vital requirements for achieving sustainability in sanitation. Ujang and Henze (2006)[11] assert that a sustainable sanitation for the developing world should

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[10] Dignity in addition to right to health, right to life, and right to adequate standard of living are often cited as the basis for the adoption of access to sanitation as a human right by the UN Human Rights Council Resolution A/HRC/RES/15/9 and in the UNGA 2010 para. 4 which, are believed, can promote the pursuit and realisation of other human rights. The Gender, Violence and WASH Practitioner's Toolkit of 2014 classified indignity from sanitation to include sexual, psychological, physical and socio-cultural.

[11] Ujang and Henze (2006: 11) defines sustainable sanitation as 'sanitation system which is technically manageable, socio-politically appropriate, systematically reliable, economically affordable that utilises minimal amounts of energy and resources with the least negative impact, and recovery of usable matters.' The strive towards sustainable sanitation as a global advocacy campaign is credited to the 'Sustainable Sanitation: Drive to

not be aligned with the western-style conventional sanitation but rather should focus on local context, and conclude that sustainable sanitation contains policy/institutional, economic, environmental, technical, and socio-political aspects.

Obani and Gupta (2016) state that combining equity, public participation and the human rights approach can promote sustainable sanitation. Greed (2015) insists that benefits of a sustainable sanitation for developing countries can include economic development (in the form of fuel, fertilizer and electricity), education, health, and reduction in environmental pollution. Community Led Total Sanitation has been identified as a sustainability promoting policy framework, but, even if achieved, challenges remain including ensuring communities remain open defecation free (Vernon and Bongartz, 2016). McConville *et al.* (2010) demonstrates that there are possible discrepancies between locally identified and technocratic sustainability criteria. There are still gaps in our learning from the literature about how national contexts or local factors[12] in countries experiencing complex emergencies influence sanitation and impact sustainability considering the importance of culture and nature in sustainability discourse and complexity of challenges facing such contexts.[13]

2.3   Sanitation in sub-Saharan Africa

According to the United Nations Statistics Division, the designation sub-Saharan Africa is commonly used to indicate all of Africa except northern Africa. In this section, sanitation in sub-Saharan Africa will be discussed by providing arguments about its characteristics, factors behind the characteristics, and inequality.

2.3.1   Characteristics of sanitation in sub-Saharan Africa

Sanitation conditions among countries of sub-Saharan Africa are divergent (Njoh, 2016). Sub-Saharan Africa and Southern Asia have countries with the lowest coverage of access to improved sanitation although both sub-regions had almost similar levels of improved sanitation coverage in 1990 (WHO/UNICEF, 2017). Between 1990 and 2015, the latter managed to increase coverage by 25 per cent, while the former achieved an increase of just 6 per cent (WHO/UNICEF, 2015). Sixteen of the twenty-four countries in which at least one person in five has limited sanitation services are found in sub-Saharan Africa (WHO/UNICEF, 2017). Sub-Sahara Africa has 695 million people without improved sanitation, making it the second worst globally after Southern Asia (WHO/UNICEF, 2015).[14] Patterns of access to sanitation corresponds to income groups, as the wealthiest do not practice open

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2015' launched through UNGA resolution 65/153 which calls on political leaders, practitioners, communities, the private sector and the media to take action to achieve sanitation and hygiene for all and to end open defecation.

[12] Corruption, budgetary priorities, activities of non-governmental bodies, lack of social cohesion, ethnic fragmentation and extreme environmental conditions to mention but a few.

[13] Hilhorst and Bankoff (2004) provide a composite analysis of culture-nature relations in the context of human development and the debate therein has relevance for furthering our understanding of sustainability in sanitation.

[14] This estimate is based on the WHO/UNICEF definition of 'improved sanitation' which includes flush/pour to a piped sewer system, septic tank or pit latrine, ventilated improved pit latrine, pit latrines with slabs and composting toilets. Satterthwaite (2016) proffers a critique of this estimate.

defecation whereas the poorest do (Banerjee and Morella, 2011). Hygiene according to the JMP comprise different behaviours including handwashing, menstrual hygiene and food hygiene but there is still limited research on hygiene not only in conflict settings but the sub-region in general.

Most of the urban population of these countries live predominantly in low-income and squatter settlements, where sanitation needs are inadequately met (Oosterveer and Spaargaren, 2011). Services are met largely through unofficial, illegal and unconventional ways involving informal operators and private entrepreneurs, some of whom are reliable and affordable (Hes and Yillia, 2009). In other areas, community-based organisations in cooperation with non-governmental organisations are providers of sanitation facilities (Otsuki, 2015).[15] Banerjee and Morella (2011) attribute sanitation in the sub-region to a complicated institutional framework characterised by complexity and a multiplicity of actors with no clear accountability or sector leadership. According to Hawkins *et al.* (2014), the type and level of service varies widely among cities, and even within cities with increasing demonstration of combined efforts of community members, government representatives, the private sector and non-governmental organisations referred to as Urban-Led Total Sanitation. Handwashing facilities is available to less than 50 per cent of the population in the sub-region and more available in urban than rural areas (WHO/UNICEF, 2017).

Njoh (2016) argues that improved pit latrines and toilets connected to septic tanks are common in the region particularly in urban areas while a significant number of rural dwellers practice open defecation. Connection to water-borne sewage remains extremely low across Sub-Saharan Africa (Hickling, 2014). McConville *et al.* (2014) identified cultural appropriateness as one of the most significant factors for toilet use in the sub-region.[16] Briceno-Garmendia *et al.* (2004) submit that rural areas with little or no coverage of sanitation facilities show a significant number of the people practising open defecation. Considering the revelation by WHO/UNICEF (2015) that open defecation is increasing only in the sub-region, and that all other regions recorded a reduction in open defecation in population terms between 1990 and 2015, both theoretical and empirical assessment are required to examine how and why this is the case.

2.3.2 Factors behind sanitation conditions in sub-Saharan Africa

Scholars and institutions concerned with sanitation in sub-Saharan Africa have given different propositions for the factors behind the current state of sanitation in the sub-region. Njoh (2016) links the situation to poor public health records, poverty, and national authorities favouring a Western sanitation style of sewerage technology. Patkar and Gosling (2014) are of the opinion that the situation

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[15] Communal sanitation facilities have been documented in countries such as Ghana, Kenya, Uganda and South Africa which are located within a community, built, owned and managed by the community, and used by residents of the community.

[16] Traditional pit latrines, listed as unimproved by the WHO, has been identified as the fastest growing sanitation technology in the sub-region used across all income quintiles (Banerjee and Morella, 2011).

is caused by lack of attention to equity and inclusion of marginalised groups and communities who face attitudinal, environmental and institutional barriers. Nhlema *et al.* (2014) on their part ascribe the situation to a few causes which include entrenched cultural practices and beliefs that deter the use of latrines and encourage open defecation as well as entrenched subsidy culture. Hickling (2014) shows that low budget allocations to the sanitation sector is a common factor, and Oosterveer and Spaargaren (2010) cite rapid population growth in Africa as leading to an increase in slums.

Ignoring the sanitation needs of people as defined by them is one of the major causes but Community-Led Total Sanitation has been praised as a revolutionary subsidy-free approach to community participation in sanitation (Bongartz *et al.,* 2010). From its first piloting in Zambia in 2007 by UNICEF where it recorded some successes, adoption of CLTS in the region as a policy spread like wildfire and is currently adopted by no less than thirty other countries, but challenges remain in respect of slippage to open defecation, a lack of political prioritisation and restricted enabling environments (Thomas, 2016). Sub-Saharan Africa, with its numerous intra-state wars, has been sufficiently discussed in the literature but the effects of armed conflicts on sanitation and an understanding of the spatial and structural exclusions in the sub-region have not attracted considerable attention in research. Arguments for and against the applicability of cost-saving, cost-recovery or market-oriented options like CLTS for underserved populations in conflict settings have not been adequately developed and documented in the literature.

2.3.3   Sanitation, inequality and inequity in sub-Saharan Africa

Patkar and Gosling (2014) attribute the challenges of addressing inequality in sanitation to the problems of scale which includes poverty, corrupt administration, difficult topographical conditions, and emergencies. Population categories ascribed to feel most excluded are the socially and economically disadvantaged like women, the elderly, people with disabilities, and those living with HIV/AIDS. Njeru *et al.* (2014) argue that marketisation of sanitation through neoliberalist mechanisms played a vital role in widening gender inequity in access particularly in urban areas of sub-Saharan Africa. WaterAid (2008) in their study of equity dimensions of sanitation access in Malawi identifies situations where individuals deliberately refuse to benefit from sanitation intervention programmes primarily because of their cultural beliefs or because they are forcibly excluded due to structural conditions they find themselves in which promote inequality at the local level. Patkar (2016) while hypothesising the relationship between both think that integrating principle of equity into policy and programming could help promote equality. The limitation of some of these interpretations is that studies on equality[17] and equity[18] regarding sanitation in complex emergencies is rare.

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[17] Equality concerns access to services that are available, accessible, affordable, safe and acceptable and regarded as human right standards (Roaf *et al.,* 2018).
[18] Equity concerns access to services according to the physical, cultural or socioeconomic needs of various groups and individuals (WWAP/UN-Water, 2019).

2.4 Concept and practice of human security

This section reviews the literature on human security. It discusses the birth of human security as a breakaway concept from security. Discourse around the concept and practice of human security revolves around four themes and they are; whose security is prioritised, what threats to focus on, which means of addressing threats, and what institutions bear the responsibility of intervention.

2.4.1 Redefining security

Securitisation is the elevation of mundane issues above politics and the application of emergency measures (Buzan *et al.,* 1998). While orthodox security thinking prioritises the securitisation of the state, human security focuses on the securitisation of the individual over that of states although in a complementary manner (UNDP, 1994). Falk (1971) advocates broadening the security discourse before UNDP did in 1994, although his focus was on the environment. Ullman (1983) describes national security threats as anything that can quickly degrade the quality of life of the inhabitants of a state, or that narrows the choices available to people and organisations within the state and as an attempt at looking beyond the state as a referent of security. While insecurity arises when a threat and a related vulnerability are present, some threats are more susceptible to being managed than others, in particular those that arise from human activities (Soroos, 2010).[19] Human security involves two broad propositions; one, that development should be securitised and that security should be 'developmental' to deal with the root causes of insecurity to humanity (Luckham, 2015). Surprisingly, insufficient attention has been given to empirical research about links between sustainable sanitation and human security.

Scholars over the last two decades have discussed the factors which necessitated the need to review the meaning of security after World War Two. Reasons that have been proposed include; awareness of the increasing interdependence of economic and financial relations throughout the world (Page, 2002); warfare got less interstate and more intrastate and regional in character (Kaldor, 2007); the realisation that weapons do not necessarily provide security (Renner, 2005); that real security in a globalising world cannot be provided on a purely national basis, and that the traditional focus on state security is inadequate and needs to encompass the safety and wellbeing of those living there (Randriamaro, 2012); that the new security concern is about the fear of underdevelopment as a source of conflict (Shaw *et al.,* 2006); and the increasing awareness that although globalisation has advantages in promoting prosperity, national and subnational problems caused by it are amenable to, and sometimes require, international assistance or intervention (Jones, 2011). Among the reasons, the one that has not been given much attention and requires further clarification is that of human needs.

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[19] An advantage of human security is that it helps in incorporating ethical values and exposes the failures both in development efforts and development-related governance frameworks (Truong and Gasper, 2011).

2.4.2 Whose security is important

Security concerns are shared by rich and poor countries alike, but the major threats are in the developing world where the majority of the poorest people in the world live and where risks of violence to their lives are not as grave as threats to their wellbeing (Picciotto *et al.,* 2010). Feminists have broadened our knowledge about the security of women at times of war, their exposure to domestic interpersonal violence and the deprivations faced in undertaking vital physiological functions (Okech, 2011). According to Chari and Gupta (2003), it is the disposed and voiceless that has a stake in human security while O'Sullivan (2010) opines that the concept focuses on protecting all individuals within a state irrespective of their status be it citizens or refugees. In the opinion of Feree (2013), those suffering from structural vulnerability are the focus of human security with the aim of addressing structural inequalities and discrimination that results in multiple and interrelated vulnerabilities for people within a country which remain intractable through individual violations of human rights.

Kaldor (2007) takes the humanitarian stance which prioritises the provision of basic living conditions to those uprooted from their homes and communities by conflict. In violent conflict situations, Faber and Dekker (2010) argue that attaining human security is incumbent on factors like where the person lives, the social or ethnic group belonged to, financial situation and social capital. This, however, is not the complete picture according to Hilhorst (2013) as both official and everyday politics, whether disorganised or indirect, mediate whose security is prioritised. In her opinion, since any disaster, conflict or crises inquiry starts with who defines it, it can be argued that whoever defines it also identifies whose security is important. The interactions between these two opposing factors ultimately determines who gets secured in interventions in fragile and conflict-affected countries. More empirical research is required to further investigate these in complex emergencies where multiple scaffolds of vulnerabilities and continually changing identity dynamics might intermingle with and fuel politics of framing and claiming at-risk populations.

2.4.3 What threats to address

The critical threats in human security debate are those that limit human freedoms in terms of physical aggression or physiological integrity, and lack of access to those basic needs necessary for decent human living[20] (Mentan, 2014) and the fulfilment of one's capabilities to live a satisfying life (Soroos*,* 2010).[21] Ogata and Sen (2003) mention that the main threats to human security in developing countries are poverty and armed violence. On the other hand, Chari and Gupta (2003) argue that individuals need security from direct and indirect threats from state, non-state actors, global actors and indirect threats

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[20] Tadjbakhsh and Chenoy (2007) reveal that although threats to human security are interrelated and fluid depending on time, space and circumstance, most attention should be paid to those which have concrete effects on peoples' welfare and dignity and are intolerable and inhuman.

[21] These are the threats that relates to the freedom from fear, freedom from want and freedom to live in dignity components of human security.

from nature. Gupta (2003) list economic deprivation, political exclusion and gender discrimination while Page (2002) took a cultural stand maintaining that certain entrenched societal values unique to a people may be endangered or threatened as a result of some alternative and foreign cultural, social, environmental or political processes.

Picciotto *et al.* (2010) on his part examines the effects scientific and technological development have had on human security arguing that warfare machines have been bought by developing countries to further repress the human rights of their citizens as experienced in Uzbekistan and Nepal. Frerks (2007) reveals that threats to human security can arise through the execution of development programmes, and from the dominant model of western-styled development. Roberts (2010) analyses security from threats of global governance which, according to him, manifests in 'biopoverty', that is those human bodily needs which are biologically essential and economically prohibited, like lack of access to sanitation and hunger, afflicting the people of the developing world.[22] Empirical assessment of threats in complex emergencies and what they portends for human security is lacking. Also, there is the need to examine how a web of interdependent threats may complicate risk framing, nuanced intervention and hinder opportunity to mitigate all the individual factors which contribute to human insecurity.

2.4.4   Who provides protection

McIntosh and Hunter (2010) believe that since states that are too strong or too weak cannot provide human security to their citizens, such states should seek to pursue human security for their citizen in partnership with market forces and civil society. Chari and Gupta (2003) on their part maintain that human security protection can be undertaken by the state, non-state actors, civil society, NGOs, UN, and international/multilateral organisations, but cooperation between these actors is essential. Buzan (2008) emphasises prioritising state security to achieve human security as no other agency is invested with the primary role of protecting the individual. Picciottto *et al.* (2010) suggest that governments bear the main task of protecting human security by working towards their own survival and legitimacy through guaranteeing the safety, basic needs, and essential freedoms of individual citizens and groups.

In many developing countries today, the management and governance of risks is going beyond the confines of state governments and into that of development agencies like donors and NGOs who are becoming increasingly powerful and authoritative (Hilhorst, 2013). Efforts to enhance human security can be made at all levels of social organisation from the individual or family unit to global organisations such as the UN (Soroos, 2010). Faber and Dekker (2010) explain that self-protection is natural to all humans when faced with threats especially when the state is a source of insecurity. However, in complex emergencies, there is insufficient empirical understanding as to how institutions' own political interests and bureaucratic agendas impact chances for coordination among them and how activities of some

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[22] Rummel (1997), in contributing to the debate, refers to state application of global governance policies and practices without sifting to suit national realities as 'democide' leading to direct weakening of the security of their citizens.

actors are counterproductive to those of others. Insufficient attention has been paid to individual and collective efforts for self-protection and the implications these have for their own human security and that of others.

2.4.5   Which measures to adopt

Mwangi (2011) suggests human capital development and addressing multi-sectoral policy concerns with an emphasis on social services which specifically target disadvantaged groups to bring about the desired level of economic well-being and equity needed is a key means to achieving human security. Wilkin (1999) claims that human insecurity is a direct result of existing structures of power which spread from the global to the local level thereby necessitating a response covering a multifaceted bottom-up (empowerment) and top-down (protection) approach. Barnett (2013) says that policies and practices focused on people's needs, rights and values can enhance human security while Kubo (2010) concludes that linking programmes or projects to policy priorities at national and international levels can ensure sustainability and coherence. Stein and Fadlalla (2012) advises developing countries to weed out unfavourable hegemonic policies and decisions at the global level which often do not take into consideration the cultural practices and development priorities of the subjects at the grassroots whose lives are greatly affected by these global development agendas.

O'Brien *et al.* (2013) propose that solutions to human security should be contextual because it is the context that creates both human security and insecurity while Nishikawa (2010) is of the opinion that in a situation of breakdown of law and order in a country, humanitarian assistance can be adopted to manage violence and socio-economic deprivations. Picciotto *et al.* (2010) believe peacemaking can address the political, economic and social consequences of war and aim to tackle the structural causes of conflict while aid donors give priority to social protection, adopting rights-based approaches, enhancing democratic governance, and promoting the participation and empowerment of the poor in decision-making. Similarly, in conflict situations, peacekeeping missions can be deployed to assist or bypass traditional state structures in order to directly help people in need (Faber and Dekker, 2010). However, few researches have considered humanitarian and peacekeeping synergy in complex emergencies, despite having complementary but distinct mandates, to provide human security in relation to state and non-state actors as main architect of the security environment. In addition, there is little attention paid to how these shapes human security of the people.

2.5   Human security in developing countries

This section reviews literature on human security in key regions of the developing world by discussing Latin America, Asia, the Middle East and sub-Saharan Africa. The last region is given greater attention than the others.

2.5.1 Human security in Latin America

In Latin America, the biggest threats to human security are violence and lethal crime especially homicide and 'femicide' although lack of freedom from want is also significant and may be a driving factor of the former (UNDP, 2013).[23] Fuentes and Aravena (2005: 15) succinctly describe threats to human security in the region to, in particular, 'the weakness of democracy, the rise of poverty and inequity and, increasingly, urban violence and crime.' Moser (2004) in a study of urban violence in the region suggests that homicide rates and causes are closely linked to neighbourhood income levels as property related crimes are more common in prosperous areas and severe violence is concentrated in lower-income areas. Cornell (2009) explains the links between the drug trade in Central America and Mexico and the trafficking and smuggling of humans and the potential of these to increase global organised crime and terrorism. Also, the hazards and stresses of climate change can mix with poor social development and high density in urban areas to hinder human security of the population (Romero-Lankao *et al.,* 2013). Leaman (2014) ascribes the increase in human security friendly public policy discourse in the region to failed political authoritarianism and economic liberalism.

2.5.2 Human security in Asia

In Asia, climate change (Leichenko and O'Brien, 2008), nation-state formation, lack of water and sanitation, effects of globalisation, gender inequality, forced migration, environmental degradation (Chari and Gupta, 2003), cross-border human trafficking, organised crimes in wildlife, timber and drugs, and communicable diseases (Guan, 2012) are some of the numerous challenges facing human security in the region.[24] Nishikawa (2010) on his part includes poverty, political instability, power struggles between states,[25] and social injustice arguing further that the ASEAN realised the importance of human security and inserted the phrase 'people-oriented ASEAN' in its Charter but the concept is still new for most countries of the region. Elliot (2013) examines the risk posed by climate change to Southeast Asia endangering food security, water availability, climate refugees and health and how a human security approach can help inform mitigation and adaptation strategies. Song and Cook (2015) discuss the problems of irregular migration in East Asia and Acharya (2006) explains that the freedom from fear component of human security unsettles countries in the region and that it may be used to justify interference in internal conflicts. Environmental disasters like tsunami, cyclones and typhoons are potent human security threats to the region particularly East Asia (Hernandez *et al.,* 2019).

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[23] See Goldstein (2016) for a comprehensive human security analysis on Latin America.
[24] See Caballero-Anthony and Cook (2013) for an exposition of the salient human security challenges facing the Asia-Pacific region.
[25] Capie and Evans (2002) highlight that the term 'comprehensive security' is commonly used in the region which considers the interaction of military and non-military aspects of security but which still prioritise the states' overall wellbeing.

2.5.3 Human security in the Middle East

Human security is a critical concept for the Middle Eastern region as it relates to new terrorism. In Iraq, terrorist attacks claim people's lives daily, resulting in psychological trauma for witnesses, and sow the seed of distrust between peoples and governments and between governments in the Middle East. This threat to human security aggravates ethnic, racial, and religious differences (Barzegar, 2007). Tadjbaksh (2005) believes that Afghanistan faces terrorism, poverty, inequality, job security, poor education and health, food and environmental insecurity, personal security, and political exclusion today because of the excessive interest in state security manifested in foreign interventions, mujahedeen self-styled government and the suppressive Taliban all of which harmed the human security of the people. Aside from threats of new terrorism, Christie (2018) describes the challenge of human trafficking in the region too. Few countries in the Middle East have applied the concept of focusing on a top-down human security approach but, in general, its value is becoming increasingly recognised. Other threats are population pressures, water scarcity, climate change, state sovereignty, and violence against women and children (UNDP, 2009).

2.5.4 Human security in Sub-Saharan Africa

Numerous scholars have identified and explained the reasons for human insecurity in sub-Saharan Africa. According to Jebb *et al.* (2009), human security challenges in Africa, particularly in the south of the Sahara, are complex and interrelated and include terrorism, militancy, unending conflicts, transnational crimes, food insecurity and climate change resulting in resources, particularly water, becoming scarce. Other human security challenges that have been identified in Africa include the effects of globalisation, a lack of internal cohesion among ethnic groups, internal strife, poverty (Mentan, 2014), armed conflict (Nsiah-Gyabaah, 2010), natural resources (Mouan, 2010), a large displaced population, and human rights abuses (Salih, 1999). However, none of these challenges have been assessed in relation with sanitation and how it produces or limits human insecurities.

Tieku (2013) argues that the transformation of Organisation of African Unity to African Union in September 1999 was partly influenced by human security concerns on the continent though challenges remain in convincing state leaders to embrace the concept. Mentan (2014) opines that the greatest challenges to human security in the sub-region are predatory leaders and destructive policies and activities of developed countries and their institutions. From the submission of Nsiah-Gyabaah (2010), human insecurity is linked to intra-state armed conflicts within many of the nation-states of the region. For Salih (1999), reasons for this include multi-ethnic nation states, the monopolisation of revenues from natural resource extraction, and corruption by the political elites using their wealth to perpetuate themselves in power.

Douma (2007) attributes the single most important threat to human security for ordinary civilians inhabiting war-torn societies to relentless competition among these elites to acquire state power and become the legitimate head of state formally in control of natural resources. Abass (2010) lists food

security, environmental security, good governance, trafficking and labour issues, natural resource management, the human rights of women, corruption, and refugees as some of the central topics on human insecurity in sub-Saharan Africa. While it is acknowledged that human insecurities faced by citizens of sub-Saharan Africa nation-states are numerous and multidimensional, accounts of how individuals, households, and communities reorder and reproduce social systems to cope with their lived experiences, and the implications for policies designed by modern day risk managers realities relating to these insecurities have been inadequately examined in both theoretical and empirical debates on complex emergencies.

McIntosh and Hunter (2010) explore issues like weak economies, diseases, multi-ethnic and multi-religious societies, poverty, underdevelopment, and natural resource conflicts as they are common in the majority of countries in the region. Clay and Stokke (2000) mention how a rapid population growth rate in the region has exceeded the rate of growth in food production making the region home to about two thirds of the world's' food-insecure people, thus constraining efforts to increase income and improve welfare. Causes of and patterns of conflict in the Horn of Africa (Burgess, 2009) and the Sahel (Jeb *et al.,* 2009) are complex and intertwined with ethnic conflicts, environmental degradation, competition over scarce resources, like water and grazing land, influx of illicit arms from neighbouring countries, cultural practices such as castle rustling, poor governance, political incitement and rapid population growth. Moussa (2008) highlights poverty, lack of access to education, and HIV/AIDS as being among the challenges of human security facing women in sub-Saharan Africa.

Globalisation and Western neoliberal hegemony, manifesting through international bodies and a plethora of NGOs working at grass-roots levels, invested with neoliberal values and expectations are generating multilevel human insecurity, especially in Africa, creating wide and multifarious inequalities and the lack of political and economic will to reduce them (Taeb and Zakri, 2008). Not only has economic globalisation through policy reforms initiated by the international financial institutions deepened human insecurity in the sub-region, African countries generally are at the receiving end of these policies because of the minimal role they play in decision-making at the global power structure (Mentan, 2014). As nation-states in the region weaken against the forces of globalisation, which also threatens the security of individuals and communities, state-society relations reduce making citizens turn to ethnic militias, kin, sub-sate entities (Jeb *et al.,* 2009) and nongovernmental channels for their protection, either physical or physiological (Salih, 1999). Randriamaro (2012) discusses the insecurities, poverty and global economic disparities created by decades of adopting neoliberal policies in sub-Saharan Africa. How globalisation relates to cultural security within the context of sanitation in post-conflict societies has received little attention and debate.

The peculiarities of human insecurity manifestations in sub-Saharan Africa have generated a few suggestions by scholars and policy makers as to the means available to extenuate them. Scholte (1999) argue for an enhancement of human security at the micro-level against the negative forces of

globalisation through grassroots, voluntary, community-based organisations. Guest (1999) suggests that states in sub-Saharan Africa should pursue policies that would be more in line with the human security needs of the local populations rejecting the notion that globalisation poses the greatest immediate challenge to the human security of people. Mwangi (2011) proposes a regional policy development approach which can better enhance financial, social and human capital to assist populations of subnational areas to enhance local development. Jeb *et al.* (2009) state that crafting policy to empower individuals and see them as stakeholders on all projects and programmes during decision-making and implementation processes is the key. Taeb and Zakri (2008) suggest agriculture is an important means to addressing human insecurity in the region. Mentan (2014) advocates inclusive policies and patterns of policymaking for the purpose of strengthening social cohesion while Sesay (1999) argues for a representative, inclusive, and accountable political system devoid of exploitative, suppressive and divisive methods of governance. Adequate attention has not been paid to how sanitation can serve as a tool to pursue and attain human security in the sub-region at large.

2.6   Conceptual model for sanitation and human security

This section presents the conceptual model for sanitation and human security. Having reviewed the literature for gaining perspective on the research phenomena, this section proceeds to the theory construction and testing stage by formulating a conceptual model. Considering the criticism that literature may prematurely narrow thinking, the researcher has tried to think outside the box in ways that are new and creative.

Figure 2.1   Sanitation security model
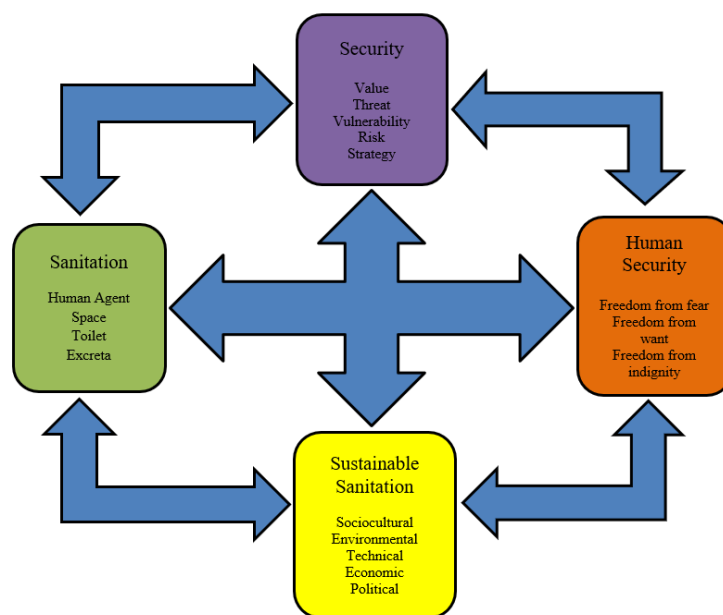
Source: Researcher

In Fig. 2.1 above is the sanitation security model. Models according to Nersessian (1999) are a product of three critical scientific and philosophical activities; reasoning, logic and argument. Mainstream philosophical reasonings are deductive and inductive but the sanitation security model's underlying reasoning is abductive. Abductive reasoning in scientific endeavours is the inventive construction of new ideas, explanatory propositions, and theoretical elements in learning and understanding parts of reality, in other words it is a form of reasoning from less precise information (Magnani, 2017). Logic in a scientific model concerns the direction of inferences that make up an argument or arguments. An argument is the arrangement of ideas about the relationship between two or more inferences in support of a reasoning or reasonings and essentially underlies hypothesis generation.

Popper (2005) describes the work of a philosopher as discovering the treasure buried beneath the heap of ruins that serves as the problem he aims to solve, and this researcher has chosen to use the sanitation security model as that cosmological tool in contributing to our knowledge of the world. The sanitation security model here is presented in the form of a diagram to investigate real world phenomena and theories. Morrison and Morgan (1999) however clarified that models are partially independent of both theories and the world but serve as that proverbial hammer, a tool which helps to connect the nail (empirics) to the wall (theories) thus making them useful for many different tasks outside of their main purpose of construction and this is the purpose the sanitation security model is expected to serve. Causal modeling is a key feature of theory construction in the social sciences interested in variation in constructs and what causes them (Jaccard and Jacoby, 2010). Since this model was initially formulated, it has been criticised and revised repeatedly in light of subsequent review of the literature including those beyond the immediate range of the research topic.

The review of relevant literature has shed some light on what scholars have thought and said about the research question, but the role of the sanitation security model is to integrate and advance their discussions on the whole and to mediate between theories and empirics, one of their most defining functions (Morrison and Morgan, 1999). Models also serve as instruments of scientific research where 'scientific research is a process that is designed to extend our understandings and to determine if they are correct or useful' (Jaccard and Jacoby 2010: 6). As they emphasised, understanding encompasses identifying, describing, organising, differentiating, predicting, and explaining. They are, however, incomplete without concepts which serve as their building blocks and propositions that explain the relationships between them. Tversky (2014) explains that drawing is used in science both for communication and the exploration of patterns and phenomena.

Four concepts make up the sanitation security and they are sanitation, security, sustainable sanitation and human security. These concepts are generalised abstractions, meaning they subsume a universe of possible instances and are ideas about reality, that is denotable and concrete. Concepts contain constructs or more popularly variables which are created from concepts at lower levels of abstraction to focus the portions of reality they aim to reflect. Variables are further classified into levels as most

social entities and phenomena differ depending on the variable level that describes them. Jaccard and Jacoby (2010: 14) explained that it is only 'when concepts are placed into relationships with each other that they move us toward achieving a deeper understanding of our reality' called explanations or conceptual systems. Explanations in the sanitation security model aim to understand how and why sanitation is related to human security, although the literature review has provided some insights that both concepts are related. Adopting such an explanatory approach is crucial to policy research where being able to predict when something will occur in the future is important although explanation and predicting are not the same. Lastly on the characteristics of a model, they do not represent all aspects of the world and theory but only include and invokes those concepts and relationships from those realms the modeler believes can address the research question and problem (Woods and Rosales, 2010).

Furthermore, it is necessary to distinguish between theoretical framework and conceptual model to avoid confusion. Theoretical frameworks are derived from existing theories about a research phenomenon that has already been tested and validated by others and is considered a generally acceptable theory in the scholarly literature and applied by a researcher to the research study (Grant and Osanloo, 2014). Conceptual models take a wider approach to empirical study as Miles *et al.* (2014: 20) describe it as a graphical and narrative presentation of 'the main thing to be studied – the key factors, variables, or constructs – and the presumed relationships among them.' According to Ravitch and Riggan (2015), the researcher's personal interest, research question, research problem, topic, literature, theoretical framework, logical propositions, context, setting, fieldwork, researcher positionality, research design, research methods, analysis, and findings all have a bearing on a qualitative conceptual model. Maxwell (2013) argues that the conceptual model must form a closely integrated unit with the goals of the research, research question, research methods and consequently validity.

2.7 Conclusion to theoretical review on sanitation and human security

The goal of this chapter was to develop a conceptual model for the research. To achieve this, it started by reviewing and interrogating key literature on sanitation and its importance in human development, and sanitation in developing countries and in sub-Saharan Africa respectively. It also reviewed arguments on human security in developing countries, its theories and practices. Simultaneously, the section revealed what has been learnt from the arguments and positioned them in relation to new knowledge and insight this research will produce. Finally, it presented a conceptual model which identified key variables of the research, their components, and the relationships between them. It can be concluded from the foregoing that there are links between sanitation and human security which may be multilevel, multifaceted and complex. Also, it can be assumed that testing of the conceptual framework is possible and sets the stage to describing South Sudan, the third keyword in the research title. The next chapter will examine the case of South Sudan in relation to sanitation and human security.

Chapter Three

Background to the case of South Sudan

3.0   Introduction to the case of South Sudan

Contribution to knowledge does not develop in a vacuum and a case of South Sudan provides the framework with which to assess the applicability of the sanitation security model to real world phenomena. The interplay and interpenetration between theory and empirics is the lifeblood of scientific research, and an understanding of the real-world context in which the conceptual model and research methods in the previous chapters will be applied and tested is important. The goal of this chapter is to develop the relevance and applicability of the conceptual model. It discusses the context by identifying the boundaries, revealing the importance of the big picture, and exploring the salience of different aspects of the focal features of the case in relation to the research topic. The first section will describe South Sudan and her people while the second section will provide the country's history of sanitation administration. Section three will examine the state of sanitation and its relation to the human security situation while the last section will conclude this chapter.

3.1   South Sudan and her people

This section describes the geographical location of South Sudan as well as its ethnic groups and their cultural and linguistic characteristics.

3.1.1   Geographical description of South Sudan

Covering approximately 658,842 square kilometres, and lying within the tropical zone between latitudes 3.5° and 12° North and longitudes 24° to 36° East, South Sudan, is a low-income and fragile country located in East Africa, spread across the vast floodplains of the White Nile which descends from the highlands of central Africa (UNEP 2018).[26] It falls almost entirely (96 per cent) within the Nile River Basin in East-Central Africa (NBI, 2016). It is a landlocked country encapsulated by the Nuba Mountains to the north, arid desert to the north-west, the foothills of Abyssinia to the east, the wide forest of central Africa to the west and southwest covered by dense forests and swamps, savannah grassland, plains and plateaus (Arnold and LeRiche, 2013). The country is covered by extensive grasslands, wetlands and tropical forests and natural assets include significant agricultural, mineral, water, wildlife, timber and energy resources (UNEP, 2018).

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[26] With its independence on July 9, 2011, the country becomes the youngest in the world as the 54th African country and 193rd in the world (Ruach, 2015). According to the South Sudanese Referendum Commission, 98.8 per cent voted for secession while 1.1 per cent voted for unity.

Figure 3.1   South Sudan estimated total population from 2014 to 2024 (in million)
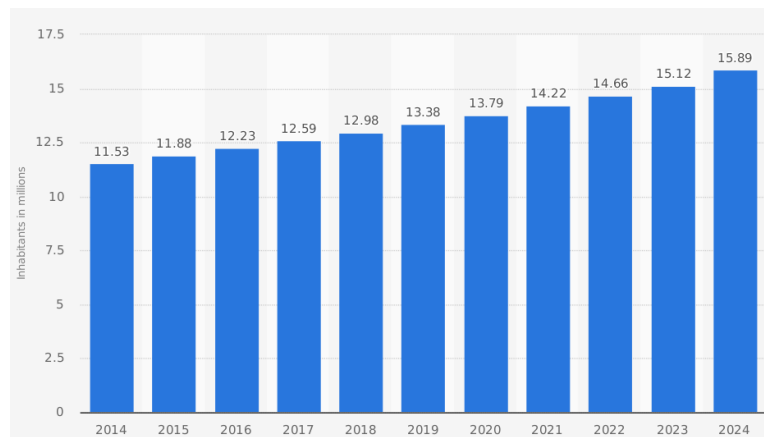
Source: IMF (2019)

The country has an estimated population of 13.38 million people but is expected to near 16 million by 2024 as figure 3.1 above shows (IMF, 2019). Territorially, South Sudan is in the East-Central region of Africa and is situated south of Sudan, north of Uganda, DRC and Kenya, west of Ethiopia and Central African Republic and Democratic Republic of Congo (UNESCO, 2014). The climate is tropical (wet and dry seasons) and has high humidity with a significant rainy season lasting from April/May to October/November (Rolandsen and Daly, 2016). The southern border that includes Western, Central and Eastern Equatoria has bimodal rainfall regimes from April to June and from August to October, enabling two or three harvests a year (UNEP, 2016).

During the colonial period, the British divided the country into three distinct provinces along geographical lines; Bahr el Ghazal, Equatoria, and Upper Nile (Johnson, 2011). The three historical regions of southern Sudan, Bahr el Ghazal, Equatoria and Greater Upper Nile, made up the ten states of the country at independence. Juba is the capital,[27] and the country was administratively divided into ten states: Central Equatoria, Eastern Equatoria, Jonglei, Lakes, Northern Bahr el Ghazal, Unity, Upper Nile, Warrap, Western Equatoria and Western Bahr el Ghazal each of which is further divided into 86 counties and several Payams and Bomas (AfDB, 2013).[28]

About 80 per cent of South Sudanese live in rural areas though this proportion varies widely among states and of South Sudan's population of 12.3 million. With less than 13 people per square kilometre, population density in the country is one of the lowest in sub-Saharan Africa Jonglei is the most populous area, with 16 per cent of the total population, and Western Bahr el Ghazal is the least populous area

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[27] The transitional constitution has transferred the future site of the national capital to Ramciel in Jonglei state but to be implemented in phases.

[28] These states have now increased to thirty-two through different decrees issued by the President Salva Kiir Mayardit but disagreements remain about their legitimacy and yet to be acknowledged by the international community and opposition groups. Creation of the new states saw to the increase of the counties, payams and bomas to 183 counties, 540 payams and 2500 bomas.

with only 4 per cent of the total. The highest population densities are along the Nile River and their tributaries including towns like Bor, Wau, Malakal and Juba (UNEP, 2018). Much of the population of South Sudan is young about two-thirds of the population is under the age of 30. Households are large, with an average of 6.5 people living under one roof (NBS, 2012) and more than 10 people living under one roof in one out of every ten households (RSS, 2010).

South Sudan's climate is tropical with high humidity as temperatures range from 25°C to 40°C and significant rainfall occurs from April until late October or November (Lovell-Hoare and Lovell-Hoare, 2011). The rainfall pattern is seasonal producing varying kinds of vegetation and soil types ranging from sandy to clay, and black cotton to ironstone (Willis *et al.,* 2011). Rain typically falls unevenly across the country; the northeast is drier, and precipitation increases towards the southwest (UNEP, 2018). The black cotton which is widespread at the heart of the country swells and grows sticky when it rains but shrinks and cracks when dry. About 90 per cent of its land, of which less than half is currently cultivated, is deemed to be suitable for agriculture, as there are sizeable oil and mineral deposits too (UNDP, 2015).[29]

Equatoria is situated in the extreme southern part of the country having DRC, Kenya and Uganda as their southern neighbours. The topography is flat plains with scattered hills and mountains hosting half of South Sudan's national parks and reserves (Akol Ruay, 1994). It is crisscrossed by rivers and streams, the most prominent of which is the White Nile known as Bahr al-Jebel which cuts through the heartland of the region including Juba. Today it is divided into three federal states i.e. Western, Central and Eastern (Poggo, 2009). The vegetation of much of Eastern and Central Equatoria is savannah woodland and grassland supporting the cultivation of tobacco, maize and root vegetables with the former hosting the Didinga Hills and the majestic Imatong Mountains. Western Equatoria is characterised by thick bush and forest being an extension of the Congo Basin to the east (Lovell-Hoare and Lovell-Hoare, 2013). Farming is the most important economic activity and Juba has historically been the seat of government and the financial district of Southern Sudan.

The Upper Nile region is located to the northeast of the country and borders Sudan and Ethiopia. It is predominantly a flat plain with both thick fertile clay soil and sandy soil especially in the north while the southwestern part is characterised by valleys and permanent swamplands near where the Sobat River and the White Nile converge (Poggo, 2009). Others are covered with rolling plains, isolated rocky hills, savannah woodland and grassland to support animal grazing and farming. It is of great importance to the country not only because it is the centre of the livestock economy and farming but also because of the oil fields (Lovell-Hoare and Lovell-Hoare, 2013). The political capital and commercial city of

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[29] The country's abundant natural resources include gold, diamonds, petroleum, hardwoods, limestone, iron ore, copper, chromium ore, zinc, tungsten, mica, silver oil, teak, gum Arabic, and mahogany with mineral resources including vast fertile land indicating the country is endowed with vast agricultural lands (Lovell-Hoare and Lovell-Hoare, 2013).

Greater Upper Nile is Malakal, which lies in the Shilluk country. Today, it is administratively divided into Jonglei, Unity and Upper Nile states. This region is predominantly occupied by Western Nilotic and Luo-speaking people comprising the Dinka, Nuer, Shilluk, Burun, and Anuak. Their primary occupation is cattle herding, but they also practice subsistence agriculture (Akol Ruay, 1994).

The Bahr el Ghazal is basically an ironstone plateau characterised by savannah woodland and grassland with the flat plains seasonally flooded by rainwater or rivers, forming vast swamps (Poggo, 2009). It shares borders with Sudan, including the disputed territory of Abyei, and the Democratic Republic of Congo. Cattle herding and cultivation with seasonal fishing are the main economic activities of the people inhabiting this region including the Dinka, Juur, Bor Balanda, Bongo-Sere, Fertit, Njangugule, and Kreish. Wau is the political capital and the financial district of the region. The states of Northern and Western Bahr el Ghazal, Lakes and Warrap constitute this province (Lovell-Hoare and Lovell-Hoare, 2013).

3.1.2   Peoples and population distribution of South Sudan

South Sudan contains people of cultural diversity and ethnic complexity with diverse traditional values, norms, customs, and belief systems. Referred to as 'primitive' and 'pagan' by the first major historical work about them by British anthropologist C.G. Seligman in his work titled *The Pagan Tribes of the Nilotic Sudan* in 1932. Major ethnic groups of South Sudan include the Acholi, Bari, Nuer, Dinka, Murle, Anuak, Shilluk, Toposa, and Zande (or Azande) and numerous other smaller groups like the Jikany, Lou, Nyuong, Agar, Malual, Bor and Ngok (Breidlid *et al.,* 2014).[30] The people differentiate between themselves or have been differentiated by others using a wide range of overlapping criteria like lines of descent, common language, place of origin, mode of livelihood, physical characteristics, and political or religious affiliation (Ryle, 2011).

South Sudan is diverse, both ethnically and linguistically with the people's pattern of life framed by their environment. The South Sudan Interim Constitution tentatively lists 63 ethnic groups, speaking at least 50 different indigenous languages, though the current official working language is English and Arabic use is also still common. They are mainly pastoralists, agriculturalists, and agro-pastoralists but fishing also constitutes an important source of food and a coping mechanism in many parts of the country (UNDP, 2015). The largest 10 ethnic groups constitute approximately 80 per cent of the population (UNESCO, 2014).

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[30] The largest ethnic group is that of the Dinka, which constitute many tribes within it and about two-fifths of the population, followed by the Nuer, who constitute about one-fifth and then the Shilluk. See Breidlid *et al.* (2014) and Rolandsen and Daly (2016) for a comprehensive history of the peoples of South Sudan.

Figure 3.2   Geographical distribution and location of South Sudan main ethnic groups

Source: Delmet (2013)

The geographical distribution and location of the country's ethnic groups is presented in figure 3.2. O'Ballance (2000) categorised the people of the Southern Sudan into the three major linguistic groups of the Sudanic, Western Nilotes, and Eastern Nilotes. Although these peoples have different historical origins and patterns of migration there have been significant forms of cultural borrowings. The Nilo-Saharan language family, particularly the eastern and central Nilotic, is the most populous and dominant in South Sudan (Breidlid *et al.,* 2014). The Sudanic people are divided into the Moru-Madi and the Azande and are the largest in this group, but the former were the first inhabitants of the area since 1000AD migrating from the Congo Basin (Akol Ruay, 1994). Ethnic groups include the Moru-Madi, Azande, Logo, Nubian, Kaliko, Avukaya, Lulubo, and Lugbara. The Azande are found in the Western Equatoria and parts of Central Africa Republic and the Democratic Republic of Congo (Poggo, 2009).

Figure 3.3   South Sudan livelihood zones

Source: UNEP (2018: 81)

Many of the ethnic groups have distinct livelihood activities as figure 3.3 shows. The Nilotic language family in South Sudan are the Western and Eastern Nilotes and are divided into agriculturalists and pastoralists (Akol Ruay, 1994). Linguistically, the Western Nilotes are divided into two distinct groups: the Dinka-Nuer and the Lwo-speaking Shilluk. The Dinka (Jaang or Moonyjaang) are the largest ethnic group in Sudan, occupying the vast flat plains of the Bahr al-Ghazal and Upper Nile regions with subgroups including the Agar, Aliab, Ciec, Malual, Atuot, and Bor (Poggo, 2009). Related physically, culturally and linguistically to the Dinka are the Nuer (or Naath) who have shared common ancestors and a high level of intermarriage They are also divided into sub-groups like the Dinka to include the Lau, Lek, Gaawar, Atwot, and Jikany (Evans-Pritchard, 1940).[31] They predominantly lead a typical nomadic lifestyle, though some engage in subsistence farming during the rainy season and inhabit the swampy areas and savannah grasslands of the Upper Nile region, occupying both banks of the White Nile.

The Shilluk or Chollo, related linguistically to the Dinka and Nuer and through shared myths of origin (Ryle, 2011), occupy the east and west banks of the White Nile to the north between Malakal and Renk where they engage more in farming and raise fewer livestock. Other Western Nilotes include the Anuak living in the flat plains and the banks of the Baro, Grila, Akobo, and Sobat rivers; the Acholi a Luo-speaking people who today occupy Northern Uganda and part of Eastern Equatoria (Poggo, 2009). Of all these groups, only the Shilluk historically have a political organisation centralised under a monarchy. Remnants of this linguistic group include the Pari, Lango and Juur (Breidlid *et al.,* 2014).

Prominent among the Eastern Nilotes are the Bari, Pojulu, Kuku, Kakwa, Nyangbara and the Mundari. The Bari were the earliest settlers in the territory and today occupy vast swathes of land in today's Central Equatoria, living on both sides of the White Nile (Breidlid *et al.,* 2014). Sharing the territory with them are the Pojulu to the east, the Kuku to the south who today occupy the land called Kajo-Keji, and the Kakwaland in the west who occupy Sudan, Uganda, and the Democratic Republic of the Congo (Poggo, 2009). They are mainly subsistence farmers who grow sorghum, cassava, maize, simsim and groundnuts but they also raise cattle to supplement their diet.

Other Eastern Nilotic groups include the Lakoya, Latuko, and Taposa of Eastern Equatoria. The Lakoya inhabit the East Bank of the Nile and their settlements are east of the Bari and north of the Acholi. The Latuko occupy a vast territory east of the Nile in Eastern Equatoria. The Taposa people currently inhabit the extreme southeastern part of Eastern Equatoria and were the latest arrivals in the region. These peoples practice mixed economies of agriculture and livestock raising although the Mundari of Central Equatoria and the Toposa and Nyagatom in Eastern Equatoria pursue a primarily pastoral existence with farming and fishing as seasonal occupation (Ryle, 2011). The rest are the Murle, Didinga, Lotuho,

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[31] See Lienhardt (1961) for a comprehensive history of the Dinka and their spirituality. Evans-Pritchard (1956) has also written about the Nuer.

Lopit, Dongotono and Lango (Breidlid *et al.,* 2014). Except for the Shilluk and Zande who had their own kingdoms, the bulk of the Southern society practised egalitarian handling of public affairs (Akuol Ruay, 1994).

The population of South Sudan is composed of Christians, adherents of indigenous religions and smaller population of Muslims. The most recent Pew Research Center on Religion and Public Life report from December 2012 estimated that in 2010, there were 6.010 million Christians (60.46 per cent), 3.270 million followers of African Traditional Religion (32.9 per cent), 610,000 Muslims (6.2 per cent) and 50,000 unaffiliated (no known religion) of a total 9,940,000 people in South Sudan (Pew Research Centre, 2010).[32] According to the South Sudan Council of Churches and the government Bureau of Religious Affairs, there are seven principal Christian groups: Roman Catholic, Episcopal, Presbyterian, Pentecostal, Sudan Interior, Presbyterian Evangelical, and the African Inland Church. Today, it is uncommon to find adherents of several religions within a single nuclear family (Rolandsen and Daly, 2016). A substantial part of the population in isolated parts of the country probably adheres to indigenous religious beliefs or combines Christian and indigenous practices (Ryle, 2011).

South Sudanese society is deeply traditional and patriarchal. Key to the personal life of many South Sudanese are marriage, cattle, rituals and spiritual belief (Breidlid *et al.,* 2014). The marriage system in South Sudan is basically polygamy and is dependent on the ability of the man to pay the price for his bride, which is always in the form of several heads of cattle (Maxwell *et al.,* 2013). Cattle plays an important role in patterns of exchange and cooperation particularly in marriage contracts. The pastoralist communities of South Sudan stay in permanent villages during the wet season to cultivate a range of crops, including sorghum and maize, and cattle camps during the dry season near the rivers where their cattle graze until the rains come again (Ryle, 2011). Initiation into adulthood and formal age-sets along with rituals of birth, marriage and death are important to most ethnic groups of the country administered by chiefs, rainmakers and prophets.

Before independence, under British colonial rule, the multitude of tribes constituting South Sudan today had no political interrelationship as it was only the opposition and struggle against the seat of government at Khartoum, generally labelled as Arab and predominantly Islamic, that created and fueled a common purpose (Arnold and LeRiche, 2013). This can be explained by the mass swamps called the Sudd which also posed major obstacles to foreign intrusion. Their relationship was also characterised by armed fighting because of the Mahdist onslaught during the thirteen years of Khalifa Abdullah ibn Muhamed's rule between 1885 until his death in 1898. His military campaigns had pushed the ethnic groups along the Nile further hinterland into the swamps and mountains thus effectively bringing them to arms with each other in the fight for land and survival from the slave trading ruler which decimated

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[32] Rolandsen and Daly (2016), however, cautioned that statistical evidence for contemporary religious affiliation of the South Sudanese is unreliable.

their population from an estimated 8 million to less than 3 million (Akol Ruay, 1994). This struggle for land is still common in present times along with raiding of neighbours' cattle and women for economic purposes (Breidlid *et al.,* 2014).

Today, as much as 85 per cent of the working population is engaged in non-wage work especially in subsistence agriculture and animal husbandry meaning formal employment is scarce (UNDP, 2015) and fishing, trading, gathering wild fruits and natural resource extraction is also widespread as livelihood strategies depend on tribal traditions and agro-ecological conditions (Deng, 2013). A study conducted by Makenzi (2005) reveals that most household related activities like most African societies are managed along gender lines but women and girls are responsible for about 80 per cent of them. Women's roles have increased since the war because as men joined the army and different armed militias, women were forced to take full responsibility for their families and began to hold responsibilities that had previously been in the exclusive domain of their fathers, husbands, brothers and sons (Bubenzer and Stern, 2011).

3.2   National sanitation administration in South Sudan

This section discusses the history of South Sudan's national sanitation administration and human security. The first discusses the state of sanitation in South Sudan while the second section explains the politics of sanitation administration in the country.

3.2.1   State of sanitation in South Sudan

Sanitation facilities used in South Sudan according to prevalence are VIP latrines, pit latrines with slabs, flush toilets, compost toilets and water-closet flush toilets while more than two-thirds of the population practice open defecation (RSS, 2010). According to the World Bank (2015), only 7 per cent of the population have access to any type of improved sanitation facility meaning the majority of them practice open defecation.[33] In the latest sustainable development goals based assessment of sanitation globally, WHO/UNICEF (2017) estimates that only 10 per cent of the total population have access to at least basic sanitation services, 9 per cent have limited or shared facilities, 20 per cent use unimproved services and 61 per cent practice open defecation.[34]

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[33] WaterAid (2015) in a study of countries with the least place to find a toilet ranked South Sudan at the top of the table putting the percentage of population without access to improved sanitation facility at 93.3 per cent out of which 91 per cent have no access to basic sanitation.
[34] If the excreta from improved sanitation facilities are not safely managed, then people using those facilities will be classed as having a basic sanitation service.

Figure 3.4   Sanitation in rural and urban areas by access level (in percentage)

Household data - South Sudan - 2017 - Service Levels
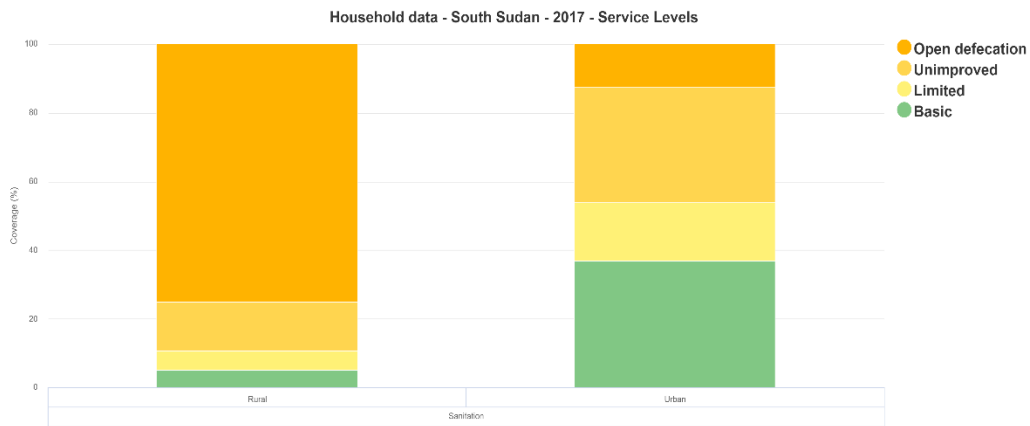
Source: JMP (2019)

The figure above shows current household sanitation access assessment based on the new SDG sanitation ladder. Basic sanitation means the use of improved facilities that are not shared with other households. Limited access means the use of improved facilities shared between two or more households.[35] Unimproved means the use of pit latrines without slabs or platforms, hanging latrines or bucket latrines, while open defecation is disposal of human faeces in fields, forests, bushes, open bodies of water, beaches, or other open spaces (UNICEF/WHO, 2019). According to the JMP, 74.89 per cent of rural dwellers in the country use open defecation compared to 12.46 per cent in urban areas. For unimproved access in both settlement types, it is 14.40 per cent and 33.46 per cent respectively. Limited access is available to 5.51 per cent of people in rural areas and 17.21 per cent in urban areas. Urban areas perform better in access to basic services at 36.87 per cent than 5.19 per cent in rural areas. (JMP, 2019).

3.2.2   Politics of sanitation administration in South Sudan

Sanitation institutional framework in South Sudan is complex with about six government ministries and agencies playing some roles. They include the Ministry of Lands and Urban Development (MLUD), the Ministry of Water Resources and Irrigation (MWR1), the Ministry of Health, and the Ministry of Environment (USAID, 2015).

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[35] It should be noted that improved facilities include only flush/pour flush to piped sewer systems, septic tanks or pit latrines, ventilated improved pit latrines, composting toilets or pit latrines with slabs.

Table 3.1 **Sanitation related policies, legislation and plans by government ministry and donor**

Ministry	Policy, Legislation and Plans
Ministry of Water Resources and Irrigation	National Water Policy 2007 WASH Strategic Framework 2011 Draft Water Bill 2013 Rural Water Sanitation and Hygiene Action and Investment Plan 2012-2015 Urban Water Supply and Sanitation Investment Plan 2013 - 2018
Ministry of Lands and Urban Development	National Water Policy WASH Strategic Framework 2011 Rural Water Sanitation and Hygiene Action and Investment Plan 2012-2015 Urban Water, Sanitation and Hygiene Investment and Implementation Plan 2013 – 2018
Ministry of Local Government	Local Government Act 2009
Ministry of Health	National Health Policy
Ministry of Environment	Draft Environmental Management Bill
USAID	USAID/South Sudan Transition Strategy Water and Development Strategy

Source: Researcher

Table 3.1 shows the main ministries with sanitation related responsibilities in the country. The key sanitation ministries at national level are the Ministry of Water Resources and Irrigation (MWRI) supported by the Ministry of Lands and Urban Development (MLUD) both created by the Water Policy and the WASH Strategic Framework. Others are the Ministry of Local Government, Ministry of Health, and Ministry of Environment but there are institutional conflicts regarding their roles. The Directorate of Rural Water Supply and Hygiene used to be under the old Ministry of Cooperatives and Rural Development while the Directorate of Urban Water Supply was under the then Ministry of Lands, Housing, and Physical Planning. The implication of this is that rural water and sanitation and urban water programmes are undertaken by the MWRI while urban sanitation is managed by Ministry of Lands and Urban Development. A decree was later made which relocated the Directorate of Urban Water Supply to the MWRI leaving Directorate of Urban Sanitation under the Ministry of Urban Planning.

The Ministry of Electricity, Dams, Irrigation and Water Resources now Ministry of Water Resources and Irrigation was established with defined mandates and responsibilities regarding sanitation in South Sudan through collaborative planning and implementation with the States, Counties, humanitarian aid agencies, and multilateral and bilateral donors (RSS, 2011). Generally, it has the mandate to ensure coordinated management, provision, and sustainability of water and sanitation services and enact regulations and policies on water and sanitation programmes. The Directorate of Rural Water Supply and Hygiene bears the operational responsibility of the Ministry and has three departments which are

Department of Rural Water Quality, Sanitation and Hygiene, Department of Rural Water Supply Development and Department of Rural Operations and Maintenance.

Figure 3.5 **South Sudan administrative structure**
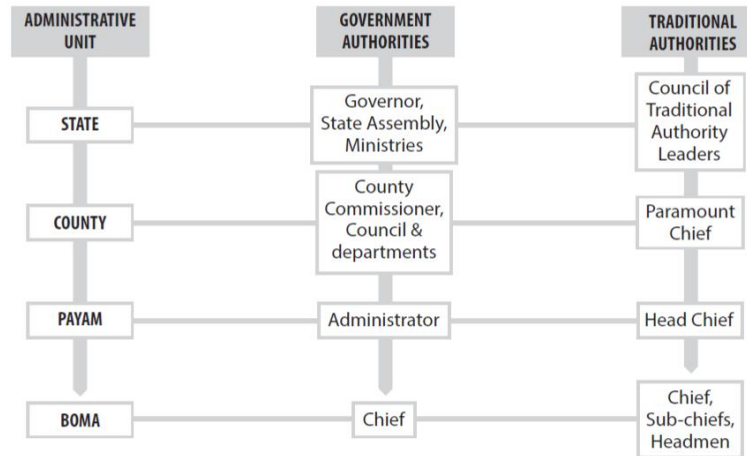
Source: Leonardi and Santschi (2016: 16)

South Sudan has five administrative levels: national, state, county, payam and boma as seen in figure 3.5 encompassing both governmental and traditional authorities. Regarding sanitation, there are ministries at state level but many sanitation related policies and programmes originate from the national level. Although most activities are focused on water supply, the ministry is also involved in planning for urban sanitation at the national level. This is through the Urban Water Supply, Sanitation and Hygiene Subsector Investment Plan, which was developed in 2013 to attract investments to the sector for the next five years (2013 to 2018) (USAID, 2015). It is also involved in other sanitation activities undertaken by the Department of Rural Water Supply and Sanitation Services, which has responsibility for the establishment of sanitation facilities including the construction of ablution blocks in schools, health centres and trading centres. The department also undertakes hygiene promotion and community-led total sanitation activities. Although the department focuses on rural areas, it does carry out activities in peri-urban areas too.

The Ministry of Lands and Urban Development is mandated to develop policies and programs for capital investments and provision of urban sanitation services in the state capitals and other major towns in South Sudan (World Bank, 2014). Within the ministry, urban sanitation activities are the mandate of the Directorate of Urban Sanitation, which is headed by a Director General. One of their key functions is to provide or ensure the provision of suitable schemes for sewerage disposal and treatment in housing and urban areas. The ministry also has responsibility for formulating policy, standards, and regulations on urban planning and urban land management (USAID, 2015).

The Ministry of Health is responsible for hygiene promotion and emergency intervention. In the Health Policy, the Ministry of Health is expected to raise awareness of the potential health hazards related to a

lack of adequate sanitation and hygiene services (RSS, 2012). It also ensures that all renovated and newly constructed health facilities have adequate sanitation and hygiene services. Two of its nine directorates have some sanitation duties which are, the Directorate of Preventive Health Services, under which is the Department of Environmental Health and the Directorate of Primary Health Care, which oversees the Department of Health, Education, and Hygiene Promotion that is responsible for social mobilisation and hygiene promotion (USAID, 2015). Much of these directorates lack clear mandates, regulatory frameworks, required funding, and the essential human resources and capacity to operate effectively (UNEP, 2018).

The Ministry of Environment was created in 2010 and is responsible for environmental protection. The ministry has six directorates including the Directorate of Environmental Management, which manages the Department of Pollution Control, the Department of Waste Management, and the Department of Environmental Impacts. The Department of Waste Management is supposed to prepare and enforce environmental guidelines while the Environmental Impact Assessment (EIA) team is supposed to enforce the undertaking and implementation of EIA studies, control waste management, carry out inspections, and provide technical assistance and advice to developers. Operations of the Ministry are currently hampered by absence of environmental law to compel enforcement although a draft bill on environmental management has been prepared (UNEP, 2018).

A scrutiny of the South Sudanese WASH framework reveals that sanitation has still not been given adequate attention either financially or institutionally as the government, both at the national and state levels, has not clearly designated a single lead ministry responsible for sanitation. Each of the ten state Ministries of Lands and Physical Infrastructure has a Water Resources Management and Irrigation Directorate and a Rural Water Supply and Sanitation Directorate (Kooy and Wild, 2012). The Local Government Act 2009 placed the responsibility for the delivery of basic services like sanitation with the local government bodies. It classifies the third tier of government as including the county, city, municipal, and town councils (World Bank, 2017c). Sanitation services at the state level also lacks uniformity and falls under the duty of the state Ministry of Health, Environment and Sanitation and the Lands and Physical Infrastructure. The Ministry of Lands and Physical Infrastructure holds responsibility for provision of water and sanitation in majority of the states while the Ministries of Housing and Public Utilities, Ministry of Environment and Natural Resources and Ministry of Cooperatives and Rural Development coordinate activities in others.

There is a complex sanitation regulatory arrangement in South Sudan. Numerous regulatory boards also exist which include the South Sudan Urban Water Corporation (SSUWC) involved only in water, Sanitation and Hygiene Technical Working Group,[36] the Water, Sanitation and Hygiene (WASH) Bi-

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[36] This was established in 2008 to coordinate the activities of the Ministry of Water Resources and Irrigation and Ministry of Urban Planning bringing on board other relevant ministries including health, environment, finance and information among others making it thirteen institutions in all.

annual Planning and Coordination Meetings, the WASH Coordination Meetings, the National Sanitation Task Force and the Juba Sanitation Working Group. Often, the local government administration levels are ignored in sanitation planning and intervention with more activities situated at the state level and no formal relationship exists between the ministries and tiers of government entrusted with sanitation service delivery.

In 2017, funding for sanitation service delivery was humanitarian as the Multi-Donor Trust Fund for South Sudan and the Basic Services Fund were phased out between 2012 and 2013 and replaced by direct government funding of service delivery which is nonexistent, and individual donor-funded programs. The MDTF and BSF were primarily development focused but had to be abandoned. The sanitation funding in the country is mainly through the Common Humanitarian Fund under the Central Emergency Response Fund (CERF), which is only meant for humanitarian interventions. Other donor funded programs relating to sanitation include USAID funded Integrated Service Delivery and Health System Strengthening and the Health Pooled Fund funded by a DfID-led consortium of donors. Another is the World Bank supported IDA Credit for the Local Governance and Service Delivery Project for South Sudan, an ongoing program focused on strengthening local government and implementing small-scale infrastructure in rural areas in support of service delivery. A few development focused programmes implemented by GIZ, JICA and the USAID which had been suspended are being reactivated.

At the forefront of sanitation funding in the country is the USAID which dedicated 19 per cent of its total humanitarian funding to water, sanitation and hygiene, second only to Logistic Support and Relief Coordination which sat at 20 per cent and above Health at 17 percent in the 2018 financial year. Collaborations also exist between them and other donors including GIZ, JICA, World Bank, UNICEF and INGOs and NNGOs. The bulk of sanitation programs and projects in the country are provided by NGOs – both international and national - and development partners, since the government operates a zero budget on sanitation and hygiene services (UNDP, 2015) but sets money aside for payment of staff salaries, which is often irregular. The country recognises and includes sanitation in its top six development expenditure objectives as featured in the South Sudan Development Plan 2011-2013. In pursuit of this, it has formulated and adopted a Water, Sanitation and Hygiene Strategic Framework in consultation with stakeholders particularly aid donors and INGOs which proposes the application of Community Led Total Sanitation (CLTS) to upscale sanitation access and services (RSS, 2011). Also, an Infrastructure Action Plan developed with the support of the African Union was developed which seeks to provide 60 per cent of urban households and 40 per cent of rural households with access to improved sanitation by 2020 (AfDB, 2013).

Under the Local Government Act of 2009, the Water Policy and the WASH Strategic Framework, Juba City Council has the legal mandate over urban sanitation, but currently lacks technical capacity to carry out most of the associated tasks. The only significant investment on sanitation in the country was by

the World Bank managed Multi-Donor Trust Funds (MDTF), which was for the Roton Wastewater Lagoon constructed on the outskirts of Juba to accommodate discharge from septic exhauster trucks (USAID, 2013). However, structurally, there are still significant challenges relating to lines of accountability between the Department of Health and the Department of Environment and Sanitation (USAID, 2015). World Bank (2017b) explained that although the development vision in relation to sanitation is to improve service delivery in the rural areas, urban areas have been negatively impacted because there has been relatively little support directly targeted at these areas. This could be the effect of continuous gaps in urban policy and planning, local governance, lack of funding, and inadequate resource management. Geometric increase in informal and squatter settlements lacking essential services around the city core since the signing of the CPA in 2005 has also made proper urban planning difficult (UNEP, 2018).

3.3   State of human security and sanitation in South Sudan

This section will discuss human security in South Sudan and the consequences it has had on sanitation and vice versa. the post-independence developmental challenges of South Sudan will be discussed from political, security and socio-economic standpoints to be later linked to sanitation. This is necessary because sanitation is unaffected by the broader contextual situation in the country.

3.3.1   Human security and its relation to sanitation in South Sudan

Human security challenges in South Sudan are classified as armed conflict, inter-communal violence, economic crisis, disease outbreaks and climatic shocks which impact upon sanitation (UNEP, 2018). The state of human security is dire as it was estimated that at the end of 2018, 7 million people required humanitarian assistance and around 6 million people were in need of water, sanitation and hygiene aid out of which 3.79 million were living in host communities, 1.9 million were IDPs and 0.30 million were refugees (OCHA, 2018). An estimated 1,354,000 IDPs are expected to be displaced in camps, camp-like settings and informal settings in 2019 including PoC Sites, collective centres and informal camps. These displacements result in acute food insecurity and an upsurge in diseases like malaria, cholera, measles, guinea worm and kala'azar (leishmaniasis). Water, sanitation and hygiene needs in 2017 were highest in Fashoda of Upper Nile, Ayod of Jonglei, Rubkona of Unity and Juba of Central Equatoria (OCHA, 2017a) but have shifted in 2018 to Canal, Fangak and Pibor in Jonglei, Awerial in Lakes, Panyijar in Unity, and Ikotos in Eastern Equatoria (OCHA, 2018). Sanitation related needs across the country include water, latrines, and access to hygiene products.

Figure 3.6   **Timeline of South Sudan post-independent crises**
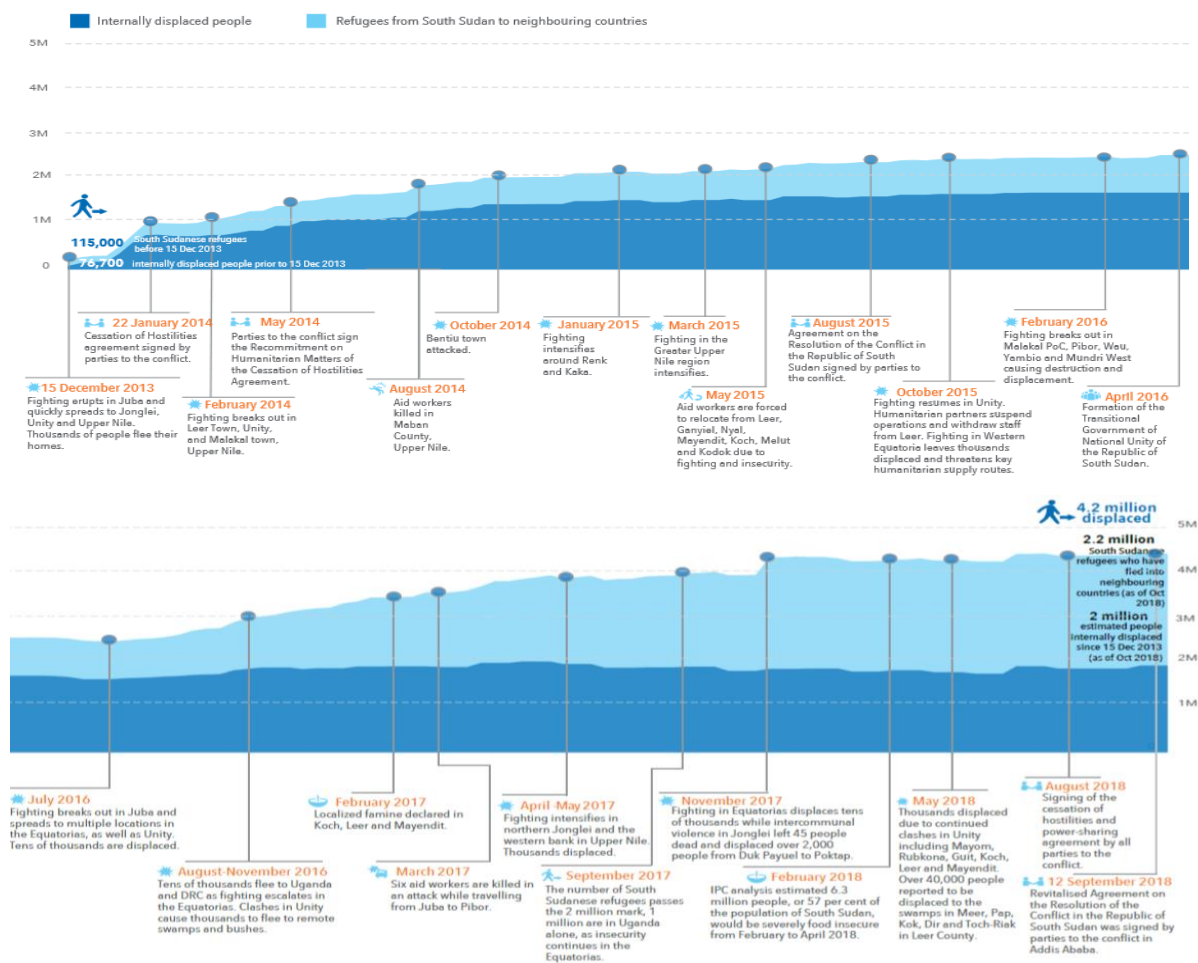
Source: OCHA (2018: 4-5)

Security governance in South Sudan is primarily under the management of the government with support from the UN through UNMISS who acts both as a watchdog and a partner. This support, although disdained by the government, is deemed necessary by the latter because South Sudan was a product of insurgency, an insurgent army, violence and displacement (Jok, 2017)[37] some of which are depicted in figure 3.6 above. According to Willems and Rouw (2011) social and economic development in South Sudan is largely dependent on security.[38] In their research on local security measures in South Sudan in 2011, the people attributed different meanings to security, these included the ability to walk, talk and do things without anyone interfering with your life, a situation of no war but peace and stability, economic growth in the country, access to facilities and education for their children. In addition, there

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[37] Both seem, on paper, to have different security priority as the government prefers to protect its sovereignty against internal enemies while the UNMISS focuses on protecting the civilians and upholding rights.

[38] Instability in neighbouring countries like DRC has caused an increase in refugee population in South Sudan to about 265,700 according to UNHCR. There are about 11 UN agencies, 63 INGOs and 40 NNGOs working in South Sudan but these numbers are not fixed.

was widespread agreement that security providers, in most cases, were part of the insecurity problem.[39] Apart from the civil wars that have bedeviled the country, complex drivers of violence related to cattle raiding, tribal animosity, access to grazing lands, limited economic opportunity, unequal distribution of resources, political marginalisation, absence of state authority, and the availability of firearms intertwine to contribute to grassroots insecurity in the country (UNESCO, 2014).

Three strands of events are attributed to the security decay in the country. First, decades of civil war with Sudan saw to the rise in militia fighting for or against the Sudanese government. Second, political contest for power within the various liberation movements which continued after independence. Third, is localised competition for resources which has taken ethnic colouration (Jok, 2017). A major factor of the increased violence at the community level is as a result of the proliferation of the availability of small arms and light weapons in the country, which makes the expression of grievances using guns common even in household disputes (UNDP, 2015).[40] Macroeconomic crises in the country has also been linked to increased criminality in many areas as people struggle to meet basic needs as homes, schools, medical facilities and aid warehouses get looted (OCHA, 2017a).

In a comprehensive safety and security perception survey in 2016 by UNDP, 61 per cent of respondents agreed that firearms caused many deaths in the local area and 56 per cent reported that people had recently been displaced from their area due to violence. Forty-eight per cent of South Sudanese perceived armed robberies as a major concern and 46 per cent said that kidnapping was an acute problem. Cattle rustling was perceived essentially as a rural problem where 59 per cent of respondents cited their concern and 59 per cent stated that armed robberies were more concentrated in urban areas. Sexual assaults by armed individuals was reported to be greater in Jonglei and Greater Equatoria where 34 per cent of respondents confirmed that this was a frequent form of armed violence. This also seemed to be more of an urban than rural problem at 36 per cent compared to 25 per cent. Household firearm possession was highest in Jonglei at 21 per cent, Warrap and Northern Bahr el Ghazal at 16 per cent and Western Bahr el Ghazal and Central Equatoria at 13 per cent (UNDP, 2016).

The highest number of firearms in armed households is in Central Equatoria and the area with the least firearms possession is Warrap. Regarding motive behind weapon possession, 43 per cent cited armed criminals, 37 per cent said it was to protect their property, 24 per cent said they held guns for organised security and 7 per cent specifically kept them for use against SPLA. People are less safe in urbanised areas than rural areas as urban residents are more likely to be personally victimised than in rural areas. Types of violence are numerous but the top five are intentional killing 44 per cent, shooting 44 per cent, robbery 19 per cent, livestock theft 19 per cent, threat/intimidation 17 per cent, with the last five being

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[39] The people believe building of roads, schools, vocational training centres, irrigation schemes and job creation can help reduce indolence that contributes to unending cycle of cattle raiding.
[40] People bear firearms not only for protection of physical security but also to pursue and maintain their economic security.

child abuse 1 per cent, forced conscription 2 per cent, rape or sexual assault and domestic violence at 3 per cent, with political violence and revenge killing sharing 7 per cent. Most violence, 58 per cent, according to respondents occurs at home, with 41 per cent occurring in public spaces out of which 13 per cent occurs in the street, 7 per cent at the cattle camp, and 4 per cent at work. These crimes are committed using automatic weapon 63 per cent, rifle or shotgun 22 per cent, military equipment 16 per cent and crude or traditional weapons at 11 per cent.[41]

The legal rights of women in the country are primarily enshrined in customary rather than formal laws which in turn are enshrined in the Transition Constitution and implemented by traditional authorities. Risk factors for violence against girls and women are classified into individual, interpersonal, communal and societal/institutional (UNEP, 2018). Women and girls bear the greatest insecurity risk in South Sudan as violence against them is an accepted practice in most communities. In addition to this, they are largely excluded from decision-making and access to resources all of which have been worsened by the ongoing conflict (Edward, 2014). They also suffer more from environmental degradation since it forces them to spend more time and energy fetching water and firewood (MOE, 2014). Traditionally, much of the cultivation, processing and marketing of produce are carried out by them but the decades of conflict have increased their exposure to discrimination including sexual and gender-based violence (FAO/WFP, 2016)

In 2016, UNMISS documented 577 incidents of conflict-related sexual violence, including rape, gang rape and sexual slavery (Amnesty International, 2017). In the first half of 2018, some 2,300 cases of SGBV were reported, representing a 72 per cent increase in the reporting of SGBV compared to the same period in 2017 predominantly perpetrated by armed actors (OCHA, 2018). Perpetrators of this act include soldiers on the government payroll, troops from the SPLA-IO and non-aligned militia groups (Stone, 2017). OCHA (2017a) reports that women and girls face risk of gender-based violence while carrying out routine and economic activities like collecting firewood and food and accessing water and sanitation facilities. Boys and male youth are not excluded as they are at risk of being kidnapped including from the PoC Sites and forced to join militias or the army (IOM, 2018).

Deepening economic crises has exacerbated human security in the country. By August 2016, the three-year conflict had begun to take a toll on the economy as GDP was estimated to have contracted by 11 per cent in the FY2016/2017 and contracted further by 3.5 per cent in 2018 (FAO/WFP, 2019). On the demand side, exports and household consumption declined, while government consumption increased due to spending on defense and security operations. Despite adopting a flexible exchange rate regime for the South Sudanese Pound in 2015, this soon collapsed as it depreciated by December of the same year. The FY17/18 budget foresees a two-fifth cut in expenditure in dollar terms compared to the

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[41] Checchi *et al.* (2018), using statistical methods, estimated that between 190,000 and 218,900 people had died between December 2013 and April 2018.

2016/17 budget. Focus has been on funding public administration, law and security with both education and health taking 6 per cent of the total budget (World Bank, 2017d). Heavy reliance on oil as source of revenue and skewed expenditure towards security at the expense of meeting the citizens needs continue to expose many households to food insecurity and displacement (OCHA, 2018). Rising debt of $1.4 billion, which is 38 per cent of the GDP as foreign exchange reserves had dwindled to about $70 million, is also crippling the economy. Unattached to this is the significant rise in living conditions especially in urban areas with inflation reaching 183 per cent in Juba in 2017 (OCHA, 2017a).

Figure 3.7   South Sudan poverty percentage by states

UNEP (2018: 42)

A major effect of years of widespread crises is the rise in violence as multiple insecurity drivers exposed people to a loss of economic opportunities and growing dependency on humanitarian support resulting in growing poverty.[42] As seen in figure 3.7, state of Bahr el Ghazal has the highest poverty level, closely followed by Warrap and Unity. By September 2018, no less than 6.1 million people (almost 60 per cent of the population) had been food insecure and this is projected to rise further in 2019 (OCHA, 2018). Resultant economic crises have escalated, with the urban poor also becoming increasingly desperate and destitute while cultivation has been hindered because of unsafe access to farmlands in rural areas (FAO/WFP, 2017). Cereal is a staple food in the country and net production in 2018 was the smallest recorded output since the start of the conflict (FAO/WFP, 2019).[43] Acute malnutrition has increased in many parts of the country becoming a major, unprecedented public health emergency (UNEP, 2018). The contributing factors to the acute malnutrition are unprecedented high levels of food insecurity,

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[42] World Bank defines poverty as pronounced deprivation in one or more dimensions of the welfare of an individual, such as limited access to health facilities, low human capital, inadequate housing infrastructure, malnutrition, lack of certain goods and services, inability to express political views or profess religious beliefs, etc. (World Bank, 2011).
[43] The poor performance of the 2018 cropping season was mainly due to below average and erratic rains constraining yields, outbreak of common pests and persisting and protracted insecurity disrupting agricultural activities.

widespread conflict and insecurity, population displacement, poor access to services, high morbidity, extremely poor diet (in terms of both quality and quantity), low coverage of sanitation facilities and poor hygiene practices (UNICEF, 2017). The effects inadequate sanitation has on malnutrition and subsequent susceptibility to diseases has been well documented, for example, the diarrhoea-malnutrition cycle which may result in death. With continued food insecurity, malnutrition and weak access to services, morbidity and mortality rates increased in an already vulnerable population as access to safe sanitation deteriorated significantly (OCHA, 2017a).

Table 3.2   Events and their contribution to worsening poverty by percentage

Type	Percentage of population
Some shock	92
Droughts/floods	56
Crop disease or pest	42
Livestock died or stolen	47
Severe illness or accident of household member	35
Death of household member	34
Fire	10
Robbery	11
Dwelling damaged	14
Severe water shortage	26
Other	4

Source: RSS (2016)

The chaos that broke out in the summer of 2016 in Juba has further exacerbated growing poverty levels in the country originated from multiple dimensions some of which are listed in Table 3.2 above. This has resulted in negative coping mechanisms, worsening their protection needs, one of which is migration. Mortality has resulted not only from physical violence but also from drowning when fleeing fighting, acute malnutrition, water scarcity and diseases (UNOCHA, 2018). The cost of living has risen exponentially, with the South Sudan annual Consumer Price Index (CPI) increasing by 835.7 per cent from October 2015 to October 2016, the highest year-on-year inflation rate in the world. Conflict and insecurity in South Sudan are leading contributors to the disruption of livelihoods (UNEP, 2018). The increasing lack of economic opportunity fueled by persistent displacement has severed social networks and occasioned little or no access to lands, loss of assets, and deepening poverty (World Bank, 2017d). In 2016, the HFS estimated that more than 4 in 5 people across seven of the ten former states were living below the international poverty line of US$ 1.90 PPP 2011 at 82 per cent and rural poverty deeper than in urban areas (World Bank, 2019). It came as no surprise that the country in 2017 and 2018 ranked

187 of 189 countries in the Human Development Index (UNDP, 2018) down from 169th out of 188 countries in 2014 (UNDP, 2014).

The provision of troops in the six PoC Sites, according to UNMISS, hinders them from deploying additional troops to other hotspot areas contrary to their Chapter VII mandate which covers the whole country (Briggs, 2017). People there are living in overcrowded conditions and require continuous water, sanitation and hygiene assistance but the conflict has constrained provision and access to sanitation. Protection concerns are acute and widespread, both inside and outside Protection of Civilians (PoC) Sites and across 58 of 79 counties in South Sudan (OCHA, 2017a). Sanitation services outside of PoC Sites are grossly inadequate and there has been increased pressure and tension on the few available, particularly among IDPs and host communities. Sanitation needs are said to be greatest among internally displaced persons outside the PoC Sites in Unity and Upper Nile states. With the multifaceted security threats, more than 90 per cent of the population practices open defecation, either because they do not have access to, or are not accustomed to using a basic sanitation facility and only 13 per cent of the population has access to WASH non-food items like jerrycans and soap (OCHA, 2019).

3.3.2 Humanitarian framework and sanitation in South Sudan

The delivery of sanitation assistance in the country has mainly been through humanitarian[44] and development interventions in South Sudan although insecurity has forced greater focus on the former since the outbreak of the December 2013 civil war. The categories overlap as humanitarian funding may go to projects that have some development traits, and vice versa. It is devoted to providing people with lifesaving emergency sanitation aid including improved sanitation, key hygiene messages and reusable sanitary supplies to improve menstrual hygiene management under the leadership of UNICEF through the WASH Cluster. INGOs are the main providers of basic services in the country although the number of NNGOs has significantly increased since independence. The table below presents sanitation humanitarian and development activities undertaken in South Sudan.

Table 3.3   **Sanitation aid framework in South Sudan**

	Humanitarian	Development
Mission	'Save lives' imperative and meet urgent needs: focus on rapid service delivery, e.g. emergency WASH support to IDPs and conflict-affected and vulnerable host communities, lifesaving WASH to crisis-affected IDPs and returnees, prepositioning of core pipeline WASH emergency supplies to	Empower beneficiaries, support ownership and participation in service delivery (e.g. through establishment of Water User and Sanitation Committees), attempts at cost sharing and cost recovery, behavioural change programmes (hygiene promotion campaigns, GBV prevention), capacity-building

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[44] Humanitarian assistance according to Andersen and Gerber (2018) is a disaster requiring international support to meet the basic needs of the affected population.

	enhance the sector's preparedness and response.	to and collaboration with governmental authorities (to set up enabling framework, build capacities and expertise).
Service delivery modalities	Distribution of kits and vouchers. Off-shore procurement. UN agencies and INGOs partner with NNGOs to implement interventions (subcontractor-like relationship, direct implementation in some cases); government is often 'by-passed', focus is more on service delivery that ownership and capacity-building.	Self-supply, self-help, self-construction. Local procurement. UN agencies and INGOs work with NNGOs and CBOs, partnerships with Government (at national level for interventions aimed at setting or modifying the enabling environment; at state level for service delivery); emphasis on capacity-building.
Geography	Focus on 'red states' (conflict-affected) and IDP settlements/ PoC Sites.	Focus on 'green states' – where conditions are stable, and preferably long-term (pre-conflict) presence.
Programme management approaches	Short-term programming: 3-6 months, simple monitoring and evaluation requirements, focused on results (e.g. # of people reached)	Long-term programming cycle: 3-5 years, complex logframe/theory of change, M&E focused on outputs, outcomes and impacts.
Funding sources	CHF, CERF and bilateral donors.	Mostly bilateral donors.
Guiding documents	Strategy based on HRP, coordination in WASH Cluster (led by UNICEF).	2011 WASH strategy updated; WASH DoG recently resumed its activities

Source: Mosello *et al.* (2016: 17)

Table 3.3 shows the distinctions between humanitarian and development aid in the country. Although they seem different on paper, it is difficult to draw the boundaries in practice. WASH Cluster led by UNICEF and co-led by NRC since October 2015 is the main vehicle through which humanitarian funds were allocated and interventions were decided and coordinated at the country and state levels using the Emergency Preparedness and Response Mechanism (Mosello, 2016). WASH Cluster comprises UNICEF, IOM, INGOs and NNGOs, Donor as an observer, government, CBOs, and related Clusters like Protection, Health, Nutrition, Shelter-NFI and Logistics. The private sector also plays some role although minimal which is provision of WASH materials when there is shortage in the core pipeline. Saving lives by providing timely and integrated assistance to reduce acute needs among the most vulnerable people, reinforcing protection and promoting access to basic services for the displaced and other vulnerable groups and supporting at risk communities to be resilient and cope with significant threats are the broad objectives of the Cluster (WASH Cluster, 2018). The key drivers for Emergency WASH response are the IDP population, Global Acute Malnutrition (GAM) rates and cholera outbreaks

(OCHA, 2017). In 2018, the WASH Cluster has 50 implementing partners, comprising 25 INGOs, 23 NNGOs, 2 UN agencies and 1 government ministry.

The main two UN agencies in the WASH sector in the country, UNICEF and IOM, have some different roles. The former works more through the WASH partners while the latter are direct implementers. UNICEF has the task of managing the Rapid Response Mechanism, funding and building capacity of NGOs through Programme Cooperation Agreements[45] to undertake humanitarian interventions between 3 to 6 months, undertake short-term sanitation projects and construction of boreholes. IOM distributes Rapid Response Fund, fund WASH partners, build NNGOs capacity and provide support to IDPs including those seeking protection at the United Nations Mission in South Sudan (UNMISS) Protection of Civilian (PoC) Sites through its Migration Crisis Operational Framework (MCOF).

The aims of the MCOF are threefold and they are; meeting humanitarian needs, building national ownership and enhance stability. IOM is also a member of humanitarian initiatives including UN Country Team (UNCT), Programme Management Team (PMT), Interim Cooperation Framework (ICF), Inter Agency Standing Committee Humanitarian Cluster System, UN Humanitarian Country Team (HCT), Inter-Cluster Working Group (ICWG), Operational Working Groups (OWG), and planning for the humanitarian response plan (HRP). IOM is the Shelter and Non-Food Items (S-NFI) Cluster co-lead for 21 partners, the Water, Sanitation and Hygiene (WASH) Cluster SFP for Upper Nile, manages a percentage of the WASH core supply pipeline, and leads the Mental Health and Psychosocial Support Co-ordination Group (MHPSS CG) (IOM, 2018).

USAID, the biggest humanitarian WASH donor in the country,[46] through its OFDA fund the WASH sector from the Central Emergency Response Fund the most compared to others like ECHO and JICA. Donors also have a separate coordination mechanism called the WASH Donor Group (WASH DoG) which suspended its functions in 2014 but resumed at the beginning of 2015 and are still functional. Most investments of USAID go into cholera preparedness and other preventive activities like rehabilitation of boreholes, water trucking and the construction of emergency latrines and hand-washing stations in internally displaced persons camps.[47] There are also development WASH donors like GIZ and DFID who are not operating through the WASH Cluster. The WASH Cluster holds quarterly meetings with donors where funding gaps in the RRF are identified, coordination of activities among partners discussed and review of intervention proposals.

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[45] PCA is the legal umbrella agreement used to establish the partnership framework between UNICEF and civil society organisations, defining the rights and obligations of the parties and the partnership's general terms and conditions.

[46] For example, USAID in 2014 spent 30 per cent of its $110 million assistance to WASH but is 19 per cent of $129 million by September 2017.

[47] The most part of this is devoted to addressing cholera outbreak in the country which started in July 2018 and declared over in January 2018.

3.3.3 Challenges and gaps in the sanitation and human security intervention

The challenges and gaps in sanitation and human security intervention in the country are multiple and interconnected. UNDP (2015) sees sanitation service provision in the country as the responsibility of both public and private sectors and are critical to the country's human development. It also recognised that pursuing basic services like sanitation as well as other essential services, such as health, nutrition, education and security is challenging since they were nonexistent before independence and must be provided simultaneously. The inability of the unity government to tackle its numerous human security challenges funded from the national coffers rather than solely depending on international aid and continuous political bickering at the national level with accusations of corruption and diversion of resources slowed development efforts before independence (Johnson, 2016). This situation has forced the humanitarian interventions to continue as the main means through which the developed world can demonstrate solidarity with the people of South Sudan, though this is not devoid of significant challenges including bureaucratic access impediments.

Figure 3.8   Ranking of BAI based on impact to deliver humanitarian assistance
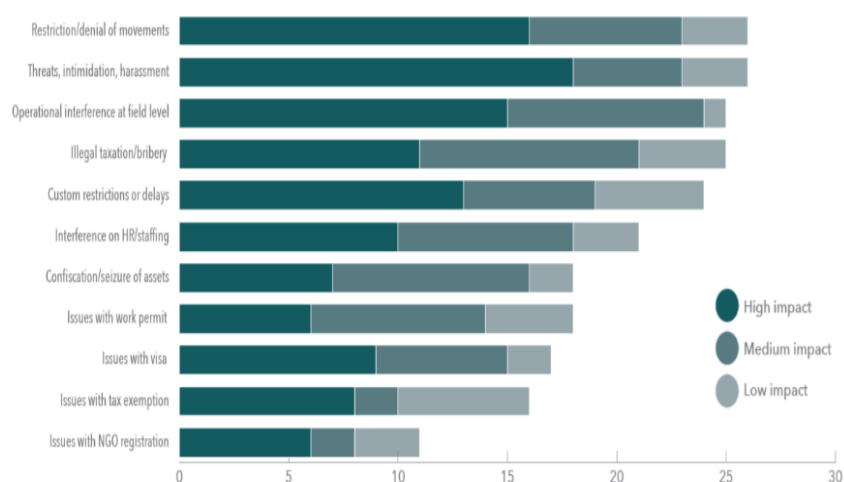
Source: OCHA (2017b: 9)

The failure of the state to disarm, demobilise and reintegrate former combatants, militias and armed youth in the society, means that the proliferation of small arms and light weapons has gone unhindered and has exacerbated an already hostile environment (Zambakari in Grawert, 2013) with implications for humanitarian support. Humanitarian activities have been affected by the widespread violence and the government has also created bureaucratic access impediments to them, preventing timely access to people in need as figure 3.8 shows (OCHA, 2017b). Consistently, nearly half of reported access incidents are violent in nature and South Sudan continues to report the highest number of violent incidents against humanitarians globally, including casualties. Humanitarian compounds and supplies have been attacked and looted in all parts of the country especially in Juba, Nhiladiu, Malakal, Mundri and Pibor (OCHA, 2017a) with common incidences of aid manipulation particularly by government

affiliated military which could be fuelling the war and denying civilians in need of aid (Sullivan, 2018). Both government and opposition forces have used food as a weapon of war, denying civilians access to food to control their movement or force them out of their homes and off their land (Amnesty International, 2017).

Sanitation facilities are exposed to damage by armed actors, overuse and natural disasters as more than 500,000 internally displaced persons live in flood-prone areas (OCHA, 2016). Hostilities, threats and attacks against aid workers and their supplies or facilities have severely impacted not only the provision of sanitation facilities but also the ability to monitor these interventions and the effects they are having on the people. Often, aid workers must repeat sanitation interventions in the same locations as access to other communities remained blocked for reasons including the presence of armed actors, poor road networks, heavy, long seasonal rainfall, prohibitively expensive transportation logistics, insecurity along rivers, and deliberate refusal of access (OCHA, 2017a). In some cases, it is the beneficiaries who get displaced from their communities because of various reasons including insecurity, hunger, water scarcity and flooding. However, insecurity and access to people in need are reported to be the biggest challenges facing humanitarians as, in 2018, conflict continued to force people to remain on the move which undermines their access to assistance (OCHA, 2018).

There has been minimal government investment in community services and development and the country is experiencing a collapse of basic services provided to communities, particularly in remote areas (IOM, 2018). Out of the 1,384 health facilities in the country, only 595 have remained functional, with the majority providing minimal services in the face of a chronic lack of essential medicines, limited funding and high operational costs. Educational services are also severely affected, and a representative survey conducted in November 2016 revealed that 25 per cent of primary schools in the country are closed primarily due to insecurity and the displacement of both teachers and students (OCHA, 2017a). More than 5 million people in South Sudan need humanitarian healthcare services and displaced people are the most vulnerable and in need having fled to very remote locations. The country still faces numerous waterborne diseases due to poor living conditions, poor sanitation and overcrowding; malaria, diarrhoea and pneumonia are the top three diseases reported from outpatients' consultations (OCHA, 2018).

USAID (2015) argue that sanitation emergency response does not take enough account of local history and political interests, are not strengthening the capacity of state/national/local institutions considering their complicated institutional infrastructure, place emphasis on infrastructure, humanitarian and development partners, bypass or collaborate with inappropriate institutions, and lacks flexibility in implementing both emergency responses as well as long term development interventions. The underdeveloped or maintained transport network means 60 per cent of the country is inaccessible by road during the long rainy season. River ports remain in poor condition, and barge movements are risky (IOM, 2018). It is common for NGOs to stick to areas they have previously worked thereby hindering

the spread of interventions to other areas. Also, some undertake sanitation interventions in specific locations with the sole aim of attracting funding. Humanitarian actors including NGOs and other agencies are battling inefficiency, mismanagement and lack of accountability and "are not subject to monitoring by the host government because they operate on the basis that the host government is the problem and should not be consulted on the priorities and how the donor money is spent" (Jok, 2016: 5). Further argument holds that focus on humanitarian support produces aid dependent citizens thus effectively relieving the government of their responsibility (Sullivan, 2018).

Although development aid was significant in South Sudan, particularly after the signing of the CPA in 2005, interventions were haphazard and not undertaken carefully in accordance with the local needs (Nmehielle and Iyi, 2014) a practice which still obtains today. This development approach took a turn with the outbreak of the December 2013 civil war and shifted to humanitarian aid and relief interventions 'due to high levels of insecurity and demand from displaced people and host communities in rural and urban areas throughout the country' (Mosello *et al.,* 2016: 9). The focus of international development agencies, donors and NGOs on relieving and feeding hungry citizens at the expense of direct development assistance has been heavily criticised. Recent assessments of the activities of humanitarian actors in the country, although capable of saving lives but incapable of solving the causes of the humanitarian crises itself, concluded they were full of wastage and highly characterised by mismanagement, duplication of functions and inefficiency (Jok, 2016).

Humanitarian funding in the country today is facilitated only by the Common Humanitarian Fund set up in 2012 as a pooled fund to support the allocation and disbursement of joint donor resources to meet the critical needs of the South Sudanese population' (Mosello *et al.,* 2016)[48] under the broad Multilateral Donor Trust Fund framework administered by the World Bank started to disburse funds. The MDTF was created to facilitate the rapid expansion of basic services and took a longer-term view of development planning and building government structure and capacity. There are reports that the MDTF, which funded programmes through the government, was terminated in June 2013 because of high levels of corruption and mismanagement of funds. Since that time no funding has been dedicated to sanitation operations in the country. Donors also established the South Sudan Recovery Fund 'to bridge a perceived gap between the short-term emergency/humanitarian aid and longer-term development assistance' (ibid. 6) but was abandoned in March 2014 and all projects under it terminated in June of the same year. The CHF is essentially for humanitarian relief and not development aid and this has significant implications for the country's long-term development.

Since the outbreak of the civil war in 2013, over 1.9 million people has been displaced within the borders of the country with about 214,000 seeking refuge in UNMISS Places of Protection sites in five states across the country and another 2.1 million people have fled to neighbouring countries particularly

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[48] Humanitarian intervention in emergency mode is currently the main assistance delivered in the country.

Democratic Republic of Congo, Central Africa Republic and Sudan (OCHA, 2018). Most IDPs, however, live outside of CCCM assessed sites, including with host communities in remote areas with irreversible impacts on the environment including deforestation, water pollution and poor sanitation (UNEP, 2018). Five years after their creation, the PoC Sites are rife with crime, strained services, and a largely idle and frustrated population (Sullivan, 2018). The PoC Sites, most of whose residents went there because of insecurity in their home areas, are congested because of the lack of physical space on the site resulting in a decrease in peoples' physical security and a marked decline in peoples' health and wellbeing (OCHA, 2017a). Protection issues go beyond physical safety and should also include basic services required to live a life of dignity which are not sufficiently available. On the other hand, however, they continue to serve as a vital coping mechanism and the only locations where families affected by shocks from the ongoing war can access a consistent level of protection and services (IOM, 2018).

The challenges of sanitation and human security discussion in South Sudan is incomplete without considering the risk of cholera outbreaks. Cholera outbreaks in South Sudan throughout history occur only during the rainy season of every year and are concentrated in rural areas. When it broke out in June 2016, it was not stopped until 7 February 2018 becoming the country's longest and deadliest cholera outbreak in history. The outbreak led to 20,438 cases of cholera across 27 counties, causing 436 deaths (UNICEF, 2018) at some point representing a case fatality rate of 2.1 percent, exceeding the UN World Health Organization (WHO) emergency threshold of 1 percent. Although it was felt all over the country, communities along the River Nile were affected the most because it is a flood plain area where most residents practice open defecation and rely solely on the water for sustenance (OCHA, 2017a). The focus of the sanitation intervention in the country during this period was to combat the outbreak and it was funded by the USAID Office of Foreign Disaster Assistance (USAID/OFDA) Rapid Response Fund (RRF), managed by IOM and involving a wide range of partners. The burdens of protracted insecurity, displacement, famine and heavy rainfall of the rainy season remain (RSS, 2017) and the ongoing economic crises created an utter lack of hygiene practices (UNEP, 2018).

Tackling these human security challenges is the primary responsibility of the South Sudanese government which continues to suffer extreme institutional and economic deficits (IOM, 2018). Despite these weaknesses, they have suffocated the humanitarian space by denial of access, obstruction of movement of goods and personnel, bureaucratic impediments, violence against humanitarian staff, extortion and rent-seeking behaviour, looting and seizure of assets, programme interference and general insecurity (Thomas and Chan, 2017). Lack of transparency and credibility by the government has significantly reduced external financial support for development programmes and budget support making people more dependent on unreliable humanitarian relief and donor funded development projects for access to services (World Bank, 2018).

3.4 Conclusion to the case of South Sudan

The goal of this chapter was to provide a general background to the study country, South Sudan in relation to the research title. In the opening section of this chapter, the geography of South Sudan was described followed by a description of the peoples of the country. It then went on, in section two, to give a history of the country's national sanitation administration. The third section evaluated the state of human security and sanitation in the country. In summary, as have been revealed in this chapter, South Sudan is an important case study for this research not only in terms of research aim, propositions and theoretical context but also its people, institutions and context. However, linking the theoretical dimensions of the two key concepts, sanitation and human security, to effectively determine how much they correspond to reality requires the careful and systematic collection of information. Research, aside from being useful for gaining information about phenomenon, is also about practically unearthing new understanding and solutions. The next chapter will provide a research design and methodology for sanitation and human security.

Chapter Four

Research design and methodology for sanitation and human security

4.0   Introduction to research design and methodology on sanitation and human security

Research design is the set of principles which serve as the foundation for effectively and logically addressing the research problem and answering the research question. Research methodology is the strategy behind research methods selection based on their relevance and the logic underlying them. The aim of this chapter is to provide a research design and research methodology for the study on sanitation and human security in South Sudan. In undertaking this, the chapter will be broken down into seven objectives with each discussing the following: research in Development Studies; research design for sanitation and human security, research methodology for sanitation and human security, description of entry into South Sudan, discussion of study locations and their justification, ethical considerations for sanitation and human security in South Sudan, and application of appropriate research methods and their performance. In the last section, a conclusion will be provided through a compounded summary of the above sections.

4.1   Research in development studies

Undertaking research is a central task in all academic disciplines and Development Studies is not an exception. This section examines what research is, what criteria sets a scientific research apart from other means of investigation and then how it is being applied in the field of Development Studies.

4.1.1   Meaning of research

'Research' originates from the French word 'rechercher' meaning 'to search or seek again'. The term can be described as an approach to searching for knowledge about an unclear aspect of the world in an intensive, focused and systematic manner. According to the Oxford Advanced Learner's Dictionary, it is defined as a careful investigation or inquiry specially through the search for new facts in any branch of knowledge. Kothari (2004) describes it as "a scientific and systematic search for pertinent information on a specific topic with the purpose of finding solutions to a problem." Redman and Mory (1923: 10) explain research as "a systematised effort to gain new knowledge." Goddard and Melville (2001: 2) say research is the process of expanding the boundaries of our ignorance by "answering unanswered questions or creating that which does not currently exist." Although motivations for the pursuit of research are diverse, they oftentimes result from the desire of humankind to understand the universe in which they live, to find solutions to specific real-world needs and to do research in the pursuit of academic qualifications.[49]

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[49] Bryman (2016) explains that social research relates to questions relevant to the social scientific fields like sociology, human geography, social policy and politics motivated by developments and changes in society.

4.1.2 A scientific research

The criteria that passes for a research being labelled scientific are numerous and are determined by the philosophical assumptions of the person undertaking it. A research can be said to be scientific if it strives to obtain better quality answers and have a higher level of confidence in them. Frankfort-Nachmias and Nachmias (1996) explain that a major goal of science is to provide an accurate description of events or to learn facts about the real world through empirical observation. A scientific research is one that aspires to acquire knowledge about a phenomenon by formulating specific questions and then systematically finding answers so as to ensure that the answers discovered are as accurate as possible and must satisfy other conditions like being empirical, public and objective (Gravetter and Forzano, 2016).[50] The key distinguishing hallmark of scientific research is the goal of drawing inference that goes beyond the particular observations collected as well as other features like the procedures being public, the conclusion being uncertain, and has methods as its content (King *et al.,* 1994).[51] These criteria of a scientific research are flawed in the sense that they miss out on the relative nature of research rather than seeing it as a fixed phenomenon which can be captured.

Furthermore, other scholars have resorted to producing a list of criteria for a scientific research. Bryman (2016) argues that three criteria determine scientific research which are reliability, replicability, and validity while Bless *et al.* (2006) list the characteristics of a scientific research as empirical, systematic and logical, replicable and transmittable, reductive[52] and falsifiable. Popper (2005) mentions that a scientific research is one that spells out hypotheses (scientific statements) for understanding the real-world phenomenon accompanied by a theory of method which informs decision about the way in which scientific statements are to be dealt with to produce findings which are falsifiable. Scientific research in the social sciences in the opinion of Babbie (2017) must have both logical and empirical support. Robson (2002) provides recommendations of what counts as a scientific attitude towards research, to include being systematic throughout the whole research process, to subject the data collected and conclusions to scrutiny, and to be ethical by ensuring the interests and concerns of research subjects are safeguarded. Again, these lists of what counts as a scientific research are not encompassing of how scientific research has in practice been undertaken especially when undertaken 'under fire.'

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[50] They argue further that observations of real-world phenomena lead to hypothesis construction which is logical predictions to be empirically tested by making additional systematic observations. Method of tenacity, method of intuition, method of authority, method of faith, the rational method and the method of empiricism are classified as the non-scientific approaches. Although, scientific methods too are infallible, they are designed to minimise the biases that affect subjective opinion.

[51] Inductive and deductive approaches are the two major philosophical scaffolds for a logical argumentation with which scientific research is concerned, however, a variant which combines both approaches are becoming increasingly common in research called 'abductive'.

[52] Reductive means that the complexity of relationships of reality must be presented in a way that can be easily grasped.

4.1.3 Application of research in Development Studies

The application of research in the field of Development Studies is about understanding various development issues, particularly in the global south. Research in the discipline is undertaken to accommodate various audiences like academics, policymakers, NGO/CSO workers, donor agencies, media practitioners, supra-national agencies like the UN and consultants. Researchers both in the academic and practice sectors of the South and North not only conduct research on numerous development issues but also demand up-to-date approaches to development research for planning, project/programme evaluation, policy reform, and concept clarification purposes thus making them a vital authority on research methods in the discipline.

Every discipline has its specific logic, which is a set of norms of reasoning appropriate to the subject matter being researched and analysed and DS is not different. Development research aims at making both practical and scientific contributions thus making development research either issue-focused or programme-focused (Laws *et al.,* 2013). Epistemological underpinnings in DS have been guiding research in the discipline and none has been redundant. A cross-disciplinary discipline of DS enables researchers to study social phenomenon and changes in a holistic and multidisciplinary manner and this is the edge it has over other social science disciplines (Sumner and Tribe, 2008). One can broadly distinguish research design in DS under qualitative and quantitative and survey and case studies. These distinctions reflect the type of data collection, type of data collected, type of data analysis and type of data output. However, each of these research methods has numerous variants in practice, since DS research is essentially problem-oriented as opposed to technique-oriented or discipline-oriented research. Problem-oriented means it is intended to identify and address specific development problems irrespective of which disciplines the research solutions are aligned. Findings from research are applied to similar developments in the hope of achieving positive results.

Conducting research in the discipline is undertaken to accommodate various audiences such as academics, policymakers, NGO workers, donor agencies, media practitioners, supra-national agencies like the UN and consultants whose unitary space is increasingly getting blurred in this era of globalisation. In this manner, DS fulfils the needs of universities where there are academics interested in understanding and explaining development issues and problems. Similarly, it provides those in the non-academic camp with tools for informed decision-making. An interesting factor in DS research is its ability to give the researcher leverage to view reality using a different lens, as this encourages matching of contrasting theories from other disciplines as a source of creativity, both conceptual and metrical. Development research can be used for programme development, to influence policy, for purely academic purposes, or for the monitoring and evaluation of development projects. Against this backdrop, it is essential that high ethical standards are subscribed to when using this discipline as it commits to addressing real life issues affecting people who are, in most cases, suffering a form of social

exclusion. A strength of research in DS is the constant knowledge sharing between the academic and practice camps that forms the discipline.

In Development Studies, research methods are conventionally divided into quantitative, qualitative and participatory (Sumner and Tribe, 2008).[53] Key research methods in development studies include; interview, focus group, questionnaire, participatory methods, observation and secondary sources (Laws *et al.,* 2013). Desai and Potter (2006) identifies major research methods in DS as interviews, focus groups, questionnaires, participatory methods and observation. Davies (2004) mentions seven research variants in DS; attitudinal (surveys, qualitative), statistical modelling (linear and logistic regression), impact/implementation (experimental, quasi-experimental, counter-factual), economic/econometric (cost-benefit, cost-effectiveness, cost utility), ethical (social ethics and public consultation), descriptive analytical (surveys, administrative data, comparative and qualitative).

One of the oldest and most widely used social research methods is the undertaking of surveys by means of questionnaires and used by a range of development agencies (Overton and van Diermen, 2003). A questionnaire is a 'device or tool for collecting information to describe, compare, understand and/or explain knowledge, attitude, behaviour and/or socio-demographic characteristics of a particular population (target group)' (Simon, 2006: 164). Questionnaires can be self-completion, face-to-face-interviews and telephone/online or closed format questions and/or open format questions. It is used in social science and development research for the following reasons: applied based on probability sampling, random sampling, or stratified sampling for the sake of making generalisations beyond the subset; questionnaires use a carefully prepared set of questions to produce data needed to answer the research question and; data is obtained from hundreds even thousands of respondents and as a result of the large amount of data collected, analysis is conducted using statistical methods (Hammet *et al.,* 2015). The survey method of research dominated the field of DS in the early days when poverty was viewed as a development problem which can only be challenged by improving national economic indicators (Sumner and Tribe, 2008). Questionnaire can generate data on demographic characteristics and patterns like life expectancy, population growth rates, mortality rates, unemployment levels, education, and health and how these have changed over time as well as the extent the relationship between them but it is limited in providing explanations for these links (Willis, 2006).

Interviews in development research are a type of research method in which a series of questions are posed to an informant on a one-to-one basis and their responses recorded (Laws *et al.,* 2013). Interview questions in development and social research are commonly semi-structured or unstructured depending on the extent the interviewer wishes to guide the discussions, but each has its own strengths and weaknesses applied either at different stages of the research or with different participants (Hammet *et*

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[53] With the realisation of the multidimensionality of many DS concepts, there has been an increasing practice of mixing qualitative (non-numerical data but not necessarily in the form of words) and quantitative (data in the form of numbers) methods of data collection for a single study to leverage the strengths and weaknesses of each method.

al., 2015). The application of this method in DS research is largely dependent upon the nature of the research or intentions of the researcher and it is an excellent way of collecting a wide variant of factual information which is unavailable elsewhere (Willis, 2006). It is used to collect information about the informant, about other persons or undertakings that he knows or is interested in, about life history, or to corroborate evidence obtained from other sources. Both types of interviews in DS research are often used to quickly access important facts from carefully selected individuals who have access to those facts (Skovdal and Cornish, 2015). The interview research method goes beyond the excavation of information from respondents as it also identifies the recording of non-verbal information as important, and it has been used to collect information from individuals (across ages, ethnicity, wealth quintile, religion, and gender), government officials, local leaders, NGO staffs, experts, key informants, and numerous other people acting in gatekeeping capacities (Mikkelsen, 2005).

Focus group discussion is a group interview on a specific topic involving between a group of participants that have experience on the phenomenon being studied and providing information around topics specified by the researcher (Laws *et al.,* 2013). The moderator or facilitator encourages a group of four to eight participants to talk to each other about a topic under discussion and probe their experiences (Skovdal and Cornish, 2015). They are often used for the following reasons: to gather information on societal or collective views on social issues; to explore group contradictions on social issues; to assess the viability, progress and success of a particular development project or programme; to understand the codes of behaviour in relation to social, political and economic activities and the reasoning behind why they hold the views they do; to identify priorities attached to some sensitive social issues; and to understand the extent group identities influence different social factors (Lloyd-Evans, 2006). This research method is helpful in giving confidence to marginalised groups, whose views can normally go unheard, to voice their opinions. They are often used in the discipline at three different stages depending on the research focus; at the initial stage to gain background data guidance in setting the framework for the research, after other research instruments have been deployed for data triangulation, and to facilitate community participation in research.

Observation is another important research method in DS. Observation means watching or noticing by using all our five senses: seeing, touching, tasting, hearing and smelling. The relevance of observation is to deepen our understanding of how a society is structured and the processes that determine social relations as well as to identify the power relations among its constituent members by watching people and situations in relation to the research phenomenon as it naturally occurs (van Donge, 2006). In DS research, the two broad observation methods are called ethnography and participant observation although the latter has been gaining increased attention in applied research. A major feature of its importance is that it can be used not only to complement data collection from other research methods but that it can also help to guide the researcher when formulating questions to be asked using other methods. Similarly, the location where data is collected can influence participants' responses and

strengthen the dynamics of the information thereby providing critical insights into the research, an explanation behind increase of field visits in DS research (Skovdal and Cornish, 2015). Direct observation of physical structures, social and economic differences, behaviours, actions and symbols can be done in solitude, with others with whom you are observing, or with the people being researched.

Participatory research method was developed in Development Studies in pursuit of an alternative to qualitative and quantitative methods which can provide information good enough for planning policies and programmes (Beazley and Ennew, 2006). This family of research methods has become a common practice for most researchers in the discipline particularly those researching in areas affected by natural disasters and armed conflicts. In the context of Development Studies, this method is associated with an ideological position that insists that people must be involved in decision-making and the management of their lives (Chambers, 2005). The focus of this research method is on generating knowledge about the research topic from the perspectives of those being researched particularly those less likely to articulate their needs, concerns and priorities, rather than from the perspective of the researcher (Mikkelsen, 2005). Most participatory research methods are predominantly visual, so it can be understood by all individuals including illiterates and less articulate people. It includes numerous research techniques like ranking and scoring, social mapping, problem tree, transects walks, resource evaluation, timelines and causal flow diagramming (Brockington and Sullivan, 2003). In practice, it has also been extensively applied in post-conflict research (Özerdem, 2010).

Secondary research is the practice of sourcing and collecting data that has previously been collected by other people and a major source for much of DS research. They can be produced by national governments, international development bodies and their subsidiary organisations, non-governmental organisations, humanitarian organisations, independent researchers, development think-tank institutions, academics, and universities. The United Nations and its specialised agencies like the UNDP, WHO, and UNICEF regularly release reports which contain large amounts of socioeconomic data on development themes including water, sanitation, health, and education (Rigg, 2006). Data from secondary methods can be documented in books, journals, magazines, photographs, newspapers or documentaries which are made available in print or online. National governments produce secondary documents like census statistics and other socioeconomic reports and surveys (Findlay, 2006). Secondary data in development research, especially the archival, documentary, and visual aspects of it, is an invaluable means for drawing narratives relating to development challenges, as it links and straddles historic policies and practices to contemporary ones (Hammet *et al.,* 2015). Caution is needed in the use of the data contained in secondary materials as it may lack authenticity and representativeness and was probably collected for a different purpose.

4.2   Research design for sanitation and human security

Research design according to Yin (2018) is a logical and not a logistical problem in which the researcher must ask himself what evidence is needed in order to answer the research question as unambiguously

as possible. Discussion about research designs in the literature fall under both the orientation of the data to be collected (qualitative, quantitative or mixed) and the form of the research question (descriptive, exploratory, or explanatory). Maxwell (2013) declares that research design must not only fit the context in which it is being applied, how it influences the environment and is influenced by the environment must be continually assessed and revised to accomplish the research objectives. The rationale behind the study design is explained below.

4.2.1 Research paradigm for the study

Undertaking research in the social sciences, just like in natural sciences, operates from a point of departure which determines the ways of gaining knowledge about reality and the body of rules that guides this process of knowing called paradigms (Kuhn, 1970). Each discipline, either in the natural or social sciences, concerned with gaining scientific knowledge has paradigms guiding them and that of DS is not different. The key components of paradigm or knowledge foundations are 'ontology', 'epistemology', 'methodology' and 'methods.' Creswell (2013) explains that the research design relies on the ontological and epistemological research paradigm. The first specifies the nature of reality that is to be studied and what we assume exists; epistemology concerns the nature of the relationship between researcher and what can be known about a phenomenon as well as how knowledge is gained either by sensory experience (empiricism) or by reasoning (rationalism); methodology relates to how researchers may go about practically studying whatever they believe can be known; while methods is about how data are collected (Hammet *et al.,* 2015).[54]

For this research, the ontological paradigm is 'humanism.' This, in Development Studies, concerns the argument that the conditions under which people are living, their lifestyles, culture and their reactions, are important to understand the multiplicity of perspectives that are valuable in understanding the complexities of development issues (Desai and Potter, 2006). The epistemological position will be 'interpretivism' called 'relativism' in Development Studies. This is an approach that believes understanding people's subjective experiences of the external world is the means of studying reality (Flick, 2018) and that the researcher is inextricably bound into the human situation he is studying (Sumner and Tribe, 2008). Human behaviour, unlike physical objects, cannot be understood without reference to the meanings and purposes attached by human actors to their activities, and interpreting them depending on social, political, cultural, economic, ethnic, and gender factors (Guba and Lincoln, 1994). The viewpoint of the interpretivist paradigm is that knowledge of reality is a social construction by human actors to understand the world as it is from a subjective point of view of the participant (Schwartz-Shea and Yanow, 2014).

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[54] In the opinion of Sumner and Tribe (2008), development researchers must be aware of these paradigmatic levels as it has implications not only for the data collection process but also their findings and conclusions.

4.2.2 Case study research design

Case study is a type of research design whereby a case or a similar set of cases which can be individual, community, group, institution or event is intensively, coherently and sequentially studied in its context in relation to the interrelationships between elements of the cases. Case study research often adopts multiple methods of data collection (Skovdal and Cornish, 2015). The research design of this research is 'case study', which, according to Yin (2018), is applicable to a research topic when; 'how' and 'why' questions are being posed, the investigator has little control over events, and the focus is on a contemporary phenomenon[55] within a real-life context. It allows the researcher to study in-depth a narrow aspect of a broad topic by choosing a case or few cases. Six common sources of evidence for case studies are documents, archival records, interviews, direct observation, participant-observation, and physical artefacts (Yin, 2003).

A case study research design presents an applicable way to answer complex research questions, by allowing the researcher to monitor the cases or processes, as it develops (Swanborn, 2010). Yin (2009: 19) states that case study can be used to 'explain the presumed causal link in real-life interventions that are too complex for the survey or experimental strategies.' Skovdal and Cornish (2015) add that understanding how context influences and mediates behaviour or a research phenomenon can benefit from adapting a case study approach. Contextualised comparative single case studies can provide practical and contextual information about human insecurities contrary to quantitative which is unlikely to provide cumulative knowledge but generalising beyond the case can be achieved by applying theoretical models (Peou, 2014).[56] Formal models can be tested using case studies to see if their hypothesised causal mechanisms were in fact in operation and the variables and concepts developed through case studies can be formalised in models.

Truth is said to be the first casualty of war. Fear, extreme trauma, and other psychological processes have profound influences on people's recollections and on what issues they can discuss openly. The ability of third parties, like researchers, to observe and report is severely restricted during and after civil strife. As a result of the explanations above, conflicts are unique events that must be understood within their contexts. A case study design is therefore applicable to researching sanitation and human security in South Sudan. Writers of research in conflict settings encourage paying attention to the realities and complexities of daily life in conflict zones, stressing that what is actually happening is not violence but instead actions undertaken by adaptive and resourceful people trying to improve their lives in very challenging circumstances beyond their control (Jok, 2013). Conflict settings are a quickly evolving

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[55] Merriam-Webster dictionary describe a phenomenon as 'something (such as an interesting fact or event) that can be observed or studied and that typically is unusual or difficult to understand or explain fully.
[56] He explains further that causality being an important part of comparative case studies, problems of spurious relationships between variables can be spotted using this approach.

environment requiring researchers to be flexible and able to adapt their methodologies making case study an appropriate research design in that context (Muvingi and Duckworth, 2014).

It is advised further that because of the complexity of the real-life context, data collected by the investigator must be converged in a triangulating fashion (Yin, 2009). Triangulation of data is a major strength of case study research methodology for purposes of elaboration, initiation, complementarity or contradictions based on the limitations and benefits of each research method (Yin, 2003) to deepen understanding of a research phenomenon. Apart from this, research in conflict situations requires careful triangulation of information to sort out rumour from knowledge (Mazurana *et al.,* 2013). This condition as well as the need for theoretical and analytical generalisation informs the selection of three case study locations. Historical context is nearly always of interest to a case study researcher as are cultural, economic, political, ethical, aesthetic and physical contexts (Stake, 2006). This informs why the researcher is adopting secondary documents, semi-structured interview, oral life testimony, direct observation and focus group discussion each asking questions to test and build theory, examine the hypothesis and answer the research question.

Swanborn (2010) declares that the research purpose of a case study can be the formulation of a new hypothesis, a plain test of a hypothesis, or the refinement of a hypothesis. It can be used for hypotheses testing, theory building, and discovery of rival explanations which are all important to this research being a new area of inquiry (Yin, 2003). Case studies can derive basis for generalisations by relating it to theoretical framework which in turn may be adjusted as case study results produce new evidence (Yin, 2018). Yin (2009) debunked the practice of putting case study designs at the lower end of the hierarchy of research designs arguing that some of the best and most famous case studies have been those in which the descriptive, exploratory and explanatory strength of the approach was utilised.

No other research design can capture detailed accounts of complex, real-life situations in the same way as a case study. According to Frankfort-Nachmias and Nachmias (1996), it is the only available research design for making valid causal inferences about social phenomena due to the inappropriateness of experimental and quasi-experimental designs. George and Bennet (2004: 25) argue that 'a limitation of case studies in causal explanation is that they can make only tentative conclusions on how much gradations of a particular variable affect the outcome in a particular case or how much they generally contribute to the outcomes in a class or types of cases.' This means they are more suitable to determining causal necessity or sufficiency in cases than they are at estimating causal generalisations across cases.[57] Ragin and Amoroso (2011) argue that case study research is suitable for revealing multiple causations of social phenomena since most social phenomena do not arise from a single cause but are the effect of multiple causes interacting with each other.

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[57] Case study researchers are more interested in finding the conditions under which specified outcomes occur, rather than uncovering the frequency with which those conditions and their outcomes arise.

Case study research can be used to provide a greater understanding of phenomenon in a manner that supports policy by giving evidence-based rationale for new policy initiatives in terms of making them more appropriate and successful (Springer *et al.,* 2017).[58] This practice of using case studies to influence policy is drawn from its use for evaluation research. Discourse in the development field is now about impact evaluation as part of a greater agenda of evidence-based policy making since development programs and policies are typically designed to change outcomes. This informs why case study is the preferred choice in identifying the causal relationship between the program or policy and the outcomes of interest (Gertler *et al.,* 2016). As emphasised by (Skovdal and Cornish, 2015), following a case enables one to observe change and the factors responsible for it. It also sheds light on the implementation of policies and programs at the local and state levels as well as the workings of the federal government.

4.2.3 Qualitative research

Qualitative research is an approach to researching a phenomenon in which the focus is on observing the setting, capturing the experiences, observations and responses of participants through their expressions and the interpretation of the findings. The orientation of data collection for this research is qualitative which is appropriate for case study design. In the words of Stake (2006: 3), "qualitative case study was developed to study the experience of real cases operating in real situations." It involves studying things in their natural settings, attempting to make sense of or interpret phenomena in terms of the meanings people bring to them (Thakur, 2009). It is essential in identifying key social issues, developing a deeper understanding of a topic, grasping the subjective meanings respondents give to variables bordering the research, and capturing the dimensions and dynamics about the research topic. In conflict settings, qualitative research may be more suitable than quantitative as contextual dynamics may hinder the ethical application of a chosen research design and expose the researcher to more risk (Roll and Swenson, 2019). Another point worthy of mentioning is that low literacy levels, often found in conflict settings, could make them unsuitable for conducting quantitative research and could affect overall data quality.

This type of research design uses research methods such as focus groups, variants of in-depth interviews, direct observation, and secondary documents. Qualitative research is effective in obtaining culturally specific information about the values, opinions, behaviours, and social contexts of particular populations, and provides complex textual descriptions of how people experience a given research issue (Frankfort-Nachmias and Nachmias, 1996). It is essential in identifying key social issues, the subjective meanings respondents give to variables in the theoretical framework; the political and social factors determining them, and numerous dimensions and dynamics.

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[58] Policy research is used to describe the many information-gathering and processing activities that people engage in to facilitate decision making. It involves activities such as policy analysis, program evaluation, needs assessment, performance monitoring depending on the context in which it occurs (Springer *et al.,* 2017).

Human security research today draws data about the attitudes and behaviour of individuals to better understand the social, cultural, and psychological factors influencing human construction of (in)security and analyse the factors that bring (in)security which only qualitative research can sufficiently help to achieve (Martin and Kostovicova, 2010).[59] Qualitative approach to research can help enrich knowledge regarding real world issues by providing new insights into old subject matter, enables the generation of rigorous research, and produces understanding of causal relationships between social phenomena (Peou, 2014). Skovdal and Cornish (2015) provide evidence on the importance of a qualitative approach to not only development but also sanitation research which adequately captures in-depth knowledge of existing practices, norms, preferences, and context. They also suggest it should form a key component of the planning, design, development and evaluation of sanitation programmes.

This research draws analysis from the tradition of 'securitisation of development' which draws on detailed case studies and an ethnographic pool of research findings (Luckham, 2015).[60] Qualitative research is more appropriate to capture both the depth and breadth of insecurities, to help to contextualise vulnerability, and to collect individuals' own accounts of their attitudes, motivations, and behaviour (Hakim, 2000). A strong case can be made that such questions require a more eclectic approach to data, that is one that mixes observation, the analysis of text-based information (e.g., from tape recordings of village meetings or newspaper articles), free-ranging open-ended interviews with key informants and focus groups, and other such types of information.

4.2.4   Cross-sectional research

How the data are collected in relation to time can be cross-sectional or longitudinal. Development research has particularly involved either longitudinal research or cross-sectional research. These two portend different means of collecting data related to timeframe. While the former enables the researcher to collect data at a single point in time, the latter requires the researcher to collect data from respondents at various points covering a particular period (Bryman, 2019). What determines which of the two approaches to adopt depends on a few issues including but not explicit to the purpose of the research and logistical issues. The time factor in research is vital to researchers because first, they want to know how variables change over time and second, when studying cause and effect researchers must establish the proper time order (Frankfort-Nachmias and Nachmias, 1996).

This research adopts a cross-sectional design meaning data will be collected on more than one case at a single point in time by examining key variables in different population categories and describing the pattern of relationship between them. This design will be used because it focuses on studying and drawing inferences from existing differences between people, subjects, or phenomena, and the

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[59] It is, however, untrue as argued by Poeu (2014) that qualitative data can only be applied to inductive research as this study combines it with the deductive research tradition called abduction.

[60] This is similar to the analysis of structural violence popularised by (Galtung, 1969). See Luckham (2015) for a detailed explanation of this security research tradition in contrast to that of 'developmentalisation of security' research tradition.

impossibility of assigning experiments to real life situations. It also helps in establishing causal mechanism using theoretical or logical considerations and retrospective data, cost-effectiveness in terms of time and resources and suitability to qualitative data.

4.3   Research methodology for sanitation and human security

Research methodology can be described as the philosophy underpinning the chosen research methods including the logical choice of the research methods or techniques used to collect information and data (Kothari, 2004). It is not only about the strategy for answering the research question and exploring the hypothesis but also a comparison of methods and arguments behind choice of one over another. In theory, a review of the literature, especially articles published in journals, provides clarification on the types of data collection techniques used regarding various research concepts or topics thus providing an academic basis for the research methods chosen. Selection of a method or methods is also based on what kind of information is sought, from whom, and under what circumstances and constraints of time and resources it is sought (Robson, 2002).

Methodology should address the nature of academic work on the research phenomena, discuss what methods researchers have traditionally used to study similar topics, and explain what methods a study uses and why. The process of designing a methodology requires the researcher to understand the characteristics of each method available and their applicability in different contexts. Against this background, this section will discuss research methods available for studying sanitation, research methods available for human security, research methods applicable to sanitation and human security, and finally the research methods suitable to sanitation and human security.

4.3.1   Research methods applicable to sanitation

Survey is the most widely used method in researching sanitation. Surveys, baseline or KAP surveys as they are commonly called are used to assess knowledge, attitude and practices regarding sanitation. In developing countries, they are referred to as the Demographic and Health Surveys. Use of surveys in sanitation research can generate data like types of latrine owned by households, motivation for latrine construction, the proportion of latrine ownership in a settlement, frequency of latrine use, rate of percentage in the population who are open defecators, differences and similarities between target groups, prevalence of diseases related to water and sanitation, latrine use behaviours like handwashing, the proportion of respondents who consistently use a household latrine, and differences in latrine use according to age or gender among households that own a latrine, to understand the relationship between actual behaviour and other components included in the questionnaire (such as socio-economic status, residence, ethnicity etc.).[61] Also, in displaced persons' camps, it answers questions, for example, about sanitation practices both within camp and pre-camp, the number of persons per latrine, distances

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[61] The SDGs on sanitation has revealed limitations of surveys and forced a reevaluation of its potentials not only for sanitation research but also monitoring and evaluation.

between houses and the closest latrine and handwashing practices. They are also used to determine the need for a new program, to help design a new program and to evaluate an existing program.

The importance of survey as a research method for sanitation has been enhanced by the Joint Monitoring Program by both UNICEF and WHO with the annual global progress on sanitation monitoring statistics (WHO/UNICEF, 2006). It is, however, acknowledged that there are inherent problems in representative sampling which surveys use in sanitation research. Possible problems related to using surveys for sanitation research include bias, sampling error, accuracy, precision and sample size and they are likely to be more appropriate in household settings where families live together (Thomas *et al.*, 2018). UN-HABITAT (2003) identifies the two major deficiencies in surveys as the gold standard of sanitation research, as the problem with the level of detail and the extent of the coverage. Surveys according to them do not ask most of the critical questions regarding the adequacy of provision and cannot provide information on who has safe and sufficient water and adequate sanitation.[62] Adams (1999) also mentioned a concern about using surveys as there is risk of unreliable information being given false credibility simply because it is presented in a quantified form. In some research, surveys are undertaken alongside either focus group discussion or direct observation.

Interviews in sanitation research are often used to collect data which cannot be drawn from simple observation because most practices connected to sanitation are carried out in private thereby demanding that people's narratives are relied upon (Harvey, 2007). It is a research method used for gaining information from project officers, public health officers, key informants, community leaders, community-based organisations, households, donors, municipal authorities, individuals and difficult-to-reach groups (e.g. members of marginalized social groups, displaced persons, elderly and disabled persons). Also, they are invaluable in examining processes, motivations behind policies of decision-makers, and reasons for successes and failures of sanitation programmes while helping to facilitate the building of rapport with respondents (Harvey *et al.,* 2002). Interviews may be held with key informants to gather information about critical issues around sanitation. This includes common practices regarding sanitation, sanitation intervention programmes and policies, with political leaders or gatekeepers to collect information about their community's sanitation conditions, with the general population to assess how disasters or conflicts have affected people and what their intentions and practices are, with households or individuals to ask about sanitation priorities, motivations, and practices (Adams, 1999).

Observation is possibly one of the least appreciated research methods for sanitation. This is because the researcher uses three of his senses, sight, hearing and smell, which can convey important meanings and environmental cues in assessing the sanitation situation in a settlement (Narayan, 1993). Also called

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[62] The book argues that focus on surveys as the main tool for sanitation research does not provide enough information for national governments and international agencies on programme and policy. Seeking or adding alternative research methods it is believed will provide higher levels of detail and local relevance that conventional surveys cannot achieve.

visual assessments, they are usually combined with key-informant interviews or focus group discussions. They are used in home visits which often involve using a predetermined structured checklist to observe issues like type of toilet used, gender separation of toilets, frequency of use, latrine functionality, and hygiene practices among others (Adams, 1999). This unstructured type of research can, in addition to the above, collect data on the soil quality and land access or space to construct a latrine, sufficient access to water, location of latrine (in or outside of household) or defecation place, distance/time needed to walk to the nearest latrine or defecation place, availability of sites for open defecation and public toilets, access at all times, especially by women at night, effects of climate on sanitation, amongst other things. A common technique, for instance, is talking with a local technician during the visual assessment and stopping along the way to talk to people. This method gives insight into the community sanitation situation without asking anybody (Harvey *et al.,* 2002). For Ockelford and Reed (2002), observation reveals actual situations in a community, disposal of excreta practices, and general habits of the people.

Focus groups are becoming increasingly popular in sanitation, development, and social science research and this could be primarily because of its ability to provide results quickly, to generate complex information at low cost within a relatively short period of time, and draw data from a wide range of people and groups at the same time. In this research method, people from similar or different socio-economic or demographic backgrounds are brought together to discuss a diverse range of topics related to sanitation. These are usually people whose views might otherwise not be noticed in the collection of information on a more general level (Adams, 1999). It is also used to explore the thinking of different population groups like women, youth and elderly regarding sanitation. It can also be used to elicit the social, religious and ethical aspects of sanitation from the people (Ockelford and Reed, 2002).

Participatory action research methods of data collection are also used in sanitation research. The methods used in sanitation research are typically SARAR (Self-esteem, Associative strength, Resourcefulness, Action Planning, and Responsibility), PHAST (Participatory Hygiene and Sanitation Transformation) and the recently developed CLTS (Community-Led Total Sanitation) which originated from Bangladesh. They allow people from the community to express their own opinions on their situation and contribute to analysis and decision making (Adams, 1999). Broadly, they are applied to obtain a better understanding of local sanitation conditions, needs, constraints, problems, opportunities, and potentials. These methods include demand assessment exercises which include participatory rapid appraisal, mapping, transect walks, problem tree analysis, locality mapping, ranking and scoring, photographs, and videos among others. Transect walks, referred to as 'environmental tours' in Ockelford and Reed (2002) are promenades along or through a community done by the researcher, and some residents, including participants, to identify places of open defecation and explore the condition of sanitation facilities in the community, to identify their diverse and associated problems and to assess opportunities. In some focus group discussions, participatory research techniques can be incorporated.

The secondary or documentary research method is one of the most important and most used methods for sanitation research. Data are retrieved from sanitation service providers, sectoral reports, laws, regulations and guidelines. These kinds of data are collected by scholars, development organisations, aid agencies, national governments, advocacy groups, health sector workers or specialists, academic institutions, and development think-tanks about a particular topic or set of topics under the umbrella of sanitation generated for other purposes apart from that which the researcher intends. Most national governments collect data on sanitation when conducting censuses. These data are extremely valuable to the sanitation researcher because, most of the time, they contain information which cannot be collected independently, examples of which are census statistics, administrative records and surveys.

In recent times, UN specialised agencies like WHO, UNICEF, UNHCR, IOM and non-governmental organisations are important referents as regards secondary and documentary data on sanitation mainly because of the impetus of the Millennium Development Goals and later Sustainable Development Goals. For instance, the WHO/UNICEF Joint Monitoring Programme publishes yearly statistics on sanitation on all member countries of the UN and within the various continents of the world. Sanitation has a long history in development intervention thus secondary and documentary data are also invaluable in understanding the history of sanitation practices, programmes and policies in a country or in a settlement within a country.

4.3.2 Research methods applicable to human security

Security research in the humanities is distinct from other disciplines (information technology, economics etc.) from a methodological perspective as it focuses on ascertaining meaning, interpretation, analysis of texts in the broadest sense of the term, and thus on various methods of interpreting meaning (Burgess, 2014). In justifying the use of semi-structured interviews, a human security research must cover the themes of threats, protection provided against these threats (Bruck *et al.,* 2014) and the underlying assumptions and consequences of the security measures. This puts the responsibility on social engineers and managers of societal wellbeing (public officials, national governments, international organisations, local and regional officials, and other individuals) taking decisions, based more or less on knowledge, to understand and facilitate this process by constantly engaging with the people through variants of interviews as a research method. Various forms of interviews can be used to collect data through a series of questions bordering on their social situation (poverty), their safety (regarding a specific threat), or 'to report a certain attitude and enable respondents to articulate their lived experience of security issues' (Burgess, 2014: 304).

Surveys are also one of the research methods used in human security research based on questionnaires in which questions are predetermined and structured often requiring respondents to identify what they consider to be threats to their human security (Peou, 2014). Their insufficiency for capturing human security has however been highlighted in the literature. One of these is that they ignore certain types of vulnerabilities because they are not objective factors and mean different things to different people

(Tadjbaksh, 2005). They prioritise breadth of the human security indicators rather than 'generating meaningful local data which can guide more targeted and therefore effective policy (Martin and Kostovicova, 2013). Questionnaires rarely ask questions about the causes and consequences in the lives of those affected by conflict and when they do, they lack systematic implementation of findings or consistent comparisons across different settings (Bruck *et al.,* 2014).

Nunes (2016) explains that human security research requires group and then individuals' perception of their own vulnerabilities. Also worthy of engagement is the affective or emotional aspect of human security due to the dignity component to more validly capture the reality of conflict (Keen, 2012) which should also capture the means and ends of human security (Kaldor, 2007). Human security research today is believed to depend on drawing data about the attitudes and behaviour of individuals and groups to better understand the social, cultural, and psychological factors influencing human construction of security and insecurity and analyse the factors that bring insecurity (ibid.). Questions of security are to be found at personal, sub-group or interpersonal levels as demonstrated by its components of freedom from fear, freedom from want and freedom to live in dignity, and focus group discussions have the advantage of revealing how multiple threats are correlated. In addition, they help to highlight the elements of desirable wellbeing apart from the elements of freedom from fear (King and Murray, 2001). Human security research also involves issues about health from many sources like primary data and secondary sources which exist in written reports, for example by human rights organisations and journalists (Taback and Coupland, 2007).

Threat, which is assumed to be external to those being threatened, is clear, factual and empirically observable (Burgess, 2014). This suggests that observation can be a useful research method for undertaking human security research. Observation can also enable the collection of data on individuals' behaviour or physical environment to see how their actions and their environment correspond in a certain situation. Security research also recognises that although threats come from outside of the contexts, these social milieus in which they manifest and are felt are distinct drivers of changes in security and insecurity. This cannot be divorced from the notion today that security is a form of governance in which the people are responsible for the management of fears around them and societies deal with the threats confronting them that is what risk is and what it is not (Kessler, 2010). In conflict situations, it is a veritable tool for collecting data on the obvious manifestations of dangers and in addition collateral effects like illnesses, famines, physical and material insecurity.

This can be better assessed by drawing on interpretive methods which shift power from the researcher to the researched (Martin and Kostovicova, 2010) and involves the use of participatory research tools with direct participation by local communities as part of the research process (Brklacich and Leybourne, 1990). Wisner (2013) emphasises that people are constantly coping with threats thus these methods of data collection are critical in acquiring knowledge about how people perceive and understand the world and work the world. A participatory methodology, using techniques of debate and discussion rather than

interrogation, can help make the people voice their knowledge and understanding of the phenomenon under study in their own terms as this is important for building trust and mutual respect for the purpose of producing hybrid knowledge. In post-conflict societies, it should involve the vulnerable and marginalised people and consider the empowerment aspect integral to the human security research context (Martin and Kostovicova, 2010). These points emphasise the importance of participatory research methods to human security research.

4.3.3   Research methods appropriate to sanitation and human security

Semi-structured interviews are used to gather information about critical issues around sanitation like practices, intervention programmes and policies with stakeholders such as political leaders, gatekeepers, government officials, NGO staff, health workers and residents. They are conducted using a flexible framework which allows focused, conversational, two-way communication. Typically, there is a set of guidelines to be followed during the interview but there is room for the conversation to stray from the guideline where necessary.

Many of the questions asked during semi-structured interviews are formulated while the conversation is ongoing based on the responses of the interviewee, thereby allowing them to go into detail. This interview technique allows for extended discussion on individual perspectives of one or a few narrowly defined themes on the research title with the help of an interview schedule. They are recorded by means of audio-tape recorder and by taking notes. This form of interview will be helpful for the following purposes: gaining knowledge about attitude and practice relating to sanitation facility use and human security; developing and clarifying concepts related to the study; establishing questions to be posed at focus group discussions; developing indicators to gain diverse respondents' interpretation of the questions and how they recognise the causal processes for selecting cases for comparative in-depth observation; corroborating patterns of correlation and testing a theory of causal mechanism.

This research method is important to this study for some of the reasons listed below. It is appropriate when the researcher is conducting exploratory work in a new research area like sanitation and human security. It allows for sticking to the questions that need to be covered during the conversation while seeking to understand themes or issues. It can be administered to privileged witnesses, or people who, because of their position, activities or responsibilities have a good understanding of the topic and generates data that allows for broader understanding of the intersection between policymakers or policy implementers and the public or project beneficiaries.

Observation is said to be invaluable in conflict settings as the people may be suspicious of more formal techniques of data gathering. People are sometimes inaccurate reporters of their own behaviour, for this reason, observation can help to alleviate some of the biases inherent in interviews and focus groups. While this method will adopt an overt approach, it will involve observing sanitation facilities,

community settings, social processes and relationships and recording these observations using photographs and field notes.

The type of direct observation to be used for this study is adapted from transect walk used in sanitation/participatory research. Transect walk is an important entry point for data collection at the communal level. It is a type of observation whereby the researcher walks slowly and patiently through the community observing the location of defecation spaces, types of sanitation infrastructure present, spatial organisation, and the community. This can be done with the community leader or any other authority after a route to be walked through has been agreed upon. They will be asked questions for clarification and their opinions about what is being observed. A direct observation schedule will be prepared in order to focus on what is to be observed on sanitation, security, sustainable sanitation, and human security since it is impossible to observe everything.

This schedule will be unstructured (narrative) to enable the researcher to make notes forming the basis for focus group discussions. The researcher will also look out for projects and other economic, social, and environmental features of the location which has a bearing on sanitation practices in the community. Observation data will be recorded using a map to draw the transect and a digital camera to capture conversations between the researcher, translator and community members, latrines, defecation spaces, and topographical features important to the study when necessary. This will also serve as evidence for later extension of field notes.

A transect walk technique of direct observation is important to this research for the following reasons; it reveals-local people's perspectives about their ecosystem, natural resources and socio-physical profile thereby eliminating roadside bias common in field visits, is important for research on sanitation, and reveals social, cultural and religious practices which are rarely discussed or seen as normal, provides insight into motivations behind behaviours in a given real life context, identifies issues that need further investigation and triangulation of data collected through other tools, and yields data on the cause and effect interrelationships between social, economic and environmental phenomena.

Focus group discussions as a data collection method will enable the participants to develop ideas collectively and highlight their own priorities and perspectives about the issue under discussion. Focus groups will comprise of homogeneous groups of people and discussion will follow a schedule of questions. Where necessary, stimulus materials like a photograph and some participatory exercises like ranking, rating and sorting will be used to generate or clarify discussions. In sanitation research, this data collection method is adopted primarily to get a feel of a group's assessment of sanitation programs and perceived wellbeing benefits as a group in comparison and contrast with individual responses during interviews. Also, in security research, part of the outcomes of focus group discussions is mapping of security actors, their identities, and their significance, as well as the interactions among these actors from the perspective of the people.

Focus group discussions in contrast to regular interviews can help douse security concerns of potential respondents involved in data gathering processes in post-conflict contexts and for the researcher who can easily hide behind the group. It can help the researcher to draw opinions, attitudes, experiences and behavioural choices as regards policies and programs and why they succeed or fail. Each focus group will be audio-recorded and contain about four to six participants. A focus group checklist will be prepared by the researcher and an interpreter will be present to interpret questions and responses. The research method allows questions to be asked one at a time and participants can exhaustively debate each question among themselves and arrive at a general conclusion.

Focus group discussion is critical for this research as it is used to study attitudes and opinions, perspectives and experiences, behavioural choices and motivations. Appropriate in conflict and post-conflict contexts because being among peers makes it easier to divulge information than a one-on-one interview would allow. It generates data at three units of analysis, namely, the individual, the group, and the interaction. In terms of power hierarchies between the researcher and the researched, focus group discussion tilts the power balance in favour of participants because of their number. Finally, it is a less intrusive data collection method where all participants are under no pressure to voice their opinion on all questions.

Oral life testimony is chosen to fulfil the development research requirement of recognising, respecting, and appreciating the knowledge, experience, culture and priorities of local people through listening to personal experiences. This is contained in the facts, concepts, skills, practices. experiences. beliefs and insights used by the local people to interpret the world around them. Using this method will throw light on reasons behind sanitation practices and local perceptions of human security. Reasons for inclusion of oral testimony include enabling the researcher to understand the research topic through local customs, beliefs, and practices. It limits ethnocentrism or misrepresentation of local norms on the part of the researcher and helps to understand change over time through a dynamic view of human experience. It also recognises that those who are being researched are the ultimate experts on the realities of life in their given context and aligns with ethical requirements of development research to consider the social and cultural values of research respondents and uncovers the most genuine form of local knowledge possible.

Secondary or documentary data particularly in books, journal articles, project proposals, annual reports, mid-term evaluation reports, project reports, policy documents, government statistics among others will be collected on sanitation and human security, particularly those that relates to South Sudan. Many NGOs, think tanks, governments, and advocacy groups regularly produce reports either in print or electronically on their activities. Organisations like UNICEF, UNDP, African Development Bank, ODI, Amnesty International, UNTFHS, TearFund, among others conduct research bearing on this study. Collecting secondary data will provide preliminary and background information on the variables of the study. It is unadvisable in development research to ignore documentary materials both before and during

the research process as they open the door to opportunities for improving and expanding personal understanding of real development events. This research method is often adopted to answer preliminary questions about the research topic and provide directions to the research and to corroborate, strengthen or challenge research findings.

4.4 Description of entry into South Sudan

On arrival in Juba, the country's capital, on the morning of the 5th July, 2017, the researcher went straight to register at the Ministry of Interior, which costs 2,000 Sudanese pounds for a foreigner arriving in the country, it was also necessary to state the purpose of the visit. A Foreigner Registration Permit was attached to a page on the researcher's passport. In the course of the fieldwork, this permit seemed to be even more important than the visa to authorities as they were specifically interested in it. This was followed up by a three-month renewal of the initial two-week visa on my passport, which was due to expire the following day, at the cost of $125. Afterwards, a taxi was hired so that the researcher could look for hotel accommodation for the night, and after about two hours one was found in Hai Soura about five minutes' walk from the Atlabara campus of the University of Juba.

Contacts were made with the Director of The Centre for Peace and Development Studies, University of Juba, Dr. Leben Moro, who gave guidance and helped with regards to finding accommodation. His visit to my hotel the evening of my arrival gave me the opportunity to discuss my research plan with him and the logistics. Only two nights were spent at this hotel, as staff of the Nigerian Embassy directed the researcher to a cheaper and more secluded hotel in the Seventh Day area of the capital. Economic collapse and a high number of expatriates has rendered services, including accommodation, prohibitively expensive. Some of these services, like accommodation, are charged based on the Dollar to South Sudanese pounds exchange rate for the day.

The next day, Dr. Moro took me to the UNICEF office located in Thong Ping to formally introduce me to the staff of the Water, Sanitation and Hygiene Cluster but unfortunately no one was around. Instead, we met Nicholas Servas, the Education Cluster Coordinator, also at the UNICEF Office, who not only gave me the contact details of the WASH Cluster Coordinator and his deputy but also sent an introductory email to them and other important contacts to which the researcher was copied. Also, Dr. Moro gave me contact details for Judy Wakahiu, the Project Manager for UNDP Community Security and Arms Control Program, she was immediately contacted, and a meeting was arranged for the following day. Judy Wakahiu, upon on our meeting, took me to Fredrick Mugisha, the Economic Advisor and Head of the Strategy and Analysis Unit of the UNDP. The researcher had an extensive discussion with him about the research process, he also provided some secondary materials and advice.

Following the advice received from Dr. Jok Madut Jok in April when we met at a seminar on South Sudan at the Chatham House chaired by Dame Rosalind Marsden about my fieldwork, the researcher visited the Sudd Institute in Kololo where he had planned to meet Dr. Augustino Ting Mayai, the

Director of Research as calls to his phone were not picked. At the office, the researcher met Nhial Tiitmamer instead who is the Programme Manager for Environmental, Energy and Natural Resources Research. Since the choice of a local partner could impact the process of fieldwork activities, partnership with a second local partner was pursued in the name of the Sudd Institute, a research and policy think-tank founded by South Sudanese academics including Dr. Jok which differs from the Centre for Peace and Development Studies. The former has more autonomy and is even critical of government policies and actions while the latter has close ties to the government being a government institution. Due to the fact that this was the researcher's first visit to the country, time was built into the schedule to allow him to settle in and develop networks further and avoid being in too much of a hurry to get into the field.

Days after arrival, visits were made to the MWRI and the UNDP offices where staffs supplied the researcher with useful perspectives on the research, and reports and statistics that are unobtainable outside the country. Also, the logistical arrangements for the fieldwork were discussed with them since they had a better knowledge of the context than the researcher. The inviting institution, Centre for Peace and Development Studies of the University of Juba, serving as the local partner sponsoring my research, were also helpful in introducing the researcher to other UN organisations and government ministries with which the researcher could work.

The researcher commenced almost immediately after his arrival to seek collaborations with NGOs who could facilitate travel to planned locations outside of the capital, Juba. From the discussions with Fredrick Mugisha of the UNDP, it was learnt that considering the scale of humanitarian needs in the country, their activities, which are development focused, have been relaxed and travel outside Juba, particularly by road, is dangerous, irrespective of the party, whether government or humanitarian agency, one choose to travel with. Dr. Moro initially made some plans for the researcher to travel in his official car, with government security, to Kajokeji, a town about 150 kilometres south of Juba but this was unsuccessful. The WASH Cluster Co-Coordinator, who is a staff member of the Norwegian Refugee Council, arranged for the researcher to travel with a team from the agency to Mangalla, but this did not materialize as the dispatch would not be returning to Juba until after three weeks which would have hindered the undertaking of other research activity. Subsequent efforts to get other NGOs including Solidarité and Oxfam and UN agencies to sponsor the researcher's trip to field locations proved unsuccessful and the researcher has been warned by key informants never to undertake a sole trip which could lead to kidnap, torture or imprisonment. These factors forced the researcher into the 'capital city trap' mentioned by Chambers (2008).

4.5   Study locations and justification

Careful selection of cases allows for a much stronger research design by choosing cases where the variables are at supposedly extreme values and the causal mechanisms are evident. The importance exerted by context is one of the primary reasons for selecting a case study approach to this study. Rural,

urban and Protection of Civilian Sites are three location settings representative of the geographical characteristic of South Sudan today and relevant to the issues and research problem of interest. Each case study location is unaffected by the economic, political and social processes well beyond its physical and temporal boundaries. Cases in case study research are not informed by sampling mechanisms rather than to understand each case in relation to the research phenomenon (Stake, 1995). The three cases are deliberately selected because they offered contrasting situations in relation to the research topic.

Figure 4.1   Map of Juba and its environs showing study locations
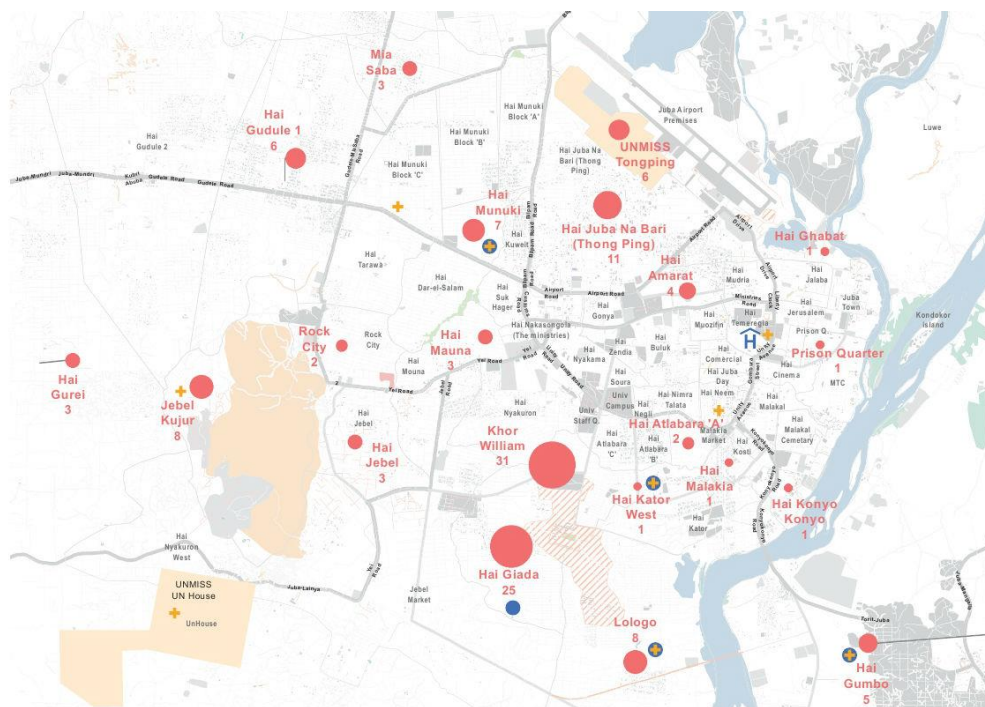
Source: IOM (2016)

Time and access to locations for fieldwork are critical in the case study locations eventually selected but which are still hospitable to the inquiry and for which prospective informants and participants can be identified and willing to participate. The selection of case study locations was heavily influenced by prevailing security permutations during the fieldwork. Cases in explanatory case studies are based on theoretical considerations and selecting an embedded single case design offers the best abilities for building theories or testing hypothesis (Yin, 2003) to supplement the extensive resources and time needed to undertake a multiple case design beyond the means of an independent research investigator. This approach is adopted to enhance the analytic conclusions and external theoretical generalisability of the study. It must also be acknowledged that single case research design is more appropriate compared to a multiple case when the case is unusual, critical and revelatory.

Table 4.1   **Study locations and their characteristics**

Community characteristics	Gumbo	Lologo	PoC Site 1 (UN House)
Settlement type	Village	Urban	Displaced persons camp
Foundation of community	Old Bari settlement	1970s	2013
Vegetation	Savannah grassland	Swamp	Grassland
Geographical orientation	Community is in the east of Juba; to the north: Kakwa; to the South: Mundari; to the West: River Nile	Community is in the east of Hai Giada; to the north: River Nile; to the South: Kator; to the West: River Nile	Community is in the east of Western Equatoria; to the north: River Nile; to the South: Nyakuron; to the West: Lologo
Public services	Few schools most of which are privately owned; One health centre which does not have equipment, no drugs and limited trained staff; Two available boreholes	One primary school; One health centre both built and managed by the community; Two available boreholes	One Cholera Treatment Centre managed by IMC; Three available boreholes
Population	−	−	10,000
Ethnic groups	All over South Sudan	All over South Sudan	Mainly Nuer then smaller number of Shilluk and ethnic groups from Greater Equatoria region
Transport links	Bor and Uganda through Nimule	Juba and Gumbo	Yei and Juba
Sources of income generation	Men: charcoal burning, firewood selling, quarrying stones, and local building materials Women: micro-enterprises Youth: Largely idle	Men: Firewood collection; Charcoal-burning; Stone breaking; Making bricks; Smearing houses; Security guards Women: Washing clothes; Washing dishes; Charcoal retail; Food retail; Alcohol brewing; Youth: Riding 'boda boda' motorcycles; Commercial ruck shack driving; Motorcycle motor or generator mechanic	All population groups are largely idle although a few engage in trading in Juba town

Source: Researcher

4.5.1 Gumbo

Gumbo is a village located in Rejaf Payam under Rejaf County. It is today a big village about 7 kilometres south east of Juba across the White Nile, with a dusty high-plain area that affords a handsome view of Juba and the hills of nearby Nisitu. It was originally inhabited by the Bari people who owned the land from Juba down to Lainya in the south and as far as Mangalla in the north. Gumbo has a significant proportion of returnees from Khartoum who moved from Sudan to South Sudan as the latter gained independence. Most of the indigenous Bari population are farmers who cultivate crops including sorghum, maize, cassava, sweet potatoes, groundnuts and sesame. Unlike Rejaf, whose population is predominantly from the Bari ethnic group, the population of Gumbo is a mixture of locals and other ethnicities of South Sudan, even emigrants particularly Uganda's Acholi or Langi tribes.

The village lies on the Juba-Nimule road, which is a major road linking the South Sudanese capital with the East Africa region through Uganda. It was a target for the Lord Resistance Army who set up a base at Lungi Hill approximately four kilometres south of Gumbo from where they launched attacks almost daily, between 2000 and 2007, killing and adducting children and adults, looting food, cows, goats and property (UNHCR, 2006). The LRA attacks got so bad that at some point villagers began to sleep in the bush or fled to Juba (IDMC, 2006). The village is popular for serving as the headquarters of the Salesian Mission of Don Bosco where their St. Vincent de Paul parish run the Don Bosco Collective Centre for internally displaced persons. It is primarily for children and women who fled to Juba for safety from the violence in the town of Bor and the parish also runs education and health programmes of technical and women vocational institution, a youth centre, secondary and primary schools, a health centre and kindergarten.

It was primarily chosen because it being the only accessible village on the outskirts of Juba not requiring an elaborate security detail in addition to the fact that many other neighbouring villages have been deserted. The village has a number of reasons for its selection. There are few people with large swathes of land. The housing style is made up of traditional hamlets called tukuls. The people in rural areas have intimate relationships and face-to-face contact with each other. There is a greater homogeneity of population groups and customs, traditions and culture   than in urban communities. The degree of social solidarity is greater in rural areas. Gumbo was the most affected out of all of the communities in the Juba metropolis by the cholera outbreak of July 2016. This is attributed to the main source of drinking water being the White Nile, few available latrines, open defecation and poor hygiene practices (UNICEF, 2017).

Traditional compounds and housing (tukuls) are the dominant features in this village. The number of tukuls on a family plot varies depending on the number of people in the household, what the family can afford, and whether the household is renting out tukuls. Poorer households under the fear of eviction tend to live in shacks made of plastic sheets. Other households had mud/brick houses or bamboo with iron sheeting roofs.

4.5.2   Lologo

Lologo boma is a swampy slum community located south-east of Juba. Lologo is divided into Lologo 1 (Lologo North and Centre) and Lologo 2 (Lologo South) with the former under Kator Payam and the latter under Rejaf Payam. It used to be a Bari settlement. At some point in the 1970s, it hosted a displaced persons resettlement camp for the resettlement, relief and rehabilitation of refugees and returnees called the Lologo Way Station after the country returned to civilian leadership both in the 1970s and after the signing of the CPA in 2005 (UNHCR, 2006). Managed by the UN, the Way Stations' policy has been to feed and shelter the returnees for several weeks and then send them off to their respective places of origin as about 3,000 IDPs return to their homeland in Bor County from the Way Station in 2006 (IOM, 2007). In 1970, it became a settlement for soldiers of the Sudan Armed Forces and their families. Other people joined them in four different waves which were, during the demolitions around Al Sabah Children's Hospital in 1974, after the start of the second civil war, following LRA's disturbances in Gumbo between 2002 and 2006, after the signing of the CPA, further demolitions in Juba in 2008 and the South Sudanese independence (Martin and Mosel, 2011).

It is bordered on the north by Kator boma, to the west by Jebel, to the east by the Nile River and to the south by Kajo Keji. The community is headed by a boma chief. It is an IDP, refugee and returnee hosting community where they set up camp without planned plots. The remainder is customary held land, although a significant number of residents live in insecure land tenure some of whom have been in this condition for over 30 years. It resembles a large African village; poor, with huts and mud houses, or shelters with corrugated iron. In areas where there is a large military presence, such as Lologo North and Hai Nyakama, civilian residents complained of land-grabbing by soldiers using force and Dinka soldiers were always blamed. Recent arrivals live in even greater precarious conditions, squatting in any available empty spaces including swampy areas.

At the end of the first civil war, the area was virtually uninhabited, except by a few Bari farmers but community members stated the population has increased dramatically since the signing of the CPA. In addition, there is an area which is predominantly Lopit people who came to Juba from Eastern Equatoria in the 1960s as a result of famine and who subsequently moved to Lologo. There is also an area which is predominantly Dinka, who have lived in Juba since the 1960s and who had cattle camps nearby. Equatorian tribes have settled in the community over the years for a variety of reasons, including employment and availability of land relatively close to Juba. Spatial characteristics of Lologo presents an important variable in understanding urban populations and how their conditions are a response to, and a by-product of, large-scale phenomena including national policies, regional events, economic factors, class-based city politics among others.

Several times during the second civil war, many people left the area due to the heavy fighting around Juba and attacks on it by the SPLA rebels (Badiey, 2014). Some returned soon after hostilities ended,

whilst others remained in the town until the signing of the CPA. In Lologo, there are clear distinctions between people from different tribes, including areas primarily of Lopits, Nuer, and Dinka who arrived at different times. In addition, the part of the community near the Joint Integrated Unit which hosted the SAF military compound is now inhabited mainly by soldiers and their families (Martin and Mosel, 2011). Mechanisms of land access vary from inheritance (through male relatives), through tribal affiliation, the subdivision of family plots to children except females, by having no option but to squat on empty land and informal rental. In addition, there are many reports of "land-grabbing" by force, particularly by soldiers who have settled in the area since 2005.

Probably due to physical isolation, military occupation, militia activity and economic suffocation during much of the war period, the lack of social services is a striking feature of the condition of the community. There are few boreholes or communal standpipes and most households obtain water from water carriers who obtain untreated water from the Nile. Where boreholes are present, they are often broken and there is pressure on few functioning ones. The settlement has no electricity supplies, just as it is in the capital, although some residents were noted to have generators. People rely on energy sources such as charcoal, kerosene, and candles. It also has a training centre called the St Vincent de Paul Vocational Training Centre which trains people on acquiring different skills including tailoring, masonry, mechanics among others and an ICRC water treatment plant. Historically, cholera outbreaks are endemic in the community.

Today, residents are a mixture of people from the Equatoria region, the Dinka and returnees from diaspora like Kenya and Uganda and who could speak better English than the rest of the population. Others had come from Sudan, forced to leave Khartoum after South Sudan gained independence. The Nuer used to be populous in the community too until the 2016 civil war broke out when they were specifically targeted and killed in numbers forcing them to seek shelter in UN managed PoC sites in the capital.

4.5.3 PoC Site 1 (UN House)

POC Site 1 is located within UN House, a UNMISS peacekeeping base in the Jebel/Checkpoint area south-west of Juba and covers about 94,987 m2 hosting displaced persons the majority of whom are from the Nuer ethnic groups and a few other ethnicities from the Eastern Equatoria region of the country. It was the first place where IDPs fled for safety during the initial days of the crisis in December 2013 (NRC, 2017). As an unplanned site it faces many challenges related to insufficient space, overcrowding and poor drainage, for example, non-related families, as a result of congestion are made to share 4×5m2 shelters (CARE International, 2017). It received more IDPs after the July 2016 crises further worsening the condition in the site. In a 2015 survey, 66 per cent of residents of the camp reported leaving their homes to seek safety in the PoC because of fear for personal safety, while 15 per cent and 5 per cent came due to their destroyed homes and lack of basic services respectively (Internews, 2015). A survey conducted in the PoC in October 2016 puts the sex of head of household at 71 per cent

for female and 29 per cent male. Security, food and healthcare are cited as the three primary reasons for coming to the site as well as the top concerns preventing their leaving (REACH, 2016).

The most fundamental characteristic of PoC Sites is that they are situated within UN mission bases. The Protection of Civilian Site 1 was chosen because, going by its name, it is meant to be a temporary facility for housing and protecting civilians fleeing persecution. The purpose of setting up the PoC Site is to provide only physical security according to the UNDPKO Policy on Protection of Civilians where there is current fighting or threat of physical violence and this is what makes it different from IDPs and refugee camps (NRC, 2017). This status has a direct operational impact on the security afforded to IDPs and the service provision inside the site. Other factors for choosing the Protection of Civilian Site 1 include a large concentration of people in an enclosed space, it contains people who have fled their homes because of man-made disasters with different needs and expectations, environmental health measures are sometimes insufficient, and it houses displaced persons many who had experienced trauma and have serious health conditions because of what they had endured. The immediate concerns in a displaced persons camp are to provide shelter, nutrition, basic healthcare and protection for not only physical security but also wellbeing.

Although seeking refuge in the PoC has obvious physical protection benefits considering the presence of UN troops, barricades and other infrastructure which may be unavailable in traditional displaced persons camps, there are legal and administrative challenges. PoC Sites have an inviolable status meaning that 'that the state's ability to exercise its powers within a PoC Site remains firmly at the discretion of the UN thus offering an extra layer of protection to the IDPs' (NRC, 2017: 23). With its exclusive control and authority, the UN does not have the resources, capacity and legal authority to administer and uphold rule of law, peace and security in the POCs. The setting up of PoCs, according to some observers has discouraged UNMISS from fulfilling the entirety of its responsibilities in the Chapter 7 of their mandate which covers the whole country. In addition to this, they are accused of focusing more on nothing else apart from preventing civilians entering the base and not protecting them from attacks (Briggs, 2017).

Since the primary mandate of UNMISS in the PoC Sites is to temporarily provide physical security, they often pursue and maintain a low standard of living to hinder the sites from becoming permanent settlements or incentivising other people to seek refuge in the site. This perspective of the peacekeepers frequently puts them at logger heads with humanitarians. The latter accuse the former of repeatedly preventing them from providing services to IDPs consistent with international standards. Another difference between PoC Sites and IDP camps is freedom of movement. While the latter often settle in areas where IDPs feel safer and can move more freely, the former has the exact opposite and "are islands of relative safety in an otherwise hostile area" (NRC, 2017: 27). This severely restricts their livelihood opportunities.

4.6   Ethical considerations for sanitation and human security in South Sudan

Ethics is important to the development researcher because the discipline revolves around the value systems of the researcher and the researched and the implications and outcomes of these on research undertaking.   Ethical considerations are required not only with research participants but also the communities, gatekeeper organisations, and governments. The aim of this section is to discuss how the researcher managed ethical and emotional challenges faced during the fieldwork.

4.6.1   Research permission for fieldwork

Research permission refers to the formal and informal authorisation that needs to be gained before fieldwork activities can commence. It is important to fieldwork not just for fulfilling ethical requirements but also because institutions serve as political and social gatekeepers responsible for granting researchers access to proposed study locations through an administrative hierarchy right down to the local level. Institutional authorisation for the fieldwork was achieved by use of letters. These were letters of invitation issued to the researcher by the Centre for Peace and Development Studies of the University of Juba before departure from the UK and an accompanying special written introduction letter by the Director of Studies, Prof. Gaim Kibreab. These letters were used in gaining institutional authorisation from UNICEF, the government and NGOs. Seeking research permission at the highest political level in South Sudan can be said to be critical for some reasons including ensuring that the research is appropriate to their development and peacebuilding agenda, as a way for the government to keep track of foreign researchers and to provide credible documents to other government officials and other people whom the researcher will work with at the local level.

The government have different and specific permission procedures that should be followed as they prioritised the letter of authorisation of research from the Centre for Peace and Development Studies at the University of Juba and the passport with a valid visa on it over every other document.[63] This was the only standard demanded from the researcher and the requirement for government's permission. The researcher also collaborated with the Sudd Institute as a secondary host organisation. At the national level, permission was received from the MWRI, the lead government sanitation ministry in the country. Government access permission continued with the Chief Executive Officer of the Juba City Council in Malakal, Juba. He made a note on the letter to the Director of Kator Payam. The letter was then taken to the Kator Payam Director who also made notes on the letter and directed me to the Deputy Director. The Deputy Director also wrote on the letter and directed me to see the Director of Public Health for onward assistance with data collection in the Payam.

Rejaf County is the name of the second local council area where the second study location fell. The Payam is located outside of the Juba City Council thereby warranting a similar process of institutional

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[63] Hilhorst *et al.* (2016) explain that this approach of selecting a host organisation is crucial among other things to the research and the researcher's security.

authorisation as that of Kator Payam. The capital of Rejaf County is Gumbo, about 7 kilometres from the outskirts of Juba town. Here, the County Director noted a request on   my letter asking that the Payam Director help with the necessary data collection activities and ensure cooperation with the security forces and Payam Director of Public Health and his officers. The Payam Director then minuted on the letter and directed me to the Payam Directors of Public Health and Community Development.

Gaining institutional authorisation for the third case study location was different because being a UN managed IDP camp, the United Nations Mission in South Sudan was the gatekeeper to be approached for access. This took me about 5 weeks to achieve because the initial information received was that ACTED, the NGO responsible for Camp Management and Coordination is the authorising agency. Eventually, advice was received by THESO, the INGO responsible for water, sanitation and hygiene in the camp, that it is the function of the Recovery, Reintegration, and Peacebuilding section of UNMISS and not ACTED as they repeatedly rebuffed all my efforts at gaining their support and were unwilling to give advice. The RRP department at the UNMISS headquarters located in the Jebel/Checkpoint area of Juba, by invitation of Mr Kweku, was visited, where all letters of introduction were presented. The department asked for a break of five days during which they would have discussed my research with the community leaders and would get consent on my behalf. After this period, Mr. Kweku, took me to meet the Camp Chairmen of PoC Sites 1 and 3 for formal introductions.

Key informants were also obtained from educational institutions, government departments and ministries, payam (local) administration officials, nongovernment organisations, local researchers and community-based organisations who were invaluable in gaining research permission (where necessary) and in providing a supportive framework. They also played some roles in physically introducing the researcher to gatekeepers who would give assent to access the populations within their territory from which respondents would be recruited, and they further suggested individuals who could be recruited but the final decision about who would eventually be recruited rested with the researcher based on his pre-drawn sampling strategy.

4.6.2   Sample population

Purposive sampling is appropriate to qualitative research (Emmel, 2013). ln this sampling approach, the researcher deliberately chooses a small number of locations and respondents according to theoretical considerations and the purpose of the study to retain richness and national level diversity. This is what the researcher did during fieldwork by deliberately selecting information-rich cases (community characteristics) and participants according to the needs of the study which is to achieve national level diversity and their capability to yield important data for answering the research question.

The main sampling approach was stratified purposeful sampling which ensured that certain categories of the population are included because of their defining characteristics or traits in relation to the interest of the research regardless of their size and distribution in the population with the aim of constructing a

robust view of the study (Patton, 2002). Specific participants are however chosen using random purposeful sampling. Different participants were presented to the researcher from various key informants and he had to handpick who gets to participate in the focus group discussions. Choosing respondents in such a systematic manner does not permit statistical generalisation but can enhance credibility of research findings and reduces biased researcher judgement within a purposeful category (Teddlie and Tashakkori, 2009) when the sample is larger than the researcher can handle (Patton, 2002).

Sample population involved participants selected based on their population group. The youth, elderly, men, women and disabled were chosen as research participants in focus group discussion. Youth contained males and females between the age of 18 to 30 years, elderly between 56 to 80 years, men and women between 31 to 55 years, and disabled contained males and females across all age sets. Other participants recruited were a community leader and experts.

The case study locations were chosen using maximum variation sampling to achieve not only manageability but also to ensure community selection reflected social, economic and environmental features of the localities. The sampling technique adopted for this research is purposive sampling. This is a sampling technique where the researcher chooses case study settings based on their ability to yield important data on the research phenomenon with no priority on statistical but theoretical generalisation. The locations were chosen to be representative of the settlement characteristics in South Sudan which can be broadly classified into urban, rural and displaced persons camp. Lologo was chosen, being a community situated within the capital city of Juba with Gumbo and PoC Site 1 chosen being a rural setting and displaced persons camp respectively. These sampling units are drawn from two counties from the former state of Central Equatoria, Juba and Rejaf.

Expert or key informant sampling was adopted for the semi-structured interviews where professionals are chosen based on their authority or knowledge of the topic under study, culture of and probably links with the research sites. A participant sampling technique involves expert sampling. This is where the researcher purposively recruited participants because of their knowledge about the research phenomenon. Respondents that fall into this category include the WASH Cluster Co-Coordinator, WASH Managers of NGOs and UN specialised agencies, Director-General of Rural Water and Sanitation, Directors of Public Health and the Emergency WASH Manager.

4.6.3 Recruitment of research participants

Recruitment of research participants for semi-structured interviews, focus group discussions and oral life testimony was purposively undertaken to gain insight into the research phenomenon. Understanding the complex interaction of contextual conditions and the opinion of stakeholders is important to policy researchers. Stakeholders are any person, group, organisation, or policy that is the subject of policy research and their opinion is critical because they articulate the differences in perspectives, meaning, and intention that competes in the decision environment. Real world policy research must be

appropriately designed and cannot be based on personal opinion but be disciplined, systematic and rigorous.

Table 4.2   Number of participants by research methods

Research method	Number of participants
Semi-structured interview	10
Focus group discussion	78
Oral life testimony	1
Direct observation	25
Total	114

For semi-structured interviews, this required choosing the organisations that were most active in the sanitation sector of the country. Sanitation activities in South Sudan are mainly humanitarian under the leadership of UNICEF through its WASH Cluster making the organisation the first respondent to give background to the sector in the country and link the researcher to other critical stakeholders. These other stakeholders included International Organisation for Migration, Non-Governmental Organisations (both local and international), USAID and government officilals. All the other respondents were selected after recommendations from the WASH Cluster based on the wide reach of their activities on sanitation not only in the county but also in Juba.

Regarding focus group discussion, in Gumbo, participants were selected with the help of the Department of Community Development for Rejaf Payam under which the village falls based on the researcher's participants criteria. This approach was taken considering the high insecurity in the area. The department was approached being the entry point of distribution of aid materials to the community by humanitarian agencies and the need to draw participants from a wide variety of backgrounds across the village. Focus group discussions were held under a tree in the Payam office compound. However, the researcher was aware that this selection process could derail the disclosure of respondents regarding answering some questions to be posed by the researcher because of fears of being removed from benefitting from aid.

In Lologo, respondents for focus group discussions were purposively selected by the researcher with support from the translator who works on an ad hoc basis with OXFAM which is the WASH Focal Point for Central Equatoria state and serves as the secretary to the Boma Chief. This approach was preferred as it enabled the community chief to have an input in the selection process by way of identification and organization of participants. Focus group discussions were held in a primary school called Lologo Technical Primary School 1 which was funded and built by USAID through an international NGO called PROPEL.

For PoC Site 1, after entry had been facilitated by UNMISS and THESO, the Camp Manager handed me over to the Camp Youth Leader to facilitate access to prospective focus group participants. The researcher held a meeting with him about the population characteristics required for the research and group composition and collaboratively handpicked participants. Focus group discussions were held in the office of the Camp Chairman.

For direct observation, participants were also recruited during the transect walk in their respective houses. This recruitment strategy was adopted in Lologo and Gumbo and not in PoC Site 1. This strategy enabled the researcher to conduct further short interviews with people.

The participant in oral life testimony was handpicked by the researcher. Lack of time, resources and security could not allow the researcher to undertake more than one oral life testimony. Considering these constraints, a single issue and work life oral life testimony approach was adopted and the Director of Community Development for Rejaf Payam being a female was selected. This single-issue type focused on the sanitation and human security aspect of the narrator's life and proved valuable in learning about her knowledge and experience. It requires the person to have a more detailed background or technical knowledge of the subject matter than is necessary for a more wide-ranging life story. The work life sheds light on the respondent's occupation, successes and failures in working life, and overall experiences on the job.

Awareness by respondents of my disinterest in prying into their private lives and the fact that the researcher had received permission from the government gave them assurance and minimised feelings of personal risk as my presence was officially sanctioned. Most of the respondents felt relieved to finally have a sympathetic outsider to talk to about their conditions.

4.6.4 Cultural and linguistic considerations

Undertaking research by considering cultural and linguistic issues is critical to development research. This is important not only for conducting ethical research in terms of approaching respondents, formulation of research questions, reimbursements, and building trust and privacy but also symbolic meanings, non-verbal or body language about local/cultural rules and norms to avoid contravening local rules of engagement.

Words are the means through which people make sense of and explain their world and certain linguistic decisions must be made. Juba and its environs are composed of ethnic groups from the whole of South Sudan due to incessant conflict. Although Juba Arabic, a form of Arabic with words borrowed from the Bari people is the lingua franca in the capital, the researcher had to restrict participants of focus group discussions in Lologo and Gumbo to only those who speak the language. Further challenges remained, however, in asking questions relating to concepts like sustainable sanitation and human security. In response to this, the researcher reformulated questions in a way in which questions could be easily be

understood by respondents and spent a few minutes before the start of all discussions to explain what these terms meant.

The situation was different in PoC Site 1 where the majority of inhabitants are from the Nuer ethnic group and a few other groups from the Equatoria region. The researcher sought to encompass the diversity of the inhabitants in the focus group discussion groups and this was attempted for the first focus group discussion in the camp. This, however, was complicated with the use of two translators who were also campers in the PoC Site. Subsequent focus group discussions prioritised participants from the Nuer ethnic group since they are the majority in the site.

This aspect of the research process, on one occasion, was a source of panic and frustration to the researcher. The translator hired for the study at the suggestion of OXFAM WASH staff in Juba refused to show up at our agreed meeting point at Konyokonyo motor park for the trip to Gumbo/Sherikat, on the day focus group discussions with the youth and elderly groups was scheduled to be held. Several calls were made to his phone, none of which was picked up or returned until late into the night. The researcher had to make the trip alone and got a Public Health Officer, who was rewarded for her help, to do the translation for the day. This decision to undertake the data collection had to be taken because previous planned trips to the village were cancelled as he lost an uncle who was shot and killed in the Lologo area of Juba about five days earlier.

4.6.5   Informed consent and how it is gained for each research method

Informed consent requires honesty, autonomy, and the principle of 'do-no-harm', that is, protecting the physical, social and psychological well-being of those with whom the study is being conducted. Participants were briefed at the onset of applying research procedures using the participant information sheet in which specific permissions like the assent to record what is being said through audio-recording and writing were demanded. Securing consent is important to the development researcher mainly because respondents easily associate development research with development programmes and may decide to participate in order to benefit from it. It was expected that some respondents would have difficulties trusting the researcher with sensitive information and the onus would be on him to explain why he thinks he could, by developing an appropriate informed consent strategy carried out with specificity and honesty, protect their identities and information shared.

Semi-structured interviews commenced with giving a copy of the participant information sheet to respondents and allowing sufficient time for them to read through it and ask questions when necessary. After this, they were required to fill and sign the research project consent form bearing the full title of the research, ethics approval registration number, the researcher's name, researcher position, and contact details of researcher and supervisors. The form allowed them to signify how they wanted their personal details to be shared, information to be used, and data to be captured. All respondents agreed to

the interview being audio-recorded except the USAID/OFDA Programme Manager and notes of the information shared were taken instead.

Written consent was inappropriate for most of the research respondents because more than two-thirds of the South Sudanese population are illiterate (cannot read or write) and were unable to put their consent in writing or append a signature to the consent form. Also, written consent was difficult in a place like South Sudan where people could generally be suspicious of formal consent procedures. What was considered consent is when the prospective research respondent verbally agreed to participate in the research not only after assenting to it after the contents of the participant information sheet had been read to them, but also when their conclusion remained unchanged upon checking back with them throughout the research. In giving verbal consent, respondents were asked to say the following statement which was audio recorded, "I agree to participate in this research titled sanitation and human security in South Sudan." Verbal consent was obtained by explaining in simple terms the contents of the participant information sheet to confirm participants fully understood in what they were participating. Consent for taking photographs during direct observation was also overt so as not to compromise the identity of the household unless otherwise indicated. Verbal consent was also obtained from the participant of oral life testimony.

Participants of focus group discussions were briefed at the onset of the discussion by explaining the contents of the participant information sheet in which specific permissions, like the assent to record what is being said through audio-recording and writing, would be demanded. Those that agreed to partake in the research were made to understand that they have the right to withdraw whenever they wish and be reminded of their assent both before and after discussions. They were intimated on the potential use of the research data, the neutrality of the researcher, risks that may be involved in their participation, permission for the data to be archived, their right to skip any questions or topics that they did not wish to discuss, and informed of and consent to arrangements made as regard the management and security of data, as well as the preservation of anonymity. Also, they were debriefed immediately after data was collected by clarifying any misconception that may have arisen, giving the participants the chance to add some comments and pose further questions about the study.

4.6.6 Confidentiality and anonymity of research participants

Confidentiality is about protecting the identity of the respondents and prevents verbally divulging shared information. It relates to respecting the secrecy of information supplied by research subjects and anonymity of respondents, which is taking steps to protect a participant's identity, and was taken seriously. Privacy of the research subjects was guaranteed by taking precautions at limiting the impact of the research on their physical and mental integrity as well as personality (Van Damme, 2013) and avoiding transgressing their values, customs and desires. Information shared by a participant would not be referred to while interviewing another. Confidentiality was most challenging at the PoC Site 1 where, due to limited spaces, we had to conduct focus group discussions in the presence of many other people,

especially during the women's' discussion group as many men sat nearby wanting to listen to what was being discussed. Subsequent focus group discussions were scheduled for the afternoon where fewer people were present in the CCCM office.

Anonymity, in simple terms, concerns protecting data from unauthorised access. Concerning focus group discussions, each prospective participant, both at the beginning and at the end of the discussions, was enlightened on the need to ensure other participants' privacy and anonymity once outside the focus group setting and that, on the part of the researcher, special precautions had been taken to protect participants' identities, data, and information shared. Efforts were taken to avoid using participants' names during the focus groups by adopting a system of name substitution through numbers for the interpreter and notetaker to use on the seating charts for easier identification of speakers in their notes. Among all the semi-structured interview respondents, it was only the Director-General of the Department of Rural Water and Sanitation who rejected the offer of confidentiality and anonymity and who requested that his personal details including name, email address and phone number be excised.

4.6.7 Positionality and its implications for data collection

Positionality of the researcher informs the form of interaction between the researcher and respondents and whole research community. It is dependent on numerous factors like the researcher's nationality, race, age, and gender. Reflecting on positionality, which is the way in which the values and subjectivity of the researcher are part of and influence the researcher/participant relationship, is critical for a development researcher. This has considerable implications for 'trustworthiness' and 'confirmability' of the research which can be assured by leaving a 'paper trail' documenting important processes and decisions especially concerning sampling, data collection and analysis.

The aim of positionality, however, is not to remove bias, as a researcher's positionality will always bias his study, but to acknowledge that these will influence the research process and outcomes and efforts are made to make it as transparent as possible. Also, many of the concepts in Development Studies are value-laden and sensitive necessitating the researcher to be always aware and conscious of 'substantial divergences of objectives, values judgements and opinions' (Sumner and Tribe, 2008).

The researcher being a non-citizen of South Sudan and particularly as a Nigerian helped in facilitating disclosure during focus group discussions and the social space in general as he was perceived as non-threatening and external regarding national politics. This is partly because of the popularity of Nigerians and the love of their movies and music in the country thus putting the researcher in a more advantageous position to extract information. There was a complex and multifaceted interface between the researcher and respondents necessitating the use of translators due to cultural, linguistic and ethnic differences. This however enhanced objectivity which influences the dynamics of the qualitative research.

As a research student from the UK, organisations were willing and open to grant interviews about the research phenomenon and give critical advice about likely taken-for-granted issues to consider in

undertaking the research and the setting. The researcher also had to, on some occasions, attend WASH Cluster meetings to enhance acceptability and facilitate rapport within the WASH sector and even got invited to some social gatherings to meet other players and this was very useful. This also gave the researcher the chance to introduce his reason for being in the country. The underlying reason behind the openness could be the fact that they know the research findings will in no small measure provide feedback on their activities.

Regarding data collection, particularly focus group discussion, the positionality of the researcher as well as that of the translator as men affects the research process. The translator has conducted numerous researches for different organisations in the capital but his positionality as a male initially hindered disclosure during the focus group discussion for women in Gumbo.

4.6.8 Reimbursement of research participants

Participants gave up some of their personal chores and obligations to devote time for participating in the study. As a result, they were adequately reimbursed or compensated for the time taken from their responsibilities and the expenses they may have incurred in order to participate in the study. Reimbursement was only done for participants in focus group discussions and influenced the number of participants contained in a focus group. The researcher had planned for about 8 people in a group but had to reduce this to six in order to be able to organise the groups across the predetermined population characteristics. Offer of monetary reimbursement, however, play an important role in the quick facilitation of focus group discussions, an evidence of the poor economic condition in the country.

The research was carried out as transparently as possible in terms of informing community members of the research aims, including different groups, and ensuring community leaders were included. However, on some occasions, it took time to locate and meet with community leaders before carrying out the research. Mainly for security reasons and reasons of access on public transport, the work was carried out in the daytime only as all research activities must end by 4pm. This means that people working in the formal sector or outside the settlements are likely to be under-represented in the results. To address this, data collection was also carried out on Saturdays and Sundays.

On some occasions, participants did not want to answer any questions, a sign that the conflict situation might be having psychological effects on South Sudanese. In addition, respondents chose to deliberately answer a question with a response that was inconsistent with their actual beliefs or intentions or provide answers they deemed the researcher might want to hear. Rain in the months of July and August affected the schedules with the key informants. Focus group discussions were challenging to organise because of groups frequently not turning up for the discussions at the appointed time. Mobilisation of communities was slowed down by questions around security considerations and the need to demonstrate that the necessary institutional approvals had been obtained which took longer than expected.

4.7 Application of appropriate research methods and their performance

In applying research methods for policy research, creativity can be identified as the major factor with context influencing the accompanying techniques. Creativity in policy research requires the capacity to put things together in new ways, detect hidden patterns, perceive connections between seemingly unrelated issues or events, and generate solutions. Also important is correspondence to truth which means data obtained through the application of research methods should stay close to the respondents' view of the world. In the field, the researcher bore at the back of his mind the need to redefine problems, question assumptions, encourage the generation of multiple ideas, acknowledge the context in relation to the big picture, work collaboratively with stakeholders, identify obstacles and take responsibility for failures and successes. These influenced the application of research tools in terms of direction and boundaries. It is noteworthy that all research methods applied during the fieldwork drew on qualitative data as it is closer to the people's experience of reality, involves tools that would provide the best answers and was appropriate for the context.[64]

4.7.1 Secondary/documentary

Secondary research methods involve data which has been collected by individuals or agencies for purposes other than those of the researcher's study and is available for reanalysis at some level. For policy research, the choice of collecting secondary data is for its resource and usefulness, provision of preliminary and contextual information on the variables of the study, demographics, needs assessment, service delivery, history of a program or policy and corroboration or strengthening of data from other research methods. Three major types of secondary data were collected, and these were surveys, reports and policy documents. The strengths of these types of secondary materials are that they are unchanging and can be reviewed repeatedly, are detailed, containing exact names, references and details of events, have a broad span of relevance and are vital in verifying the correct spellings, titles, or names of organisations that might be important to the research or were mentioned during interviews. Security constraints were imposed on the researcher by the context as the intention to travel to other locations outside of the capital, as detailed in the fieldwork plan, was cancelled. Consequently, the researcher worked around this situation by collecting secondary materials, this method of data sourcing is often required particularly in conflict settings.[65]

Surveys: This type of secondary data was collected by either visiting the websites of institutions or by visiting their country offices located in Juba. IOM has conducted county assessment surveys across the country containing different population characteristics including the distribution of sanitation. UNOCHA provides regular updates on pressing humanitarian needs, including WASH (Water,

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[64] Context in policy research defines the boundaries of the research problem and the factors that will be considered in analysing it and proposing solutions.

[65] See, for example, Mazurana *et al.* (2013) and Roll and Swenson (2019) on how political climate in conflict situations influence the research process.

Sanitation, and Hygiene), the estimated number of people who need assistance, their locations, and the responses to these needs. NGOs prepare surveys on the areas where they have undertaken specific local projects on sanitation. These are useful in-depth studies which the researcher cannot collect due to cost and time constraints.

Published/unpublished reports: Reports were collected from the UNMISS, USAID and NGOs working on sanitation and human security in the country which helped the researcher to understand their respective activities, how sanitation programs have evolved, and the characteristics of communities in which they work. Reports on human security were collected from UNOCHA and other INGOs, like the Norwegian Refugee Council and SaferWorld.

Policy documents: Policy documents were collected from the Ministry of Water Resources and Irrigation, the Ministry of Health and the South Sudanese government. One of the policy documents collected was the South Sudan Development Plan 2011-2014 which contains information on sanitation in the country and how this is meant to contribute to the human security of the citizens. Another is the South Sudan Vision 2040 which, broadly, explores the root causes and consequences of decades of civil war, identifies development indices to be achieved by 2040, and outlines strategies to achieve them for the "emancipation of the individual from constraints to freedom, prosperity, self-actualisation and happiness" (RSS, 2011: 7). The Ministry of Water Resources and Irrigation have published national sanitation policies and WASH Strategic Frameworks which are publicly available.

Collecting secondary data at the beginning of a research inquiry has many benefits. It provides background context to the key factors/variables and helps the researcher to better understand the research problem. It enabled the researcher to collect data which would otherwise have been beyond his budget and resources, helped gain awareness of practices of sanitation stakeholders and compare these with laid down policies, served as a guide for developing further research questions on sanitation and human security to be posed to sanitation project managers and the communities. In addition, it provided the researcher with an opportunity to augment or corroborate evidence yielded using other research methods. Finally, the researcher could ground the research topic in the country selected for case study. There was an absence of secondary documents that closely meet the needs of a new policy research enquiry like this, therefore the researcher proceeded to collect primary data.

It must, however, be acknowledged that secondary documents on the selected study locations are scarce, particularly relating to the rural community of Gumbo and PoC Site 1. Fewer surveys were available for these two communities compared with Lologo. USAID had published some surveys on sanitation a few years after the country's independence, when development efforts drove aid, but none have been produced in the last five years. Reports were available, particularly from UN agencies like the World Bank, UNDP and UNICEF. INGOs like the International Rescue Committee, Care International and Saferworld have recently published reports which are central to the study settings. Most of these reports

are detailed thereby allowing the researcher to supplement the inadequate information resultant from the access constraints present in conflict situations.

4.7.2 Semi-structured interviews

In a country like South Sudan, news media coverage and NGOs reports may be unclear, incomplete or contradictory on critical issues on the research topic. In such cases, conducting interviews with the actors themselves or other first-hand observers or decision-makers is the only appropriate route to take. The type of interviews that the researcher adopted were semi-structured, and these were applied to key informants who were identified based on their authority or knowledge of the topic under study, culture and geography of the study sites and links with the research sites. This qualitative case study interviewing approach is semi-structured in the sense that the same questions were asked to all respondents, however, it recognises that each interviewee has a unique perspective to share and a different story to tell regarding the research topic.

A semi-structured interview was applied to collect data from experts and decision-makers using a single template of questions that was uniform across sites and respondents. This commenced with the WASH Cluster Co-Coordinator who played the role of a key observer and who helped orient the researcher and point him to other useful resources and knowledgeable individuals who varied in identity from site to site. The WASH Cluster in South Sudan is the humanitarian working group comprising UN specialised agencies, international and national non-governmental organisations, governmental agencies and donors responsible for the coordination, undertaking and monitoring of all humanitarian and development activities regarding sanitation in the country with UNICEF serving as the lead agency. The Cluster has about 41 active members. Commencing the semi-structured interview with the WASH Cluster was appropriate as it provided the researcher with an overview of the general sanitation situation and the overall sanitation structure in the country, an insight into the challenges faced, and information about the stakeholders and their activities.

From the information gathered in the interview, the researcher identified most active stakeholders who would be able to shed more light on the research topic. Also, the WASH Cluster, as a gatekeeper, linked the researcher to other partners which are national NGOS, international NGOS, government departments and donors. NNGOs, INGOs and donors were chosen based on the scale of their activities across the country. The Christian Mission for Development and Nile Hope were the NNGOs picked based on the Cluster's suggestion, and World Vision and OXFAM were the selected INGOs. USAID is the single largest sanitation donor in the country thus influencing their inclusion as the only donor chosen for the study.

Government officials included in the study were the Director-General of Rural Water and Sanitation at the Ministry of Water Resources and Irrigation and the Directors of Public Health at Kator and Rejaf Payam. These interviews provided the government perspective to the research topic and the assessment

of the implementation of policies. While the interview with the Director-General of Rural Water and Sanitation provided a national perspective to this aspect of data, those with the Directors of Public Health highlighted local government oversight regarding sanitation in the communities under them.

The Protection of Civilian Site 1 is not within the control of the South Sudanese government but UNMISS and because of this, the non-governmental organisation responsible for providing and managing sanitation in the site was approached. The Emergency WASH Manager, a staff of THESO was interviewed for oversight of sanitation and human security in the site.

Themes for the semi-structured interviews revolved around sanitation, security, sustainable sanitation and human security with five questions in total and probes were carefully created. Interviews took place in the offices of participating organisations and in addition to taking notes, they were audio recorded as information about non-verbal communication during interviews enhances transcription and other key points mentioned. During the researcher's first visit to participating organisations' offices, a copy of the participant information sheet was handed over. In some cases, respondents demanded that they were handed a copy of the issue-oriented questions. Each interview commenced with a brief discussion of the participant information sheet including the interview's purpose, length, and topics to be covered and a review of the consent form. Interview times varied in length and lasted between fifty minutes to a maximum of two hours. Undertaking semi-structured interviews before the researcher's entry into each community and PoC Site is important to strengthen and assess their similarity and divergence with data from other research methods.

Field notes were used to review the background context of the interview, what had been learnt and what needed further clarifications. These were then combined and organised into an expanded fieldnote to be used when entering data into a computer file, and during analysis to clarify and contextualise details of what participants had said and non-verbal cues. Attentive listening, probing, following up, clarifying, and interpreting of comments made by participants were crucial parts of the interviewing process. Within a few hours of the interviews being conducted, audio recordings were transferred to the computer and external hard drive for back up in preparation for transcription, then the files in the audio recorder were destroyed.

Application of semi-structured interviews allowed the researcher to gather information about the research topic since much of what we do not know and cannot observe has been observed and interpreted by others. WASH staff of different institutions with varying responsibilities were recruited to discover and portray multiple views, as they viewed the case differently. Each of the respondents responded to the five questions in their own terms by describing, linking and explaining the themes, thereby aggregating perceptions over participants. Also, semi-structured interviews enabled the researcher to collect information on inaccessible counties and the variations in sanitation conditions across the country based on what the interviewee had seen. In this case, they served as a supplement for

observation which the researcher could not see for himself. Most importantly, they yielded insightful data which provides perceived causal inferences on research themes.

Open-ended questions asked during the semi-structured interviews allowed the interviewee to discuss not only factual events, as they had experienced them, but also to provide their own interpretation and opinion about these events. These interpretations also acted as guidelines for further inquiries. The WASH Cluster Co-Coordinator played a critical role as a key informant and was important to the success of the fieldwork. She not only provided the researcher with a general insight into the sanitation situation in the country but also suggested sources of corroboratory or contrary evidence and facilitated access to these sources. As the conduction of semi-structured interviews progressed, it began to take a focused interview form. This is where the interview is conducted with a view to corroborate certain known facts that the researcher believed had already been established. The importance of this approach was further enhanced with the deliberate appointment of respondents who were likely to hold different perspectives regarding the research phenomenon. The researcher feels, however, that some information was withheld by most respondents of the semi-structured interviews, but that government officials at the local level were likely to be more open. For NGOs, there was silence regarding the topic of the impact of government activities on humanitarian aid delivery and the WASH Cluster, e.g. politicisation of donor decisions. NGOs were also likely to refrain from discussing flaws in their humanitarian activities.

4.7.3   Direct observation

Direct observation was one of the most important research methods applied in this study. The transect walk technique adopted was particularly helpful in enhancing disclosure. Sanitation being a private activity, observation will not be undertaken while it is in progress, but after completion. An observation guide was prepared on purpose to focus what is to be observed based on the nature, scope and objectives of the study since it is impossible to observe everything. The observation guide was unstructured to enable qualitative descriptions and to suggest possible relationships, causes, effects and dynamic processes. Overt observation was undertaken since the most important thing is to answer the question of how likely the observed activities are to occur independently of the researcher's participation or observation and spontaneous activities are more reliable than those responding to an observer's intervention. Direct observations were undertaken with key observers who helped orient the researcher in properly understanding the setting and, most importantly, enabled the researcher to learn about the context of programmes and policies thereby collecting more grounded data.

In Gumbo, a transect walk was undertaken with the Director of Public Health and a security guard of the Director of Rejaf Payam. It was undertaken with just a camera and an audio recorder, these were informed primarily by the high level of insecurity in the community as primarily the researcher did not want to expose himself to attacks and secondarily by the need to ensure easy data collection without losing much of the happenings. A total of fifteen residents of the community were informally

interviewed in their homes with the Director acting as my translator. Introducing himself as the Director of Public Health to the people of the community might have helped in enhancing disclosure and their willingness to be asked questions and respond to them. All discussions were audio recorded and photographs of the setting and latrines were taken with a focus on relationship among themes.

In Lologo 1, the transect walk was undertaken with my translator who also doubled as the Secretary to the Community Head and this took about 40 minutes. It followed the same process as that of Gumbo and a total of ten people were informally interviewed in their homes, some of them were in a group interview setting. People were more unwilling to be questioned in this community than in Gumbo. Also, there was considerable reluctance regarding taking photographs as only pictures of latrines were allowed.

In PoC Site 1, the application of the transect walk was similar to that of Gumbo in the sense that it was undertaken with the WASH Manager of the NGO charged with sanitation. Unlike in the other case study locations, the researcher did not engage in informal conversations with residents of the camp.

Participant observation in a conflict setting is risky as spending time in a particular location or group can make researchers seem partisan and an easier target for violence. Audio recordings and photographs taken were transferred to a computer and external hard drive for safekeeping. Audio recordings were later transcribed into expanded field notes.

Aside transect walks, the researcher also undertook participant observations by attending two WASH Cluster meetings at the UNOCHA office in the Munuki area of Juba. In addition to this, a PoC Site 1 stakeholders meeting was attended at both PoC Sites 1 and 3. During the three events, the researcher presented himself to attendees as an observer. However, much of data was gathered during interviews with key informants and focus groups.

The transect walk, as a direct observation technique, permits informal discussions with people in their communities or houses. This helped to ensure that the researcher had access to a more representative cross-section of the community, and that he could meet people who might be reluctant to talk otherwise. It gives an insight into community power dynamics and makes the researcher go beyond the guidance and suggestions given by local decision-makers and power-breakers. Giving the research and readers the sense of 'being there' is a major reason for applying observation in case study research. The context and physical space are critical to the research themes pertinent for each case and enabled the researcher to properly understand the context and more specific components of each case study site. This direct observation technique also gave the researcher awareness of rumours revealing what various communities perceived as the power dynamics affecting their daily lives, which focus group discussion could miss. A key activity during site visits or direct observation is organising group interviews and how this was undertaken in the three cases is explained below.

4.7.4 Focus group discussions

Focus groups followed similar procedures to the interviews and were used because of their comparative advantage for generating data at the individual, the group and the interaction units of analysis and for helping to triangulate data from interviews and for creating a complete picture of how the research topic affects a community of people and their social and cultural norms, the pervasiveness of these norms within the community, and people's opinions about their own values. Questions in the focus group guide covered the themes of sanitation, security, sustainable sanitation and human security.

Focus group participants were selected based on the characteristics mentioned under the sampling item and each group contained six homogeneous people, that is they contained people that shared similar characteristics. Before commencing focus group discussions, the content of the participant information sheet was explained to participants in a simple and understandable manner. Afterwards, the informed consent process was undertaken verbally and audio recorded. The ground rules of the focus group discussion were laid at the onset of each meeting.

In addition, each prospective participant both at the beginning and after group discussions were made aware of the need to ensure other participants' privacy and anonymity once outside the focus group setting and that, on the part of the researcher, special precautions had been taken to protect participants' identities and data. The focus group was audio tape-recorded, the interpreter and moderator both acted note takers with the latter noting down observations of the meetings in his field notebook. Discussions of the focus group were based on a prepared focus group guide containing five questions. These questions and accompanying probes were reviewed before every session to identify issues to further pursue for new information or clarification.

The researcher's plan to organise a focus group discussion for men, women, youth elderly and disabled in the three study locations did not materialise. Although all focus group discussions were undertaken in Gumbo, those for the disabled group in Lologo and youth in PoC Site 1 were not conducted. In Lologo, although the researcher met two physically disabled persons and had informal discussions with them, they did not agree to participate in focus group discussions citing they have been drafted to participate in numerous researches in the past and their situation has not changed. The focus group discussion planned for the youth could not hold on the scheduled date because of a fighting that broke out inside the PoC Site 1 that day between two IDP communities which claimed the lives of two persons. It was again suspended on the rescheduled day because starting the focus group discussion will run past 4pm which is the curfew start time for visitors and NGOs to the site thus raising safety concerns for the researcher

Focus group discussions lasted between seventy minutes and two hours. Participants were also debriefed after all sessions and any misconceptions expressed by them were clarified. After focus group discussions, key findings and other information, like nonverbal communication, such as gestures, facial

expressions, eye contact, tension, that could not be picked up on tape were written in the field notes to add contextual details to what participants had said. Audio recordings were transferred to a computer and external hard drive for backup after which they were deleted from the audio recorder.

4.7.5   Oral-life testimony

Oral life testimony produced data that is beyond the reach of mainstream research methods. The respondent of the only oral life testimony conducted has a deep knowledge of the local population and gave a cultural and historical perspective to the research topic. It helps to integrate the different aspects of life and how these interact and interconnect as against the inter-sectoral myopia of humanitarian and development planning. In the oral-life testimony undertaken the effects of the tendency of aid partners to impose their own theories of what constitutes development on the recipients was also revealed. The oral testimonies revealed important discrepancies between people's expectations and strategies of relief agencies and proved useful in throwing light on the repercussions of war and the social consequences of displacement. Oral life testimony commenced with the reading of the participant information sheet to the respondent and going through the consent form which the participant declined to fill but gave consent verbally instead.

4.8   Conclusion to research design and methodology on sanitation and human security

This chapter started by examining research in Development Studies contained in the first section. The research design was provided in section two while section three justified the research methodology appropriate to sanitation and human security. Description of the researcher's entry into South Sudan was the focus of section four. Section five discussed the study locations while the sixth section explained ethical considerations throughout the data collection process and after. In section seven, application and performance of the chosen research methods were discussed. As a policy-oriented research, choosing a case and assessing its terrain in terms of the multiple factors that define the problem which the study will address is crucial. Undertaking policy research is complex and to better understand the interactions between contextual factors that define the problem, the relevance of site visit cannot be forgotten. The next chapter will focus on the fieldwork and analysis of findings on sanitation and human security in the country.

Chapter Five

 Presentation of findings and analysis of sanitation and human security in South Sudan

5.0   Introduction to analysis of sanitation and human security in South Sudan

An exploration of sanitation and human security in South Sudan is an objective that must be addressed if the research question is to be answered. This can only be done by undertaking fieldwork, which essentially concerns the study of people performing their day to day routines in a natural setting. The goal of this chapter is to gather data on sanitation and human security in South Sudan and to analyse the causal relationships between them guided by the sanitation security model. Model is typically used in the scientific literature when referring to causal thinking and is a prominent approach to theory testing and building in social and development research. To achieve this goal, the chapter is divided into two sections each representing a different objective. The first section will state and explain the data analysis procedures adopted and the reasons behind them. Section two will analyse findings from South Sudan using extended texts and images divided into sub-sections. The third section will provide a conclusion to the chapter.

5.1   Data analysis procedures of the study findings

Analysis is the process of 'organising the information you have collected to relate your data to the research questions' (Laws *et al.* 2013: 65). The aims of analysis are for thematic analysis to identify the categories of things; for typologies to clarify categories of people and processes; for explanation to understand why people do or think what they do; and in combination of these to be able to undertake interpretation (Yin, 2011). Although there has been an increase in the use of computer-assisted programs in data analysis, whether researchers decide to use such software or not, all analytic decisions must be made by the researcher. A potential risk, however, in using these software is their inflexibility limiting the chances of desired analytical thinking that some complex social research demands. Case study researchers are more interested in finding the conditions under which specified outcomes occur and the mechanisms through which they occur, rather than uncovering the frequency with which those conditions and their outcomes arise.

Central to the data analysis is coding. Coding is the practice of using words or phrases to summarise, condense or reduce data (Saldana, 2009). What is coded in data from semi-structured interview and focus group transcripts, observation notes, and photographs depends on factors including the researcher's academic discipline, ontological and epistemological orientations, conceptual model and research question. Specific coding approaches for explanatory case study research in DS involve an analytical gaze that takes into consideration the following elements; data about the case or cases (who, what, where, and when); actions within the case or cases (practices, events and phenomena); appraisal of these (meaning and significance ascribed to the actions); and after-effects (implications and outcomes

of actions or events) (Skovdal and Cornish, 2015). A bottom-up approach which involves starting with the concrete activities that people perform and then deriving more general themes from them is adopted.

The broad analytical approach used in this study is systems analysis. Conceptual systems relate one concept to another and serve as the building block of human understanding. A system is a set of bounded elements so interconnected as to aid in driving forward a defined goal which in this case is the effect of sanitation on human security in South Sudan represented using a theoretical modelling framework, which defines the system's boundaries, elements/variables, and connections between them (Kirman *et al.*, 2019). According to Jaccard and Jacoby (2010), it is incumbent on a scientist who has designed a conceptual to address an issue to communicate that system to other scientists. Conceptual systems and theories are created to precisely mirror an existing reality. The world is increasingly getting complex and interconnected but the scientific tradition of reductionism that favours the separation of disciplines does not serve the policy needs today where the disparate views are meant to be integrated to organise effective policy responses (Fernandes *et al.*, 2019). Regardless of how detailed, formally explicit, or elegant they may be, by themselves, conceptual systems (such as theories, models, and hypotheses) are only prescientific which need to be subjected to empirical testing to be fully scientific.

This analysis combines the insights gained from past literature, the field notes, information contained in the data, and sanitation security model. The idea is to adopt a "big picture view" and to examine the different phenomena as an interconnected system rather than focusing on its components. This type of big picture analysis is identified by the researcher at the earlier stages which makes including questions and thoughts about the larger dynamics necessary. Systems analysis emphasises understanding processes rather than causes but this study prioritises both. Webster's dictionary defines a process as a systematic series of actions directed to some end and as a continuous action, operation, or series of changes taking place in a definite manner. Cause also means a person or thing that gives rise to an action, phenomenon, or condition. Since the aim of this research as stated in the introductory chapter is to map the processes through which sanitation affect human security in South Sudan, system analysis becomes an appropriate analytical approach. Two features of systems analysis that are reflected in this study are feedback and equifinality. Feedback refers to the circular transformation of input to the outcome and the outcome is later brought back as an input while equifinality concerns the idea that there may be several equally effective ways to achieve a goal.

5.2 Findings and analysis from the application of research methods

This section presents and analyses the findings from application of research methods across the three study locations and study settings. The interpretive perspective recognises that there exist multiple possible realities. It enables understanding that any given conceptualisation, and the facts that are given meaning by that conceptualisation, is a function of the time and space in which they occur. Only the findings are provided, and efforts have been made to avoid their interpretation. Semi-structured interviews, focus group discussions, and oral life testimony extracts have in some cases been reordered

and edited but verbatim to make sense of original transcripts. It is divided into subsections using a thematic approach based on prominent features that emerged from the findings. The figure below is a process map/flow chart/logic model presented graphically that summarises the process by determining the start and endpoints of the process, listing the different events in the process; sequencing the events; and logical relations among events.

Fig. 5.1   Process map for sanitation and human security in South Sudan
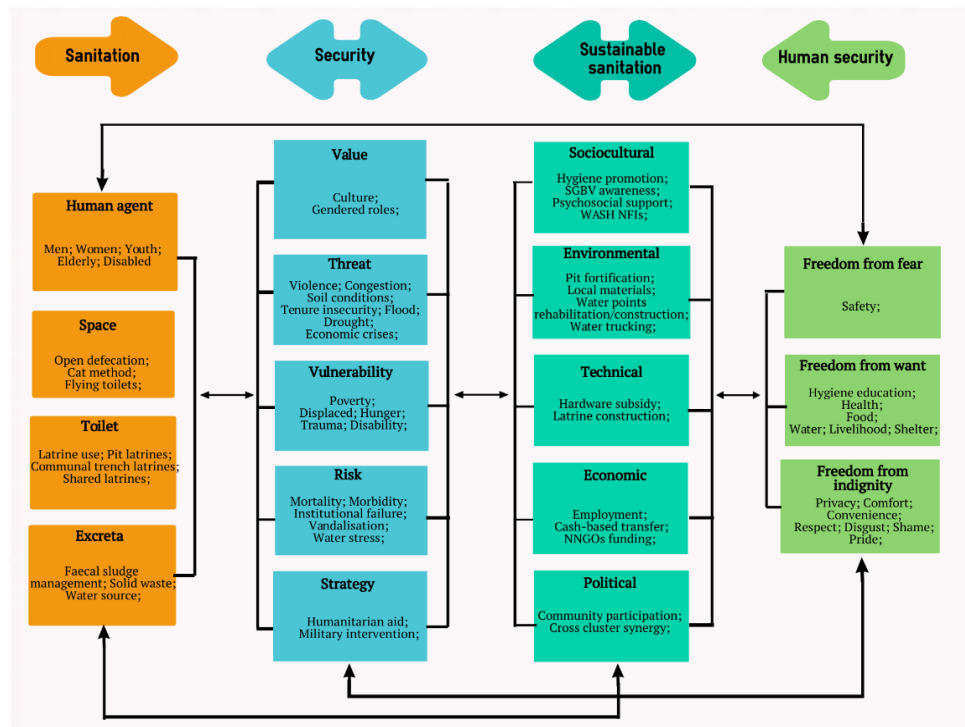
5.2.1   Sanitation practices and culture in the study locations

Sanitation practices concern those defecation and excreta disposal activities habitually undertaken by people. Reflecting the diverse peoples living in the country, people tend to draw upon their social norms, values, identities, and cultural orientations to bear on sanitation practices and vice versa. Sanitation practices in South Sudan are complex depending on the person's gender, migration status, ability, personal situations and settlement type. Data were collected on men, women, youth, elderly and disabled groups living in rural, urban and PoC Sites using different research methods. This approach enabled exploration of the differences, similarities, contradictions and variations between them.

They can broadly be classified into open defecation, cat method, flying toilets, and latrine use. Open defecation is defecating outside in the open especially in public spaces, cat method which is defecating on the ground often near the house to cover up faeces as soon as possible with soil, flying toilets which is defecating in a bag that is then thrown away or dumped in the surrounding environment, and latrine use is use of a designed excreta disposal facility. For those in Gumbo, open defecation is commonly

done by going to defecation fields, while those in Lologo are more likely to defecate within the community and by going to the bank of the White Nile. In the PoCs, the practice is disallowed although children often engage in it. Open defecation in all study locations are done only during the days and is ingrained in the people's values where culture plays a main role, as well as individual or group situations and contextual factors. The oral life testimony participant recounted her defecation practices thus;

> Bari people have interesting defecation practices. Although the use of latrine does not feature in their culture, people are required to take a trip several metres away from the village if they want to defecate. At nighttime, the practice is digging a hole, defecate in it and covering it with sand when finished. For example, back in the village, I used to take goats for grazing then I look for a tree, climb it, squat on one of the branches and defecate from there. Just like a bird. The feeling then was nice because I felt comfortable and it can be fun seeing your faeces drop from the top of a tree.[66]

Plate 5.1   Open defecation in the study locations

Clockwise: Open defecation field in Gumbo; Open defecation along the Juba – Bor road in Gumbo. Note the plastic bottles for anal cleansing; Open defecation in Lologo; Open defecation at a decommissioned latrine block in PoC Site 1.

A preponderance of most population categories to engage in open defecation was attributed to cultural preference, an argument backed by the people. The Director of Public Health for Rejaf Payam, the local government administration under which Gumbo falls, explained that the people generally engage in open defecation, a practice attributed to cultural beliefs, norms and taboos with some related to marriage rites. Participants ascribed open defecation to convenience and privacy. The men clarified that going to the bush to defecate is convenient for them and offers privacy away from the sight and hearing of others.

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[66] Participant 1 in oral life testimony, Rejaf Payam Compound, Gumbo, 18/8/2017.

For the youths, it provides safety and opportunity to socialise with one another when undertaken in groups. There are certain cultural marriage rites which require the groom to defecate in the open within the compound after having been fed by the bride to determine not only how well she cooks but also her ability to cater to her husband. When such faeces are deposited in a latrine, they cannot be seen and if they are it could ultimately lead to the cancellation of the wedding. He explained thus:

> There are still people who believe that faeces should not be put inside latrines but put outside for the in-laws to see meaning that you are a good cook and feeding your husband well. The father-in-law would come in the morning to see how big it is, if it is small you are not a good wife and may be asked to leave. People can also defecate in front of others because, culturally, the size of your faeces determines how well-fed you are or otherwise.[67]

Cat method is the next most reported sanitation practice in the country. It is undertaken when open defecation is impossible, or latrines are unavailable or inaccessible. Unlike open defecation which is predominantly practised during the day, the cat method is undertaken both day and night although less likely done during the day. This method is done among all population groups irrespective of migration status but possibly more common among internally displaced persons in both urban and rural areas. In the PoC Sites, however, there was no report of the practice. Those who practice cat method explained that it promotes convenience, safety, clean and odour free living environment and keeps flies away. A participant in the women FGD in Lologo said; "Lologo is a crowded community and many people do not have latrines. Sometimes, the only option available is to dig a hole beside your house, defecate there and quickly cover it with soil."[68]

Flying toilet is another popular sanitation practice in the country. Just like the cat method, flying toilet is not practiced in the PoC Sites. They do this by defecating in a plastic bag in their rooms or bathrooms and then dispose of it in the surrounding. The main disposal practise is throwing it by the roadside while those in Lologo are more likely to dump it in the surrounding or rubbish dump. Transect walk in both communities yielded significant evidence of this practice. Plastic bags containing faeces were seen along the Juba-Nimule road which passes through Gumbo and within the community of Lologo, beside houses and at rubbish dumps. Residents of Gumbo believed that this method is safe, convenient as it is done in the confines of one's home, and privacy.

5.2.2   Sanitation technology in the study locations

Sanitation technology refers to the facilities used in separating human contact from excreta. In South Sudan, the types revealed by findings are open pit latrine, simple pit latrines, VIP latrines and communal trench latrines. Findings from transect walk in Gumbo and Lologo revealed that most of the sanitation facilities were constructed by households. For compounds with fences, they are located often near the entrance beside showers for those who have them and at some distance from the house for those with

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[67] Director of Public Health, Rejaf Payam, Rejaf Payam Office, Gumbo, 8/8/2017.
[68] Participant 2 in women FGD for Lologo, Lologo Primary School, 12/8/2017.

no fence. Most of the latrines are simple pits with brick mud superstructure while others are either made of tarpaulin or a mixture of tarpaulin, zinc, cloth and sack. Most of them have roofs often made of zinc with just a few having none. Of the thirty-two latrines observed in both study locations, only two were VIP latrines with one found in each location. Also, there were more latrines made of brick mud superstructure in Lologo than in Gumbo. These types of latrines were, however, inexistent in the PoC Site 1 where only communal trench latrines with iron sheet superstructure and roof were observed.

Plate 5.2   Common latrine types in the study locations

Clockwise: Traditional pit latrine made of mud and bamboo in Gumbo; Simple pit latrine with sack and bamboo superstructure in Lologo; Communal trench latrine block in POC Site 1.

The internal part of most of the latrines in all locations is basic with holes covered by a latrine slab or bare ground most of which are not raised to prevent surface water from entering the pit. Slab types include mud, cement, pre-cast concrete, concrete, sand, plastic and timber. This part of a latrine in the opinion of sanitation engineers determines whether health benefits are enjoyed or not through ensuring that human faeces which is the main source of faecal-oral diseases are not dropped on the floor with a well-fitting lid that does not allow flies into the pit. Most of the latrine pits were left open during observation as there were no lids. Upon enquiry about why most of the holes were left uncovered, respondents explained that the purpose was to reduce odours when in use. It was also discovered that the diameter of many pits was larger than necessary. In the PoC Site 1, some of the latrines still had lids but were left open regardless. No water container with water in it was noticed inside any of the observed latrines although most of them have water containers for anal cleansing either inside or by the door

except the PoC Site 1. Also, there was no observed water container near any of the latrines observed in Gumbo and Lologo although standpipes are located near some of the latrine blocks in PoC Site 1. There was no handwashing facility near any latrine in Gumbo and Lologo but there was in the PoC Site 1.

Plate 5.3   Different types of latrine slabs

Clockwise: A pre-cast concrete slab; A latrine with no slab; A concrete slab; A plastic slab.

Unlike in Gumbo, children dedicated latrines were observed in Lologo and the PoC Site 1. These latrines are built only for use by them and not for adults and these are pit latrines in Lologo and open pit latrines in PoC Site 1. In Lologo, it was explained that this stems from cultural understandings that adults should not share latrines with children and the same goes for in-laws. In all study locations, children have the preponderance to defecate around latrines but this from observation seems to be less common in Lologo. Sometimes, the faeces are later disposed in the latrines but this does not always occur.

Plate 5.4   Children sanitation facilities in the study locations

Clockwise**:** An open pit latrine dedicated to children use in Lologo; A children only latrine in Lologo; Open pit latrine for children in PoC Site 1.

Sharing of latrines among households living in proximity was reported in Gumbo but this is less common in Lologo while communal trench latrine in the PoC Site 1 was meant for all IDPs. In Gumbo, many respondents confirm that they use a neighbour's latrine although fewer reported this in FGDs. It was observed that many of the latrines were accessible even when owners were away, but this is not the situation in Lologo where they are sometimes kept under lock and key. Limited sharing of latrines in Lologo was attributed to the diversity of ethnicities living in the community and the practice was reported to be more common during cholera outbreaks. Communal trench latrines in the PoC Site 1 were always left open for use.

5.2.3   Sanitation and gender in the study locations

There is a gendered dimension to sanitation in the country. Gender concerns the social and cultural construction of males and females. It is closely tied to social processes including roles, taboos, prohibitions and expectations that dictate public and interpersonal relations. These processes change according to context and over time influenced by resources, experiences, education, ethnicity, age, household, migratory status, livelihood, (dis)ability and the complex gamut of patterns that sustain, reinforce or transform social life. There are also biological patterns to gender which interact with sociocultural factors to influence sanitation as women in Gumbo and Lologo reported they are least likely to use latrines even if accessible during their monthly cycle. All population groups in rural and

urban areas engage in open defecation. Males, whether they are men, youth or elderly are more likely to engage in open defecation than females who sometimes make effort to use a neighbour's latrine if available, although displaced and returnee women would possibly practise open defecation more. Open defecation is possibly more practised by women involved in small scale enterprises as this required them to spend more time outside the home.

Women and the disabled in Gumbo and Lologo report practising cat method more than other population groups. Findings revealed that this method is common among women who engage in it irrespective of the time of the day although other population groups also engage in it. Women in Gumbo and Lologo are more likely to consider sharing a neighbour's latrine first than other population groups. This is attributed to their familial and childcare responsibilities which necessitated that they stay closer to the home. This is the same situation with the disabled group in Gumbo. Of the disabled group, those who are visually impaired a more likely to engage in open defecation compared to those with mobility impairment who might prefer to use a latrine although they explained that this does not mean it convenient. Women explained that men are unwilling to use a neighbour's latrine possibly because of the shame they feel doing that and would rather go for open defecation. Majority of the latrines in Gumbo and Lologo are not restricted to any gender even latrine blocks in the PoC Site 1 are in practice used by both males and females. Many female respondents in Gumbo and Lologo reported that it is men who have greater access to and control over resources like money and land and this makes them insensitive to their sanitation needs. Some gave instances where latrine materials and land are available, but men refused to construct latrines because they are being lazy and comfortable with open defecation. Some lamented that there are many restrictions on their ability to pursue a livelihood and when certain needs are demanded from their husbands they get beaten.

5.2.4   Sanitation challenges in the study locations

Challenges refer to the nature of main threats to sanitation, how they interact with people's vulnerabilities and exposure to risk factors. Gumbo was reported to have a high IDP population from Jonglei state majority of whom were seeking shelter at the Don Bosco Collective Centre situated at the periphery of the village although few others live among the host population. The situation is similar in Lologo which also has many IDPs and returnees most of whom practise open defecation because their culture does not support latrine use for excreta disposal. From findings, it was revealed that many respondents, particularly those living in Lologo saw the heterogeneous composition of the community as a threat to sanitation. The elderly group in PoC Site 1 explained that even if they must use latrines, it is culturally inappropriate for adults and elders to share. A participant in the youth FGD in Lologo said:

> You know we have many different cultures in South Sudan. Some of these ethnic groups are willing to accept using latrines but others want open defecation. Because of this, we are begging for humanitarian assistance either from the NGOs or government to bring in hygiene promotion

teams so that these people will be educated on the effects of open defecation in a crowded community like this.[69]

The economic crises the country is experiencing has had debilitating effects on the people. All of them particularly those in Gumbo and Lologo complained about the economic collapse and hyperinflation in the country which has geometrically increased the cost of sanitation materials and strained their purchasing power, a condition corroborated by all WASH partners. People in Gumbo, from FGDs, semi-structured interviews and secondary documents face threats of loss of livelihood, low wages, and high unemployment levels.[70] Lologo being an urban community, in addition to facing similar economic challenges as Gumbo, residents have been severely affected by inflation and weakening of the South Sudanese Pound as well as the government's irregular payment of low salaries for civil servants and police forces.[71] The few who have a source of income had more important needs to meet above buying latrine materials. Those in PoC Site 1 also complained about the inability to access employment which had strained their opportunity to meet basic sanitation needs. The WASH Manager of an NNGO said:

> In the past when our organisation implemented CLTS before the outbreak of the 2013 war, the communities had different latrine materials to choose from and were very cheap. For example, a bamboo pole cost five South Sudanese pounds but now it is three hundred, the iron sheet and bag of cement that were one hundred pounds are now about two thousand pounds. To build a standard pit latrine today, you will need between fifty thousand to one hundred thousand south Sudanese pounds. This is impossible for people who do not even have a means of livelihood.[72]

Vulnerabilities that the people suffer from can be classified into physical, material, and psychological. Some participants are physically disabled which has robbed them of opportunities to effectively undertake bodily evacuation activities. Most of them lamented that the latrines available are unsuitable for them. The complaints were most pronounced among the disabled group in PoC Site 1 who expressed bitterness at the state of sanitation in the Site arguing that they are deliberately been discriminated against. The elderly also complained about suffering pain from having to squat using the latrines. Latrines have no handrail or ramps and narrow doors and stalls which contain no lips to cross over. There are no easy navigable handles or no handles at all on doors. Other existing latrines do not achieve universal accessibility standards to allow people with mobility aids to use the facilities with the issues identified including no tactile marking, no inner lightening thereby increasing the risk of trip hazards, no grab bars or raised toilet seats as only squatting latrines were observed, and uneven and slippery floors causing trip hazards. Many of the WASH facilities were observed to generally be dirty and

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[69] Participant 3 in youth FGD for Lologo, Lologo Primary School, Juba, 12/8/2018.

[70] A wellbeing assessment survey undertaken in 2017 by World Vision, an INGO on communities in and around Juba scored Gumbo, Kor Romula and Jebel lowest at six with three being lowest and fifteen the highest wellbeing.

[71] USAID and PROPEL included Lologo community in one of its baseline surveys undertaken in Juba, Magwi, Awerial, Duk and Bor Counties between February and May 2016. Perceptions of economic wellbeing of the people in Lologo is the second weakest among the communities at 6 per cent.

[72] Nile Hope WASH Manager, Nile Hope Office, Munuki, 14/7/2017.

unclean and people with disabilities, especially those who must crawl on the ground, are prone to diseases including skin diseases. There was also fear of injury from sharp objects when using the latrines as most lack protective gear making them see the facilities as dangerous.

Poverty is a vulnerability that most research participants identified and described in terms of capability deprivation from endowment and entitlement. In Gumbo, Director of Public Health explained that rising poverty in the village emanates from macro-economic shocks and civil instability. It is not generally seen as a contributing factor to open defecation in Gumbo but is acknowledged as a factor which has limited opportunities not only to construct latrines in Lologo but also to pay to use public toilets in other communities within the Payam. Poverty, however, may not be a major reason behind people's sanitation practices as argued by the Director-General of Rural Water and Sanitation at MWRI thus:

> I cannot say poverty is a cause although the level in South Sudan is high, I went to a village recently where the villagers are not rich but were able to build their latrines or bury their faeces. That means you do not need to be rich to dig a pit and you sometimes hear WASH partners say people are not digging latrines because they are poor. It is simply lack of awareness.[73]

Plate 5.5 **Discontinued latrine construction because of lack of funds in Gumbo and Lologo**

Abandoned latrine construction in Gumbo, the owner now defecates in a bush opposite her house. Abandoned latrine construction in Lologo, the owner now shares a neighbour's latrine.

Most respondents in Gumbo complained about being food insecure with the physically disabled, elderly and female-headed households suffering the most. A participant in the disabled FGD explained that to him, hunger is the most crucial vulnerability because without food, how will you defecate, and having a latrine cannot be a priority in that case. The World Food Programme and World Vision conducted a survey on Juba payams including Kator under which Lologo falls between September and October 2017. Their findings revealed that food insecurity in the capital town is highest in communities under Kator Payam including Lologo, has the lowest proportion of households reporting salaried government work as the main source of income, lowest average monthly income, and the highest prevalence of

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[73] Director-General, Rural Water and Sanitation at MWRI, MWRI Office, Malakal, 3/8/2017.

poverty. The WASH Manager of Nile Hope, an NNGO that has undertaken numerous interventions in Juba and its environs explained that sanitation in terms of latrine construction is not a priority for most residents considering the high IDP population and inflation. It was further explained that inflation has also negatively impacted the availability of various sanitation materials in the market as the few available are costly. The effect of inflation on sanitation and human security was captured by the comment of the WASH Manager of an NNGO:

> Some will tell you that their priority is to get food for their children, how can they buy a latrine slab of 1,000SSP when they can buy a bag of maize or sorghum so the children can survive. Others will say they are staying at a location only temporarily before they move elsewhere. When you hear comments like this, you cannot push.[74]

Other vulnerabilities were identified by participants in Lologo some of whom explained that they are being discriminated against by community elders who often make decisions without consulting them because of their displaced status. There is some difference in comparison to those of the PoC Site 1 where their displaced status is predominant and attached to restriction of movement, dependence on aid and lack of assets. Tenure insecurity is widely acknowledged as a vulnerability that inhabitants of Gumbo and Lologo suffer from. Practices of open defecation, cat method and flying toilets in Gumbo are reported to be linked to the status of most residents as IDPs and returnees who lack access to lands of their own. All population groups especially the men and elderly lamented how their status as IDPs has robbed them of opportunities to improve not only their sanitation but also human security. This implies that open defecation constitutes a threat to their physical safety, physical health of community members and dignity. It must also be stressed that the majority of those who are indigenes do not have latrines too and land tenure security is not a factor behind their sanitation practices. A participant expressed her opinion thus:

> For one to be healthy, there should also be access to land to construct latrines. In Gumbo, the residents living here who are internally displaced persons cannot construct a latrine because it is not our homes, even some are occupying houses belonging to indigenes who have themselves been displaced and did not have latrines. This is part of the reason why most of us practice open defecation. Others defecate in plastic bags inside their houses and throw out on the street or roadside which causes diseases.[75]

The vandalisation of sanitary facilities is endemic in PoC Site 1 as latrine door locks are damaged. There is no sense of ownership making IDPs consistently destroy sanitation materials provided for their use. At night, they remove infrastructures like security lights provided by OXFAM and UNICEF and solar lights for the latrines were destroyed within two weeks. They also, sometimes, remove the latrine doors and the wood for privacy screens to sell. All these activities are viewed by THESO as a security

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[74] Nile Hope WASH Manager, Nile Hope WASH head office, Munuki,14/7/2017.
[75] Participant 5 in women FGD in Gumbo, Rejaf Payam Compound, Gumbo, 10/8/2017.

threat. Consultations have been done with the community leaders and the UN Police, but this has been ineffective. The WASH Manager suggested creation of bye laws by the community leaders to regulate and punish criminal activities in the camp:

> They do destroy some of our facilities especially at night including the solar lightings. They take the woods from the privacy screen and sell or use as firewood. There is a lack of accountability by the community leaders as generally nobody is responsible for the crimes committed by other people. You know many people in the PoC Site 1 are traumatised that is why they destroy things.[76]

Unemployment was a major concern for people as findings revealed. All population groups expressed frustration at being unable to get jobs required to meet essential personal and familial needs. Surveys conducted by World Vision in Gumbo confirmed that participants highlighted employment opportunities as a major contributing factor to their vulnerability along with the inability to secure housing and engagement in public governance structures. The men cited declining economic opportunities which has robbed them of their traditional household provider and protector role. Added to this is a dramatic increase in armed robberies carried out in a manner that intentionally belittles them thus leading to an increase in the number of males acquiring arms as a form of protection and provision for their families. Those who are employed have been severely affected by inflation and weakening of the South Sudanese Pound as well as the government's failure to or irregular payment of salaries to civil servants and police forces. The population groups in the PoC Site did not complain about not having livelihood opportunities except the women who showed interest in income generation activities.

Youths in Gumbo and Lologo attributed their vulnerability to lack of formal education and skill which they believed has hindered their ability to get jobs which could have contributed to better management of their vulnerabilities. In Gumbo, youths attributed their low educational level to unemployment, low demand for labour, lack of skills, poor access to collateral or alternative savings and fund-raising arrangements, and discrimination all factors impacting their vulnerability. Those in Lologo held similar views and related low or no education to poor hygiene practices. The role of low educational level in hygiene practices was explained by the Director-General thus: "the cultural beliefs like taboos of not defecating near in-laws and not having latrines near you are the biggest challenge to improving sanitation. Were our level of literacy high, these are practices that can be easily addressed."[77]

Disease is one of the major risks identified by respondents. Inappropriate excreta disposal practices have resulted in the prevalence of various types of diseases prominent among which are cholera, typhoid and hepatitis. The Director-General attributed the rise in diseases outbreaks to incessant and unpredictable population movements. Within Juba, he explained that people, most of whom came from

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[76] WASH Manager, PoC Site 1, THESO Office, Munuki, 21/8/2017.
[77] Director Rural Water and Sanitation, Ministry of Electricity, Dams, Water Resources and Irrigation Hai Malakal 3/8/2017.

rural areas, settle indiscriminately on lands constituting health hazards to others. Open defecation is prevalent considering high IDP population which is believed to be responsible for increased cholera cases in the community. The Director of Public Health in Rejaf Payam described the situation thus:

> A significant increase in the number of internally displaced persons in Gumbo due to the conflict has worsened sanitation as we now have an IDP Collective Centre a few metres from the office called Don Bosco. The latest report from the Juba Teaching Hospital and Centre for Treatment of Cholera say that out of the 96 cases recorded in Rejaf payam, Don Bosco alone had 21 cases. This is because everyone is practising open defecation including those living within the village.[78]

Plate 5.6   Children excreta within some study locations

Children faeces in front of a latrine in Gumbo; Children faeces on a footpath in PoC Site 1.

Another recurrent risk factor is land governance. In Gumbo, findings revealed that there was a significant proportion of returnees from Khartoum in Sudan to South Sudan when the latter gained independence aside IDPs from Jonglei sheltering at the Don Bosco Collective Centre. Most of these returnees are unlikely to have access to land and occupy land temporarily. This condition is a major barrier to latrine ownership and a high level of latrine sharing and open defecation in the village. Similar is the case in Lologo too where many returnees and IDPs are living in the community and many others are tenants who have no control over the decision regarding latrine construction. The World Food Programme and World Vision surveyed payams within the capital and reported that house ownership is lowest in the community at 56%. In Lologo, many people are also tenants or IDPs and often landlords do not have latrines because they have no land documents and just a limited portion of land is demarcated and few allotted. Risk in the PoC Site 1 varies and originates from insufficient land for the construction of latrines. This impacts the opportunity to construct latrines and constitutes a sanitation risk. WASH Manager stated: "we are experiencing problems of space for the construction of sanitation facilities. Space has also affected safety as we cannot separate and site latrine blocks for males and

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[78] Director of Public Health, Rejaf Payam, Rejaf Payam Office, Gumbo, 8/8/2017.

females at different locations within the camp. Women and girls now face safety challenges when going to use latrines at night."[79]

Congestion is another risk indicator. In Gumbo, the village is reported to have received many immigrants such that improper excreta disposal practices have increased. Cholera outbreaks in the country, historically, only occur during the rainy season but with the rise of displacements, it had been on since July 2016 making settlements congested and contributing to the spread of diseases. The WASH Cluster Co-Coordinator explained that within Juba, some communities like Gumbo, Gudele, Munuki, and Lologo are cholera endemic areas. Regarding Lologo, this position was supported by the Director of Public Health for Kator Payam. He believed that inefficient land administration coupled with congestion are the main factors responsible for poor sanitation practices in the community. A similar concern was expressed by the WASH Manager for PoC Site 1. It was expected that the conflict would be settled in the shortest time. But because of the conflict of July 2016 and increasing vulnerabilities, there has been a lot of movement of IDPs from town to the PoCs. The population is continuously increasing, and the sanitation facilities constructed in 2013 are inadequate to properly cater to their sanitation needs because of insufficient land. Congestion and inadequate latrines not only put pressure on use, siting latrine blocks beside one another encouraged men to use women latrines with safety, privacy and dignity implications. The Director of Public Health in Rejaf Payam said:

> The sanitation situation in Kator Payam is not good. In some areas like Lologo where sanitation is still very poor because the land was not demarcated for long, people are defecating anywhere and anyhow making cholera very dangerous in that community. This condition has also prevented the community from benefitting from hardware related sanitation intervention by WASH partners.[80]

Water stress is a sanitation risk in Gumbo and Lologo. Water stress is another major challenge in Gumbo and Lologo but not in the PoC Site 1 although this does not imply there are no water concerns. According to WASH partners, residents of Juba and its environs rely on the White Nile as their main water source because the water table in the town is deep and boreholes do not produce enough water. This increased exposure to diseases like cholera, diarrhoea. In Gumbo and Lologo, the risk of a cholera outbreak is significant. In Gumbo, most residents said that water was too expensive and that few boreholes are functioning in the village which added to need to purchase water purification tablets putting further strain on their lean income. Lologo and Gumbo had benefitted from borehole construction by Oxfam but it was reported to be inadequate by residents as fighting is common and there are long waiting hours. Water stress is mentioned as a hindrance to latrine construction, maintenance and overall hygiene practices including menstrual hygiene management. In Lologo,

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[79] WASH Manager, PoC Site 1, THESO Office, Munuki, 21/8/2017.
[80] Director of Public Health, Kator Payam, Kator Payam Block Office, Malakia, 9/8/2017.

residents complained about inadequate access to water although some get untreated water directly from the White Nile nearby. A woman in Gumbo lamented about the sanitation thus:

> A twenty-litre jerrycan of water from the water truck vendor goes for about SSP150 and we cannot afford it. Getting water to use for the most basic hygiene activities is difficult. The water available to us is often dirty and lack of it is a factor in encouraging open defecation. Even with the availability of latrines, their cleaning and handwashing will be difficult when there is not enough for drinking and cooking.[81]

The water table is deep in the town and digging boreholes does not provide the required amount of water to serve the growing population. This makes the people depend on untreated water from the White Nile to save money. In Gumbo, many residents do not have direct access to a water source except those living near the White Nile. Few others have access to standpipes as only one was observed during a ninety-minute transect walk in the village while the rest must purchase from water vendors. In Lologo, more standpipes were observed but there is pressure on them because they are insufficient to meet the needs of the population. Like Gumbo, some purchase from water vendors or fetch directly from the White Nile.

Plate 5.7   Water stress as a challenge

An abandoned handpump near a defecation field in Gumbo.

In Gumbo, it was gathered, that latrine use is not widespread among the population groups, across household and migration status that is indigenes, returnees and displaced persons are all likely not to be accustomed to latrine use. Lologo possibly has more latrine coverage than Gumbo but abandonment is also more common where households are unable to fund the removal of the faecal sludge in their pits when they get full. Latrines in both communities are insufficient and desludging was rare as direct observation, semi-structured interviews and FGD revealed. This attitude probably results from a lack of ownership as some residents do not feel responsible for maintaining or replacing them when they fill up. The communal trench latrine blocks in PoC site 1 are insufficient for the defecation and excreta

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[81] Participant 6 in youth FGD in Lologo, Lologo Primary School, Lologo, 12/8/2017.

management needs of the displaced persons living there as explained by both the WASH Manager and the IDPs.

Latrine use is the least cited defecation and excreta disposal practice across population categories in Gumbo and Lologo in contrast to it being the main method in the PoC Site 1. Although they have their benefits, respondents, including Directors of Public Health and WASH Manager, all agreed that there are challenges to their hygienic use which could compromise physical health. In Gumbo, youths explained that most latrines are dirty, smelly or uncomfortable thus making them avoid their use to prevent diseases. It was also confirmed by the Director of Public Health and the male group that some parts of the village have black cotton soil, which makes latrines collapse when there is no pit reinforcement. A female youth participant said:

> The superstructure of the latrine in our house is made of plastic sheeting received from World Vision. During the day, it gets very hot and uncomfortable for use. I prefer defecating in the open because going to the bush in the company of friends also provides an opportunity to socialise apart from the convenience. We like the fresh air and it is not a shameful act at all.[82]

Another factor of sanitation conditions in the study locations is the conditions of latrines. In Gumbo, the latrines are said to be poorly constructed and dirty, making people avoid their use. Other reasons residents ascribe to their avoidance of latrines include full pits, weak slabs, collapsing latrines, plastic sheeting superstructure, odour and lack of privacy. Latrines in Lologo have similar characteristics including general misuse, locking of latrines by most owners and poor siting which prevents access to sewage trucks to remove faecal sludge. Concern about latrines is greatest in PoC Site 1 where internally displaced persons particularly women, elderly and disabled complained about the old superstructure or temporary materials, full pits, odour, absence of sanitation non-food items, small size, lack of locks and their unsuitability for the elderly and physically disabled. These conditions pose risks to users like the physically disabled in a myriad of ways including physical injury, skin diseases, health and verbal abuse or harassment and feelings of exclusion. A participant angrily commented:

> THESO claim that they are working on it, but we are suffering because of poor sanitation. The latrines available on this site are not constructed for our use and we feel discriminated and forced to use latrines that are often unclean with bad smell. We need improvement in sanitation in this camp, maybe another organisation should be drafted to help them.[83]

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[82] Participant 2 in youth FGD in Gumbo, Rejaf Payam compound, Gumbo, 15/8/2017.
[83] Participant 4 in disabled FGD in POC Site 1, Camp Management and Coordination Office, PoC Site 1, UN House, Jebel, 23/8/2017.

Plate 5.8   State of some latrines in the study locations

Clockwise: A full pit latrine in Gumbo; A pit latrine with wide drop hole in Lologo; A pit latrine with limited privacy in Lologo; A stance of one of the communal trench latrines in PoC Site 1 with open rear pit and faeces on it.

The Directors of Public Health for Rejaf and Kator Payam acknowledged that the government has failed in performing its function regarding sanitation in the communities which is corroborated by the Director of Rural Water and Sanitation at the MWRI. Failures of the government, in their explanation, include inadequate auxiliary staff, lack of funding, non-provision of technical facilities, and non-payment of salaries although civil instability is reported as the source of these challenges. In Rejaf, lack of auxiliary staff, unavailability of sanitation tools, no funding, non-payment of salaries, insecurity and non-maintenance of sewage disposal sites are some institutional challenges mentioned by the Director. That of Kator Payam mentioned poor garbage collection because of flying toilets, lack of clean water, inadequate sewage trucks, no funding, and insecurity. The Director of Public Health in Rejaf Payam described the frustration of government officials thus:

> Is it not interesting for you to know that our March 2017 salary was paid only last week (August). This office is supposed to be full of officers but most of them have left because of hunger and money for transport. Worse still is that the salary is very low. As a Director in Grade A, I earn SSP987 ($3) per month. This salary cannot feed myself, wife and eight children even for a day.[84]

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[84] Director of Public Health, Rejaf Payam, Rejaf Payam Compound, Gumbo, 8/8/2017.

Status of Forces Agreement (SOFA) between UNMISS and the host government of South Sudan requires the latter to provide land be used for UN premises but which customarily remains the territory of the host state is typically designated as inviolable and under the exclusive control and authority of the UN. Although this land customarily remains the territory of the host state, it typically maintains this status for the duration of the time that it is used as a UN premise effectively making it a sovereign community. UNMISS thus has similar sovereign status as the South Sudanese government over the PoCs, is reported to deliberately prevent THESO from constructing latrines using durable materials that would have been more efficient. It was argued that the protective status of the Site not being a camp for IDPs necessitated this. Responding to the complaints of IDPs about the state of sanitation facilities, the WASH Manager remarked:

> We cannot deny that the limited land size of the site is a limitation to our activities. Discussions between UNMISS and the government regarding the extension of the site has not been fruitful according to what we hear. Also, it was thought that the IDPs would be there for a short period, but this has not been the case and the sanitation infrastructure is now very old.[85]

Plate 5.9   Sanitation conditions in the PoC Site 1

Male and female latrine blocks situated beside each other; Rusting latrine door.

In Lologo, the residents' practice of defecating at the bank and inside of the White Nile contaminates the main water source for the capital and compromises physical health. Indiscriminate excreta disposal and unhygienic handling were reported to be the norm in the PoC Site 1 presenting great risks as cholera outbreaks in the capital in 2014 and 2015 started from there. Impact of displacements was described by a WASH Manager saying:

> If you look at the Health Cluster data or discuss with the Cholera Working Group on areas where there have been serious outbreaks and recorded several deaths. I believe we have experienced more deaths this year than any other years in terms of cholera, and this has

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[85] WASH Manager, PoC Site 1, THESO Office, Munuki, 21/8/2017.

come as a result of insecurity. The people felt insecure then move from where they are staying to areas with no infrastructure.[86]

Against the background of the effects of widespread civil instability in the country, WASH partners including WASH Cluster, NGOs, donors and government at the local level maintained that the sanitation policy of CLTS is inoperable. WASH Cluster, which is the only functional sanitation coordinating body in the country, restricts its activities to emergency suspending CLTS as this is the only type of interventions donors are largely interested in funding. The Director of Rural Water and Sanitation, on the contrary, insisted that the policy is viable arguing that CLTS encourages people to voluntarily determine the course of their sanitation practices after triggering. Directors of Public Health in Rejaf and Kator justified that despite these, the policy's principles make it inapplicable in some contexts like emergency or displaced persons setting and heterogeneous communities.

NGOs, USAID and IOM mentioned the black cotton soil as another challenge. The soil structure in Juba is reported to be good because it is sandy and can support a latrine without much reinforcement which can last many years. But it was learnt that five kilometres away from central Juba then the black cotton soil begins from there. These areas are prone to heavy floods which could cause displacements and damage sanitation facilities. In and around Juba, communities known for having this type of soil include Gumbo, Gudele North, and Tong Ping. This type of soil is watery and makes latrines to collapse especially during the rainy season discouraging people from building or rebuilding latrines.

Plate 5.10   Collapsed latrines in Gumbo and Lologo

Collapsed latrine in Gumbo which now serve as a household rubbish dump; Collapsing latrine in Lologo.

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[86] Christian Mission for Development WASH Manager, Christian Mission for Development Office, Juba Na Bari, 14/7/2017.

5.2.5   Sanitation and violence in the study locations

Social breakdown occasioned by the civil war has economic collapse have engendered widespread violence resulting in injury, death, psychological harm, maldevelopment or deprivation. In Gumbo, the Director of Public Health lamented firearms possession both by civilians and military. Practising open defecation comes with threats of being attacked, kidnapped, getting shot, killed. Lologo was also reported to be a high-stress environment with pervasive acts of criminality as all population groups expressed concern for their safety while undertaking sanitation particularly outside of the house. Findings from both communities showed that civil instability not only triggered violence but also land-grabbing often perpetrated by members of the government military who with guns dislodge people from lands they occupy or take over houses. A participant explained that people avoid going outside the confines of their houses from six in the evening because of fear for their safety and those without latrines, options available were cat method within the compound which is sometimes fraught with difficulties or defecate inside the house. Another expressed her opinion thus:

> It is very hard to come out at night to defecate because unknown gunmen are lurking around. People now defecate inside the house at night and then dispose of the waste in the morning. During the day too you must be careful of where you go because you may be killed, raped, kidnapped or tortured. Some still go to the bush during the day because that is the only choice but at night, it is impossible.[87]

This condition has strained the incentives to construct latrines by those who are willing. Some residents of Gumbo had benefited from latrine slabs distribution by NGOs but complained about the inability to go to the bush to get other materials to complete the construction since those in the market were unaffordable. Violence is also reported to be committed when trying to educate other people on hygienic practices or correct them from engaging in open defecation particularly those who are military men or civilians with arms. Both Directors of Public Health for Rejaf and Kator Payams confirmed that arms possession had restricted them from undertaking community level hygiene promotions. A man in Gumbo said; "we were talking about expensive latrine materials the other time, if there is security, you can go to the bush and cut some bamboo, wood and leaves to complete your latrine but right now, if you try it you will end up being killed there."[88]

In PoC Site 1, only the elderly, disabled and women reported being worried when going to access latrines although for varying reasons. For the elderly men and disabled, their concern originated from the unsuitability of latrines for their use. They argued that sharing the latrines has exposed them to different forms of assaults by male youths among whom they claimed alcohol abuse was common which include teasing and opening the door on them during use. A participant in the women FGD submitted that; "of course, security will affect sanitation because we are living in a terrorised condition and

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[87] Participant 1 in women FGD for Gumbo, Rejaf Payam Compound, Gumbo, 10/8/2017.
[88] Participant 3 in men FGD for Gumbo, Rejaf Payam Compound, 18/8/2017.

movement at night is a problem. Even your neighbour could be the one to shoot you when you are out defecating. Anyone moving at night is considered a thief or gunman."[89]

Women in Gumbo and Lologo lamented that there are many restrictions on their ability to pursue a livelihood and their needs are neglected by their husbands. When demands are made like need to construct a latrine, they get beaten up. Concerning women and girls, the PoC Site 1 is not an exception as crimes, sexual exploitation, rape and sexual abuse is prevalent, using latrines to perpetrate these acts as explained by the WASH Manager. Although none of these acts was neither mentioned nor admitted to by participants during FGDs, the WASH Manager hinted that they were regular occurrences. According to a report on the Site based on a survey, women and girls are the most vulnerable to this type of assault as almost a quarter of women who experienced this reported that they experienced multiple incidents of sexual violence. Aside threat of government soldiers who have stationed barracks and checkpoints outside the Site, women reported PoC Site 1 as being unsafe too as rape commonly occurred in sites such as the toilets or bathhouses or even in their shelters. A survey on security in PoC Site 1, Rumbek and Juba town showed that 75 per cent of women there had experienced non-partner assault while many others had offered sex in exchange for WASH commodities. One of the participants in the women FGD remarked; "at night, lighting is provided near just one of the latrines, but we sometimes use torches from phones. We appeal to THESO to provide all women in the camp with torches so they can feel safer using the latrines at night."[90]

5.2.6   Sanitation stakeholders and intervention engagement in South Sudan

Sanitation conditions in South Sudan, particularly in rural, urban and PoC Sites are of great concern to WASH partners, but the basis of their interventions became humanitarian focused and less about development since the outbreak of the December 2013 civil war in line with donors' priority. Funding for sanitation interventions in the country comes from three funding mechanisms; direct funding of WASH partners by donors with conditions, the South Sudan Humanitarian Fund managed by OCHA and the Rapid Response Mission which is managed by IOM. Of the three study settings, USAID, the largest humanitarian and development donor in the country, in practice prioritised those in POC Sites and IDPs in host communities whether rural or urban and funds UNICEF, IOM and OXFAM the most. This focus on humanitarian activities and general suspension of development programmes and projects because of the conflict was identified as a key source of strain on engagement between the government and WASH Cluster. The Director-General said:

> They went as far as diverting funds meant for development programmes to the emergency. This is unfair because there is a national development agenda and when issues of emergency come up, the government has established the Ministry of Humanitarian Affairs and Disaster Management for them to work with. Both must be pursued to support each

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[89] Participant 6 in youth FGD in Lologo. Lologo Primary School, Lologo, 12/8/2017.
[90] Participant 4 in women FGD in PoC Site 1, Camp Management and Camp Coordination Office, PoC Site 1, UN House, Jebel, 20/8/2017.

other as lack of development projects can aggravate the magnitude of emergency challenges and people's needs. Now, they are running the sanitation sector of this country all by themselves without consulting us on their activities.[91]

WASH partners hinted that this may be because they feel excreta disposal management is adequate in rural areas and has not had any major negative impact on health. In urban areas, it was suggested that development-oriented interventions are probably perceived as more appropriate as they currently do not allocate funding to these. The government argued to the contrary, stating that the war in the country is not enough grounds to suspend CLTS as enshrined in the WASH Strategic Framework of 2011. Displacements became a major risk to sanitation in the opinion of WASH partners in rural and urban areas, as it exacerbates open defecation. The IOM WASH Manager explained CLTS thus:

> It is unlikely that you will see a donor funding latrine construction in rural areas today. If there is any that would fund construction of latrines, then they will do that in areas that are stabilised and through CLTS. Our activities are essentially on EPR focusing on water by constructing boreholes and regarding sanitation, hygiene promotion and sensitisation. With the emergency and conflict situation and unpredictable population movements, we believe this is the best approach.[92]

WASH partners across the study settings apply hygiene promotion to change the perception of the people regarding defecation and excreta and engage in more hygienic practices to prevent cholera outbreaks. USAID clarified that all its funded projects must include behaviour change communication as they deem this more important than building latrines, particularly in rural areas. In rural areas, NGOs train health and hygiene promoters who are given incentives to conduct door to door hygiene promotion while also collecting KAP baseline information. Approaches in urban areas include ad-hoc employment of youths to conduct hygiene promotion in communities and at public places like markets, BodaBoda TalkTalk[93] and mass media. Health and hygiene promotion in PoC Sites include the provision of handwashing facilities, engagement with site block leaders, employment of community hygiene promoters and community mobilisers. Hygiene promotion faces some challenges as a WASH Manager explained:

> I once witnessed an education director in a federal ministry stop a sanitation training because according to the culture women do not use latrines and can get infections if they do because of the smell that comes from the pit. We have observed that as much as we conduct training and workshops on behaviour change, officials agree but will not implement. For you to do behaviour change is not practical. As much as we tell them that

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[91] Director-General, Rural Water and Sanitation at MWRI, MWRI Office, Malakal, 3/8/2017.

[92] IOM WASH Manager, IOM South Sudan Head Office, Northern Bari, 25/7/2017.

[93] UNICEF use the BodaBoda TalkTalk initiative which is a tricycle mounted with loudspeakers driven around the town communicating hygienic and cholera prevention messages in local languages.

digging and using latrine is important you find hygiene promoters who are trained to guide community members as to what right things to do practising open defecation.[94]

While NGOs generally spoke positively about their engagement with government and opposition groups, USAID, the largest donor in the country, expressed disappointment about the role of government and opposition groups in preventing humanitarians from performing their duties. The agency clarified that there was donor fatigue because of continued insecurity and humanitarian needs were growing in other countries of the world where donors believe their money would be more effective. Conflict, it was reported, has created a severe food insecurity situation which has strained adequate funding to other Clusters. For the people, unmet needs are worst during the long rainy season when communities get cut off from humanitarian access making dry season the preferred time for aid supply. It was, however, mentioned that WASH partners work within the operational framework set by the government and stressed the importance of always being in their good books. USAID/OFDA Programme Manager had this to say about the government and opposition groups:

> The government is sometimes a stumbling block to our partners' activities through shrinking humanitarian space manifested in denial of access to communities, torture, killings and arrests of humanitarian workers, and looting of aid supplies although these activities are sometimes perpetrated by the opposition too.[95]

Disappointment was expressed by the WASH Cluster about low levels of engagement, support and cooperation with the government regarding sanitation considering the political instability context making them turn to INGO and NNGOs to fill the role. The Director-General acknowledged that there used to be different planning and coordination meetings between them and other partners, but most had stopped since the return civil war. Coordination with all other partners was reported as good by the Cluster and other partners commended the latter's effort at sourcing for funds for them and avoiding duplication of interventions. Until January 2017, it was learnt that little to no coordination of activities existed between the WASH and Health Cluster and it was the continuing cholera outbreak that forced them to integrate efforts. This new collaboration was needed according to the WASH Cluster because it was easier for get funding through Health as few donors are interested in the sector. The WASH Cluster Co-Coordinator said:

> Our relationship with the government is very poor. I am disappointed in the engagement with local authorities. Although I understand that there is no possibility of them engaging in remote areas but towns and may be struggling financially, they need to step up. It seems they have decided not to participate or involve themselves in certain things. Then some donors are

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[94] Christian Mission for Development WASH Manager. Christian Mission for Development Office, Juba Na Bari, 14/7/2017.
[95] USAID/OFDA Programme Manager, Regency Hotel, Kololo, 28/7/2017.

funding the response and have their agenda which is political and sometimes not in line with what needs to be done.[96]

The government at the local level accused the NGOs of sidelining them in their activities and abandoning the Community Action Cycle mechanism meant to facilitate joint planning and implementation of projects between local government officials and aid partners. Payam Directors of Public Health explained that NGOs only come to them to seek permission for undertaking projects blaming this attitude on their lack of capacity. Most NGOs lamented that many states and counties with whom partnership may be sought in delivering sustainable interventions are either inexistent or lack organisational and institutional capacities. It was reported that often, knowledge of government policies is restricted to the state level thereby hindering effective collaboration and sustainable exit strategies after project completion at the community or local government level. A WASH Manager said:

> Some towns, like Malakal for example, have been deserted and this is the fate of many villages too. Another problem we are having is that government structure and health staff which would have helped coordinate sanitation activities of WASH partners are weak and at worst inexistent. Some of the newly created state governments are run from here, the capital.[97]

INGOs have a better capacity in sanitation interventions in South Sudan and are predominantly direct implementers compared to NNGOs most of whom lack staff, funding, expertise and appropriate technical capacity to effectively implement sanitation projects and programmes. INGOs also compete with NNGOs for funding from the WASH Cluster and get more interventions most of which they often abandon in the event of conflict, violence or attack on their staff and looting of assets and supplies. However, NNGOs are more integrated into the communities, engage communities in a more culture-sensitive manner and are most likely to stay with the people even after displacements. IOM invest in NNGOs and local organisations who can contribute to effective and sustainable intervention by building their capacity to operate in areas inaccessible to international organisations, supporting them to operate under strict criteria for safety and security, quality control, assessment methodologies and respect for humanitarian principles. This was described by a WASH Manager thus:

> Where INGOs have a problem is the implementation of programs in serious emergencies. Unlike us, we are part of the community, when they get displaced, we are displaced with them but INGOs when there is conflict in a community, they withdraw their staffs and suspend the project.[98]

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[96] WASH Cluster Co-Coordinator, UNICEF Office, Thong Ping, 13/7/2017.
[97] World Vision WASH Technical Manager, World Vision South Sudan Office, Hai Cinema, 3/8/2017.
[98] Christian Mission for Development WASH Manager, Christian Mission for Development Office, Juba Na Bari, 14/7/2017.

Sanitation conditions in the PoC Sites are different from those of rural and urban areas as determined by their unique context. Their status as settlements for internally displaced persons seeking only physical protection established on land belonging to UNMISS with a peacekeeping mandate also influence sustainable sanitation measures particularly regarding latrine structures. The latrines substructure and superstructure are constructed using temporary materials of plastic slabs and iron sheeting although some PoC Sites have another superstructure material made of wood, both are an improvement on the plastic sheeting used when they were first created. These measures as explained by the WASH Cluster do not meet international humanitarian standards because their temporary design makes them easier to vandalise by internally displaced persons and creates a congested situation. Also, access issues remain challenging for people with mobility and visual impairments to reach and use the latrines.

5.2.7 Sanitation intervention and rationale in South Sudan

Sanitation in South Sudan with regards to facilities, whether in rural or urban areas, is described as poor and fair in PoC Sites by WASH partners. Between the period of independence in 2011 and the 2013 crises, sanitation interventions in the country were mainly development-oriented. This involved infrastructure projects through construction and rehabilitation, institutional and community capacity development, alignment of national policy, funding, blanket service provision, private sector partnership, social marketing of latrines, Community-Led Total Sanitation (CLTS), and behaviour change communication for improved hygiene and sanitation practices. Much of these activities, however, stopped since the return to civil war which transformed the entire WASH intervention landscape from development to primarily humanitarian. This presented significant challenges for WASH partners considering that many of these development interventions were at the infant stage. The WASH Cluster Co-Coordinator described the situation this way:

> Sanitation in the country is horrible. There is no infrastructure and cultural background for sanitation. It is challenging working in both emergency and settled stable areas. There is funding for emergency sanitation, but little can be done in terms of behaviour change. Development donors are needed for stable areas like Northern Bahr el Ghazal but there is none for that now because of the overwhelming demand for humanitarian intervention and this constitutes a big gap. However, there are exceptions from time to time but still challenging.[99]

Most partners agreed that the understanding and practice for sanitation is generally lacking and does not constitute a priority for many people. In response to these conditions, different interventions were deployed by WASH Cluster through its partners to address the situation by saving lives, providing protection and ensuring resilience which aligned more towards humanitarian principles and operational objectives. The most prominent of these interventions was hygiene promotion. Officials in Gumbo and

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[99] WASH Cluster Co-Coordinator, UNICEF Office, Thong Ping, 13/7/2017.

Kator Payam acknowledged different sanitation interventions undertaken by the NGOs but affirmed that focus is on hygiene promotion. The most common approach is NGOs recruiting youth on an ad-hoc basis and training them on hygiene promotional messages after which they are dispatched to communities to promote the messages to households. Others are posted to schools to educate the pupils on the importance of hygiene. UNICEF often undertook hygiene promotion using the mass campaigns (BodaBoda TalkTalk) initiative. This approach involved giving hygiene messages by mounting a public address system on a bus or tricycle stationed at public areas like markets and motor parks. At the time of undertaking this research, numerous NGOs were engaged in hygiene promotion in both Payam. Observational visits to community health centres also showed this activity taking place. Radio stations covering the capital and surrounding villages especially Radio Miraya, owned by UNMISS, play hygiene promotion jingles on average thrice an hour.

In the PoC Site 1, hygiene promoters referred to as community mobilisers are chosen by THESO to give recurrent hygiene advise to IDPs to always ensure a clean environment and get used to being responsible for it. They supplement the activities of the BodaBoda TalkTalk managed by InterNews, community engagement through leaders who are provided with megaphones to provide hygiene messages, school hygiene clubs, and hygiene training for block/women leaders. The WASH Manager for the Site said:

> We have tried our best with regards to hygiene awareness. It is taking us a long time for people to change their attitudes and behaviour regarding hygiene. Although we know it takes things are gradually improving because the situation today is better than it was when open defecation was the norm. The people believe their leaders more than any other person talking to them and that has helped us a lot. Regarding appropriate use of the latrines and maintenance, that is where the greatest challenge lies which is a result of no sense of participation and ownership.[100]

Most NGOs, however, projected decent achievements of hygiene promotion. This line of thought was also agreed to by the WASH Cluster hinting that most people in the study settings still live under significant vulnerabilities. Some INGOs proposed that hygiene promotion could be the only effective sustainable sanitation measure adopted by WASH partners because of its tendency to stick in people's minds even under conditions of displacements, although NNGOs tend to disagree citing strong cultural rules guiding hygiene in the country. Another INGO mentioned that hygiene promotion is more effective in communities where lives have been lost to diseases like cholera and undertaken with cultural sensitivity through local leaders. Other NGOs took a different stance by explaining that hygiene promotion respects the cultural sanctity of the people and adapts to existing sanitation arrangements for a people who largely do not prioritise latrines. Hygiene promotion is regarded as more sustainable considering the context by a WASH Manager who said:

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[100] WASH Manager, PoC Site 1, THESO Office, Hai Munuki, Juba, 21/8/2017.

> We put much effort into the technicalities of building durable latrines but that is not enough. Instead of talking about sustainability from the facility point of view, let us talk about it from the behaviour change point of view because now considering widespread displacements, when compared to facilities, it is more sustainable. Facilities are still required but we need to increase the soft component of sanitation as a whole. Something like the triggering part of CLTS is an approach I think can work.[101]

Inadequate excreta disposal and poor defecation practices are recorded in all three study locations which many respondents attribute to being responsible for disease epidemics particularly cholera. Aside from undertaking hygiene promotion activities through house visits, mass campaigns (BodaBoda TalkTalk) and health centre modalities in Gumbo, Lologo, and PoC Site 1, WASH partners distribute WASH non-food items to motivate the adoption of hygiene practices. The bulk of sustainable sanitation activities in Gumbo is undertaken by the INGOs like Medair, THESO and World Vision and UN agencies like WFP who distribute items like sanitation tools, household water storage items, water purifiers and bars of soap. Similarly, WASH NFIs are reported to be distributed in Lologo by HealthLink for example, but both communities explained that these activities have reduced since the July 2016 crises. The men, however, complained that when these items are distributed, they are only given to females while community members in all study locations demanded that latrine disinfectants like chlorine be added to the items and protective items for the physically disabled and cleaners. In Gumbo, it was reported that some NGOs provide cash transfer to girls to purchase sanitary pads as an. A participant said:

> The NGOs do a lot of hygiene awareness about cholera prevention, but they rarely include menstrual hygiene which is often focused on schoolgirls. Sometimes, they even visit schools to give them sanitary materials and one NGO is giving them money for them to be able to purchase it. We need them to include menstrual hygiene management awareness in their message to women and girls in the village and help provide sanitary materials too because they are expensive.[102]

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[101] World Vision WASH Technical Manager, World Vision Office, Hai Cinema, 3/8/2017.
[102] Participant 3 in women FGD in Gumbo, Rejaf Payam Compound, Gumbo, 10/8/2017.

Plate 5.11   Some types of WASH non-food items
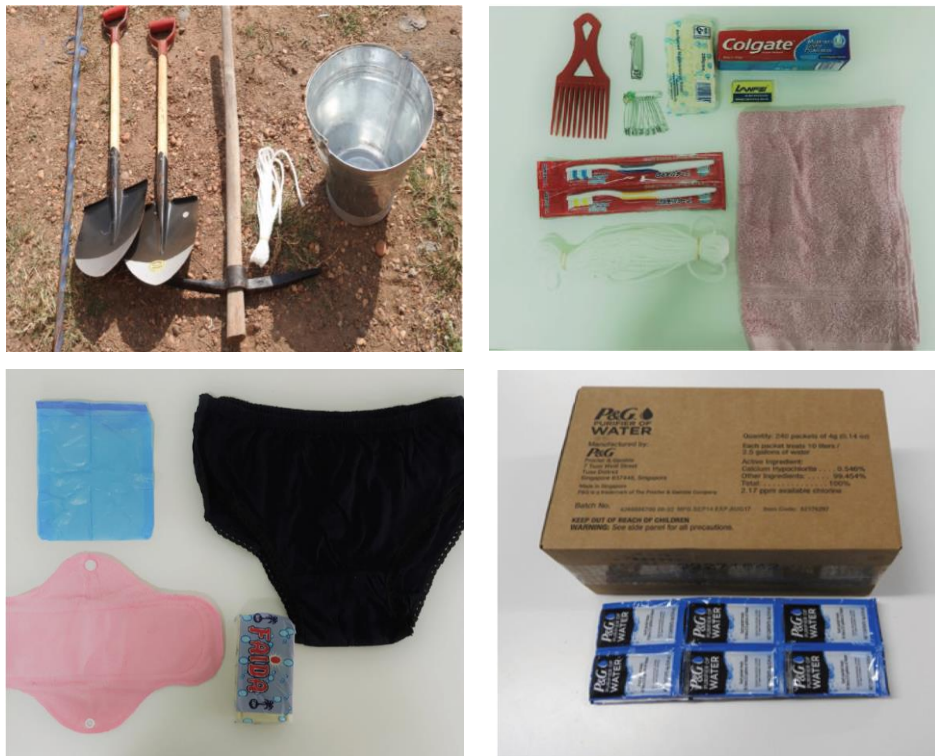
Clockwise: Latrine digging kit; Basic hygiene kit; Menstrual hygiene management kit; Water treatment flocculant and disinfectant/purifier of water (PuR).

Latrine use is likely to be less of a common excreta disposal method in Lologo than in Gumbo despite the latter possibly having fewer latrines than the former. The physically disabled and women in Gumbo mentioned that using a neighbour's latrine is their first choice and other options were explored when this was impossible. WASH partners like the World Food Program, in a bid to improve latrine ownership and use, distribute plastic latrine slabs and plastic sheets to residents of Gumbo with the requirement that they have already dug a pit. In Lologo, Malteser International at the time of data collection was also distributing latrine materials to residents who had dug a pit. Donors were displeased with the practice of distributing plastic slabs to people because they believe most lack the technical skills to construct durable latrines and pits that are not lined would not last long. USAID/OFDA Programme Manager while reflecting on this sanitation intervention approach said:

> The purpose is to motivate people to be willing to purchase sanitation materials, construct latrines, and responsible for managing them by themselves. There is essentially no exit strategy, no monitoring, and no capacity building. We do the same intervention severally in the same locations and we need to assess whether these activities are working.[103]

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[103] USAID/OFDA Programme Manager, Regency Hotel, Kololo, 28/7/2017.

Plate 5.12   Hardware subsidy in the study locations

A plastic slab in a pit latrine in Gumbo; Plastic slab at an IOM warehouse in preparation for distribution; Malteser International logo on an iron sheet for latrine superstructure; A latrine with Malteser International latrine materials nearing completion.

Another reason behind people's low prioritisation of latrines in rural and urban areas and their preference for open defecation is that the likelihood of the pit collapsing is high when they are not well reinforced either due to the black cotton soil condition, absence of pit lining or flooding. Another context is swampy areas of central Unity state, Jonglei, Lakes, Twic East and Bor South where latrines generally cannot be constructed. NGOs see this as a real threat and therefore devised different means of ensuring pits are reinforced for the latrines they construct for households. These strategies include burning of pit walls, use of oil drums for pit lining, and encouraging the use of plastic slabs since they are movable in the event of a latrine collapsing. Donors, however, regard these measures as unsustainable because the people cannot afford to purchase latrine materials themselves and the high technical skills required for effective results are generally lacking. Cat method is the sanitation practice encouraged in swampy communities and NGOs used to distribute tools like shovels for this to encourage better excreta disposal.

The PoC Site 1 has a total of nine different latrine blocks with each having between seven and eight stances serving about 9,000 people. One latrine block was decommissioned in 2016 when it became full and there was no passageway for sewage trucks to empty it. In one section of the camp, six latrine blocks are situated beside each other while another two are located at different points in the camp. Each

latrine block has between eight, to ten latrine stances made of iron sheeting, pit linings, plastic slabs and iron sheeting superstructure. Aside from the measures mentioned above, THESO, funded through the WASH Cluster, also provided some context-specific approaches like the provision of age and gender-segregated latrines. Of the eight functioning latrines, four are reported to be for women, three for men and one for use by both genders. Privacy screens are provided in front of the latrine blocks, latrine cleaners are employed to clean them twice a day and night lightings are also stationed around some latrine blocks. THESO collaborates with the Protection Cluster in PoC Site 1 to ensure the latrines blocks are marked for separate gender. The WASH Manager said; "we prioritise the cleanliness of the latrines and have recruited attendants to ensure maintenance. The pits are also being upgraded from iron sheet to concrete although it is unclear how sustainable this will be."[104]

Plate 5.13   Sanitation intervention in PoC Site 1

Privacy screen in front of a female latrine block in PoC Site 1; Latrine pit upgraded to concrete from iron sheet.

In rural areas, faith-based NGOs like CMD establish Hygiene Committees and Community Resource Management Committees and employ hygiene promoters. The intervention activities of these types of NGOs are likely to be more extensive than others to include hygiene education and construction of latrines by attaching four households to a latrine, community inclusion/participation through establishment of community resource management committees. These organisations, especially those run by local staff, are plausibly perceived to offer more dignified sanitation interventions because they have their separate funding outside of the WASH Cluster, provide longer-term programming, and customs are more likely to be considered and adopted. During hygiene promotion, data on KAP is simultaneously collected which fed into the next cycle of interventions. The importance of these bundle of activities to cholera prevention was described by a WASH Manager thus:

> A cholera outbreak is essentially about sanitation. At the peak of cholera outbreaks in some communities, there can be as much as ten deaths recorded per week but when you do a bit of hygiene promotion, quickly construct latrines, tell them not to drink water directly from

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[104] WASH Manager, PoC Site 1, THESO Office, Hai Munuki, Juba, 21/8/2017.

the source but boil it, and bury faeces, the caseload reduces drastically such that after a month there may be no case or just a few cases and no deaths.[105]

Limited latrine coverage is a major sanitation condition across the settings. Latrines are reported to be generally unavailable in rural areas and not widely used in urban areas while those in PoC Sites have fairer access. When latrines are available in rural areas, they are often basic pits sometimes with no shelter. Most of those in urban areas are no better with ramshackle superstructures and poorly constructed. In response to these challenges, outright construction of latrines was undertaken although this is most likely in rural and PoCs than urban areas. For emergency contexts, particularly host communities in rural areas, NGOs provide sanitation facilities to schools, health centres and sometimes choose the five most vulnerable families and build latrines for them to show as an example to other community members on how it is meant to be built. The materials used by these NGOs are possibly temporary like plastic sheet superstructure, but they also encourage them to use local materials. The WASH Manager of an NGO explained thus:

> We also construct latrines around communal meeting locations and attach them to nearby households so they can maintain them contrary to constructing them in market centres or schools without a lock which becomes unusable within two months. Hygiene promoters are given monthly incentives and are drawn from teachers, church leaders or workers, and local authorities. The purpose behind this is to make them responsible for improved hygiene and accountable for latrine maintenance.[106]

Preference for open defecation and the condition of the people being unaccustomed to latrine use in the opinion of many WASH partners is encouraged by the culture which community participation in decision-making can address. Most WASH partners emphasised the importance of mobilising community elders in sanitation interventions particularly one which involves latrine construction and uptake. NGOs also highlight the importance of community ownership to the sustainability of sanitation facilities in the country and links this to community engagement. A key requirement for achieving this, according to them is intense dialogue and engagement with the community leaders. They stress the critical role played not only by community leaders but also the elders in the success or otherwise of a sanitation intervention. Some of them resist sanitation interventions but the response strategy used is giving awareness to them through an enlightened but respected member of the community and undertaking additional intervention based on whatever is demanded. A WASH Manager said:

> Recently, from our experience in Wau Shilluk, we have discovered that sharing of responsibilities with the communities go a long way even if their contribution is minimal like just digging the pits. There is the challenge of finding skilled workers, but their

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[105] Nile Hope WASH Manager, Nile Hope WASH head office, Munuki,14/7/2017.
[106] Christian Mission for Development WASH Manager, Christian Mission for Development Office, Juba Na Bari, 14/7/2017.

enthusiasm works and is promising because they have built and are maintaining latrines themselves.[107]

It is only in rural and POC Sites that some employment opportunities or incentives are provided. Latrine cleaners and attendants are recruited in the POCs like Bentiu and Malakal and hygiene promoters are drafted in some rural areas and they are given a stipend for their work. Also, skill acquisition programmes are introduced. The occasional distribution of WASH non-food items is also undertaken to augment people's income. The aims of these approaches are hygiene awareness and earning a livelihood which could encourage the people to be self-sufficient and take responsibility for themselves and their wellbeing. Latrines in all study settings are often constructed at a distance from houses or shelters and are generally accessible to users whenever they need them during the day. However, it was reported that the story is different at night when owners cannot go out to use them because of the high level of community crime and violence, as whoever ventures out of the house is at risk of injury, assault and even death. The situation is the same in urban areas as people with latrines within their compounds do not step out to use them at night. USAID/OFDA Programme Manager said; "we are now discussing with partners to reassess the ways they locate latrines. We also need to reassess the superstructure and their implications for privacy and safety because these are temporary structures."[108]

In the PoCs, women and girls report security concerns using the latrines at night and when males enter their latrine blocks, although formal complaints to the Protection Cluster or other responsible arms of UNMISS are rarely made. Dignity kits focus on promoting mobility and safety of women and girls by providing age, gender, and culturally appropriate garments and other items (such as headscarves, shawls, whistles, torches, underwear, and small containers for washing personal items) in addition to sanitary supplies and basic hygiene items. There is evidence of dignity kits distribution to women in rural areas particularly those displaced in host communities, but in urban areas, however, there are no reports either from WASH partners or the people about the distribution or receipt of dignity kits although, solar lamps could have been received in some places.

Inter-cluster synergy is another strategy sanitation intervention take. Some sustainable sanitation measures are implemented by the WASH Cluster in partnership with the Protection Cluster under which the GBV Cluster is in providing dignity kits to women and girls. NGOs and IOM engage in the distribution of dignity kits to women and girls in the study settings particularly those that have been displaced in PoC Sites and host rural communities. Other intervention undertaken with the Protection Cluster aside distribution of dignity kits includes SGBV awareness sessions on prevention and provision of response services.[109] Also, the Cluster coordinates with the S-NFI and Health Clusters regarding

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[107] World Vision WASH Technical Manager. World Vision office, Hai Cinema, 3/8/2017.
[108] USAID/OFDA Programme Manager, Regency Hotel, Kololo, 28/7/2017.
[109] This includes GBV risk mitigation and clinical management of rape.

WASH NFIs and cholera treatment and case management. The provision of dignity kits is used as both a prevention and response intervention. The kits mainly contain key items like soaps, whistles, torches, underwear and sanitary towels[110] meant to facilitate the movement of women and girls and prevent gender-based violence. The USAID/OFDA Programme Manager described the reason behind distribution of dignity kits thus; "with the realisation that most of our solar lamps are being tampered with, further measures we have taken to address this is the distribution of dignity kits containing torches and whistles to be used in alerting people when faced with danger."[111]

Through the Rapid Response Missions, NGOs and IOM have been able to undertake streamlined emergency interventions in remote hard-to-access areas and displaced communities impacted by natural and man-made disasters, acute food insecurity/malnutrition, and disease outbreaks focusing on vulnerable populations whether rural areas or in PoC Sites. The aim was to increase access to essential health services for these populations through flexible service delivery models by the Rapid Response Teams (RRTs). Interventions are undertaken by NGOs and IOM with funding from USAID. The Rapid Response Mission is an integrated and joint intervention as sanitation intervention is mixed with hygiene promotion, vaccinations, cholera and measles campaigns, nutrition assessments, distribution of WASH non-food items, water access and survey of basic local humanitarian needs. Direct contact with beneficiaries that the RRM provides ensures programming is based on a solid understanding of context and is responsive to local needs to prepare communities for future shocks and mitigates risks of recurrent emergencies such as cholera outbreaks. USAID also highlighted the important role OCHA plays in negotiating access to communities with either government forces or armed opposition groups.

In PoC Sites, WASH partners did not only provide communal trench latrine blocks for internally displaced persons, but also implemented some measures at ensuring the ease of use by users. All latrines were provided with locks made lockable from inside and privacy screens stationed in front of latrine blocks made of wooden poles and plastic sheeting. On each privacy screen are diagrams representing males and females with the gender the latrine block is meant for. Latrine construction is a top priority in the PoC Sites according to the IOM WASH Manager:

> In the PoCs like that of Bentiu and Malakal, we aim to build as many latrines as possible to ensure that people have adequate access to them inside the camp and not go outside to seek a place to defecate that will be a threat to their safety. Also, to ensure that women have enough privacy in our facilities and not go to dark areas within the camp where they can be harassed or abused.[112]

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[110] The WASH Cluster, corroborated by NGOs, explained that sanitary towels are included in dignity kits and not sanitary pads because the prevalence of pit latrines in the different settings in the country make them inappropriate. Reusable sanitary pads are not distributed because of the risk of water stress which could hinder washing while disposable might block the pits.
[111] USAID/OFDA Programme Manager, Regency Hotel, Kololo, 28/7/2017.
[112] IOM WASH Manager, IOM Office, Northern Bari, Juba, 25/7/2017.

The type of latrines in PoC Sites are communal rather than simple pits common in rural and urban areas. In rural and urban settings, households are responsible for maintaining their latrines but in PoC sites, humanitarian actors undertake this role by utilising local materials and a local workforce. For latrine misuse, latrine attendants and cleaners are recruited on a rolling basis of three months. Latrine cleaners are predominantly women who clean the latrines twice a day while men latrine attendants supervise their activities and ensure they are suitable for use. Unlike hygiene promoters and community mobilisers who are often volunteers, latrine cleaners most of whom are women and latrine attendants made up of men are employed although the latter earn more than the former. There are, however, complaints that the salary is too low, the three-month employment cycle is not always followed, and protective gear is not provided. The implications of these are twofold. First, income opportunity is provided to internally displaced persons, even though the majority are idle, enabling them to meet some basic wants since not all supplies are provided by humanitarians. Second, the risk of injury or contracting diseases among sanitation workers is high because of the lack of protective gears.

5.2.8   Contextual factors and sanitation intervention in South Sudan

There was disagreement between the government, NGOs, WASH Cluster and donors regarding reasons behind people not prioritising latrine ownership or use, particularly in rural areas. While NGOs attributed it to low educational levels, poverty, hunger, and lack of awareness, the government maintained it was only a problem of awareness which CLTS can address. The IOM argued that low prioritisation of latrines and continuous preference for open defecation is not because they lack awareness on hygiene practices, but that they stick to this practice because they have done it for centuries and believe it works for them as they cover their excreta with dirt or dig a hole. The USAID/OFDA WASH Manager said:

> CLTS had been implemented and successful in some areas before the 2013 crises and some of them were declared open defecation free. But without follow-up after the crises, some would have reverted to the practice. There are long-held cultural values in villages that are very challenging and complicated to work with. They have been used to these practices for so long it is difficult to change.[113]

It was explained that WASH non-food items are appreciated from humanitarians and that this is the only approach that works except for if this was to be undertaken alongside other humanitarian support like provision of water, shelter or food. To promote hygienic practices, borehole construction is often undertaken alongside hygiene promotion, but they sometimes work for months before they break down owing to pressure which can be as high as 1,500 people to one. Even when communities are trained on how to repair them, spare parts might be unavailable. People, particularly community leaders, feel that their culture is respected when NGOs do not attempt to force them to use latrines while still providing

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[113] USAID/OFDA Programme Manager, Regency Hotel, Kololo, 28/7/2017.

for other wants and needs. The WASH Cluster Co-Coordinator explained that where latrines are available in all three contexts, there is another cultural challenge where young men cannot use latrines as their in-laws or elders. Assessing the impacts of hygiene promotion in PoC Sites to address this challenge, she said:

> There are also cultural challenges as there are areas where young people cannot use latrines as their in-laws or elders. So, if you have a displaced setting and build communal latrines, that is going to be difficult. We have considered not only gender-segregated latrines but also age-segregated latrines. But having one for like young men and adult in that setting is going to be difficult. There has been lots of communication with the residents of the PoC Sites and now the latrines are being used and cholera cases eliminated.[114]

In South Sudan, livestock rearing is a major economic activity which involves continuous movement of cattle from one location to another during the dry season or seasonal movement especially during the long rainy season from permanent homesteads above the flood level to riverine pasture cattle camps. Cattle camps are temporary settlements established by herdsmen and where they live for months to graze and keep watch over their cattle. NGOs, USAID and Payams identified this cattle camp phenomenon as a major blind spot in the humanitarian intervention and challenge to sanitation in the country. The Director of Public Health for Rejaf Payam explained that a cattle camp within Gumbo near the office constitute an environmental threat to the community as cattle and humans coexist. USAID/OFDA Programme Manager said; "the new dynamic is the cattle camps in terms of access. We are not better prepared now to deal with the situation in a place where humans and animals live together resulting in high incidence of diseases. We are planning to do a study on the situation and then determine a response."[115]

Evidence from rural and urban areas revealed that most internally displaced persons are more likely to engage in open defecation, cat method and flying toilets. An internally displaced person or returnee is unlikely to possess the assets and capabilities required to construct a latrine although there could be the option of using a neighbours if accessible. Poverty has prevented them from meeting the most basic needs. Secondary data, focus group discussions, and semi-structured interviews revealed that this is as much a challenge for people living in rural areas as it was for urban dwellers. They alluded their poverty condition to the insecurity in the country which has crippled economic activities and raised prices of commodities including food and latrine materials. In addition to this, their status as internally displaced persons prevents them from making long term investments like latrine construction knowing that they might not stay at a location for long. The impact of the conflict on sanitation was summed up in this statement by the USAID/OFDA Programme Manager:

> Motivation to construct latrines is a burden for many. There are limited options regarding the use of local materials available in the communities as we must always bring materials from

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[114] WASH Cluster Co-Coordinator, UNICEF Office, Thong Ping, 13/7/2017.
[115] USAID/OFDA Programme Manager, Regency Hotel, Kololo, 28/7/2017.

outside. Sanitation is not their priority and will be in probably number seven to ten of things they prioritise as water, food and shelter will come top. For example, if they have access to iron sheet or plastic sheets for latrine superstructure, they will rather use it to improve their shelter. We always hear comments like why are we pushing them to construct latrines when their shelter is just a tent.[116]

Since open defecation is the common practice in rural areas, women and girls specifically are reported to be at risk of rape and other forms of abuse when going for open defecation considering the high criminality levels occasioned by years of conflicts while all other population groups are mainly at risk of snake bites, scorpion stings, torture, kidnapping or even death. Although all population groups expressed security concerns practising open defecation as there are risks, women, male youths and the elderly are reported to be the most at risk. Access to latrines is believed to mitigate the risk of abuses as a WASH Manager explained although even when provided, there were protection concerns raised about plastic sheet as men cut it particularly those for female latrines to peep at and tease them. In the villages, there are separate defecation areas for men and women and that escalates sexual and gender-based violence issues. Men follow the women and take advantage of them because they are vulnerable, but it is believed that this can be reduced or eliminated if household latrines are available. USAID/OFDA Programme Manager said:

> GBV is the number one problem we are facing. It has been recurring and sometimes it feels like maybe there is more we can do but how can we improve if we do not have the possibility of physically providing better facilities. Many people are traumatised and psychologically distressed. They have experienced rape, murder, arson, some have even been made to kill. The social fabric is broken, and latrines have become sites of danger.[117]

Implications of hygiene promotion as a sustainable sanitation approach include the strategy not being culture-sensitive enough, use of semi-literate youths and not trained health workers for hygiene promotion, severe food insecurity and complex vulnerabilities, and short intervention timeframes, all of them have some impact on the human security of the people. Hygiene education has reportedly, in general, increased people's awareness about appropriate defecation and excreta disposal practices, but these might not yield any change in the people's practice and prioritisation of latrine use because of deep vulnerabilities like hunger and trauma. In the opinion of WASH partners, particularly the WASH Cluster and INGOs, expecting a long-term improvement in people's hygiene practices in all study settings after hygiene promotion is difficult and at worst impractical. Difficulties facing behaviour change in the study locations were captured in this comment by the WASH Cluster Co-Coordinator:

> With hygiene promotion, every setting has its challenges. So, accessibility to the people in rural areas has been challenging and the behaviour change is hardest in villages. There is little intervention we can do in a short timeframe and we do not interact with them so often. In the PoCs, the challenge is hygiene promotion not leading to ownership of the sanitation

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[116] World Vision WASH Technical Manager, World Vision Office, Hai Cinema, Juba, 3/8/2017.
[117] USAID/OFDA Programme Manager, Regency Hotel, Kololo, 28/7/2017.

facilities in terms of their use. For towns, there are usually more educated people who understand its importance and likely engage in better hygienic practices but once cholera season is gone, they forget.[118]

The war-torn context and continual displacements that it engenders is a challenge for sanitation interventions. The Director-General objected to this conclusion arguing that mode of hygiene awareness by WASH partners is often inappropriate as some villages in early 2016 were declared open defecation free through government-led CLTS triggering and the villagers were vulnerable too. He, however, admitted that most people in those villages were later displaced which could have a negative impact on the growth of the sanitation ladder. The desire of many people to return to their pre-conflict settlements is highlighted as a hindrance to sanitation interventions as the traditional ethnic composition of some communities had been altered as IDPs occupy houses and farms of indigenes who had been displaced. Some respondents framed dignity derived from sanitation interventions around the value they attach to services provided by WASH partners as food is considered more important than the promotion of hygiene. A participant expressed his opinion thus; "every time you see them focusing on issues that relate to health forgetting that other things are necessary for a healthy life. Even if you provide latrine materials and chlorine for water purification as they sometimes do, still a hungry man cannot be a healthy man."[119]

Open defecation in rural areas is a concern for WASH partners and another sustainable sanitation measure adopted is the distribution of WASH non-food items like chlorine for water treatment. Besides going into the bush to defecate, another common practice is defecating inside streams and rivers or by their banks. Flooding during the long rainy season is reported to be a regular occurrence in communities in the northern part of the country particularly the Upper Nile region where latrines get washed away, communities get displaced and faeces wash into the streams and rivers which serve as the main water source. In a bid to cut the effects of contracting communicable diseases through this means, WASH partners distribute WASH non-food items, including chlorine tablets to community members to eliminate risks of water contamination before drinking, and encourage hygienic practices more generally including washing hands with ash. This measure is not without implications some of which include access restrictions to communities by government and opposition armed forces and bureaucratic impediments by government. WASH humanitarian staff and their supplies like water tankers are also refused access to PoC Sites by government forces. IOM WASH Manager said:

> In fact, for example, in Bentiu and Malakal, the government has blocked our capacity to deliver services or do the full expectations of our responsibilities. A waste treatment facility for the excreta generated from the Sites was blocked by asking for ridiculous taxes,

[118] WASH Cluster Co-Coordinator, UNICEF South Sudan Office, Thong Ping, 13/7/2017.
[119] Participant 1 in disabled FGD in Gumbo, Rejaf Payam Compound, Gumbo, 16/8/2018.

unwarranted fees, incessant permissions all to make money and frustrate us. So, I would
not see them as a positive stakeholder but negative.[120]

NGOs, however, emphasised that a factor hindering provision of life-saving aid to people is their
remote location. People in search of safety from attacks on their communities migrate to remote
locations where they feed on leaves. According to some of them, although the ERP of UNICEF has
facilitated access to remote villages, such an intervention could practically be undertaken probably once
or twice in a year if at all. They also mentioned having received positive support in terms of goodwill
from both the government and opposition groups. A WASH Manager said:

> The poor sanitation situation in South Sudan now cannot be detached from the current
> political context. Many people have been displaced and are seeking safety in locations
> sometimes swamps and islands where there is no sanitation infrastructure and clean water
> and inaccessible to humanitarians to provide life-saving WASH non-food items.[121]

Faith-based NGOs, most of whom also source for additional funding outside of the WASH Cluster, are
more likely to construct communal latrines and attach them to three or four households for maintenance.
In the PoCs, latrine superstructures are being upgraded from plastic sheets to iron sheets or wood.
Resistance from community elders, black cotton soil and flooding are some outcomes of these
approaches in rural areas. Tenure insecurity, social exclusion and lack of ownership in urban areas
while PoCs have UNMISS restrictions, latrine collapse and vandalisation in urban areas. People in
Gumbo and Lologo also criticised the target-count-cost-deliver approach to aid delivery by
humanitarians claiming it leads to discrimination. Considering the high poverty levels and inflation,
many of those who desire to construct latrines might be unable to do so as accessibility to the materials
is challenging. They expressed their dissatisfaction with NGOs who give aid supplies to some and not
others. Since WASH supplies are bulky and better transported in trucks, bad roads and access
restrictions are a challenge as a WASH Manager explained thus:

> Another scenario will be transporting sanitation materials to a community outside Juba for
> intervention and we get stopped by government forces or ambushed by opposition armed
> groups, we cannot proceed, and we may even lose lives. Since we travel with trucks full of
> sanitation supplies, we might be accused of supplying arms to opposition groups which can
> lead to trouble with the government. Now our stock in Juba is full of supplies, but we
> cannot dare travel by road to undertake intervention and helicopter support is a mission
> impossible.[122]

Aid manipulation is the term that refers to all forms of intentional acts both by the government and
opposition groups to influence the course and process of interventions. Aid manipulation takes many

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[120] IOM WASH Manager, IOM South Sudan office, Northern Juba Na Bari, 25/7/2017.
[121] Nile Hope WASH Manager, Nile Hope Office, Munuki, 14/7/2017.
[122] Nile Hope WASH Manager, Nile Hope Office, Munuki, 14/7/2017.

forms including the use of instability as an excuse to block aid delivery to opposition areas, to the blatant diversion of aid away from civilians and into the hands of soldiers of government officials, diversion from civilians to soldiers or preferred ethnic group, threatening aid workers, and taxes. These activities have had negative implications on the purposes of humanitarian intervention when those who are in need get deprived. A comment by the USAID/OFDA Programme Manager captures the situation:

> The burden is on us as donors. It is very difficult for NGOs to access communities as it takes a lengthy process. Good programming is difficult in South Sudan so you just have to do what you can. This explains why more of our funding goes to IDPs in official camps because it is easier to get access to them than informal ones where there are scaffolds of security barriers to penetrate. There are different demands from the government and opposition governments thus different modes of operation, for example, the latter collect taxes for granting access to people in areas they control. The military in both settings, we learn, target people after they have received aid supplies and dispossess them of these materials.[123]

In situations where latrines are available, sharing between people of different age groups and in-laws is culturally forbidden and this is a challenge. WASH partners are also of the opinion that the provision of latrines to people will improve safety and dignity. This assumption formed the basis of WASH partners' distribution of latrine materials and construction of latrines in non-POC settings as they have historically done over the decades even before independence. Implications of these approaches include perpetuation of aid dependency and compromise of ownership as latrines constructed by WASH partners for households, communities or internally displaced persons are likely to be misused increasing risk of diseases. The WASH Cluster Co-Coordinator while linking latrine availability to menstrual hygiene management, safety and dignity said:

> And for women going to the bush or staying in the river for days during their monthly cycle, this is another cultural part where they are trying to hide and be away from the village as they are considered as polluting. It does pose a security threat to them when they are not provided with any sanitation facilities.[124]

Faith-based INGOs like Christian Mission for Development and Samaritan's Purse generally undertake longer interventions than other NGOs. They predominantly work with displaced persons in host communities in rural areas and employ community hygiene promoters, establish community resource management committees and monitor their activities while hygiene promotion was the approach in urban areas. These approaches were, however, reported to be ineffective in rural areas where there is distrust between NGOs, particularly NNGOs and the people. Frustration was, however, expressed regarding community ownership and management of sanitation facilities thus:

> South Sudan is a country that has been in the hands of humanitarians for a long time such that anytime community participation is demanded, people think the funds meant for that

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[123] USAID/OFDA Programme Manager, Regency Hotel, Kololo, 28/7/2017.
[124] WASH Cluster Co-Coordinator, UNICEF South Sudan Office, Thong Ping, 13/7/2017.

project have been embezzled by the NGO. The culture of aid dependency is real. So, to think of ownership is difficult and not easily achievable.[125]

Unlike rural and urban areas where households are primarily responsible for providing their sanitation, humanitarians bear the responsibility in the Protection of Civilian Sites.[126] In PoC Sites, WASH Cluster and NGOs admitted a high level of task commoditisation by IDPs and their strategy of paying them for latrine cleaning has made ownership almost impossible. This was attributed not only to the IDPs seeing no value in the latrines but also the despair caused by the economic problems the country is facing. Challenge of community ownership was explained thus; "in the PoCs, because it was an emergency setting and we needed fast result, we started to pay for the cleaning of latrines and maintenance and now it is difficult to consider community ownership for people who expect to be paid for everything."[127]

In all study contexts, it was reported that latrines have specifically been targeted to abuse women although this is more common in host and displaced communities. In the PoC Sites, considering their spatial characteristics, with regards to latrine blocks, SPHERE requirements for segregation, accessibility and spacing of facilities for IDPs are not adequately fulfilled resulting in men entering women's latrines, prevalence of gender and sexual-based violence and inadequate access to sanitation among different population groups. Further measures taken include erecting solar lamp posts near latrine blocks to ease use at night in collaboration with Protection and CCCM Clusters, but these items are removed by IDPs. Although donors downplayed the likelihood of these happening in PoC Sites, WASH Cluster and NGOs confirmed it. There are safety fears among girls and women regarding exposure to violence accessing or using the latrines, particularly at night. Even when solar-powered lamps are available and functioning, there are no internal lights inside latrines. The problem of space has contributed to safety concerns in terms of sexual and gender-based violence. Narrating the challenge in ensuring safe access and use of sanitation facilities, the USAID/OFDA Programme Manager said; "measures we have put in place in ensuring safety of users especially women and girls include solar lights for lighting around latrine blocks, but they always get stolen to set up mobile phone charging business or sold."[128]

Sanitation in South Sudan is regarded as poor by WASH partners primarily because of the low coverage of sanitation infrastructures like latrines. Efforts at implementing sustainable sanitation measures in the country also prioritise latrine construction. Aside from land governance determining sustainable sanitation measures adopted in different contexts, environmental considerations also come into play. WASH partners working in the PoC Sites are restricted to using semi-permanent materials like iron

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[125] Christian Mission for Development WASH Manager, Christian Mission for Development Office, Juba Na Bari, 14/7/2017.
[126] This is expected to be done in agreement with UNMISS upon whose territory PoC Sites are located and other Clusters particularly the Protection, Camp Coordination and Camp Management, Shelter/NFIs.
[127] WASH Cluster Co-Coordinator, UNICEF South Sudan Office, Thong Ping, 13/7/2017.
[128] USAID/OFDA Programme Manager, Regency Hotel, Kololo, 28/7/2017.

sheets for pit linings thereby limiting opportunities for adequate technical solutions. At PoC Sites in Malakal, Bor and Wau, most parts of the Upper Nile and some Greater Equatoria regions, latrine collapse is common because of the black cotton soil and seasonal flooding.[129] Outcomes include safety fears as people often resort to open defecation after latrine collapse or being displaced. IOM WASH Manager said:

> We try to pursue the one latrine to twenty people humanitarian SPHERE standard but there are lots of challenges in maintaining that indicator. This includes the fluctuating number of IDPs, limited land and regular collapse or decommissioning of latrines due to the soil type and heavy rain. In some PoC Sites, WASH staffs are daily fighting with the communities on how to find new areas to allocate space for the construction of latrines when population drastically increase or latrines collapse.[130]

Poor infrastructure is another factor hindering the effectiveness of sanitation related humanitarian interventions in the country. Many interventions required movement of sanitation hardware like plastic sheet and plastic slabs alongside WASH non-food items making road transport the best option. Many roads in the country were reported to be bad and they become impassable during the rainy season which covers an average of eight months annually. During this time, many interventions are undertaken through helicopter support, but little can be done regarding hardware subsidy and greater focus is placed on hygiene promotion. This, in addition to other challenges, severely hinders the effectiveness of sanitation interventions and meeting objectives.

In rural areas and towns, technical measures adopted by NGOs to ensure the sustainability of latrines include using drums for pit reinforcement after plastering them with anti-termite chemicals and burning of the pit walls. An NNGO explained how they transported oil drums by air for pit reinforcement of rural latrines in late 2016 in Jonglei but after a few months, most of the villages got deserted due to flooding. It was reported that latrine construction projects have been repeated yearly in the same locations in 2014, 2015 and 2016 because of flooding or black cotton soil. A WASH Manager narrated his opinion regarding this condition with this statement:

> Just yesterday, a lady we helped to construct a latrine in Jonglei phoned me that it has collapsed because of some heavy rain a few days after construction. What this means is that we have the challenge of technology, we do not have technologies we can use to prevent the soil from sinking latrines.[131]

The WASH Cluster Co-Coordinator intimated that these environmental conditions may have been a factor, aside from the conflict, hindering people from constructing latrines. Apart from excessive rainfall, another environmental challenge is drought as seasonal water streams and ponds dry up. Some

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[129] The PoC Site 2 located in Thong Ping area of Juba was closed and IDPs moved to newly created PoC Site 3 near PoC Site 1 because of incessant incidence of latrines collapsing and deaths from cholera outbreaks.
[130] IOM WASH Manager, IOM South Sudan Office, Northern Bari, 25/7/2017.
[131] Nile Hope WASH Manager, Nile Hope Office, Munuki, 14/7/2017.

communities are reported to experiences these disasters within the same season. The WASH Cluster Co-Coordinator explained thus:

> Latrines still do not seem to be a priority facility to have for many. Sometimes, we advise that people use grass to give additional shelter protection but there was not enough grass in the community due to drought. We are talking about vulnerable population displaced from their homes and left with nothing. We cannot have such kind of expectation and should not be telling them what their priorities should be.[132]

These infrastructures are often vandalised. Latrine locks are damaged, privacy screens are demolished to use the wooden poles for cooking and plastic sheets for shelters, and plastic bottles are disposed of in latrine pits. This act is attributed to the high rate of traumatised internally displaced persons as a result of years of exposure to violence, extreme vulnerability, and the absence of formal justice system to punish offenders. It represents a big challenge in terms of running cost, maintenance and desludging as a latrine block had to be decommissioned since 2016 because of this. The WASH Manager for PoC Site 1 said:

> When we told them a few shelters must be demolished to create a way for trucks to empty the pits in the latrine block, they attempted beating us. They destroyed the taps on handwashing jerrycans and took the soaps every time it is replaced. At some point, the taps were being repaired almost every week, so we stopped.[133]

[132] WASH Cluster Co-Coordinator, UNICEF South Sudan Office, Thong Ping, 13/7/2017.
[133] WASH Manager for PoC Site 1, THESO Office, Munuki, 21/8/2017.

Plate 5.14   Vandalisation of sanitation facilities in PoC Site 1

Clockwise: Plastic bottles in a pit latrine in PoC 1; Damaged locks of a latrine block in PoC Site 1; Removed cover of a plastic slab; Stump of a dismantled privacy screen.

Distribution of dignity kits and WASH NFIs are not done regularly undertaken. Women or girls in PoCs who venture outside to purchase these items do so at their own risk considering the presence of government armed forces, at the periphery of the sites, who tend to rape, kidnap and kill women and girls. It is lamented, by the women and girls, that irregular distribution of dignity kits and their lack of livelihood makes them unable to purchase these items when needed. Prices of the items have gone up with inflation making them unaffordable. Those who have the money to purchase them might not do so as they prefer spending it on food or other more important needs. A participant in PoC Site 1 said:

> One of the biggest challenges we are facing here is the insecurity outside the site because of the need to get firewood for charcoal or cooking. Many of us cannot go outside to get important personal effects like sanitary products because not everything is provided by humanitarians. There are a lot of gunmen out there who can kill, kidnap or rape you.[134]

Humanitarian aid workers and infrastructures are subject to harassment and attacks by state and non-state armed actors. Hospitals, health clinic maternity and children's wards, have been the sites of killings, attacks and looted by armed actors. In villages and towns, armed combatants, especially those

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[134] Participant 5 in women FGD for PoC Site 1, CCCM Office, PoC Site 1, UN House, Jebel, 20/8/2017.

affiliated with government forces, damage latrines, boreholes, clinics and loot warehouses. Reference was made to how most of the structures constructed by JICA including boreholes were demolished by government forces. This is regarded as an old war practice common during the first and second civil wars. It was also reported that combatants sometimes seize and destroy aid supplies given to the people. The oral life testimony participant described these situations thus:

> I refer to them as 'forces of undevelopment.' The rationale behind this action according to them is that the presence of such infrastructures attracts rebels after people had already been displaced. Many of such incidents were also recorded even during the December 2013 crisis in Juba here.[135]

The type of latrines in PoC Sites are communal rather than simple pits common in rural and urban areas. In rural and urban settings, households are responsible for maintaining their latrines but in PoC sites, humanitarian actors undertake this role by utilising local materials and a local workforce. For latrine misuse, latrine attendants and cleaners are recruited on a rolling basis of three months. Latrine cleaners are predominantly women who clean the latrines twice a day while men latrine attendants supervise their activities and ensure they are suitable for use. Unlike hygiene promoters and community mobilisers who are often volunteers, latrine cleaners most of whom are women and latrine attendants made up of men are employed although the latter earn more than the former. There are, however, complaints that the salary is too low, the three-month employment cycle is not always followed, and protective gear is not provided.

The humanitarian context also has some effect on sanitation interventions. This occurs in two main ways. First, it puts significant pressure on food provision which gulps the largest portion of the humanitarian support to the country leaving limited funds for other Clusters. Secondly, because of the scale of sanitation needs in the country, sanitation interventions are limited to three months at any location at the request of donors. Also, the presence of humanitarians at a location for long periods, it was learnt, attracts combatants. The WASH Cluster and most NGOs regret the restrictions to providing long-term programming in rural areas, limited funding for towns especially Juba despite cholera outbreak, and occasional inability to intervene in critical situations because of funding constraints.

5.2.9   Human security and sanitation in South Sudan

Safety fear is the most recurrent human security element expressed by respondents. Across cases and data collection methods, avoiding it was identified not only as a goal but also as a cause of other practices and events. Manifestations of fear include the inability to access latrines, engaging in open defecation, exposure to violence, unsafe latrines. When asked to rank the sanitation concerns in Gumbo in order of priority, women picked lack of latrines first arguing that their availability and accessibility would reduce the fears they experience. Women and youths in Lologo explained that crimes and rape

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[135] Participant 1 in oral life testimony, Rejaf Payam Office, Gumbo, 18/8/2017.

in the community make them fear for their physical security and this prevents them from undertaking their desired daily activities. To the physically disabled in PoC Site 1, fear is attributed more to injuries and diseases that can result from using the latrines. It was, however, necessary to distinguish among three origins of safety fear as the findings revealed. There is the fear of harm instigated by another human, by a non-human, and that arising from one's activities. An elderly female participant described her fears thus:

> Sometimes when you go out to defecate you fear that someone will shoot or kidnap you. Most of the time we must defecate inside the house. If you cannot do this, you may try defecating just beside your door without bothering to bury it or cover it with earth. Under such situations, you would not even have the time to clean yourself.[136]

Freedom of expression was another human security theme from the findings. Men in Gumbo and Lologo on threats to their human security mentioned insecurity and lack of freedom and ranked in that order. They believed that apart from the high level of insecurity, the exercise of freedom was difficult at all levels particularly freedom of expression. The women in both communities lacked voice on all matters as they could not speak up not only to express what they want but also to stand up for themselves when they are been oppressed and this occurred in all contexts including their homes. They also attribute this to freedom of speech and movement which they felt is being denied by the government thereby limiting them from expressing their grievances and needs. At the collective level, there were divisions among the youth and lack of social cohesion within communities which have hindered forging a common front in pursuit of their needs. The war had created a culture of silence making people to always keep quiet and not to trust one another about the confidentiality of whatever they say. In the words of a participant; "there is a constant fear of death, there is no freedom and there is no self-expression. You cannot discuss or correct anybody in the community as to the right and wrong thing to do and you will have yourself to blame the more if the person is armed."[137]

Livelihood was a human security issue for many respondents. All population groups including the disabled were concerned about lack of livelihood which has prevented them from meeting their needs. Women in Gumbo lamented that they have limited opportunities to access employment opportunities originating, among other things, from being landless. Those who managed to farm got their crops destroyed with the possibility of rape, kidnap or murder when going to farms. Youths and men in Gumbo and Lologo explained that lack of livelihood is a factor in growing violence in both communities while the elderly argued that old age had robbed them of livelihood opportunities. The few that were working said the salary was low and inadequate to address their needs. Men attributed the loss of

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[136] Participant 5 in elderly FGD in Lologo, Lologo Primary School, 19/9/2017.
[137] Participant 2 in men FGD in Gumbo, Rejaf Payam Compound, Gumbo, 18/8/2017.

livelihood to continued civil instability and economic collapse which had forced many organisations that could have employed them to leave the country. According to a participant:

> the current economic situation has made things very difficult because there is no good food, no medicines, the children cannot be kept in school, prices of everything is very high and getting money to do all these things is a problem as those who even work are underpaid and many people are dying because of this.[138]

Access to safe, sufficient, and affordable water to meet basic needs for drinking, sanitation, and hygiene to safeguard health and wellbeing was a human security concern. It was one of the most highlighted human security elements across cases and respondents. In the World Food Programme and World Vision survey, access to safe drinking water was found highest in Munuki at 77 per cent compared to Juba town (68 per cent) and Kator (63 per cent). In terms of quantity and quality, residents of Gumbo and Lologo believed that water access was insufficient. This was confirmed during the transect walk which took an hour and only one functioning standpipe was encountered. Gumbo women picked water as the second most impactful threat to their human security after inadequate latrines. They lamented that not only did they have limited access to water, it was also often dirty and unsuitable for hygiene purposes. It was reported that there were few available boreholes and functioning standpipes in the community making most residents depend more on purchasing water. A woman said:

> People go days without showering because a twenty-litre jerrycan of water goes for about SSP150 and we cannot afford it. The little water available to us is used mainly for cooking even though it is very dirty. That is why diseases like cholera and typhoid are common nowadays. If there is no water how will you clean the children, wash clothes and clean the latrines?[139]

There were more standpipes in Lologo than Gumbo, but residents complained that they were insufficient to cater to the needs of the burgeoning population and fights were common. A significant proportion of the community households still had to purchase water or water purification tablets putting further strain on their income. The link between open defecation, flying toilet, solid waste and water pollution was drawn by residents of Lologo as water from the White Nile gets contaminated with faeces. As a result, a water treatment plant was built beside it by OXFAM to sell filtered water to residents but those who cannot afford it get it directly from the source. It was further explained that for a culture that prioritises the use of water for anal cleansing, the need for water in sanitation became even more crucial. Although water was not identified as a significant challenge in PoC Site 1 except for access impediments by soldiers and fuel scarcity, it was still a human security issue as THESO trucked water to the Site every day rather than drill a borehole, an approach that reportedly cost USAID $300,000

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[138] Participant 3 in elderly FGD in Gumbo, Rejaf Payam Compound, 14/8/2017.
[139] Participant 4 in women FGD in Gumbo, Rejaf Payam Compound, 18/8/2017.

weekly. Latrines were cleaned twice daily according to the WASH Manager to promote hygiene as IDPs tended to resort to open defecation when left uncleaned.

Food insecurity was another major human security element in the country and mentioned by all population groups. Insecurity, lack of livelihood, and economic collapse were mentioned by people as contributing factors to hunger. The World Food Programme and World Vision survey reported that among the three Juba payams, Kator had the worst food security situation with 84 per cent of residents being food insecure compared to the other two at 79 per cent and 67 per cent respectively. They explained that hunger is important because it is only when one is well-fed, strong and healthy that one can pursue a livelihood and be productive. Hunger is identified as being responsible for increasing crimes and robberies, hinders healthy living and promotes poverty in Gumbo and Lologo which can be corrected by promoting people's access to food.

The economic crisis has affected food prices in the market making them expensive and unaffordable as many people go without eating the whole day. Some respondents explained that primary concern for most people is hunger and, in a bid to address this problem, forgot to attend to other important human security elements while others reported eating only at night, so they defecate in the morning. It was reported that food insecurity in Juba constituted a key reason behind increase in IDP population in the PoC Site 1. Although humanitarian aid needed by the villagers is significant, food security should be their priority because many people are dying because of lack of food. It was their opinion that hygiene promotion is useless when people are struggling to survive. A man in Lologo said:

> Poverty is another threat. If you are not well-off you will not bother about ensuring your environment is clean and your security because you are insecure in your stomach and there is a lot of conflicts there. As for me what I require is food. If everyone has food, then they will have the time to care for their security and environment.[140]

Health is also crucial to human security. More respondents are likely to first link human security to health than any other element. It is the major effect sanitation can have on human security according to WASH partners. Some respondents argued that the environment is contaminated because people are not taking care of it which results in lots of diseases especially cholera and typhoid because they are lacking in other human security elements like safety fears. Increase in these diseases was related to displacements making people engage in poor sanitation practices. To the disabled, preventing diseases tops the list of their human security because of the living conditions in the camp and the lack of medicine for treatment when they get sick. Sanitation that is poorly managed becomes a human security risk to the people because it will affect health which in turn affects productivity. When well-managed, people will be healthy and become an asset for their family, community and the country. Lack of livelihoods and experiences of violence have led to the feelings of idleness, frustration and disillusionment

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[140] Participant 5 in men FGD in Lologo, Lologo Primary School, 19/8/2017.

influenced violent and risky behaviours, presenting protection as well as mental health concerns. Lologo men also explain that sanitation's contribution to human security should first be felt in health which is believed to be the greatest security. It can also affect human security by enhancing spirituality which improves happiness and contentment about physical appearance and environment.

Most WASH partners are likely to link human security from the perspective of sanitation to education after health. They argued how important the provision of sanitation facilities was to improving school attendance, particularly for females. A few respondents in Gumbo also mentioned that their adolescent daughters began to attend school after some latrines were constructed by some NGOs. It was discovered that some NGOs like World Vision, Malteser International and THESO also construct latrines in schools and health centres. On the contrary, most people were likely to refer to informal education in terms of acquiring knowledge about hygiene and health seeking behaviours although women in Gumbo acknowledged that distribution of menstrual hygiene items have encouraged their daughters to stay in school. Some WASH Managers explained that the people, particularly those in rural areas, had established sanitation management systems and understood the problems of not properly disposing of faeces. This condition made them accept hygiene promotion and the hygiene kits and not the facilities. A youth in Lologo believed sanitation in the community has improved, he said:

> I remember two years ago, one of the NGOs brought the idea of hygiene promotion and I was a participant. Now the rate of cholera has reduced unlike how it used to be in those days. I could also notice that the number of household latrines has increased. We like what the NGOs like Malteser International are currently doing because the homes that do not have latrines are now being given materials and this will help people in imbibing the culture of using latrines as they combine it with hygiene awareness to change their behaviour. Many people are poor, and we believe more needs to be done by WASH partners to include the provision of WASH non-food items.[141]

Men, women and youths in Gumbo and Lologo mentioned lack of access to land and tenure insecurity, particularly for shelter purposes, as among the topmost threats to their human security. This opinion was shared by the Directors of Public Health in Rejaf and Kator Payams too as they maintained that complex, contradictory and outdated land governance has negatively affected housing opportunities for indigenes, returnees and IDPs. In the PoC Site 1, concern about shelter was raised only by the elderly and women. The elderly group explained that the practice of keeping unrelated families in the same tent resulted in congestion with health implications and for the women safety and dignity concerns. Existing land tenure systems in the country have failed to address long-standing problems occasioned by decades of displacements. Women were most embittered about the customary law that prevents them from being landowners as community leaders make most land decisions at the expense of weak state structures such as ministries, courts, and municipalities. Some FGD participants and WASH Managers agreed that shelter is also a factor in population movements causing people to move from one location to another

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[141] Participant 4 in youth FGD in Lologo, Lologo Primary School, Juba, 12/8/2018.

in search of safe housing. CLTS was previously applied in Juba and its environs but failed because people had no land on which to construct latrines unlike in rural areas. In the words of a woman:

> We do not have toilets. Our kids defecate anywhere around the house and we do not have anywhere to dispose faeces. The women of Gumbo are in big problem because of the unavailability of toilets and this is because we do not have lands and open defecation becomes an option. Even doing this is difficult because we cannot take our children along as they may be kidnapped especially the females and they are at risk also if we leave them at home if there is no adult to monitor them.[142]

Dignity was attributed to by respondents as the need for and pursuit of self-esteem. Violations of human dignity involved injuries and threats to people's self-esteem, especially dehumanisation, degradation, humiliation and denial of social recognition more generally. WASH partners ascribed to it using various labels including privacy, comfort, convenience, respect, health, safety, status, and participation. It was discovered that these interpretations were influenced by people's social status and living conditions. Men in Gumbo and Lologo, whether they are IDPs or not, saw dignity in terms of not being poor or possession of assets and restricted to the community while the women had a broader interpretation encompassing privacy, safety, participation, and respect for their physiological needs both within the community and in the household. Youths linked it to rights, means of livelihood which they believe their lack of education has stifled and absence of ethnic discrimination. Disabled and elderly referred to it as recognition and participation in having their needs met. A participant said:

> Old age is preventing us from living a life of dignity. We are not getting support from anywhere and are left to fend for ourselves on our own which makes meeting basic needs difficult particularly feeding. We live in a permanent state of fear for our life and this restricts us from undertaking many basic activities necessary to live a dignified life. Not having latrine puts great strain on my already weak body because I feel much pain bending and squatting during open defecation.[143]

In PoC Site 1, most population groups attributed dignity to access to NFIs including those related to WASH and absence of discrimination. The disabled group in PoC Site 1 interpreted it as taking the time to communicate with them and having the empathy to listen to and meet their needs. They refer the unsuitability of the communal trench latrines as degradation by THESO. Incidents of violence and all other forms of abuse have a humiliating effect on victims which influenced how victims perceive themselves and in relation to other community members manifesting in anxiety, trauma, malfunctioning, antisocial behaviour, aggression, and delinquency. Humiliation involves treating a person or group as having no or lower social worth compared to another. Acts that amount to discrimination and social exclusion also constitute a violation of dignity. When these elements of dignity were present, people expressed feelings of happiness, satisfaction, motivation and contentment.

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[142] Participant 1 in women FGD in Gumbo, Rejaf Payam Compound, 10/8/2017.
[143] Participant 5 in elderly FGD in Lologo. Lologo Primary School, 19/9/2017.

Open defecation provided privacy according to males across ages as they could defecate away from sight and hearing of others but sometimes inconvenient and not shameful. Women also explained that flying toilets provided privacy and convenience. Cat method was also perceived as private particularly when practised at night and convenient. Latrine use by the disabled group was uncomfortable while youths preferred open defecation because of disgust they feel from unclean latrines. To the elderly, latrines were uncomfortable and inconvenient as they had to squat which caused them bodily pains. To others, latrines ensured privacy, comfort and convenience. Some respondents in Gumbo and Lologo believed that latrines were desirable because they improved their status in the community and generated a sense of pride, that is the honour of owning a latrine. Dignity also had cultural interpretations to it as demonstrated by in-laws as well as adults and elders not sharing latrines. Having to share a neighbour's latrine is not seen as dignifying among men in Gumbo and Lologo making them resort to open defecation.

5.3   Conclusion to the analysis of sanitation and human security in South Sudan

This chapter was intended to present and analyse findings on sanitation and human security in South Sudan. It started by explaining the analytical approaches the researcher adopted and provided the rationale behind them and the second section presented and analysed research findings using themes across study locations and settings guided by the research question. This chapter has fulfilled an objective of this study by mapping and gathering data from the selected research sites in South Sudan and analysing them for causal relations between sanitation and human security. Since analysis is about the significance of the findings in terms of the study argument, research design and methods, it can be concluded that the matched research design and methodology as applied in the study site of South Sudan, among different research traditions, has proven to be appropriate in addressing the research problem. The next chapter discusses the findings presented and analysed in this chapter using evidence-based interpretations.

Chapter Six

Discussion of sanitation and human security in South Sudan

6.0   Introduction to the discussion of sanitation and human security in South Sudan

This chapter discusses the analyses on sanitation and human security in South Sudan by building coherent explanations focusing on the four concepts guiding the study and addressing the research question. It does this by breaking down the relationships between variables that make up each concept and evaluating pieces of evidence based on the hypotheses as enshrined in the sanitation security model. The sections of this chapter are structured to demonstrate the utility of the sanitation security model in moving us toward achieving a deeper understanding of the findings situated within an interpretive epistemology. They are organised as follows, sanitation and security, sanitation and sustainable sanitation, security and sustainable sanitation, security and human security, sustainable sanitation and human security, and sanitation and human security.

6.1   Sanitation and security

This section is about the complex interactions between sanitation and security. It discusses themes including the role of culture in sanitation, basis for inequality, violence, and risks attributable to toilets. These are themes which have been recurrent in this study as reflected in the literature review and findings chapters.

6.1.1   Human agent and value

A human agent is a person who can perform the act of defecation or excreta disposal bordering on personal characteristics, behaviours and the context in which he finds himself. According to Mayr (2011), three propositions are true of the human agent; that the person is active about what he does and not a merely passive sufferer, that the person undertaking the action is not disconnected from the real-world natural order, and that actions are intentional and can be explained by the reasons for which they have been performed. People's sanitation practices are composed of three elements which are cognition (knowledge), perception (feeling) and behaviour (action). In social psychology, cognition and perception are said to be tightly related as the former concerns a person's knowledge and the latter informational foundation for knowledge acquisition shaping our behaviour, that is thinking about and acting upon the world (McLeod and Lively, 2006). This state of affairs can be said to be incomplete without value as Sen (1999) maintains that the action of an agent can be judged in terms of values.

Value is the criteria by which individuals, groups, or collectives judge things, people, objects, and actions to be either good, worthwhile and desirable or despicable, worthless and undesirable, or somewhere in between. Security has been given different meaning by various scholars. Wolfers (1952) describes security as pointing to some degree of protection of values previously acquired while Baldwin

(1997) explains it as a low probability of damage to acquired values. Hofstede (2001), using an anthropological approach, identifies three forms of value: those dealing with relationships with other people, non-human environment, and people's own inner selves and God. It is drawn from culture described as transmitted patterns of values and ideas that shape human behaviour (Kendall, 2012). Since value manifests itself in culture demonstrated by multiple persons, neither it nor the individual takes precedence over the other as they are both products of the society. Values can be said to be invisible until they become evident in behaviour or artefacts. From the findings, open defecation is common because it is a culturally sanctioned sanitation practice. In human development, value is attributed to choices available to people which may originate from reflection and analysis, concordant behavour, public discussion and evolutionary selection (Sen, 1999).

Discussing the effects of structural bases of socialisation on role definitions have received relatively little empirical attention in sanitation research. Focusing on the nature of the human agent discussed so far highlights its potential contribution to social categorisation and differentiation – a topic relevant to sanitation and security researchers. It is important because social categorisation based on group-level characteristics, primarily sex, underpins processes of attribution and self-evaluation. McLeod and Lively (2006) maintain that studying social stratification would enhance our understanding of the psychological mechanisms through which stratified social orders come to have meaning for individuals and shape social interactions which reinforce existing inequality. Value does not develop in a vacuum, it is manufactured, hierarchised, reconstructed, and reinforced by numerous social constructs like tradition, education, information, religion, environment, family, socioeconomic status, policy, law and experience including crisis of grave magnitude like war. In studying values, that is the tendency to prefer certain state of affairs over others which influences the selection from available modes, means and ends of action (Hofstede, 2001), there is the need to compare groups or individuals which the findings have helped to highlight.

Gender is a basic social stratification factor. Males and females have a sense of self, attitudes and interpersonal perception negotiated by values which shape role positions. Roles as cultural objects shape cognition although in a negotiated rather than deterministic way and can be used to claim resources, understand behaviour or feelings, and identities. McLeod and Lively (2006) maintained that gendered expectations could originate from cultural assumptions, traditional distribution of roles by sex, and biological distinctions that preclude role occupant. As findings have revealed and supported by the literature, for example (Lenton et al., 2005), males and females demonstrate sanitation practices conditioned by society. Men, probably because of dominance engage in open defecation despite the harsh safety environment, children have separate latrines and women, sometimes for reasons of childcare responsibilities, practice flying toilets or cat method. Evidence has shown that a female can possess different identities including being a mother, elderly, youth or disabled each with its value framework. According to Rubinstein (2001), focus on roles would reveal a greater insight into the

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interrelations between culture, structure and agency. For sanitation and security research, examining the processes that account for the cultural component of roles, social structuration positions, behavioural expectations, and broader cultural trends diverge from variable-oriented analysis to dynamic, contextual factors and insightful accounts have been attempted by this study.

Bearing on the point of human agent and value, we need to consider the role of perception regarding sanitation practices, its antecedents and consequences for value formation. Perception guides human thinking about and acting upon the world, guides decision and beliefs while at the same time our knowledge influences the way we perceive ourselves and the world (Ross and Mirowsky, 2006). It comes from human senses of which sight and smell are especially important to sanitation practices as they influence value which motivates behaviour and influences thought. Respondents mention having to avoid using latrines and resort to cat method or open defecation when they are unclean making it smell and faeces are seen lying around. Perception also concerns what people feel is expected of them in terms of conduct by others sometimes influenced by culture. This means that people are likely to behave in ways that corroborate or reinforce the perception of others about them (Lutfey and Mortimer, 2006). Also, there is the perception of the self whereby people self-evaluate and thereby make decisions to favour one value over another which is then acted out.

6.1.2   Human agent and vulnerability

Individuals sanitation practices can be described as a manifestation of their cognition, perception and behaviour. Vulnerability is susceptibility to harm due to weakness in individual and group abilities to protect against events or factors that threaten value and originates from psychological, physiological and environmental processes. Psychological includes those mental resources required to decide or form a perception, psychological factors concern the weaknesses in the persons' abilities and environmental in terms of the overall social, political and economic schema. Wisner *et al.* (2004) argue that vulnerabilities and people's practices are intertwined in a complex whole with a negotiated relationship. In other words, human actions can impact vulnerabilities and vice versa.

People rely on their self-knowledge, that is what they know of themselves, which links to perception, that is an appraisal of their skills and capabilities in relation to real-world situations, to produce the actions they engage in. Also, low educational levels, a lack of awareness, poverty, displaced status, and physical disability from the evidence are some vulnerability factors influencing different human agent's sanitation practices. Blaikie *et al.* (1994) underscored that vulnerability is produced by a combination of factors derived especially from class, gender, and ethnicity, critical themes in human agency. The links between the two are further underscored by Hilhorst and Bankoff (2004) who stressed three essential points, that agential response is required to manage vulnerabilities, the dynamics of disasters used in identifying people in need of interventions, and enmeshed in broader national political and economic considerations.

Sanitation finance by individuals or household is a key theme in sanitation research whereby marginalised groups and people living in vulnerable situations face affordability of services concern covering infrastructure, operation, and maintenance (WWAP/UN-Water, 2019). Wisner *et al.* (2004) mention that people's adverse conditions in terms of access to assets, income and other resources such as knowledge and information determine vulnerability. Sometimes people may have the knowledge as to the right hygienic practices to inculcate but are hindered by different threats like lack of access to productive resources or contextual factors which could influence their adoption of certain sanitation practices. Residents of Lologo, for example, expressed a desire to have private latrines after being exposed to years of hygiene awareness campaigns, but they cannot have them because of tenure insecurity. Others who have land tenure cannot afford to purchase sanitation materials whose ownership and appropriate use may prevent their exposure to unnecessary morbidity or premature mortality. In social psychology, vulnerability is produced as a mediation between human agent, structure and culture where the former concerns material conditions of life as they constrain or enable action and the latter persisting patterns of behaviour to beliefs and values that are transmitted to members of the social system through socialisation (McLeod and Lively, 2005). From the findings both explanations help to explain links between vulnerability and human agent, that is, both are causally interrelated.

Relationships between the cognition of a human agent and vulnerability are mutually causal. Social cognition refers to the processes of knowledge creation, dissemination, and affirmation, the content of that knowledge, and how social forces shape each of these aspects of cognition (McLeod and Lively, 2006). Deep vulnerabilities like trauma, reported being common among IDPs in the PoC Site 1 can have an effect on cognition and ultimately behaviour. Similarly, cognitive deficits can also impede opportunities to manage vulnerabilities. Information about the social world is stored in memory drawn from experience, shaped by context and is available to be retrieved and used for future cognitive inferences (Howard and Renfrow, 2006. Hunger is a common vulnerability mentioned by respondents. A state of hunger or deficit in material resources is a context in which decisions are made and can impose a cognitive burden on individuals. Given that much of our daily lives centre around routinised activities like sanitation, conditions of vulnerabilities might get perpetuated as individuals make judgements and choices automatically and not deliberatively.

Individuals and groups can undergo different forms of vulnerabilities at the same time based on the complex factors that determine their human agency – social class, gender, ethnicity, and the ability for example. Disasters are a result of a complex mix between natural hazards and man-made activities thereby triggering repeated, multiple, mutually reinforcing, and sometimes simultaneous vulnerabilities often difficult for them to cope with (Wisner *et al.*, 2004). Women IDPs in both Gumbo and Lologo suffer interrelated vulnerabilities including being unemployed, landless, poverty, and hunger. Individuals who are physically disabled possibly experience greater vulnerabilities than other population groups with various identities. This study supports Hilhorst and Bankoff (2004) proposition

that vulnerabilities people undergo increases over time and varies based on economic, environmental and social conditions within settings they are located and further highlights how they impact human agency and vice versa. For instance, from the realisation of their vulnerabilities, people engage in intentional behaviour with the expectation that it would yield the desired outcome.

A human agent from evidence could also be vulnerable due to lack of entitlements, that is the real resources available to achieve human security which is often socially determined. However, this is partly dependent on personal characteristics, that is endowments, which govern the conversion of these entitlements into the person's ability to devise strategies in achieving human security. A critical assessment of the evidence from the three study locations reveals a refusal to construct latrines or purchase WASH NFIs could be hampered by non-ownership of land, poverty and lack of livelihoods, particularly among the displaced population. Widespread insecurity has forced the collapse of the economy, loss of livelihood, skyrocketing prices of necessities and weakened purchasing power. Low or no access to income could be a major cause of poverty and a principal source of capability deprivation where capability is an exercise of both entitlements and endowments. As a result of these, vulnerabilities can influence human security as it exposes people to injury, diseases and possible shame when practising open defecation or sharing a neighbour's latrine.

Inequality, as mentioned in the review of the literature is a key theme in sanitation research. Different positions in the social structure expose individuals to different characteristic amounts of hardship and constraint. The way people's socially significant characteristics, such as gender, ethnicity, migration status, occupation, or age, shape their access to participation, influence, and positive evaluation is an important aspect of social stratification in society (Correl and Ridgeway, 2006). This study supports the conclusion of UNICEF/WHO (2019) that individual characteristics are a fundamental feature of inequality in sanitation, but limited efforts have been made to further examine the processes responsible for this. One of the ways this can be explained is status characteristics of individuals primarily gender filtered through perception, that is awareness of people's possible task performance through the senses.

There are widely held beliefs in cultures associating greater social worthiness and competence regarding certain performances with one category of the attribute (men, landowner) than another (women, disabled, displaced).[144] Women face more economic dependency, restricted opportunities for paid employment, lower earnings, less power at work and home, more routine and unfulfilling work, more conflict between work and family obligations, and unfairness in the division of household labour. What this means is that stereotypes, social identities, and people's physical attribute mark them for exposure to various vulnerabilities more pronounced and diffuse during disasters which in turn shape the behaviours and self-evaluation of individuals in a group. The contention is that reducing social

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[144] Many pieces of researches in social psychology have proved that women are more distressed than men. Theories of gender inequality or gender-based exposure to social stressors explain women's elevated distress as a consequence of inequality and disadvantage.

inequalities in everyday contexts requires attempting to understand and expose the processes using human agent and vulnerabilities mediated by the structure of the local setting itself.

6.1.3 Space, challenges and violence

Space for this study is a frame of reference for the physical material world in which the activity of excreta disposal occurs and related sanitation objects are present.[145] Absolute space is referred to as a grid within which objects are located and events occur while relative space concerns how space is constituted and given meaning through human endeavour and a product of cultural, social, political and economic relations (Hubbard *et al.*, 2002). Borrowed from Lefebvre (1992), this approach integrates physical, mental, and social space and one cannot have analytical priority over others. Spatial characteristics of the geographical contexts in which sanitation is undertaken have been a defining feature of sanitation literature and discourse as demonstrated by the classification into rural, urban and emergency camps as well as the appropriate practices within them. Inequalities regarding sanitation in a country cover spatial and social dimensions as Graham (2011) argues.

In the literature review chapter, it is identified that a wide range of challenges exists which tends to affect both the state and the people albeit indirectly. Often used synonymously with threats, security challenge concerns a broad range of manifold challenges from all dimensions including natural and man-made disasters provoking new forms of personal and structural violence (Brauch, 2011). This study has revealed civil war and climate change as fundamental disasters impeding sanitation in the study settings. Engaging security involves philosophical underpinnings to which Williams (2012) states is commonly associated with the alleviation of threats to cherished values; especially those which, left unchecked, threaten the survival of a particular referent object. These threats, resulting from human and natural factors include armed conflict, economic collapse, water scarcity, hunger, tenure insecurity, and climate change. Dillon (1996) concludes that the aim of security is not the elimination of threats but uncertainties and production of certainty and control and not safety. This conclusion supports the sanitation practices adopted by people to manage the security challenges facing them.

A defining product of security challenge is violence which states and other forms of public order are expected to make citizens safe from. It can be described as a condition for peace and those activities that impede people from realising their potential (Galtung, 1996). Also, Barnett (2001) explains it can be direct that is the intentional infliction of physical harm, indirect involving restriction of social justice and manipulation of knowledge, and structural where actions have unintended effects of violence, all of which are capable of endangering the security of mind and body. To Krug *et al.* (2002), violence is an activity that either result in or have a high likelihood of leading to injury, death, psychological harm,

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[145] There are absolute and relativist approaches to understanding space and both approaches are used in this study. Referred to as the anthropological approach to space, see Low (2009) for more on this approach.

maldevelopment or deprivation. From the evidence, this ranges from activities like SGBV to kidnapping which has impacted on people's sanitation practices.

Just as it determines the way people relate to the physical world, characteristics of space also have a bearing on the production of security challenges and violence to form a dynamic interactive system. Place, territory and time characteristics of space provide the guide with which to discuss how space interacts with challenges and violence. Luckham (2015) demonstrates that the main means of evaluating people's security is by understanding their agency. Since space concerns the relationship between people and their surroundings in varying ways to further explain patterns of human behaviour (Hubbard *et al.*, 2002), it is vital to examine how people mentally examine their surroundings according to gender, status, ability and community type. People bring to life the idea that certain activities like defecation and objects, including technical artefacts like latrines, belong somewhere in particular. Places as a component of space are locations where biological needs such as defecation are satisfied (Tuan, 1977). They go to different places to defecate based on the mediation of what they sense – touch, smell, sight and hear – from their surroundings and the processes of their agency.[146] The cat method and defecating in homes are considered important and meaningful defecation behaviours often practised by women more than men who are more prone to engage in open defecation for reasons including tenure insecurity. Regarding avoiding violence, certain practices are prioritised over others reinforcing what Tuan (1974) describes as topophobia that makes individuals avoid specific places. Places are gendered and affect and reflect the ways gender is constructed and understood as demonstrated in females, for example, engaging more in cat method or flying toilets than men due to limitations to their mobility in space.[147]

The territory is a bounded portion of space over which what activities are permitted and degrees of access to it by people, things and relationships between them are claimed, controlled or occupied by other individuals, groups or institutions who exercise power through strategies of territoriality. While claiming of land is the primary territory referent, it covers different scales to include the state, in communities and within the home (Storey, 2001). From the evidence, land is inherently related to territory and access to it or otherwise influences sanitation practices with attendant security violence implications. Complex land governance in South Sudan makes access and acquirement difficult for both indigenes and displaced persons. In Gumbo and Lologo, findings revealed the impact tenure insecurity which is a security challenge have not only on exposure to violence but also the sanitation practices of the people. Human beings perceive the need to have under their jurisdiction a partitioned portioned of the geographical space. Gottman (1973) concludes that having a territory which land is important because they confer security and opportunity to pursue what he calls the 'good life'. Other scholars like

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[146] Ability to grasp the process of experience and imagination from the perspective of another human being in this way requires an interpretive approach to research. It also requires adopting qualitative methodologies that relied upon the ability of people to articulate the feelings and meaning that they associated with particular places.

[147] Massey discusses how women are more likely to be confined to domestic spheres which negatively impacts their employment opportunities and exposure to violence when they are in the public sphere.

Sack (1986) sees territories as essentially power relations to affect, influence or control resources available to people and an example is the PoC Site 1 where rules about modes of humanitarian activities are decided by UNMISS. At the individual level, the need for personal space can also be seen as a form of territorial behaviour which promotes practices like open defecation.

Time plays a critical role in sanitation and security relations. This is because it reveals the changing trajectory of territory and place and the attendant security implications by serving as constraint or enabler of choice and action. Borrowed from Hargestrand (1970) framework of time geography which proposes that human activities take place in a space-time context and examines the relationships between them and various constraints. The framework is used to depict the trajectory of individuals in the physical space over time and to determine the times places are accessible to individuals under different constraints. It assumes that three constraints that can impact an individual's ability to conduct activities in space and time are capability constraints, authority constraints, and coupling constraints (Ellegård, 2019).

Capability constraints refer to the physiological necessities and available resources that can impede an individual from performing certain tasks. Authority constraints reflect rules or laws that limit a person's access to either spatial locations or time periods. Coupling constraints are requirements that allow an individual to bundle with others to conduct certain activities. They influence what defecation value is prioritised at different situations, for example, elderly men in Lologo strategically go for open defecation early in the morning, returnee or displaced women in Gumbo are likely to prioritise defecating in their homes at all times of the day, demonstrating their customary requirements as caregivers. Just as defecating at a place at a time has its value, there are also threats as open defecation is not undertaken by anyone at night.

6.1.4 Toilets and risk

Toilets are referred to as sanitation technology. All technology, according to Vermaas *et al.* (2011) is not just about technological products, but also how they are developed, why they are developed and used by people to meet specific ends. The most tangible outcome of technology is technological artefacts. They are physical objects introduced by conscious human effort into the physical world meant to be used by applying a collection of actions whose proper functioning depends on social factors to fulfil some practical function and achieving set goals. Design is at the heart of any sanitation technology as it integrates concept, techniques, materials and equipment composed of their two fundamental characteristics which are the structure and function. The structure is the physical properties and use plan what it is intended for. WASH practitioners have explained that benefits derivable from latrine use are safety, comfort, privacy and health (Harvey, 2004) and it is important to assess how these elements interact with risk. Risk concerns an unpredicted event often because of some activity or policy (Taylor-Goooby and Zinn, 2006). In the social sciences, risk is often used with reference to environmental issues.

Before going further, the components of the design of a technological artefact must be discussed to better illuminate the relationship with risk. Technology is often seen as a solution to environmental issues like sanitation. Concept refers to the mental impression of how a sanitation technology is meant to function at the time of construction. Using latrines requires some techniques, that is knowledge and skills which inform the practical manners, ways and capabilities necessary for maximum output of the facility. Materials are the parts, components, ingredients and raw materials that become a part of the sanitation facility. They include those materials that form the superstructure and substructure including, latrine slabs, wood, timber, corrugated iron, plastic sheeting, special rails, lighting, and ramps among others. Equipment, on the other hand, is the tools, machinery, and devices that help create the sanitation facility. Each of these design elements plays a role in the empirical and causal linkages between sanitation and security.

Failings in each of the design components of a sanitation facility discussed above can be a source of risk. Beck (1992) argues that risk is increasing with the complexity of technology. When latrines do not conform to design standards for the people that are meant to use them, security becomes suspect. An example is the PoC Site 1 where the elderly and disabled attributed a negative impact from latrine use on their human security, which included safety fears, exposure to diseases and erosion of their self-esteem because of the lack of use of materials that could facilitate comfort. While it is reasonable that household latrines in Gumbo and Lologo and communal latrines in PoC Site 1 are sanitation facility concepts adopted in the study locations, contextual threats in the operational environment impact risks. For example, congestion in the PoC Site 1 compromises the latrines' maintenance and appropriate use leading to increased health hazards. It must, however, be stressed that the argument regarding the goodness or bad of a sanitation technology lies on human use (Vermaas *et al.*, 2011).

Other risk scholars like Starr (1969) have assessed the technology and risk interface from the angle of human perception. The importance of contextual factors in people's risk perception about technological hazards has been demonstrated by this study. Environmental factors like water scarcity or soil conditions can raise the risk of latrines. Deepening social cleavage as a result of civil strife can fuel migration which puts pressure on latrines. Economic factors like unemployment can also promote risk. Various risk perception by individuals influence risk taking behaviours. For example, youths in Gumbo avoid using latrines when they are unclean for risk of diseases and face that of being assaulted or injured practising open defecation. Risks are often the result of decisions made under uncertainty (Brauch, 2011) and, for example, when the design elements of a technological artefact like latrine are weak, humans tend to respond to such situations.[148] The argument here is that risk that is hazard regarding human beings and what they value (Kasperson and Moser, 2017) has the tendency to be impeded or

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[148] This reflects the understanding of risk in psychology, anthropology and the social sciences.

promoted by design of sanitation facilities and how social and individual factors act to amplify and dampen perception of risk.

However, since excreta and how and it is managed is at the centre of sanitation discourse, only the risk posed by faeces and not urine to human security will be discussed. Managing excreta, particularly containing it, is challenging in protracted conflict and complex emergencies. To achieve health benefits behind excreta disposal and containment which pit latrines provide, corresponding hygienic practices such as handwashing after contact with faeces and regular cleaning of latrines are also important. These health determining factors are culturally influenced in preventing insanitary conditions and odour which may deter people from using them and when done properly may hinder morbidity and preventable mortality.

Water is a key security factor for sanitation and human security as findings have shown. Risk of consuming faeces contaminated water is low in PoC Site 1 as it is often treated, but this is not the case in Gumbo and Lologo where most residents rely on water from the White Nile where people defecate on the banks. Since alternative water sources are limited, for example, few boreholes and the high cost of purchasing from water trucks, faeco-oral transmission would become rampant which spreads the risk of epidemics like cholera. These diseases from evidence could result in loss of productive capacity through ill-health and loss of lives. Communicable diseases such as cholera, measles and respiratory tract infections spread quickly with population movement or displacement as well as congestion. This is further compounded when access to clean water is hindered and that which is available is inadequate.

6.2 Sanitation and sustainable sanitation

The interrelations between sanitation and sustainable sanitation is the focus of this section. It explores the complex ways sanitation affect sustainable sanitation and how sustainable sanitation measures impact sanitation.

6.2.1 Health and hygiene promotion

The opening paragraphs of the previous section established the important role of value in sanitation practices which the researcher believes is influenced by sociocultural factors. Sustainable sanitation borrows much of its ideas from sustainable development described as a process geared at ensuring the resilience of interrelated social, economic and environmental measures although political and technical dimensions are recently being proposed (Munasinghe, 2019). Sustainable sanitation is about the adaptation and mitigation measures implemented by WASH partners to shield people from menaces of sanitation. However, contextually responsive solutions using adaptation and mitigation mechanisms could have intended or unintended positive and negative effects on sanitation.

Sociocultural is a word coined from both social and cultural and refers to the way of life of a people sharing a common geographical location, including their customary beliefs, material traits, and behavioural patterns, (Kendall, 2012). Culture plays a significant role in human cognition, perception

and behaviour as discussed in the previous section. People filter information through mental models conditioned by the society thus influencing their decision-making (Hofstede, 2001).[149] What they perceive through their visual, olfactory and auditory senses and the eventual interpretation of these into actions often dependent on the context and situation. Vernon and Bongartz (2016) conclude there is a need to better understand communities and their existing traditions, cultures, divisions, and structures at the pre-triggering stage. Influencing human behaviour is central to sustainability and explains why health and hygiene promotion is the primary sustainable sanitation intervention undertaken by WASH partners with impacts on agency since as humans we can choose to act one way rather than another.

Hygiene promotion is the main sustainable sanitation strategy adopted by WASH partners in South Sudan to expose people to new ways of thinking and alternative understanding of sanitation. It is a planned approach that informs people of hygienic practices to reduce the incidence of poor hygiene practices and conditions that pose the greatest risk to human health. This approach justifies the explanation of Conner and Norman (2005) that factors intrinsic to the human – cognitive factor - is crucial in health behaviour.[150] Humans are expected to acquire a set of manners, ways and capabilities or physical conditionings involved in implementing technical knowledge effectively towards technological artefacts to meet specific ends or needs of which sanitation is not an exception. The specific practices, in the opinion of WASH partners, that hygiene promotion aims to achieve include latrine use, adequate excreta disposal and handwashing, some of which were confirmed to be adopted from the findings.

Space plays an influential role in the extent to which hygiene promotion impacts sanitation. It is recognised that factors extrinsic to the individual also influence sanitation practices. This is because a human agent's immediate surroundings trigger behaviours through cognition and perception as bodily practices like defecation are not isolated from stimuli from both objects and people that come from parts of the context. Eradication of open defecation is one of the aims of sustainable sanitation which hygiene promotion is expected to address (Vernon and Bongartz, 2016). Hygiene promotion could, in the absence of adequate latrines or none, influence people's behaviour with regards to knowledge of where they can and cannot defecate, how and how not to dispose of excreta and why indiscriminate defecation and disposal is a problem in congested areas like Lologo and PoC Site 1. It is important in Gumbo as well where cat method is common emphasising the covering up of faeces with soil so that vectors do not contaminate the local environment and can reformulate the people's perception regarding faeces. To stimulate change in social norms towards sanitation, Chambers and Myers (2016) suggest intense and provocative behaviour change campaigns will be needed.

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[149] See Douglas 1966 Purity and Danger for more interactions between culture and perceptions of purity.
[150] Health psychologists have adopted the social cognitive model as an explanation for health behaviours. Justification for this is that cognition is an important cause of behaviour and mediate the effects of others and that they easily manipulated.

Hygiene promotion is implemented to trigger health seeking behaviours including prioritising latrine use. Sanitation technologies like latrines are used to enhance or promote certain defecation habits and practices and discourage others or refine a social taboo about faeces. Since the cost of investing or using latrines often lies squarely on the people, devising means of motivating them and sustaining a commitment to their construction, use and maintenance are important aims of hygiene promotion. Coombes (2016) demonstrates that hygiene from people's perspective also involves being able to wash latrines especially the slab. In Gumbo and Lologo, hygiene promotions seem to prioritise only a small number of cultural practices from the viewpoint of controlling incidents of communicable diseases, particularly cholera and there is little evidence that it has worked. In PoC Site 1, latrine use has increased compared to widespread open defecation that obtained but misuse is common. This is also the case in Lologo where it was reported that intense hygiene promotion has led to an increase in latrine construction. Other sustainable sanitation practices about hygiene and sanitation facilities include safe containment of faeces with a slab and a lid (Reed, 2014) but hygiene promotion does not seem to have had a positive impact in this regard.

Excreta disposal is linked to hygiene promotion which involves providing people with information regarding the appropriate ways of disposing of it and washing of hands after contact. Hygiene promotion in the opinion of WASH partners may not be enough and it should be substituted with the provision of WASH NFIs to change sociocultural norms guiding excreta handling and encouraging handwashing after contact with excreta or defecation. According to health psychologists, providing information alone will not result in health seeking behaviours and must be integrated with access to incentives (Conner and Norman, 2005). The first two from evidence form the focus of WASH partners. In Gumbo specifically, distribution of WASH NFIs including multipurpose soap to encourage handwashing is a common activity although no handwashing station was observed in all latrines encountered in the village suggesting that it was not a widely accepted practice. Since most residents of Gumbo and Lologo source water from the White Nile, which arguably is contaminated with human faeces, receiving water treatment kits from NGOs and their use could have eliminated mortality and morbidity from water-borne diseases. However, exposure to intense hygiene promotion along with access to WASH NFIs could influence a shift in cultural beliefs, practices and preferences relating to excreta disposal and hygiene in ensuring a healthy life free of communicable diseases. Having adequate handwashing facilities is another element included for achieving ODF status and is central to attaining health benefits (Vernon and Bongartz, 2016).

The sociocultural dimension of a sustainable sanitation measure is also related to the technical aspect by adapting facilities to the material traits of the people. The material culture of people like technical artefacts is inseparable from the immaterial like religion, rituals, and customs (Kendall, 2012). It has a close affinity to the technique and material aspects of design which is at the heart of any sanitation facility. Pit latrines are the most common and widely accepted type of sanitation facility in the country

and its flexibility in terms of design makes it possibly the most sustainable type considering the contexts. Quality of materials is easily controlled, adaptable to innovative and culturally appropriate ideas from users, and cheaper to maintain, as replacement and repairs are easier to undertake. This strategy is in line with implementing interventions to reduce exposure to diseases by that prioritises settings-based approaches Linnan and Grummon (2015). Its appropriateness is demonstrated in PoC Site 1 where communal trench latrines are provided with the design being improved over the years particularly relating to materials. WASH partners also advise people in Gumbo and Lologo to consider building latrines using locally available and suitable materials.

6.2.2 Environmental considerations

Environmental considerations are central to the sustainability concept as well as sustainable sanitation. Earliest documents on sustainable development highlighted resource depletion, health risks, pollution, and disasters (HDR, 2011) as environmental problems impeding development. Geological, ecological and climatic factors that influence the state of the environment in a setting and is part of the sustainable sanitation considerations of WASH partners to improve sanitation conditions. Few sustainable sanitation research have critically assessed environmental considerations of sanitation interventions and their impact on sanitation as well as how environmental formations in a location influence interventions. Geological concerns the processes and features that make up the Earth, ecological, the two-way relationships between humans and their physical surroundings, and climatic long-term weather, atmospheric, temperature, precipitation, sunshine and winds conditions (Gabler *et al.*, 2007).

The characteristics of topography including soil texture often produce sharp boundaries in vegetation type. The practice of using drums for pit reinforcement in areas with black cotton soil is an attempt at promoting access to sanitation facilities which Coombes (2016) maintains is key to sustainable sanitation. Supporting latrine use and reduction of open defecation is an attempt at protecting the groundwater and ensuring they are suitable for human use and are pollution free. As the water table in much of Juba is deep, water trucking becomes a suitable option. Regarding ecological features, sustainable sanitation efforts in the study locations, particularly in the PoC Site 1, consider environmental phenomena like overpopulation as crucial factors in pursuing sanitation sustainability. Population composition and variations are incorporated in latrine construction in the site as separate latrines are constructed for men, women and children since gender and age are crucial elements. Migration status is another ecological factor that featured in the environmental considerations of WASH partners since the spatial behaviour of people is not disconnected from their social positions thus making displaced persons of high interest. Climatic considerations also featured in the sustainable sanitation approaches of WASH partners whereby plastic sheet superstructures of trench latrine blocks were later replaced with iron sheet because the former generated high temperatures inside the latrines making them inconvenient to use and encouraging open defecation. As the world experience change in climate,

there would be a knock-on effect on sanitation on sustainable sanitation measures designed to address it (Vernon and Bongartz, 2016).

6.2.3 Technical responses

The technical dimension of sustainable sanitation broadly concerns the introduction of sanitation technology in dealing with constraints of the environment or sanitation facilities. The purpose is twofold, and they are to get people on the sanitation ladder and to ensure the quality and durability of toilets both of which are crucial to sustainability. It has been argued by WASH practitioners that the need for technical support is to encourage progression up the sanitation ladder, particularly for the poorest. Limited availability of sanitation facilities, the poor standard of many of the existing ones and low latrine use even when available, flooding, and leaching are of concern to WASH partners to which different mitigation measures were adopted and confirm the reasons for technical approaches in other contexts (Coombes, 2016). As evidence has shown, activities of WASH partners in ensuring technical sustainability of latrines in Gumbo and Lologo is limited but this is not the case in PoC Site 1. In the latter, latrine doors were provided with locks to be lockable from the inside, security lighting to assist users at dusk, privacy screens in front of latrine blocks and latrine attendants who clean them twice daily. These mitigation measures help to effectively manage the weaknesses of the environment and maximise potentials of technology. This, as Mukherjee (2016) clarifies, will not be sustainable if the design is not context appropriate and encourage innovations.

In Lologo and Gumbo, hardware subsidy is another technical sustainable sanitation measure adopted through the distribution of latrine materials. Although there is no problem with hardware subsidy as Hanchett (2016) argue, its impact on improving sanitation is dependent on how it designed, targeted and delivered. Since the intervention is humanitarian and does not involve CLTS which, in principle, rejects hardware subsidy, WASH partners use this mitigation approach to promote latrine use and discourage open defecation. Poor households are often only given plastic slabs, but the plastic sheet is added on a few occasions and they are expected to complete the pit and superstructure themselves preferably using local materials. In other cases, they construct latrines for households or a group of households. This is meant to serve as a demonstration to others and motivate towards the construction of latrines, with the anticipation that by the time a replacement is needed, ownership of latrines would have become the norm and no further incentive would be needed. Distributing latrine materials to people to construct their latrines is a mitigation strategy as it concerns technical measures in seeking to adjust the behaviour of the people. Evidence suggests that they might not have fully achieved their purposes like lack of ownership, cost sharing options, provision of upfront materials and possible failure of latrine uptake reinforcing the suppositions of Robinson and Gnilo (2016).

6.2.4 Economics of sanitation intervention

Economics concern how income is generated, finance is managed, and wealth is distributed among population groups, people and institutions including allocation of scarce resources for the satisfaction

of wants. At the centre of this description is choice and citizens look to it for the regulated allocation of material resources. The WASH Cluster realise that people are facing obstacles to livelihood improvement and in response to this, devise income generating opportunities which involve recruiting women as latrine cleaners and men as latrine attendants on a rolling period of three months at the PoC Sites. There is little incentive for the people to invest in sanitation in Gumbo and Lologo. From the evidence in Gumbo, WASH partners try to fill by undertaking cash-based transfers for schoolgirls to help them meet primary wants including sanitary materials. For organisations, sanitation financing involves carefully designed, targeted, and delivered interventions to reach the most vulnerable and marginalised people and communities where the disease burden is highly concentrated (Vernon and Bongartz, 2016). As can be seen from the evidence, much of the donor funding goes to people in displaced persons camps and less on those in other settings. This approach, in general, undermines behaviour change and prospects for household owner responsibility. Choice of the WASH Cluster to support payment of latrine cleaners might have promoted latrine use but impedes financial sustainability confirming the argument of Hanchett (2016) that identifying the moment to introduce financial incentives plays a crucial role in determining sustainability.

6.2.5   Political approaches

The political dimension of sustainable sanitation refers to the distribution of power and resources among members in a society and other WASH partners influencing not only who benefits from interventions, but also which deprivations are addressed. Different population groups' position in the social structure of locations they find themselves partly influences their opportunities or otherwise to benefit from certain sustainable sanitation measures. Thomas (2016) argues that this is where issues of equity and inclusion come in as barriers to sanitation access are political and not financial. From an intervention perspective, this dimension needs to be assessed both at the institutional and communal levels. Essential to sustainable sanitation is collaboration between different actors in and beyond the sector (Vernon and Bongartz, 2016). Evidence shows that WASH Cluster is aware of the importance of collaboration and building capacity of NNGOs to sustainability particularly in terms of facilitating collective behaviour change. The WASH Cluster, especially in PoC Site 1, is partnering with the Protection Cluster in undertaking sexual and gender-based violence awareness with women and girls through focus group discussions by female staff. As a social necessity, this approach enlightens them about seeing their safety as a personal and group responsibility. It also informs them which authorities to approach if they fall victim to violence and how to get psychosocial support. Dignity kits, as identified by Protection Cluster, provide items that might contribute to safety such as solar lights, torches, whistles and padlocks.

Central to this distribution of power and resources from the evidence are land and participation in decision-making. Understanding the barriers to access, and the underlying social dynamics and inequalities that operate in society is critical to developing inclusive programming (Patkar, 2016). Environmental resources like land is crucial for sustainable sanitation as evidence suggests because

most of the other components are intertwined with it. In PoC Site 1, Gumbo and Lologo, the dynamics of land are different influencing various institutional responses. In the PoC Site 1, THESO adopted community participation regarding use of the latrine blocks available because of limited land to construct adequate latrines resulting in increased use but not necessarily better maintained. In Lologo, WASH partners provide latrine materials to households who have dug a pit, that is those who have land. Land dynamics in Gumbo is more complex because of the demographic composition of people living there, making WASH partners unable to undertake latrine materials distribution but rather focusing on hygiene promotion and borehole rehabilitation. Politically sustainable sanitation is closely tied to meaningful engagement with, and participation of, different groups of people in all stages of the process as Vernon and Bongartz (2016) suggests and these are adopted by NGOs in interventions particularly those that are faith-based.

6.3 Security and sustainable sanitation

This section examines the how security intermeshes with sustainable sanitation. It explores the root and rationale behind certain WASH partners favouring a particular sanitation intervention approach and not another. Sanitation interventions must be implemented within the security environment and cannot be extricated from it thus, an assessment of the processes and power relations that shapes this is the focus of this section.

6.3.1 Institutions and value

Value has been attributed to not only individuals but also institutions. The question of how value is treated is not explicitly discussed in policy and practice since most embody a preference for one over another. Institutions are believed to have a set of biases and stereotypes reflected in their policy or practices towards acts, outputs and outcomes (Hofstede, 2001). In their operations, these institutions reinforce the objectives that led to their establishment or the prevailing politics where they work. Institutions are the various stakeholders articulating differences in perspectives, meanings and intentions that competes in the decision environment. They play an important role in shaping contextual factors which influence the capability of other institutions and implementers, even individuals all in line with their respective interests (Hilhorst *et al.*, 2017). Institutional values determine whether sustainable sanitation measures, classified in this study, into sociocultural, environment, technical, economic, and political, are implemented, condition package of sustainable sanitation measures applied, and exert opportunities or constraints on various stakeholders. These values are assessed within the framework of the overall goals guiding humanitarian response which are saving lives through the timely and integrated response to address needs, reinforce protection and promote access to basic services, and supporting resilience to cope with threats.

Transition to a sustainable way of living entails making judgements as to what the priorities of societies should be, what sanitation challenges are to be mitigated, what access to sanitation is adequate and equitable, what hygiene standards are appropriate for different settings, which capacities to pursue, what

resources to preserve and whose needs should be addressed. It has ethical and moral claims about the responsibilities and obligations of both individuals and institutions. From the findings, open defecation is the most common sanitation practice in rural and urban areas while latrine is often used in PoC Sites. These sanitation practices have security implications as evidence shows that the main underlying factor behind them is value-oriented. Hygiene promotion, as broadly applied in practice by WASH partners, aims to achieve not only safe disposal of excreta, handwashing after contact with faeces, and reduction in contamination of water but also menstrual hygiene among women and girls. It is a process of facilitating learning could make people more adaptable by giving them a base of knowledge, skills, and habits which could influence components of security like value.

Adaptation is the exploration of new sanitation practices and functions of reducing impacts of vulnerabilities and occurs at the individual and collective levels promoted by WASH partners. Mitigation is the policies, programmes, institutions, and infrastructures provided by WASH partners to address the causes of sanitation risks. For there to be sustainable sanitation, Vernon and Bongartz (2016) propose a need to look at not only changing behaviour in communities but also the mindsets and behaviours in institutions and how these need to be challenged and changed to allow for sanitation to go beyond short-term fixes. The WASH Cluster includes the government, donors, INGOs, NNGOs are agreed on the importance of behaviour change but different opinions regarding mode of health and hygiene promotion and its opportunities for sustainable sanitation. Donors like USAID who are funding the humanitarian response prioritise behaviour change through health and hygiene promotion. On the contrary, however, the government supports behaviour change through CLTS as enshrined its guidance policy. This value difference is a major reason the latter is not an active member of the WASH Cluster having impeding effects on sustainable sanitation as Robinson and Gnilo (2016) conclude that government leadership and commitment have been shown as central to achieving sustained sanitation for all. Another example is the ideological division between humanitarians and peacekeepers as is played out in PoC Sites where the former seeks to improve the wellbeing of IDPs and the latter ensuring only their physical safety.

6.3.2   Challenges to sustainable sanitation

Traditional norms guiding pollution and defecation is a challenge to WASH partners in South Sudan. Between communities and NGOs, there can be divisions regarding the ideal means of defecation or excreta disposal. From the evidence, it is learnt that deeply entrenched traditional norms against latrine use pose a significant challenge to sustainable sanitation measures of WASH partners, particularly from the sociocultural and technical dimensions. This challenge is most pronounced in the rural areas although they struggle in urban areas too and in the PoC Sites, there are more problems regarding misuse. In rural and urban settings, even when latrines are available sharing among in-laws or people of different age groups is considered culturally inappropriate and this can impede hygiene promotion and hardware subsidy measures of NGOs. Thomas (2016) in a study of open defecation free slippage

in sub-Saharan Africa concludes that facilitation and engagement approaches are critical factors in how well communities are mobilised and incentivised to maintain behaviours. Some WASH partners like NNGOs accept that this is likely a major factor and confirmed by the WASH Cluster. Leveraging the support and influence of local leaders is likely to be strongest in the PoC Sites.

Cattle are at the centre of South Sudan economic and social life. In the Upper Nile region of the country and parts of the Equatoria, the cattle economy necessitates herders to move from one location to another in search of grazing land and establish cattle camps. Their movement represents a blind spot and risk to sustainable sanitation measures by WASH partners whose activities are focused on rural, urban and displaced persons camps. Health and hygiene promotions are not undertaken in cattle camps, neither are hygienic items distributed. This could be a reason why deaths resulting from water-borne diseases like cholera were reported to be highest in cattle camps than in other settlements. The Director of Public Health in Rejaf Payam explains that cattle camps within Gumbo constitute a health risk to the community and when efforts were made by the department to sensitise them about hygienic practices, they were threatened with guns.

Active armed conflict and widespread insecurity constitute multiple interrelated challenges to the prospects of sustainable sanitation. Rapid unpredictable population movement is a major outcome of wars and conflicts and this has promoted conditions of people living in unsanitary conditions and affected follow up in locations where interventions had been undertaken (Vernon and Bongartz, 2016). Open defecation and cat method from the findings are more likely to be practised by displaced populations. When people get displaced, they are uprooted from their lands and have lost all their possessions. Some find themselves in urban areas like Juba and other villages like Gumbo or displaced persons camp like the PoC Sites. Large communities which are ethnically diverse, conflicted and divided have been found to have more OD than more homogeneous ones making existing social inequalities and unequal power structures hamper sanitation programmes (Cavill et al., 2016). Considering their status, they are prone to engage in excreta disposal practices that could expose them to diseases. For such people, the sustainable sanitation activity they would most likely benefit from is health and hygiene promotion.

For NGOs, conflict related events being considered in sustainable sanitation strategies and at the same time constituting challenges include variants of aid manipulation including damage and looting of supplies and assets, operational interference, restriction of movement, bureaucratic and administrative impediments. NNGOs are closest to the communities and better positioned to provide life-saving assistance but are understaffed and lack adequate funding and there is also the challenge of distrust between them and the people. This confirms the findings of Ali *et al.* (2018) that while funding to them is increasing especially for intervention in an emergency or hard-to-reach communities, their income is still insufficient, lack power over funding decision and feel they are only used for 'gap filling.'

In all study settings, community crimes and violence are threats to sustainable sanitation efforts although with varying severity. In rural areas, population groups, especially women and girls, are exposed to sexual and gender-based violence when practising open defecation and the initial response was the promotion of defecation areas which are locally supported but had to shift priority to latrine construction and use because of SGBV. In PoC Sites, even when latrines are available and accessible, there is risk of assaults and vandalisation is common. At dusk in Gumbo and Lologo, the prevalence of violence forces people to defecate in their houses which is not a hygienic practice. As a mitigation strategy, SGBV awareness is conducted by WASH in partnership with Protection partners in host communities in rural areas and PoC Sites. There is little to no evidence of this approach being applied in urban areas despite undergoing similar security challenge. Additionally, they distribute dignity kits containing items like solar lights, torches, whistles, sanitary towels and padlocks to women and girls to promote safety. However, these measures cannot be sustainable in the absence of peace or community security. Humanitarians also face a challenge of violence against them which could hinder opportunities to undertake interventions or limit them to emergency responses with little sustainability considerations. These challenges impact people's access to appropriate, safe, clean and reliable toilets.

A knock-on effect of the conflict is economic collapse which has impacted both WASH partners and people alike. Economic collapse and inflation as a result of the war, from evidence, threaten sustainable sanitation directly. It has weakened the purchasing power of people to purchase latrine materials as prices have significantly increased and are beyond the financial means of the people. Residents of Gumbo and Lologo are unable to purchase some other cheaper materials as they are scarce since most businesses have closed due to inflation. Those who desire to have a latrine, despite being unable to afford materials like in Gumbo, are afraid of going into the bush to get local materials like bamboo and leaves because of the risk of kidnapping, physical injury or death. Also, the situation makes people prioritise spending the little money available to them on other necessities like food rather than the purchase of latrine materials. Even purchase of WASH NFIs like soap, jerrycans and water treatment tablets distributed by NGOs is a strain on their lean income if there is any.

Mobilising community support in interventions particularly the labour component can be challenging for humanitarians in conflict-affect settings (Kyamusugulwa, 2017). While there is limited evidence of WASH partners adopting any economic related sustainable sanitation measures like cash-based transfers in rural and urban areas, they employed latrine cleaners and latrine attendants on a rolling three-month basis in the PoC Sites.[151] To the WASH Cluster, the conflict has diverted funding stream from long-term and development-oriented activities with stronger possibilities of being sustainable to immediate, ad hoc, temporary and short-term emergency interventions affecting the sustainability of

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[151] Commoditisation is a feature of emergencies. War and hunger are typically marked by a shrinking trust, and as a corollary, items that were free, or subject to non-monetary regulation, such as communal labour, may become monetised or politicised.

sanitation projects and programmes. Payment for latrine cleaning in PoC Sites ought to be a temporary measure with clear exit strategy but the economic context has prevented this.

Climate change from evidence is another challenge to sustainable sanitation. Conversation about the possible effect of climate change on sustainable sanitation is growing but knowledge is still at its infancy. Environmental disasters, such as droughts and floods, and the related problems of food and water shortages, destruction of homes, livelihoods, and displacement of huge numbers of people will have major destructive impacts on humans and the planet as (Vernon and Bongartz, 2016) concludes. The findings of this study support this claim as floods have not only destroyed sanitation facilities, communities have also gotten displaced raising hunger and restricting access to safe water. Drought has also limited opportunities for constructing locally appropriate latrines and access to water for hygiene. A weakness of the little discussion of climate change and sustainable sanitation interface is that it is focused on environmental and technical dimensions and less on others like economic. For example, climate change is a source of financial waste or overspending to WASH partners who sometimes must repeat interventions in the same communities due to flooding. As Oates *et al.* (2014) explain, climate risk management to be effective must be preventive rather than reactive and this could be an explanation why most of the approaches by NGOs do not work considering that they must implement them within a humanitarian framework.

In rural and some urban areas and PoC Sites, latrines are sometimes not constructed because of the risk of collapse making people prefer open defecation or cat method. From the findings, latrines collapse because of two main factors which are flooding and black cotton soil conditions. Considering the high cost that comes with constructing a standard pit latrine with pit fortification and increasing economic poverty, most residents cannot afford to undertake such a venture. WASH partners, when constructing latrines for people, have devised sustainable sanitation measures mitigating the challenge of black cotton soil but not that of flooding. When constructing latrines for households on lands known to have black cotton soil, NGOs use oil drums for pit lining, the burning of pit walls or spraying them with anti-termite chemicals to prevent them from rusting. NGOs also train communities on how to construct quality and durable latrines using locally available materials. The divisions in protection ideals of humanitarians and peacekeepers are manifested in PoC Sites like the one in Juba where latrine superstructure is of temporary or semi-permanent materials making them easy to damage.

Land is a sensitive topic in South Sudan and tenure issues in the three study settings might have influenced sustainable sanitation measures adopted by WASH partners in the study settings with implications for human security. In rural and urban areas, land ownership or otherwise partly influences adopted sanitation practice which could raise the risk of diseases if not properly undertaken. In Gumbo and Lologo, for example, it was uncommon for participants to cite being landless aside cultural preferences as a factor behind their chosen defecation and excreta disposal practices. WASH partners regard open defecation as an inappropriate excreta disposal practice thus making some NGOs favour

latrine use which informed the sustainable sanitation approach of distributing latrine materials in urban and rural areas to those who own lands so they can construct and use latrines. In other rural areas, especially host communities, communal latrines are constructed by NGOs to be shared and maintained by a few households. The situation is different in the PoC Sites where land is available for construction of latrines but is insufficient to construct an adequate number in relation to the population and has temporary materials. Extending assistance to them regarding land access is strained as housing and land issues are practically beyond the duty of humanitarians who therefore support with the provision of WASH NFIs to encourage them to engage in appropriate excreta disposal practices.

6.4   Security and human security

This section discusses the dynamics of interventions in South Sudan by adapting it to the four main discourse around human security reviewed in the literature. They are, what threats, whose security, protection by whom, and what means. It assesses these dynamics by situating it within the findings analysed in the previous chapter.

6.4.1   Threats and human security

Sources of threats to people's human security in contexts undergoing complex emergencies are multiple and interlocked. People of South Sudan encounter national security threats which broadly can be direct or indirect emanating from local, national and global forces. Findings support the claim of Ullman (1983) who describes them as events that degrade the quality of life of inhabitants of a country and limits policy choices available to governmental and non-governmental entities. Not all threats, however, falls under the scope of human security except those attributed to certain fundamental rights, basic capabilities or absolute needs, what Alkire (2003) calls 'vital core.'[152] People's ability to manoeuvre these threats and manage their vulnerabilities is dependent on positionality in the social order, nature of stresses and access to coping tools. Where vulnerable people are unable to mitigate and/or adapt to the threats that they become termed as being 'at risk' necessitating intervention by external forces (risk managers) which may be a political or social institution. Risk framing in complex emergencies may be more difficult than in other disaster types because of the multifaceted, cyclical and cumulative disasters ranging from extensive violence to natural disasters. It is fundamentally a value judgment task undertaken by institutions and people prioritising among the components of these vital core and without which human security will be realistic and effective. This risk framing enterprise has implications on the intervention framework – the everyday politics of crises response (Hilhorst, 2013).

It is important to assess threats in terms of their nature and the weight of their likely impact on human security and vice versa. They can be critical, pervasive, direct, or indirect. Critical refers to their depth, pervasive on their scale, direct which threaten lives and indirect emanating from inadvertent or

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[152] The mediating role of these threats between sanitation and human security can be assessed based on type, level, frequency, timing and severity.

structural events (Alkire, 2003). From the findings, conflict, economic collapse and natural disasters are key critical threats. Pervasive threats include widespread hunger or famine, inflation, displacements, seasonal flooding, institutional failure and pandemics. Direct include violence which directly threatens the life of people and indirect like government not investing in sanitation and land governance. This goes to demonstrate the argument of (Hilhorst, 2013) that disasters and the responses they trigger are social phenomena in so far as the human factor is present. Caution, however, must be taken not to associate vulnerability with victimhood as people have a capacity for self-protection through adaptation to, avoidance of and resistance to the threats thus it can also be an asset for achieving human security.[153] In situations of both conflict and natural disaster driven risks common in complex emergencies, the people do not distinguish between threats they are facing and respond accordingly by seeking human security even if measures are ineffective.

A few security and human security research examine causal relations between both concepts as the narrow and broad conception of human security have implications for risk framing. Tadjbaksh and Chenoy (2007) argue that if the human is the referent of human security, protection favoured by narrow proponents is insufficient and empowerment is also crucial. While sources of threats may be national, regional or global, manifestations of vulnerabilities and risks are localised necessitating a context-specific response to providing human security. Alkire (2003) on her part proposes risk framing to be based on rudimentary freedoms basic to human life. Certain components of human security may not be addressed if threats relating to them are not recognised or adequately diagnosed in the risk framing. In other words, the multifaced nature of the threats make meeting every dimension of human security difficult or meets some but aggravates others just as certain dimensions can impact threats. For example, improved safety that is better freedom from fear among IDPs in PoC Sites does not mean they are immune from exposure to other forms of threats like diseases. Similarly, what this suggests is that interventions to provide human security must marry threats with fundamental human freedoms. In South Sudan, from evidence, the focus is on broad threats manifested in peacekeeping and humanitarian support.

Worthy of discussion is the possible divisions and correspondence in what constitutes risk between the people and risk managers. In South Sudan where the sanitation sector is within the control of international development agencies with Western-oriented values, their perceived threats with regards to sanitation does not necessarily correspond to that of the South Sudanese primarily because of either differences in values or the knowledge required to be able to identify something as a threat is missing in the latter. Findings have shown that, in general, the people prefer more hygiene focused responses like access to WASH NFIs than latrines meaning the former holds. The latter may also be correct, but evidence shows that knowledge of a threat does not impede risk-taking. Referred to in risk research as

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[153] Fabber and Dekker (2014) identify self-protection by individuals, families and communities as the primary security actor in an emergency.

the expert-layman controversy,[154] findings have supported the assumption of Zinn and Taylor-Gooby (2006) that people's response to risk is significantly determined by the social group to which they are attached and their position in it. However, if risk, according to Brauch (2011), is present when humans have a stake in outcomes in which something of human value (including humans themselves) has been put at stake it must be noted that people stratify risks in order of severity, and this is not unconnected to human security components. To pursue dignity and lessen fear, women defecate in their houses and people still engage in risky behaviours despite being aware of exposure to violence like going to the bush to defecate by men. Understanding what constitutes risk from lay and expert perspectives is as vital as what both believe the components of human security are thereby having implications for both concepts.

People's human security situation influence their interpretation of threats they face and they in return feed into the kinds of human security they desire. Those in complex emergencies do not compartmentalise the threats to their human security as they are interrelated. If freedom from fear is seen as the absence of fear that certain values will be attacked, violence, lack of land, lack of freedom of expression, unemployment some of the threats to human security identified in Gumbo after close examination also determine freedom from wants in terms of having basic needs met. While threats like hunger and unemployment were prominent among participants in Gumbo and Lologo, those in PoC Site 1 did not mention them probably because of the feeling that some of their basic needs have been met. Also, participants in the study settings although share certain threats like violence, poverty and diseases, those mentioned in the rural and urban communities seem more critical than in IDP sites which are more pervasive in outlook that is specific to displaced persons in camps like WASH NFIs.

6.4.2 Strategies for human security

As a result of the complex emergency nature of the case in South Sudan, strategies for human security broadly involve military and humanitarian responses although it is common for the latter to be integrated with development objectives. With threats growing, rapidly changing and getting increasingly complex and interrelated, the corresponding rise of intra-state and lessening of inter-state conflict, strategies have also responded to these especially in war-torn countries. Advances in each of these strategies have not resulted, in practice, in simultaneous integration and coordination despite their purpose to respond to distinct types of threats since it is realised that there are overlaps between threats that affect states and those that affect individuals and groups (Alkire, 2003). In complex emergencies, opportunities for integrating these strategies get harder as their tendency to strain opportunities for human security grow. In wartime, the military response is important as the security apparatus of the state fights local non-state security forces sometimes in competition for territory and challenge the central regime because of lawlessness caused by weak state institutions or the oppressiveness of an authoritarian regime (Faber

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[154] Approaches to risk research has included behavioural, psychological and sociological approaches.

and Dekker, 20114). This strategy is often manifested in peacekeeping missions to mediate and ensure stability in partnership with or bypassing the state's traditional structure. Humanitarian is the provision of support to a population or society that has experienced a disaster or disasters and some response to long-standing structural issues in a country and a strategy to achieving human security (Nishikawa, 2010).

Military interventions arise when the central government has a weak state apparatus or abuses power. In South Sudan, this is represented by the UNMISS with a mandate to collaborate with the government to enforce peace in the war-torn country by supporting her in exercising her responsibilities of conflict prevention, mitigation and resolution and protect civilians. Although not among its responsibilities, the establishment of Protection of Civilian Sites became an enforced mandate with continuing government direct violence against its citizens. Assessing the impact of this new model on human security in the country is important as military interventions in other countries have been concluded by Luckham (2015) to prove unenforceable or even damaging in situations of complex political violence like Darfur, Somalia, Libya or Syria as they are disconnected from people's daily lives. The weaknesses of the UNMISS mandate and the challenges they face implementing them have been discussed elsewhere and will not be addressed here but the utility of the PoC Site model, that is how protection and empowerment are impacted by this model.

South Sudanese choice to seek physical safety at the UN base in Juba in December 2013 following the resurgence of the civil war would set a precedent for peacekeeping operations. In search of safety for themselves and their families, UNMISS is made to, even though reluctantly, accept this responsibility of creating protected areas[155] here PoC Sites within its six bases across the country to enable protection of besieged populations (Briggs and Monaghan, 2017). This new development injected some changes to the peacekeeping operations as priority shifted from mobile community-level protection to static protection of IDPs in large sites peaking 200,000 by August 2015. As enshrined in the UNDPKO and ratified by the Security Council stated that UN missions shall provide refuge in existing bases to IDPs who face a threat of physical violence and would be unsafe outside of a UN compound in locations where there is currently fighting or violence. Three conclusions can be drawn from this and they are that the site is only meant to provide physical safety, being displaced alone does not officially constitute sufficient grounds to be granted entry, and individuals who continue to be persecuted in locations where active violence has ceased cannot be admitted.

The best way of assessing the effectiveness or otherwise of this model in protecting IDPs is by IDPs themselves. Opinions regarding freedom from fear as a result of physical safety within PoC Site 1 are diverse. Only the male youths, men and disabled expressed little to no fear that they would be subjected

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[155] The choice of this term is deliberate. UNMISS in its Guidelines on Civilians Seeking Protection in UNMISS Bases in 2013 used the term 'protected area' instead of 'safe haven' or 'safe area' as these terms convey the unrealistic expectation that UNMISS will be able to guarantee the safety of civilians which is not the case.

to physical assault within the site. Women are still exposed to SGBV including rape which often goes unreported. Elderly men complained about drug and alcohol abuse by male youths making them engage in antisocial activities which they have been a victim of. However, these opinions change when the immediate environment of the site is considered. Being encircled by hostile armed actors also poses serious threats to the IDPs in the PoC Sites and to the peacekeepers that protect them. Nearly all participants painted their protection assessment in a negative light as sites are surrounded by members of the government armed forces that are perceived to be hostile to the IDPs seeking refuge inside the UNMISS bases. As a result of this, their movement has been limited and the ability to sustain an independent source of livelihood severely hampered, but they still chose to remain there. This gives credence to the argument of Luckham (2015) that the international responsibility to protect enterprise often double the burdens of those exposed to violence often by their own government.

Discussion of military response to human security would be incomplete without local non-state military actors. As the conflict dragged on, a multitude of non-state military actors has surfaced providing physical security to citizens within the territories under their control referred to as security zones or safe haven. Their characteristics in the country are broad ranging from paramilitaries to opposition groups some challenging state power and others subcontracted by the state.[156] In many fragile states, these non-state actors have set up rather complex security structures, which are sometimes tantamount to pseudo-states (Faber and Dekker, 2014). Their activities, however, can become antithetical to their first and foremost function of physical security provision and further violate the safety, needs, and dignity of the people they are meant to protect. To shore up their need for soldiers or fighters, kidnapping, especially of young boys and men, became rampant. Findings also revealed that activities like SGBV are likely to be perpetrated often by these armies. Other violations reported they have committed include attacks on aid workers, taxing of aid interventions, unlawful killings, looting and destruction of aid infrastructure. Although they may provide some sense of safety, since it is identified as one of the most pressing concerns of poor people (World Bank, 2001) more so for people who find themselves beyond the vanishing point of officially delivered safety (Luckham, 2015), their discretion regarding what needs or dignity are attended to undermines the people's human security.

Humanitarian strategies are applied to populations who have experienced disasters whether natural or man-made. Human security according to Wilkin (1999) necessitates a response covering a multifaceted bottom-up (empowerment) and top-down (protection) approach. Complex emergencies can contain both natural and man-made disasters and humanitarian support, that is international assistance, may become necessary to meet the basic needs of the affected population. In humanitarian support, national and local resources cannot meet these needs without international aid and response is beyond the capacity of any single agency (Andersen and Gerber, 2018). This is the case in South Sudan where

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[156] See Brereton (2017) for a comprehensive analysis of the forms, types and methods of informal armies in South Sudan.

wars, civil strife, armed aggression, epidemic diseases, and slow-onset climatic disasters have disrupted the functioning of the society causing widespread human, material, and environmental losses. The interaction between conflict and natural disasters is multifaceted and dynamic which might potentially derail response by the muddling of problems with solution (Keen, 2008). One of the single most defining features of complex emergencies is population displacement. Those who must move from their homes in search of safety, have their needs met and ensure their dignity are termed vulnerable in this context. From the evidence, these people represent the focus of the humanitarian response.

Little is known about the causal links between the provision of specified bundles of goods and services and the achievement of a full life (Streeten *et al.*, 1995). Humanitarian response to human security follows the technocratic development approach in which goods and services are classified into Clusters corresponding to the programmes of related agencies. According to Leaning (2014), as soon as physical insecurity has been reduced to a tolerable level, interventions should proceed to provide basic human survival needs to the general civilian population like water, shelter, food, and essential medical care. Although all these Clusters are expected to implement projects tending to the human security of the people, the latter could determine which of them gets prioritised as much as the existing security framework and the values of the key agencies involved. The human security situation of the people could determine which of the Clusters are preferred in different contexts like the premium placed on providing food to displaced persons in rural host communities and WASH in PoC Sites. As these responses are compartmentalised, they may be incompatible with the interwoven nature of human security.

Another prominent feature of complex emergencies is that humanitarian response must be conducted in a difficult political and security environment. Aid manipulation in the form of bureaucratic and administrative impediments, violence against humanitarians, damage of assets and premises, destruction of aid infrastructure, operational interference, restriction of movement, enforced displacements, and active armed conflict have implications for human security. Natural disasters and poor basic infrastructure are also added to the mix of factors hindering interventions in complex emergencies. If human security aims to release people from all unfreedoms, these conditions constitute hinderance to its achievement as deprivation, destitution and oppression remain. Motivation to seek aid might be lacking among the demoralised population and reactive short-term projects implemented address only symptoms and not causes. The quality of interventions is also weakened and policies or projects get suspended in the face of these factors. Adherence to humanitarian principles of humanity, impartiality, neutrality and independence are likely to be compromised in this environment. This package of challenges can force an adaptation of responses to one in which needs are based on the capacity of local actors.

Current humanitarian response structure is classified into classical and resilience as argued by Hilhorst (2018). These two responses diverge in how they look at actors involved, the nature of the crises, and

aid but empirical differentiation is hard as evidence has shown. In principle, the former favours the strict separation of crises and normality, temporary stopgaps for specific interventions, short term funding stream, expensive operating procedures, donor dependency, and disconnect from beneficiaries. The latter on the contrary has the central aim of ensuring people, communities and societies have the capabilities to adapt to and recover from tragic life events and disasters. Both response approaches are present in South Sudan making the assessment of their impact on human security important particularly from the perspectives of protection and empowerment. Protection concerns targeted processes and institutions created by humanitarians not only to combat risks people are exposed to but also to meet their different needs. Empowerment involve mechanisms that develop people's resilience to difficult situations by supporting the building of assets and capabilities that enables individuals and communities to make informed choices and to act on their own in achieving desired outcomes.

Attending to the protection and empowerment needs of different population groups in their context would lead to human security. In terms of protection, the classical approach strictly prioritises the safety concerns of displaced persons possibly in camps and not other population groups. As a result of dysfunctional procedures, even this protection can be weak and still exclude some people like the disabled. Reactive short-term responses do not adequately meet the basic needs of the people they are bringing succour to due to temporary interventions like Emergency Response Mechanism funded on an emergency basis thereby antithetical to development. A crucial component of empowerment is the accountability of service providers to the people making them answerable for their actions that affect the latter whether positive or negative. In the opinion of Luckham (2015), the democratic deficits of donors are a factor in the perpetuation of human insecurity. This is rare in interventions delivered using a classical approach. Despite expensive operating procedures like water trucking in PoC Site 1 and airlifting of aid supplies, these measures have no real influence on the people's essential freedoms. Inclusion or participation is not a strategy classical humanitarianism subscribe to. It involves treating people as partners and not beneficiaries with whom needs are assessed and project designed and implemented.

Research on resilience humanitarianism regarding IDPs is limited as much is on refugees. For resilience humanitarianism, protection is key as this enhances people's capabilities. Capabilities, however, is incomplete without empowerment and both are responsible for resilience. Faith-based NGOs, from evidence, can be said to be providing some responses linking relief and rehabilitation development. Closely tied to the resilience approach is improving institutional capacity which IOM undertakes particularly regarding NNGOs although Hilhorst (2018) classified this as part of classic humanitarianism. It can be argued that there should be a division between a preconceived idea that they require capacity building and recognising their strengths and nature of responsibilities. Those in South Sudan hold an important position in the resilience humanitarian architecture considering their knowledge of the terrain and cultural permutations guiding aid. However, they still suffer severe

capacity shortcomings like budget constraints, low skilled staff, and limited knowledge of right-based interventions. These shortcomings will also impact on their ability to adequately ensure the protection and empowerment of the people. For example, when NNGOs have access to hard to reach displaced populations but financially constrained to implement projects. This approach tends to overburden the people when interventions are not effectively undertaken to trigger the desired resilience. NNGOs in the country have identified the likelihood of this approach not yielding desired resilience because of long-standing culture of classical humanitarianism which has fostered aid dependency. This is possibly more pronounced in rural than in urban areas as those in the latter where more of the displaced might have moved devise means of adapting to their situation and find other ways to survive. For these people, sense of abandonment is common as donors focus on IDPs in other contexts especially rural and camps. In PoC Sites, some elements of resilience humanitarianism have been considered manifested by triggering self-governing tendencies of IDPs.

6.4.3   Institutions and human security

Institutions in complex emergencies just as in any other society are the body of rules structuring social interaction with impacts on human security and vice versa. Individuals live and operate in a world of institutions. Our opportunities and prospects depend crucially on what institutions exist and how they function. Not only do institutions contribute to our freedoms, their roles can be sensibly evaluated in the light of their contributions to our freedom (Sen, 1999). They can be informal including customs and behaviour patterns in a community or formal like organisations. The role of the latter in human security has received significant attention in human security literature primarily because they play major roles in intervention and reordering the social landscape. In crises, violence and displacement, emerging new problems that cannot be resolved with existing mechanisms, a lack of legitimate state institutions, or rivalry between different sources of power result in institutional hybridity (Hilhorst, 2013). Decades of armed conflict in South Sudan has created a culture of institutional hybridity often steered by players not necessarily working for the achievement of common goals. This is a result of lack of statebuilding even before independence in 2011. International institutions are not exempted and many of these institutions, irrespective of their scale or form often lack accountability not only to those whose interest they are meant to serve but also other institutions (Luckham, 2015).

Formal institutions are created to achieve specific goals. There is a deep complementarity between freedom and institutional arrangements and according to Sen (1999), it is important to consider the influence of both on the extent and reach of individual freedom. Significant variability exists not only among the numerous organisations undertaking interventions in South Sudan but also state institutions. Interventions by local authorities, donors, military, UN humanitarian agencies, and NGOs make the intervention landscape dense such that people could have their freedoms easily promoted or curtailed. Donors like USAID guide the mode of NGO and UN Humanitarian agencies interventions where delivery is dependent on contextual factors including negotiating with other organisations for access to

populations. Their choice to prioritise certain affected people over others and decision about how interventions are to be implemented have an impact on freedoms. Much of USAID funding is dedicated to IDPs in PoC Sites and this could be as a result of having less scaffold of military barriers to cross compared with those in informal camps. This suggests that the human security enterprise follows the principle of selectivity by institutions regarding whose protection and empowerment[157] and ultimately freedom is tended to even if the extent is limited.

Human security components have various institutions whether military or humanitarian attending to them in a complexly interrelated manner. This demands cooperation and integration of duties among institutions both as their respective activities could be counterproductive not only directly on the freedom to which it caters but also on other freedoms. Freedom from fear of IDPs in PoC Sites is dependent not only from the WASH Cluster but also the Protection Cluster, activities of the UN Police and government army who has created barracks and roadblocks around them. Access to food is important to better health and willingness to assimilate and act upon new information. Ensuring that no group of people is discriminated against and that these services are provided after due consultation with affected people would raise the chances of guaranteeing and expanding their freedoms. It is also observed that many NGOs are service-oriented that is they are set up to specifically respond to a part or parts of intervention like the Oxfam which has a strong base for WASH related services. The most profound example that can be cited regarding human security influencing organisations is the creation of PoC Sites to attend to safety fears of IDPs and meet their basic needs.

Institutions may be handicapped by a lack of capacity to adequately undertake their functions. Capable institutions can be as important as adequate financial resources in the removal of various types of unfreedoms that leave people with little choice. It is the primary responsibility of governments to promote the human security of their citizens. Local government administration with weak capacity even with adequate staff and appropriate technology could be a factor in the perception that total breakdown of local institutions or that they cease to exist is a feature of crises situations (Hilhorst, 2013). The government's commitment to security funding at the expense of providing services is a significant gap in promoting freedoms. As Streeten *et al.* (1995) demonstrate institutional, organisational and administrative problems are encountered in countries that have failed to meet basic needs. These situations could be a factor in the takeover of the intervention by humanitarians in the country which evidence shows they stall by applying different means of aid manipulation. NNGOs are agreed among other WASH partners to occupy an invaluable position in delivery but cannot provide adequate services.

Military institutions in South Sudan, whether formal or informal is complex. Discussion, however, will be limited to the SPLA, peacekeepers and opposition armies. Faber and Dekker (2013) description of a

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[157] The same can be said of the UNMISS who prioritise IDPs in their sites compared with the general citizen in other settings as the context demands.

security fabric - the composition of a definite territory in terms of its security architecture, meaning the actors involved, their (sometimes self-imposed) mandate and actual duties, territorial boundaries in which they operate – varies greatly in rural, urban and PoC Sites. Since most of these militaries are in practice only capable of providing some form of physical safety, they require the interventions of humanitarians in their territories to deliver basic need services like water, sanitation, food and health. This is also the case in PoC Sites but contrary to territories held by other non-state military groups, standard guidelines regarding operations and infrastructure might not be permissible as humanitarian activities are heavily influenced by UNMISS necessitating the independence guiding humanitarian support and strict adherence to global guidelines to be discarded. The practice of collecting taxes from humanitarians before delivering services in both areas might be a hindrance and this is inexistent in PoC Sites.[158] In the latter also, blanket service delivery is allowed as against targeted in other areas. A downside to this is that different intervention standard or specification could be the norm with human security implications like discriminating against some population groups. One can conclude that people's opportunities for having their human security met are dependent on institutions in different settings.

A discussion of humanitarian institutions in the country will be incomplete without faith-based institutions. While both Christian and Islamic institutions operate in South Sudan, the former are the most prominent. The Christian Church, as argued by Dulles (2003), since its early days has been a dynamo of humanitarian activity and always on hand in situation of disaster. Involved in addressing a range of needs the local population might have including conflict resolution to the provision of basic services, these institutions are often overlooked in conflict research as the focus is on the international aid community as a substitute for absent state institutions (Serrano, 2013). Some of them operate in the mainstream humanitarian sector as humanitarians like Samaritans Purse and Christian Mission for Development. Others are primarily missionaries like the Salesian Mission who offer basic service like education alongside responding to the humanitarian crises by establishing Collective Centres[159] where they shelter IDPs and provide some basic services with support from donors. However, humanitarian services provided is inadequate including shelter which they are primarily expected to provide. IDPs living in them may not feel protected as the likelihood of exclusion is high despite possibly having greater access to humanitarian support than the local population. Since they are often perceived as beneficiaries, interventions might be delivered in a way that not as active agents but as passive recipients of dispensed benefits. On the contrary, those who are primarily humanitarians, from findings, might

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[158] These military actors also constrain activities of humanitarian institutions or destroy infrastructures constructed by them.
[159] Collective Centres are bounded locations where a large group of displaced people find shelter for a short time while durable solutions are pursued. In practice, these centres can exist for several years.

deliver services in a manner that recognises this and actively seek their participation in the decision, design, implementation and monitoring of interventions.

A type of institution commonly ignored in human security analysis is traditional institutions. They include local chiefs, elders and prophets who have a significant influence on the people and built political as well as moral authority through the ability to respond to prolonged periods of destabilising and prolonged conflict and violence. D'Agoot *et al.* (2018) discusses the role of traditional authorities in South Sudan play through customary courts adjudicating using local norms in promoting accountability in humanitarian interventions. They are trusted by many people to not only provide human security but also effectively negotiate with other institutions whether military or humanitarian in delivering interventions. These institutions often have their own interpretations of the security situation and human security needs of the people under them making them willing to contest the opinions and activities of elites. Humanitarians in the country from experience have come to realise their importance and actively seek their consent and cooperation in the design and implementation of interventions. That they have alternative perceptions of human security guided by values, society and moral behaviour influences which goods and services they would demand and whose security is prioritised. Community defence groups or militias in the country have sometimes helped achieve relative security or contributed to local peace agreements but are also not immune from manipulation by traditional institutions (Jok, 2017). Although they wield some influence on military institutions like ethnic militias, their authority is probably only being challenged by these same armed groups but the extent of how much they have eroded it is not definite.

6.4.4 Population groups and the politics of intervention

Findings support much of the arguments made by scholars regarding what populations groups should be prioritised when matters of human security arise. Those who face threats to their wellbeing, women, vulnerable people, and IDPs have all been proposed as population groups who suffer the most human insecurities. Human security is determined by contextual factors straddling both personal characteristics and the multitude of institutions shaping collective life. Politics is about struggles for power to exercise control over others or self, satisfy interests, and express or gain recognition for identities. Faber and Dekker (2014) explain that human security is partly dependent on personal opportunities like social capital and identity. A fundamental attribute of populations in a context undergoing complex emergencies as elsewhere is identity which can determine access to social capital. This, in the opinion of Luckham (2015), is influenced by socially embedded power, established property rights, and social privilege. Categorising people according to different groups using factors such as their gender, physical ability, migration status and socioeconomic status, is done by both people and institutions. People use these identities as entitlement to demand human security. People of different ethnic groups are likely to seek physical protection from certain military actors and not others because of the perception that their safety would be more guaranteed by them. For example, people of Nuer extraction living in Juba are

likely to seek protection in the PoC Sites than those of other ethnic groups though this does not result in freedom from fear.

Also, there are opinions among population groups that some form of and approaches to interventions be accorded to them based on these identities. They are central to people's sense of selfhood, bodily integrity, wellbeing and safety (Luckham, 2015). The concept of equity comes to play here as different population groups possess varying multiple identities which influence not only their protection and empowerment needs but also the freedoms. It is when segments of the population feel that they are being discriminated against in the intervention that dignity becomes suspect. Men, women, youth, elderly and the disabled compete for recognition of their identities before institutions and are open to manipulation especially in situations of insecurity. Each of these population groups has multiple identities that derive from the overlapping social worlds in which they live, and their human security priorities might not be different. Gender, age, ethnicity feeds into how people perceive, manipulate and mitigate their human insecurities. Freedom from fear of attacks on bodily integrity and personal safety is core to all persons which they seek from whichever institutions even if it has negative implications on freedom from want and indignity. The interactions between identities, exclusion and violence are increasingly being explored by scholars (Sen, 2015) where the identities held by some population groups aggravate their exposure to violence which ultimately leads to their exclusion like liberty to have a voice and participate in public discussion.

Institutions adopt identities in counting, targeting, costing or delivering interventions, that is protection or empowerment. The human security of those uprooted from their homes is the primary focus of military and humanitarian actors. Military interventions are often meant to protect a group of people and not necessarily those most in need of physical protection. The military institutions, in practice, decide who qualifies to be offered protection based on their criteria, unlike humanitarian institutions which are, in principle, expected to be directed at those most in need. Physical safety is a central concern for all persons even among those who find themselves beyond the reach of state security institutions (Luckham, 2015) which they seek by negotiating their identities.

Costs that come with being under different military institutions could also be mediated by identities as certain population groups might have their freedoms further restricted. For example, SGBV perpetrated by armed actors is possibly more common in security zones than in official camps like the PoC Sites where these acts occur more among IDPs. With common occurrences of attacks and counterattacks between state military and rebel groups, this also hinders their freedoms as civilians become targets of crime, extortion and abuse simply because they are of the same tribes as the fighters and are believed to be their relatives. Other practices of aid manipulation like blocking of aid to opposition areas and blatant diversion of aid from civilians to soldiers also rob them of the freedom needed to meet their needs and maintain dignity. Conversely, those under SPLA may enjoy better human security as aid is manipulated to address their needs.

Since the count, cost, and target approach is the basis of humanitarian interventions involving headcount and needs assessment, population groups with their various multiple identities including combatants strategically position themselves to benefit. Human security of different population groups is dependent on the humanitarian institution, access, type, mode of delivery, and adequacy of the services provided. In planning and implementation, humanitarian institutions might choose to exclude certain population groups, geographical locations, or design interventions in a way that unintentionally discriminate against certain segments of the population. UN humanitarian agencies like IOM, UNICEF and FAO are likely to focus more on populations in official displaced persons camp. NGOs both international and local intervene in both unofficial and official camps while faith-based NGOs among host populations. These institutions have varying conditions attached to benefit from services. For example, some may require that beneficiaries majority of whom are women are physically present at aid distribution points sometimes several kilometres from their homes and restricted to getting aid which they can carry during their long trek back home exposing them to combatants.[160] Of all the population groups, the women and youth are likely to be responsible for collecting aid supplies while the elderly and disabled because of constraints could be sidelined.

The highly polarised security environments characteristic of complex emergencies makes it difficult for humanitarians to navigate the principles guiding interventions ultimately resulting in those most in need being left out. While people are aware of this and make an effort to navigate the situation amid multiple institutional presence, the human security of those with certain identities may lead to the insecurity of others. Efforts at guaranteeing the human security of able-bodied persons could worsen that of the physically disabled. The former, by positioning himself, might have greater chances of addressing his economic poverty which promotes his freedom to satisfy hunger, obtain remedies for treatable diseases, or be adequately sheltered but the freedom to do so by the latter is hindered. Freedom is a prerequisite for feeling secure, but either too much or too little of it will increase an individual's insecurity. (Faber and Dekker, 2014). Overall, in the event of a collapse of state apparatus, a situation of lack of control, abuse of power and lawlessness prevails. When certain individuals operate freely as is seen among IDPs in the PoC Sites with the absence of formally codified justice system, they constitute a source of threat to the freedoms of others and impedes humanitarian interventions from having the desired impact. Military institutions also deliberately either prevent delivery of sustainable and adequate services or destroy and seize humanitarian infrastructure and assets.

Humanitarian institutions have as much responsibility to protect victims of natural disasters as much as those facing conflicts (Hilhorst *et al.*, 2014). In some cases, due to multiple interlocking human insecurities arising from armed conflict, displacement, hunger, drought and flooding, institutions face significant dilemma picking among what challenges to address. This has implications for whose security

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[160] See Sullivan (2019) for the complex strategies for aid manipulation in South Sudan often with state apparatus complicity including the SPLA and local government administrators.

is prioritised and those challenges resulting from conflicts irrespective of their consequences would typically receive the most attention at the expense of those caused by climatological phenomena. At the level of symptoms, their respective manifestations, to which institutions respond, might be blurred and the human security needs of these people might appear similar. People facing human insecurities occasioned by conflict have peculiar human security needs and demands a separate mode of delivery from those who have experienced natural disasters.[161] In South Sudan, limited funding and the complex bureaucracy surrounding interventions might make it difficult for humanitarian institutions to address both types of disasters simultaneously even if people suffer from insecurities arising from both causes and might be forced to provide aid like food distribution with resources originally meant for other purposes. Climatological disasters like flooding might not only prevent relief efforts but also destroy previously available infrastructures and assets rendering them unusable or inaccessible. The argument here is that victims of both disaster types have different identities which get even more complex if they experience both making it harder to ensure their human security. Even when food is available, for example, cooking might be difficult as it becomes an almost impossible task to find dry firewood which may not be the case in conflict-affected populations. Oftentimes, however, on the part of the people, the main strategy is migration which comes with increased responsibilities, roles and, sometimes, vulnerability.

6.5 Sustainable sanitation and human security

This section discusses the interface between sustainable sanitation and human security. Since human security emphasises the interconnectedness between threats, vulnerabilities and risks and responses to address them, it is required that WASH partner's responses are examined and the implications for human security. It also considers how human security conditions of population groups impact sustainable sanitation. Few studies have explored interconnections between sustainable development and human security and fewer if any has examined sustainable sanitation and human security.

6.5.1 Behaviour change

Sustainable sanitation originates from concerns about sustainability and adheres to its basic principles which are social, economic and environmental which feeds into human security. Human security on the other hand is fundamentally about removing the unfreedoms that hinder people from making their own life choices and acting in pursuit of those choices. Sanitation encompasses some of these principles and underlying pressures necessitating that humans reconsider their behaviours, possess the material resources to influence this change at a lower intensity of natural resource use (Vernon and Bongartz, 2016). Critical to sustainable sanitation is sustainability in terms of lifestyles, infrastructure, and human relationships needed to guarantee human security of different population groups across different settings. The goal of sustainable sanitation falls along with the objective of sustainability which is using

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[161] In South Sudan, classical humanitarianism seems to be favoured responding to natural disasters and a balance between it and resilience might be preferred for conflict.

the symbiotic nature of the human-nature relationship to achieve human wellbeing. According to Munasinghe (2019), elements of wellbeing derivable from pursuing sustainable development are security, basic materials for a good life, health and good social relations to promote freedom of action and choice.

Sustainable sanitation approaches by WASH partners in ensuring human security can be categorised into adaptation and mitigation strategies related to empowerment and protection building blocks for achieving the goal of human security. Mitigation is enshrined in the policies and activities of institutions as adaptation concerns the responsibilities and requirements of people and collectives. Alternatively, it can be said that adaptation addresses vulnerability while mitigation addresses risk. From findings, context frames the adaptation and mitigation approaches making empowerment and protection opportunities differ from place to place. However, there can be an unclear dichotomy between adaptation and mitigation just as some measures are not explicitly applied for adaptation or mitigation but have consequences for them.

A fundamental approach to sustainable sanitation is to influence individual behaviour. This is the aim of hygiene promotion which provides public education on why and how to dispose excreta to reduce pollution of the ecosystem. The basis for hygiene promotion is to promote health behaviour broadly described by Connner and Norman (2005) as any activity undertaken to prevent or detect diseases or to improve health and wellbeing. Social and behavioural sustainability, identified as a dimension of sustainable sanitation by Vernon and Bongartz (2016) refers to changes in social and behavioural norms and preferences for open defecation. It can be viewed as an adaptation measure that gives people access to information about excreta disposal practices that protects the environment, limits the incidence of diseases and available services thereby empowering them. Empowerment refers to the expansion of freedom of choice and action to shape one's life through control over resources and actions (World Bank, 2001). Access to information, an important element of empowerment, puts people in a better situation to manage their sanitation in a manner that promotes their education and physical health. It could also facilitate personal safety and secure access to resources. While all population groups can be said to have gained education through hygiene promotion, this cannot be said for health as the propensity to engage in health seeking behaviours is dependent on the conditions of other human security components like safety, livelihood and mental health.[162]

In support of hygiene promotion, WASH partners also distribute WASH NFIs. These are hygiene items given to the people to motivate their health seeking behaviours. Each of the items tends to have their unique uses which the people must not only understand but also identify. One of such items is soap meant to be used for handwashing after contact with excreta or before food preparation. Having a

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[162] Numerous researches have found that health seeking behaviours among people is mediated by education and socioeconomic status while a higher level of stress or fewer resources promotes health compromising behaviours.

handwashing facility near latrines with water, soap or ash, and evidence of regular use is a desired sustainable sanitation activity without which diseases might not be prevented (Vernon and Bongartz, 2016). Unclean water sources are characteristic of complex emergencies and using purification tablets at the point of use and other hygiene items particularly familiar to the people plays important role in reducing the risk of diseases (Bastable and Harvey, 2015) meaning greater opportunities for physical health. This, in turn, facilitates opportunities to pursue other wants since physical health has been identified as an important marker in facilitating freedoms. It is an adaptation measure to influence change in the practices of the people and empower them to be able to manage the menaces of inadequate excreta disposal themselves. Since latrines are unwanted, particularly in some rural communities, the people demanding for WASH NFIs is a demonstration of freedom as Sen (1999) argues that they must be allowed to decide freely what traditions they wish or not wish to follow. However, a culture of humanitarian provisioning could also affect people's economic behavior whereby the prospect of losing aid benefits can be a deterrent for economic activities thus impacting freedom from want.

6.5.2 Psychosocial support

Psychosocial support activities are now a vital part of humanitarian support. In complex emergencies, breakdown of the social fabric and widespread violence can easily aggravate these stressors, thus making undertaking psychosocial support necessary. The aim is to assist communities in drawing on and building resilience to cope with the stress associated with displacements. Studies have found that people undergo psychosocial stress undergoing routine sanitation practices. A study conducted by Sahoo *et al.* (2015) in urban slums and villages in India found that three types of stressors environmental, social and sexual are experienced specifically by women while undertaking sanitation activities. Hulland *et al.* (2015) linked inadequate access to water and sanitation to stress among women across different life stages. This research, while revealing similar findings goes further to include all population groups and the other contributory factors to mental wellbeing which relates to freedom from fear, want and indignity. Loss, separation, coping, social supports, and trauma are other psychosocial indicators aside stress with implications for human security. If health means a state of complete physical, mental, and social wellbeing and not merely the absence of disease or infirmity (Krug *et al.*, 2002), one can argue that each of the components of human security contributes to health underscoring its importance to freedom from the perspectives of functioning and capabilities. For a human to make choices consistent with his life goals, a positive state of being supported by the satisfaction of the necessities of life is required. While this support is available to IDPs in PoC Sites and some in rural host communities, they are not applied in urban areas. It is a mitigation strategy enshrined in humanitarian policy to protect the people whose needs they are addressing.

6.5.3 Environmental measures

The environment plays a major role in human welfare. Environmental factors, identified as geological, ecological, and climatological, are also considered by WASH partners in the pursuit of sustainable

sanitation. Geological considerations are applied alongside technical measures to manipulate challenges in the earth surface particularly regarding the pit of a latrine. A pit is key to sustainability as it is the substructure upon which the superstructure is built and for faecal sludge management (Myers, 2016). In areas with black cotton soil, the practice of fortifying pits with oil drums is to promote latrine use and prevent reversion to open defecation. It is probably the most important part of a sanitation technology as safe containment of faeces in the pit and no groundwater contamination are critical to maintaining the health benefits of toilets. Carefully constructed pits will also adduce fear of injury among users. To achieve human security, general pit care and maintenance is important like regular sludge removal and reducing odour. These approaches, however, are only implemented in rural areas. They are not implemented in urban communities probably because of funding and in PoC Sites where only temporary and semi-permanent materials are allowed. Safety fears can be improved through these measures and a greater sense of dignity in owners. It could also promote freedom from want for those who prioritise physical health.

Water is another geological resource vital to human security. Ensuring that water is suitable for human use and providing an adequate supply of water are major sustainable sanitation activity of WASH partners. Discussions about water used to revolve around drinking but with the Sustainable Development Goals, more attention is being paid to its importance for general human use including hygiene further highlighting its influence on health. Water is a prerequisite for many hygiene behaviours (Bartram and Baum, 2015) which can translate into improved physical health and life sustenance. Access to adequate water can reduce safety fear of contracting diseases or falling sick as well as enhance dignity as enough water access and use can translate into cleanliness. The sense of being clean promotes spirituality, pride and honour in an individual, elements that feed into dignity. Providing water close to people also reduces the physical and mental health risks associated with water carriage and having to walk a long distance to fetch water and the anxieties of abuse on the way particularly among females.

An ecological approach to sustainable sanitation concerns the environmental modification made to protect it from human impact. In sanitation, it refers more to considering the human population and their activities since sustainability is about how to simultaneously meet the needs of people and the environment by enhancing human wellbeing without undermining ecological integrity. The focus is to create more ecologically friendly and just human-environment relations by addressing embedded discrepancies in social interactions in their contexts. Ecological conditions including forest, human conditions and built environment are context-specific and shape human organisation and behaviour, and the human context, in turn, influences ecological response making WASH partners adapt measures to them. In the PoC Site 1, an ecological phenomenon applied in pursuing sustainable sanitation is demography. Meeting the varied needs of different population groups is important (Cavill *et al.*, 2016) and incorporated in latrine construction in the site as separate latrines are constructed for men, women and children.

Migration status is another ecological factor that featured in the environmental considerations of WASH partners since the spatial behaviour of people is not disconnected from their social positions thus making displaced persons of high interest. In rural areas, there is some evidence that displaced persons and host communities are prioritised demonstrating their realisation of underlying social dynamics and individual inequalities which Patkar (2016) argues is key to sustainable sanitation. Traditional ecological knowledge regarding sanitation alongside modern hygiene approaches is also encouraged. Since resilience is an objective behind interventions, that is ability of people and ecosystems together to adapt to changing risks and opportunities, maintaining these processes over a medium and long term enhances the quality of the environment by discouraging practices like open defecation and promote meeting human needs especially for vulnerable persons along social status and gender lines. They are adaptation measures with empowerment impacts which can guarantee human security in terms of health. Health contributes to human dignity, self-esteem and physical safety.

Climatological processes have recently grown to form a fundamental aspect of sustainable sanitation activity primarily because of environmental change. Sustainable sanitation aims to reduce the impact of climatic change or hazards and atmospheric conditions on human sanitation activities and environment particularly their contribution to increasingly adverse health consequences. Climatological factors and increased conflict have been identified as adding to the uncertainty and challenge of sustainability (Vernon and Bongartz, 2016). Natural disasters like floods and droughts are prominent in South Sudan which WASH partners struggle to mitigate and have been largely unsuccessful although efforts are made to attend to those displaced due to them through the provision of WASH NFIs and hygiene promotion. More mitigation measures are implemented regarding weather conditions like improving latrine superstructure from plastic sheeting which gets heated during the day because of high temperature to iron sheets. This improvement is only noticeable in PoC Sites and interventions in other settings still involve the use of plastic sheeting for latrine superstructure. Mitigation efforts like this have protection impacts on people and promote health by encouraging latrine use. It also influences comfort, which is an aspect of dignity.

6.5.4   Hardware subsidy

Technical measures involve the introduction of material objects mainly sanitation facilities to fulfil the practical function of excreta management and ensure safety, comfort, health and privacy of intended users. Low coverage of sanitation facilities is identified as one of the most critical challenges the country is facing and a barrier to sustainability. Principle of sustainable technical sanitation intervention would be one of best fit and not best practice for the purpose of acceptability since conditions vary significantly from place to place depending on local physical conditions, human and institutional capacities, and socioeconomic circumstances (WWAP/UN-Water, 2019). Distribution of latrine materials, plastic slabs and construction of latrines are technical measures WASH partners have implemented. In some cases, they also provide technical training for masons who construct latrines and other easily accessible

technical options. Host communities in rural areas and the PoC Sites are where these measures are commonly applied and less in urban communities probably because of insufficient funding or land dynamics.

These efforts are made to mitigate the risks of inadequate sanitation and protect the people from human insecurities. Providing technical support to encourage progression up the sanitation ladder, particularly for the poorest and most vulnerable is key to sustainable sanitation (Coombes, 2016). Access to sanitation facilities closer to people's homes would ensure and maintain their safety, encourage use which can promote health and facilitate a sense of dignity. The slab is where people are most likely to encounter faeces, so it is more important than the depth of the pit in terms of hygiene and health benefits. Good technical support and follow-up monitoring which faith-based NGOs offer can improve the durability and sustainability of these facilities and enhance health benefits, reduce safety fears that could arise from going to the bush for open defecation. However, while being a recipient of hardware subsidy could enhance dignity, the conditionalities attached to being a beneficiary could negatively affect dignity especially among those who could not meet them. Demanding that household dig pits before receiving latrine materials in Lologo discriminates some population groups like the displaced, returnees or elderly. The displaced and returnee do not possess land on which to construct latrines and the elderly might have no social support in helping to dig one. This can create tensions between neighbours upsetting the already precarious community spirit.

6.5.5 Economic and dimensions

The economic dimension of sustainable sanitation refers to the generation and distribution of financial resources among WASH partners and the people for the production and consumption of sanitation goods and services or meeting human wants. Funds for sanitation interventions flow from donors to the WASH Cluster which distributes to NGOs and other UN humanitarian agencies. Which partner gets what funds to undertake which interventions play some role in the form of implementation and human security opportunities available to the people. WASH partners realise that certain groups like the vulnerable and women face multiple economic obstacles to livelihood improvement and thus introduce employment incentives as a means for people to satisfy their wants. It is a mitigation strategy to empower beneficiaries by enhancing their capability to make choices and transform them into desired actions and outcomes.

Undertaking welfare or income support programs like cash transfer are meant to promote people's freedom of choice in pursuit of human security. With these approaches, fear of wants not being met are reduced and a sense of dignity promoted among beneficiaries. Providing people with employment opportunities and cash transfer facilitate their chances of having their wants met which feed into their esteem, safety and ultimately freedom. Different population groups would have varying consumption habits based on the culture, life stage, and socioeconomic circumstances which would determine wants. Meeting wants aside availability is also influenced by markets which put a price on goods used to satisfy

wants. Since people are aware of what goods to consume to satisfy their needs, the choice demonstrated in choosing between alternative goods is freedom although without coercion, appropriate knowledge and information and resources required to make the purchase. When wants are met, it promotes dignity since the desire for the regard of others is a major explanation behind seeking employment opportunities and being a beneficiary might also produce the same effect. This suggests that interventions delivered in a humane manner that enable beneficiaries to meet subsistent needs might contribute to freedom from indignity. It is also possible that money generated from employment incentives or cash transfer is used to satisfy wants and fulfil needs people feel would best facilitate their freedom.

6.5.6 Community and stakeholder engagements

Community and stakeholder engagement are probably the most fundamental political measures implemented by WASH partners. This is because of its impact on the three other elements of empowerment aside access to information which are inclusion, accountability, and local organisational capacity (Narayan, 2002). Political concerns the relations, organisation and administration of official and unofficial institutions to influence or affect the conduct of a people or other institutions. At the official institutions level, government engagement and means of public investment is deemed crucial to sustainable sanitation (Vernon and Bongartz, 2016) but this is near inexistent in South Sudan. The WASH Cluster stepped in to perform this leading role to ensure coordination among partners including donors, NGOs, UN humanitarian agencies, other Clusters, and local government authorities where applicable. Considering the nature of complex emergencies, this coordination was necessary to facilitate good governance, human rights, gender equality, age, psychosocial and environmental aspects in program planning, minimise resources and avoid duplication. Saving lives and protection are some of the goals of sanitation interventions and having NNGOs who are closest to the people as a member of the Cluster help to achieve this. Promoting resilience by supporting at-risk communities to sustain their capacity to cope with significant threats is a major driving force behind interventions by faith-based NGOs. Achieving these three intervention goals will enhance the overall health of beneficiaries and facilitate their freedom.

Effective humanitarian response must address people's needs holistically, and sectors should coordinate and collaborate to do so. Personal heterogeneities regarding people's physical characteristics about disability, age, gender make their needs diverse (Sen, 1999). In complex emergencies, where people's insecurities originate from multiple interrelated shocks and stresses, integration with other Clusters and consideration of some development principles might be necessary. Mosel and Holloway (2019), in their study on dignity in displacement, finds that dignity is a major criterion by which people assess the effects of humanitarian interventions and varies from persons, times and contexts and attributed it both to what is provided and how it is provided. WASH Cluster coordination with Protection, Health, and S-NFI Clusters promote integrated holistic interventions that reduces both safety fears and fear of having needs unmet like dignity kits for girls and women. As has been earlier explained, needs and wants are

differentiated along with individual factors and some population groups might require specific protection and empowerment needs for the possible exercise of personal freedom. Moro (2019) maintains that respect was the most common expression of dignity among South Sudanese refugees in northern Uganda manifested mainly in discrimination and humiliation. Failure to pay attention to these dynamics risk some people's wants met at the expense of others thereby compromising equity, as unmet needs and discrimination attack the foundations of human dignity. Access to essential commodities promotes the dignity of recipients as in the case of dignity kits for women but the requirement that they are present at aid distribution centres in the presence of the public could impair dignity.

Community engagement occurs at two levels as the findings have revealed. Engaging with community leaders whether chiefs or elders is a vital political approach to sustainable sanitation. NGOs explained that this is important to gain community-level support for the intervention, to identify the most vulnerable groups and persons, and ensure an effective exit strategy for ownership. The quality of facilitation and engagement with local leadership are critical factors in how well communities are mobilised and incentivised to maintain behaviours (Thomas, 2016). Meaningful engagement with, and participation of, different groups of people in all stages of the process would align priorities and proposed interventions with beneficiary needs and identified strengths and opportunities as critical as protection and empowerment would be unachievable without this. Many people have peculiar needs for their access to sanitation to translate into freedoms which can vary within a household and community and change over the course of their lives (Patkar, 2016). Participation by the people, for whom the projects are organised, in decision making and the delivery of services would feed into their freedom from want as they might ultimately get their needs addressed and freedom from dignity as they get recognised as vital to the success of the intervention. Sometimes, the major beneficiaries are also often willing to supply labour, materials, and finance to establish the services. The need for the people affected to participate in deciding what they want and what they have reason to accept helps to bypass the opinions or decisions of guardians of tradition (Sen, 1999).

6.6   Sanitation and human security

This section discusses sanitation and human security. The theory and practice of human security is like that of human development and deep interconnections have been postulated regarding them. Several human development benefits have been attributed to sanitation but this study, seeing development as freedom, seeks to examine the causal interrelationships between both concepts.

6.6.1   Humans and fear

In the first section of this chapter, the cognition, perception and behaviour that makes up a human agent in sanitation are established. Cognition implies knowledge or experience feeds into remembering, planning, deciding, and rehearsing and plays a role in feelings of safety manifested in absence of fear. What people know or have experienced can affect their safety fears which further impacts their ability to satisfy wants and needs as they lack the economic means to do so and entrench indignity by fueling

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discrimination. Fear, classified by Tuan (1979) into alarm and anxiety, is also known to impose psychosocial deficits like anxiety which could hinder a person's functioning, a crucial input to freedom. An individual suffering from anxiety or depression would be less likely to participate in community activities, engage in health seeking behaviour, and pursue livelihoods. Such an individual cannot be protected where protection concerns physical safety and maintenance of dignity and empowerment is suspect. It also impacts functionings, which is people being or doing what they value and have reason to value (Alkire and Deneulin, 2009). Experiences of violence, death and abuse by women in Gumbo and Lologo prompted the practice of defecating in their homes to achieve safety just as those in PoC Site fear using latrines at night.

Perception is both the response of the senses to external stimuli and purposeful registration of certain phenomena while others recede in the shade or are blocked out. Four of the five senses, seeing, smelling, touching and hearing, are crucial to sanitation and the possible effect on freedom from fear. The purposeful registration of certain phenomena and blocking out others are human security or needs fulfilment directed and highly dependent on both the person's position in the social order and the cultural milieu he finds himself. Alarm is an aspect of fear and is triggered by an obtrusive event in the environment (Tuan, 1979). Depending on an individual's perception of himself and his environment, a sense of fear might arise which could not just aggravate unfreedoms but also influence sanitation practices. Of the four senses identified to be critical to sanitation, humans are more consciously dependent on sight to navigate their world than other senses. Fear affects freedom which can negatively impact people to be agents of their life, agency being a critical aspect of the capability approach (Alkire and Deneulin, 2009).

Those who are visually impaired under physically disabled group would perceive differently from those who are not with dissimilar effect on safety fears and thus other freedoms like indignity with regards to privacy for example. Others with mobility or other bodily impairments might find certain defecation practices like pit latrine use heighten their fear and contribute to indignity like inconvenience and discomfort. The human nose is a proficient organ in sanitation and impacts fear too when smelly latrines invokes fear of contracting diseases making people avoid use. Using latrines with foul smell could affect freedom from indignity as people might feel disgusted as a result.

Behaviour concerns the human embodiment of sanitation and bodily properties and activities play an integral role in human security and vice versa. Sanitation is incomplete without bodily movements and how they are undertaken by an agent impacts freedom. Likewise, achieving freedom has behavioural consequences. Practising open defecation in Gumbo and Lologo results in anxiety which Tuan (1979) described as a presentiment of danger when nothing in the immediate surroundings can be pinpointed as dangerous. Using communal trench latrines by the disabled and elderly in PoC Site 1 triggers some fear. The argument here is that sanitation behaviours effect on freedom from fear rests on functionings and capabilities. Functionings concern the states and activities constitutive of a person's being while

capabilities refer to those things feasible for a person to achieve. If functionings involve the state of a person's being, one can hypothesise that this practice affects their freedom from indignities like privacy, comfort, convenience and discrimination. These crop of functionings make up their capabilities (Alkire and Deneulin, 2009) and influences overall human security with a feedback effect on sanitation behaviours. The difference in latrine use, open defecation, cat method, flying toilet and latrine use is whether they are the choice of the individual in the expression of freedom to choose between alternative options. People will engage in behaviours if they expect the behaviour to attain goals or yield outcomes like eliminating fear, satisfy wants and maintain dignity and can be said to have freedom when they behave with purpose. The need to check anxiety could result in defecating in houses as common among women in Gumbo and Lologo.

6.6.2 Space and want

Space refers to the bounded physical material world within which the practice of defecation and excreta disposal occurs. This description is vital to sanitation for two main reasons. First, it recognises the communal boundedness that sanitation research has been known for regarding rural, urban and displaced persons camp settings, second, it identifies the human who inhabits them. Geographers are interested, among other things, in the spatial component of social life and materialist inequalities in the way space is occupied and used by members of different groups. Social relations of space are experienced differently and variously interpreted by those holding different positions within it. These phenomena and processes give a distinct character to these locations with a direct consequence on the differentiated want not only among the people living in it but also locations. The hypothetical argument here is that social structures in different locations and the position of individuals within them condition their want.

In Gumbo, Lologo and PoC Site 1, findings show different living conditions of various population groups and the social, economic, and political forces reinforcing their want. Different groups in various locations live differently and the wants needed to be satisfied depends on the group to which an individual belongs, who we are, and hope to be (Levine, 1995). An IDP in a displaced persons camp might have less wants than a fellow IDP living in a rural or urban host community. While the wants of some population groups like the disabled in Gumbo border on the satisfaction of subsistence basic human needs like food, others like the youths in Lologo prioritise livelihood. Those in PoC Site 1 did not identify food as part of their wants but included that package of services that promotes health. When these wants are satisfied, it can be assumed that they positively impact dignity that is greater regard in the eyes of others and in our own which feeds into individual functionings. One can say that the more wants are satisfied, the greater the opportunity of choosing between available alternative options of living which freedom connotes. All these, however, thrive in an atmosphere of safety where there is no fear that our wants or dignity would be attacked.

A central focus of this section is the causal links between basic needs sectors and effects on freedoms. In other words, accessing the effects of sanitation on satisfying wants needed to fulfil needs. Streeten *et al.* (1981) argue that although relations between them are complex and tenuous, paying attention is crucial for improving access to basic needs and to limit counterproductive impacts on their respective objectives. Basic needs sectors are concerned with removing human deprivations, a key focus of human security. According to WWAP/UN-Water (2019), people with less access to water and sanitation are more prone to also having other basic needs unmet, a situation that exacerbates their economic condition and deprivation of human development, prolonging the cycle of poverty. Starting with water, sanitation can facilitate its satisfaction where it is a want. Water is known to be important to human life not only for hygiene but also for drinking, cooking and other domestic needs. Access to water, aside satisfying a want, can also promote dignity and safety that is a material want to fulfil nonmaterial needs. This conclusion is drawn considering the important role of water in both sanitation and human security as explained particularly by respondents from Gumbo and Lologo. On the contrary, water deprivation at communal, household and individual levels also affect sanitation. Evidence shows that people are likely to prefer open defecation where there is water scarcity as it can be undertaken with little to no water and preserve it for more important use like cooking. Regular cleaning of latrines in PoC Site 1 is important to continuous use by IDPs.

While sanitation might not have a direct effect on food security, it could influence nutrition. A basic needs approach to development attempts to provide opportunities for the full physical, mental, and social development of the human personality and access to not just food but good nutrition is essential to survival. Scholars have established a link between open defecation and malnutrition and undernutrition (Chase and Ngure, 2016). Common among both children and adults, faecally transmitted diseases affect the intestines in ways that make it difficult for the body to absorb nutrients. Although this study did not find evidence of direct effect of sanitation on food or nutrition, it discovered, on the contrary, that lack of food affect sanitation as reducing food intake to avoid having to defecate at night is practised. Food, in this case, cannot be regarded as a want since the choice behind this approach is to avoid exposure to violence and not because of unavailability of food. In South Sudan, eating good food could influence open defecation which may, in turn, promote dignity as the size and quantity of the faeces signify wellbeing. It is an important contribution to meeting basic needs (Streeten *et al.*, 1981) as it, for example, enhances education and reduces fear of preventable mortality.

The satisfaction of wants without any external support aside humanitarian aid would likely be impossible without a livelihood, at least for some segment of the population. Some people like the sick, disabled, or aged might be incapable of earning but those who want livelihood that is means of securing the necessities of life. Having a livelihood can facilitate people's access to income and wealth dependent on their capabilities, assets, and activities engaged in (DFID, 1999). Sanitation has been recorded in the literature to affect livelihood predominantly among sanitation workers including masons who construct

toilets and others who empty pits (Patkar, 2016). Sanitation, as defined by this study, does not seem to have a direct effect on livelihood from the findings.

People want the income or money that livelihood brings because they help to fulfil needs which in turn provide esteem, autonomy, and security (Levine, 1995) necessary for freedom. Income or money can be used to acquire other wants like food, water, education, and shelter which results in dignity by gaining a bearing associated with status and the recognition of others. Access to sanitation, however, should not limit a person's capacity to acquire other basic goods and services like food, health and education (WWAP/UN-Water, 2019). Safety increases with income as we have the chance to meet more needs like longevity and physical wellbeing, both vital to functionings and capabilities. Autonomy signifies freedom for people to choose and decide what they want and how to go about acquiring the things that will satisfy those wants. Deprivation of individual capabilities has close links with the lowness or lack of income (Sen, 1999), which findings show affects sanitation that is lack of income which livelihood affords can affect people's sanitation. Although Whittington *et al.* (2009) maintain that people could still choose not to invest in sanitation even if they have income, this depends on their group and individual wants which basic economics prove dictates economic behaviour.

Education is another human security want and need. Recently, much research regarding sanitation and education concerns how sanitation provision in schools encourage attendance particularly among adolescent girls (Hanchett, 2016). Few have considered that informal education is also as important. Sanitation can impact learning and the acquisition of knowledge or skills regarding satisfaction of other wants like water and fulfilling needs like health. Its main contribution to freedom lies in fostering the processes that influence people's actions and decisions and opportunities they can take despite their personal and social circumstances, that is a principal determinant of individual initiative. Human insecurity, including the absence of required learning and training, could hinder the functionings and capabilities to meet needs crucial to unlocking people overall freedoms. Conversely, sanitation practices in a location were also directly attributed to educational levels if education means learning or appropriate knowledge and information needed to improve capabilities be it formal or informal. According to Sen (1999), greater freedom improves agency which is someone who acts and brings about change, and whose achievements can be judged in terms of his own objectives.

Land is another want common among respondents across the study locations. In Gumbo and Lologo, IDPs and returnees who constitute the larger portion of the inhabitants in both communities complained about inadequate access to shelter which they attributed to the conflict and land. Those in PoC Site 1 also expressed their dissatisfaction with the shelter arrangements in the site. Links have been established between infrastructure and service provision and legality of land occupation (UN-HABITAT, 2006). People can be dissatisfied with their sanitation practices like engaging in open defecation and cat method making them want land for latrine construction to meet their needs. These needs can include dignity which facilitates convenience, comfort, and privacy for example and reduction of fear.

Conversely, land ownership alongside the satisfaction of other wants could affect sanitation practices. Land is a major factor in sanitation as it is on it toilets are constructed and open defecation occurs. Similarly, it is of equal importance to shelter which is another need which removal of land deprivation can fulfil. However, findings did not reveal causal relations between sanitation and shelter although there could be correlational linkages between them, for example when there is access to land, people might prioritise the latter over the former.

Many respondents identify health as probably the most important aspect of human security and the first which sanitation would affect. Taking the definition of Krug *et al.* (2002) which describes health as a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity. One definition of wellbeing that is important to this discussion is that of Sen (1993) which refers to it as a person's ability to do valuable acts or reach valuable states of being. Going by these definitions evidence has shown that sanitation affects health. Different sanitation practices affect various dimensions of health to varying degrees and in a complex manner. Although most respondents ascribed health only to physical health and absence of disease, the effect of sanitation is beyond this. The argument that sanitation affects physical health is well established in the literature and this study supports that conclusion. Searching for a place to defecate can affect mental wellbeing by aggravating emotions like worry or distress. Inability to access places to defecate at desired times can also impact mental wellbeing and trigger anxiety.

Social wellbeing gets affected by sanitation with the practice of sharing latrines with neighbours common in Gumbo as it gives people a sense of inclusion influencing positive psychosocial emotions. Satisfying the totality of these health components enriches capabilities with positive consequential effects on freedom from fear and indignity. Conversely, health can also affect sanitation as physical wellbeing is needed to be able to walk to the toilet or squat for open defecation or cat method as infrastructures are significant components of how people experience spaces. The psychological state of mind is important to functionings and can influence sanitation as manifested in misuse or abuse of latrines in PoC Site 1. Psychosocial factors from social wellbeing like happiness and purpose in life which satisfaction of wants provide impacts sanitation by making people more conscious of the effects of their defecation and excreta disposal practices and avoid health compromising behaviours. Whereas the opposite would hold if these factors are absent and an example can be cited from Lologo where low social cohesion and social support promotes limited sharing of latrines and prevalence of open defecation which in turn affects physical health.

6.6.3 Toilets and dignity

Toilets have been described in this study as technological artefacts developed by people to be used to meet their specific ends. Regarding toilets, its use according to sanitation engineers can meet human needs and desires for safety, comfort, privacy, and health (Harvey *et al.*, 2002) all of which are contributory elements to dignity. The three factors that determine the design of a technological artefact

like toilets are crucial to assess its effects on dignity; the purpose, structure and use plan and they are intertwined such that one influences the other (Vermaas *et al.*, 2011). Introduced to the physical world to solve practical problems, toilets just like any other technological artefact are not disconnected from the social roles and institutional responsibilities required for its operation. This takes us to the bioethical question regarding the goodness or otherwise of toilets in maintaining human dignity. Kass (2002) provides a meaning of human dignity which recognises both the sanctity of personhood and its embodiment which forms the core of our being as creatures of need by combating those things that corrupt the body including its ultimate mortal fate. Such an interpretation requires understanding the human, in its bodily, social, cultural, political and spiritual dimensions. From the foregoing and the recently popularised catchphrase of 'sanitation is dignity', one can assume that toilets affect our dignity, either in defence of our freedom or a threat to our prosperity.

The central argument of sanitation scholars and practitioners is that among various sanitation practices, only toilets provide dignity (Winkler, 2012), but findings have proved this assertion to be false. Human security engineering is a system of technologies for designing and managing a society that frees people from the threats of poor sanitation and unhealthy circumstances in daily life, as well as from threats from major disasters and widespread environmental destruction, and enables the comfortable pursuit of life with dignity (Matsuoka, 2014). Skinner (1971) concludes that technology is morally neutral and can have both good and bad impact depending on human action. Besides this human factor, it explains that technology, by design, can also be at fault as there are possible unintended and undesired consequences arising from its proper use. This reflects the argument of Mesthene (1970) that technological artefacts induce a social change in two ways, by creating new opportunities and by generating new problems for individuals and societies. Alternatively, technological artefacts like toilets can bring previously unattainable needs within the realm of choice and make some freedoms easier to achieve by easing the cost associated with realising them. People are likely to be receptive to toilet use only when it is perceived to be in their interest and serves their purposes. At this juncture, technological artefacts should be seen as physical objects requiring a set of skills, dispositions, mannerisms and bodily movements for its operation to achieve its function.

This takes us to the point of asking the prime question, which groups in the community have their interest served and benefit from toilets, that is which population groups access it and have their human dignity maintained. Pit latrines in Gumbo and Lologo affect the safety of some people who use them, but this is always not the case. When the latrine is unclean or emits a foul smell, intending users might attribute this to exposure to diseases and regard it as unsafe. Communal trench latrines in the PoC Site 1 are considered safe by all population groups except the disabled and elderly. This is because the structure and use plan of these latrines are inappropriate for them. What this means for the disabled and elderly groups is that they lack the skills and dispositions to use the latrines in a way that ensures their safety. The importance of safety from using toilets is the rationale behind having separate latrines for

children and adults and men and women. It demonstrates that latrines by design can affect people's safety and the human factor can have a similar effect. The design of the latrine also determines whether it affects the safety of users like the availability of lighting at night. There are factors external to the latrine which can mediate the effect on safety and has been discussed in a previous section.

Comfort is one of the dignity related effects of toilets. It refers to physical ease and absence of constraint. One of the ways toilets should be assessed based on acceptance is comfort considerations (Oosterveer and Spaargaren, 2010). Where latrines are sited is a major contributor to comfort. In Gumbo and Lologo, some people, particularly IDPs and returnees, do not have household latrines making them walk several metres to share with neighbours. Having to use a neighbour's latrine at night can also be uncomfortable. Like the safety element of dignity, the design of a latrine can determine its ease of use for different population groups. A latrine not designed for use by only able-bodied persons will be uncomfortable to use by those who are disabled. Ease of use is also determined by the availability of necessary items which could affect comfort. Contributing to but different from comfort is convenience which means suitable to a person's needs, involving little effort, as well as ease of access and use of latrines. Communal trench latrine blocks in the PoC Site 1 are situated few metres from most shelters and are convenient in terms of access to most IDPs. Accessibility is defined as facilities that are close to home that can be easily reached and used when needed (WHO/UNICEF, 2015). It is well represented in sanitation outcomes, with access being inferred directly from the sanitation facility type and whether it is shared. Convenience is closely related to acceptability/equity, another desired sanitation outcome where equity is defined as the progressive reduction and elimination of inequalities between sub-groups making acceptability capture intrahousehold inequalities in terms of the specific needs of various people within households.

Privacy is a person's condition of inaccessibility to the senses of others. It provides a bridge between personal space territory and how persons or groups regulates interaction with others in terms of their openness or closedness. Seen as one of the most fundamental human value which, despite being easily identified, has avoided a universal definition like its parent concept, dignity. The intrinsic need for privacy grounded in individual freedom is both physiological and psychological as it follows a desire for a life of dignity. Sanitation related privacy notions are privacy of our personal space, of our bodies and possession like a sanitation facility. Cultural practices along with personal space and territory operate as a behavioural mechanism to facilitate privacy regulation. Aside these, they may help to uphold social and moral values like the creation of separate gendered spaces and religious and cultural practices associated with defecation. It is manifested in PoC Site 1 where sanitation facilities are constructed separately for men and women rather than shared. One can also assume it is a factor in the likelihood of women to practice flying toilets or use a neighbour's latrine compared with men. This is because, in most cultures, women often need greater privacy, particularly regarding their bodies in sanitation than men.

Technology and privacy have a close relationship as the former is designed, among other things, to enable the comfortable privacy of our bodies. From the standpoint of sanitation literature, privacy is guaranteed only by the use of sanitation technology like latrines. One can perceive from this argument that it ignores a key characteristic of values which despite being universally recognised bear different norms attached to them and evidence reveals that it can be attained even through open defecation or doing it in the house. Sanitation facilities do not always provide privacy particularly when the superstructure is not well constructed and lacks safety. In the PoC site 1, concerns of IDPs particularly women include the old corrugated iron serving as the superstructure with no locks compromising their privacy and ultimately safety. Some are also rusty creating conditions where users can be peeped at and men's practice of using female latrines. These situations remarkably compromise girls and women's privacy. None of the latrines in Gumbo and Lologo are with doors lockable from the inside. Possession of latrines has the value of guaranteeing the owners' privacy. Residents of Lologo often lock their latrines to prevent intrusion others as a way of ensuring they maximise their health benefits and their privacy which contributes to their human security.

An argument in favour of toilets is that they can enhance the ability to easily undertake physiological necessities like defecation and promote health. Health in the previous section was discussed being a want which when satisfied can help achieve freedom but here it is about dignity. The two main ways a toilet irrespective of type can affect health are human use and design related to operation and maintenance. Latrines must be maintained, and this includes regular cleaning and odour reduction. There is the opinion among sanitation researchers and practitioners that the most vital contributor to health in a pit latrine is the slab which is the flooring situated above the pit as this area is most likely to be fouled. As the findings have shown, slabs in latrines are of different types making some easier to clean than others. Although flexibility is the foremost advantage of pit latrines, much of the flooring of those observed are not concrete, plastic nor wooden which are believed to be easier to clean and facilitate health benefits. In Gumbo and Lologo, only two of the latrine slabs are concrete and one plastic contrary to the case of PoC Site 1 being a displaced persons site where those in adult and children latrines are plastic and wooden respectively. Unclean slabs are a cause of concern to the disabled group in PoC Site 1 whereby they sometimes to have to crawl into dirty latrines exposing them to health problems like skin diseases, sense organ diseases, chronic back and neck pain as well as depressive and anxiety disorders. The squat hole cover is meant to cover the hole when not in use to minimise flies and odour, but if left unused or kept unclean can cause faecal-hand contamination resulting in diseases.

6.7   Conclusion to the discussion of sanitation and human security in South Sudan

The goal of this chapter was to discuss the findings on sanitation and human security in South Sudan as presented and analysed in the previous chapter with reference to previous research. This was executed by dividing the chapter into six sections and structuring them using concepts in the sanitation security model. Undertaking multilevel empirical discussion of the causal chains between sanitation and human

security was the priority of this chapter and this has been attempted. It can be concluded that, by discussing the wider meanings of the findings, efforts have been made to achieve the research aim, address the research question, evaluate the hypothesis and examine the research problem. The components of my conceptual model indicate that there are complex multi-causal and multi-level interactions between sanitation and human security. An assessment of the implications of this study for research, policy, and practice within the discipline of Development Studies will be the focus of the next chapter.

Chapter Seven

Conclusion to sanitation and human security in South Sudan

7.0   Introduction to the conclusion to sanitation and human security in South Sudan

The goal of this chapter is to provide a conclusion to sanitation and human security in South Sudan. This study aimed to examine and explore the pathways through which sanitation affects human security in South Sudan drawing accounts from people in rural, urban and displaced persons camps. As a policy research, this concluding chapter will on the one hand, focus on explicating the implications of the study findings for the development field's research, policy and practice and on the other hand target two of goal six of the sustainable development goals. Adopting such an approach to concluding this study is to help readers grasp the significance of the study by way of its contribution to research, to highlight areas for future research by acknowledging the study's limitations, and to build policy debates. The first section will discuss the implications of the findings to sanitation (sustainable sanitation) and human security (security) research, policy and practice with focus on the development field while the second section highlights target two of goal six of the sustainable development goals. Section three examines the implications for South Sudan, while section four reviews the objectives of the study and the extent to which they have been achieved. The last section concludes this study.

7.1   Implications of findings on the development field

This section will address the implications of the findings for the development discipline in research, policy and practice. Critics of development have discredited its relevance to injecting change in the lives of the people it is meant for. They argued that it has proved to be a failure in meeting its aim of ending extreme poverty and boosting shared prosperity for all, which was its main purpose, and that it is a western imposition of the standards which it believes are best for others. Although efforts have been and continue to be made in response to these criticisms, as exemplified by successive global development goals under the leadership of the United Nations in collaboration with governments, civil society organisations and academics, a specific answer cannot be given to the question of what concrete impact it has had on the lives of the people it was meant to benefit without reviewing and assessing the purpose of human development itself. This study, however, aimed to examine this question from the perspective of the role of basic needs and freedoms[163] in countering poverty which is the central part of any development exercise.

There is the need to reflect on the role research plays in generation of knowledge and the practitioner as both are intertwined in application of the knowledge produced considering the multidisciplinary[164]

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[163] Such a perspective is deemed important considering multitude poverty measurement methods and poor identification layers.

[164] Multidisciplinary refers to a research to an individual discipline which examine issues within the confines of other disciplines.

characteristic of the development discipline and practice. This multidisciplinary characteristic demands an interdisciplinary,[165] yet rigorous, approach to systematic research by adapting different disciplines' various claims to knowledge, methods and conclusions with the aim of establishing and understanding the 'big picture' for the benefit of discourse and empiricism while also challenging dominant approaches and perspectives. The acknowledgement of these nuances is what is today referred to as evidence-based research, policy and practice in determining what theory can be applied in an empirical context, universally, regionally or locally. This study has attempted to apply conventional research instruments in new fields of investigation with the use of oral life testimony for sanitation and human security although minimally applied. It has also combined disparate concepts in new ways to investigate a conventional issue which results in identification of new and emerging issues worthy of investigation and explanation. Principally, is the creation of new understandings of existing issues.

7.1.1 Sanitation in development research, policy and practice

This study offers suggestive evidence for a growing need of environmentally sustainable and cost-effective technical rather than technological solutions in sanitation. Sanitation research, policy and practice has always been service focused through the availability of facilities and encouraging their use making it the gold standard and demonising other methods. Development institutions and actors have lost sight of the fact that sanitary facilities, irrespective of their design, are not the same as and do not translate to hygienic facilities but depend on use. Sanitation academics and practitioners need to conduct more research on contexts where sanitation facility solutions are limited, impossible or unwanted and develop innovative technical solutions which people will be willing to use. In these conditions, environmentally sustainable excreta containment and disposal practices should be adopted without forcing facilities on people who do not want them, and which may compromise their wellbeing in the long term. It also appears to support the growing demand for a different approach to sanitation in complex emergencies and fragile countries.

Sanitation facilities just like any other technological artefact have design at their heart. Design here is the creative combination of concepts, techniques, materials and devices or equipment that go into the creation of a sanitation facility. Insufficient attention has been paid in sanitation research to the topic of the design of sanitation facilities and how each component could compromise the goals of safety, comfort, privacy or health according to sanitation engineers. This suggests that the decisions that go into the design of sanitation facilities should not be the exclusive preserve of engineers but that they should be taken in conjunction with social engineers, who have a significant role to play in planning and managing behaviours of society, while not leaving out input from the people that the facilities are meant for. With the long enduring division about sanitation facilities being improved and unimproved, assessing this in relation to other components of sanitation is critical as a water sewerage toilet can be

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[165] Interdisciplinary refers to research that attempts an integration of two or more disciplinary approaches from the beginning and throughout an entire research exercise.

as exposing to diseases as open defecation. The role of design in the classification of facilities as improved or unimproved should be considered alongside other components of sanitation and how it passes the technology purpose test in different contexts rather than blanket division. Although attention continues to be paid to sanitation technologies, a possible area for further research and greater focus in policy and practice is the role of design in access to adequate and equitable sanitation.

Also, the attention of sanitation research, policy and practice technologies aside, has focused on changing behaviours in terms of getting people to only use facilities. This focus on behaviours over the decades can be argued to be the reason behind why so little has changed in the sector in the past four decades despite ambitious research, consistent policy change and significant funding. Ignoring the role of cognition and perception in sanitation behaviours and how they influence each other has hindered the viability of sanitation as a veritable contributor to eradication of global poverty. The findings reveal that sanitation behaviours people adopt cannot be disengaged from their cognition and perception, both of which are, to a great extent, mediated by their spatial surroundings as well as their own personal characteristics or identities. Without further research into these factors, it would be impossible for sanitation to significantly promote human development. Another avenue for future research, policy and practice is extending the definition and measurement of 'safely managed sanitation services' beyond facilities and excreta to include benefits accruable to the human agent.

This study has challenged the mainstream narrative that open defecation is not just a practice that is not dignifying and lacks privacy but is also, essentially, an effect of extreme poverty by showing that different factors go into sanitation practices and people attach various values to them. The field of psychology has a major role to play in this regard by teasing out the ways personal characteristics and societies shape mindsets and stereotypes. Identifying psychological and social influences on behaviour and their application in practice, and vice versa, and constructing policies to fit with them requires more empirical research. It must also be clarified that regarding cognition and perception, change in sanitation behaviour will not be possible without a corresponding change in social institutions, both formal and informal, because socially determined prototypes, stereotypes, worldviews and causal narrative heavily impact them. Sanitation research, policy and practice should focus particularly on psychosocial antecedents and consequences in various settlement contexts.

On the face of it, it would suggest that space is identified as an important factor in sanitation research, policy and practice but this is not the case. The researcher is disappointed that space has not been clearly acknowledged as a crucial dimension of sanitation in research, policy and practice. Space as a component of sanitation is borrowed from the discipline of geography, the sub-discipline of environmental geography to be specific. The need to give increased attention to space as a component of sanitation cannot be overemphasised as it captures the complex role of context and governmentality in sanitation as well as the effects they have on sustainability. Describing connections between humans and nature is not enough, it must be carefully mapped to identify multiscale and multitemporal

intersecting interactions between them. In addition, it can offer fresh insights on understanding sanitation practices across population categories, how research can be used to inform policy including land governance and service delivery in general as well as what processes contribute to a sustainable transition. Also, the sub-discipline of Development Geography has more to offer as it concerns spatial aspects of development which sanitation can benefit from regarding the focus on narrowing inequities across scales, be they regional, national, or communal. It is relevant to investigate sanitation in different contexts through the lens of space and incorporate it into policy and practice.

Place, territory and time elements of space give greater insights into the links between the context in which human populations find themselves and how they undertake defecation and excreta management practices within it. For sustainable sanitation, they can influence decision-making regarding the precise mix of interventions, in specific circumstances, that is most effective and adaptable to individual and group requirements. Place will shed greater light on what constitutes a defecation or excreta disposal spot for different population categories, an aspect that has not received sufficient attention from scholars, policymakers and practitioners. Open defecation is used to signify the practice of defecating in public places but this must be assessed in greater depth if open defecation is to be eradicated as stipulated in the SDGs since locations that constitute open are legion and there are nuances underlying their use by different people.

Territory as a function of space can further illuminate the structural factors behind inadequate and inequitable sanitation among population categories in both development and humanitarian contexts. Although official and unofficial land administration has long been identified as a key factor in this regard in sanitation scholarship, enough attention has not been paid to it in policy and practice. Furthermore, it goes beyond land matters to include those established formal and informal power structures, property relations and inequalities that feed into people's agency. Beyond individual and state relations, notions of equity, adequacy, self-esteem, safety and privacy, for example, can also benefit from territory component of sanitation. This is because contestation occur within a space, individuals and collectives exercise territorial behavior and strategies, and territories are sometimes labelled along gender, ethnicity or income lines.

There can be no denying that time is a crucial part of the experiential and phenomenal reality. The role of time in sanitation practices is a blind spot in sanitation literature, policy and practice because individual or collective human activity occurs in a particular time context. Findings reveal that defecation behaviours occur at different places at different times influenced by contextual factors and time also imposes constraints on sanitation activities and access to certain places. Physiological defects can hinder a person from undertaking certain sanitation practices at some period in time just as physically disabled persons require the support of others to undertake sanitation. A lack of assets like latrines can encourage prioritisation of one type of sanitation approach over another. Also, contextual constraints can limit a person's access to locations at certain time periods to undertake a particular

sanitation practice. Time regarding activities has two dimensions of duration and succession, it can also illuminate the synchronisation of sanitation practices like defecation, excreta disposal and handwashing. These spatial elements are strongly linked to development issues like urban and regional planning, migration, wellbeing, division of labour, and productivity among others.

The excreta component of sanitation from the findings shows it is necessary that hygiene is assessed from the perspective of human agents that the service is meant for since conception of defecation, hygiene and pollution are culturally relative. This stance is borne out of the study seeing sanitation as a technological activity, that is a practical application of knowledge sometimes using technological artefacts in accomplishing the task of excreta disposal. Hygiene promotion requires not just assessing incidences of poor hygiene practices but also cultural conditions that shape the human mind and attitudes towards sanitation facilities and excreta. It also confirms the importance of institutions, both formal and informal, and political undercurrents when it comes to issues of excreta management in its entirety, from containment to disposal. Administrative capacity or weakness of the agencies, ministries and organisations involved in the delivery of sanitation services is as important as efficient bureaucratic procedures, qualified managerial staff, coordination among national units and between national and local units, and motivated civil servants all of which feed into responsiveness of services to local needs.

Sustainability broadly concerns meeting both basic human and ecosystem needs within and across generations but the diversity of sanitation discourse and its complexity demand standardisation of sustainable sanitation in research, policy and practice as none is currently available. Standardising the components of sustainable sanitation is required for purposes of measurability, specificity and attainability in ensuring that they are understandable and implementable considering that the question of what we are trying to sustain has not been sufficiently established, in the environmental, technical or behavioural aspects. This study has contributed to research and added to the sustainability debate with its classification of sustainable sanitation into sociocultural, environmental, technical, economic and political dimensions. However, it should be clarified that there are trade-offs among them which may be challenging to achieve in practice and research particularly, drawing from evidence, that sustainability is a political exercise.

Regarding policy, sustainable sanitation adaptation and mitigation measures from the proposed components need to be identified by policy makers and implementers to better manage their protection and empowerment expectations in safeguarding humans from sanitation related risks irrespective of the origin of threats. Also, the advocacy for neoliberal policies and practices in poverty eradication is evidenced in sanitation too, as represented by CLTS and sanitation marketing, but there needs to be a rethink about their application in conflict situations. More research is needed on the sanitation and human security trajectory and the corresponding policy and practice implications not only in complex emergencies but also in settled contexts.

7.1.2 Human security in development research, policy and practice

The home discipline of security has been the realist school of international relations which focuses on state related security concepts like national or military security, but development and Development Studies uses human security to draw importance to the human. However, this does not mean that the state centric security narrative is detached from that of human focused security as findings revealed because both, although often have different cherished values, are complexly interrelated and one can easily constitute a threat to the other. Also, they cannot be separated in research, policy and practice. Security and human security from evidence proves to be more in tune with the constructivist school which perceives each apart and together as resulting from the interactions of various actors, with different values and strategies shaping these relations. Unfortunately, the leading opinion is that those directly affected by insecurities are often incapable of adapting to their conditions and need external intervention or unaware of their sources.

Research on inter and intra state wars in the past decades have helped bring into the limelight and increase the narrative on links between security, humanitarianism, state building, peacebuilding and development, with the headline that citizens are always at the receiving end when these events occur as their safety, wants and dignity are put in question. The decision as to which of these human security pathways is tenable and applicable in a conflict situation is often the preserve of international actors and not national governments, using models borrowed from elsewhere and not rooted in local needs. The argument here is that human security enterprise in conflict affected countries in research, policy and practice cannot be negotiated and assessed without these frameworks because individuals and collectives do not make clear distinctions between the causes of their diverse locally experienced human insecurities most of which are products of global and national shocks and stresses. This study suggests that a possible area for future research is the complex interface between conflict and climate related human securities.

As this study has proven, each of the human security component adds ambiguity to how human security is provided and can serve as an enabler or constraint on not just its pursuit but also implementation. The researcher argues that obsession in research, policy and practice with a humanitarian and development nexus in conflict settings is ill-informed and presents only part of the picture. Central to these frameworks is security under the control of the state and non-state military actors both of whom, in an effort to assert their control over it, often turn to brutal means with implications for peacebuilding, humanitarian support and development.

Assumptions in policy and practice also remain that actors in these areas do not constitute threats to their respective sectors. With the complexity of agencies and organisations involved in development and humanitarian efforts, each with its own interest, power or influence tussles between them, can strain prospects for individual and collective human security particularly as their lives are full of threats on multiple interconnected and mutually reinforcing fronts. When coordination, cooperation and

partnership is lacking among actors, human insecurities grow exponentially spilling into all aspects of the citizens' lives. Human security literature has not done enough in mapping the institutions responsible for ensuring human security and the immense problems of collective action when interests and organisational culture tug them in diverse directions.

Further concerns remain regarding these agencies and organisations pursuing responses that are people-centred, comprehensive, context-specific and prevention-oriented which would better strengthen the protection and empowerment of all peoples and their communities. Findings revealed that although the WASH Cluster responsible for undertaking sanitation humanitarian interventions incorporated some measures outside of the traditional responsibility of the Cluster by cooperating with other partners, this collaboration, however, is insufficient to address the people's human insecurities because the components are intertwined and people do not really separate their safety from wants and dignity. Humanitarian interventions on the whole despite claims of being people-centred are still not security sensitive considering the close interrelation and interaction between them and the same goes for the security sector where strategies are sometimes not directly related to the peace needs of the people. Comprehensiveness is largely lacking in the application of these human security frameworks. The focus of each sector and clusters within them on pursuing its goals not considering their externality effects on people's and communities' chances for human security is a cause for concern and should be better researched and reconsidered in policy and practice. Partnership and synergy among all sectors, clusters and levels is crucial to human security while also acknowledging the role of both top-down and bottom-up actors in its achievement. In policy and practice, human security frameworks should be reassessed in terms of context-specificity as human insecurity permutations are not the same in all settings countries, communities and individuals. In some cases, these human security frameworks are not prevention-oriented with regards to sustainability of their strategies and their contribution to peacebuilding. Greater attention to these principles in human security research, policy and practice would help address gaps in existing protection and empowerment strategies.

As a result of this argument, providing human security which conforms to these indicators could raise disputes among security actors from the perspectives of what threat(s) to prioritise, whose security is important, what means are best to tackle these threats and which agencies are to bear the duties and responsibilities. Competing claims to legitimacy among security and human security actors saddled with peacekeeping and humanitarian tasks cannot only derail adequate identification of threats relegating causes in favour of symptoms but also the quality of people's participation in expressing their entitlement to protection from threats they consider as important and empowerment in the face of existential threats. The question of whose security is to be addressed is also fundamental. Global and national factors are key drivers of inequalities at the community level and should be better assessed in research, policy and practice in gaining comprehensive knowledge about the deep and divergent human insecurities faced by different population groups under different circumstances in a manner that does

not sacrifice the needs of certain groups at the expense of others. Opinions about the means to tackle threats are diverse often from the perspective of a multitude of actors, who influence by design or intent human security. While on the surface there seems to be little problem regarding which organisations should address which threats, close examination of evidence shows that often the most qualified lacks the capabilities to effectively deliver human security.

The overarching means to providing and sustaining human security in theory, policy and practice is classified into peacebuilding, humanitarian and development. But in complex emergencies, peacebuilding and humanitarian efforts are favoured which essentially counts on international actors to effect change through adaptation and mitigation measures in bringing about protection and empowerment which are the building blocks of human security. Lack of clearly stipulated measures under these two mechanisms or their haphazard implementation without serious reflection on how they interconnect and where bottlenecks and tradeoffs lie and where they might go wrong. Oftentimes, when these measures are being designed and implemented, sight is often missed of the fact that the people which they are meant to benefit possess agency which they draw upon to respond to, cope with and challenge the conditions which make them vulnerable, even if sometimes they are wholly ineffective.

Division of humanitarian and development interventions into sectoral silos without adequate integration and externalities assessment of both positive and negative human security components must be revisited in policymaking and practice. Additional constraints remain regarding the institutional and budgetary separation of peacekeeping, humanitarian and development assistance, which an eye to human security can help to transcend since it is sustainability and prevention focused. While UN systems claim to have made some progress integrating humanitarian and development initiatives, the same cannot be said about peacebuilding where national governments can frustrate such efforts and more needs to be done in research and practice as they still pose a hinderance to the human security of their people.

One criticism of the Sustainable Development Goals is that it ignores security, but the identification and suggestion of human security by the United Nations General Assembly resolution 66/290 on 10 September 2012 as an integrated approach for their realisation by governments is fundamental, particularly to the question of whose duty it is to provide human security. Since the overall aim of the SDGs is poverty alleviation, greater challenges in policy and practice remain regarding national ownership since governments retain primary responsibility   for ensuring the human securities of their citizens. What is expected of the international community is to complement the efforts and provide support when requested from the government in respecting the sovereignty and territorial integrity of states to strengthen their capacity to respond to current and emerging threats. However, policy and practice require an operational review of the role of security as controlled both by the state and military actors operating beyond the state margin in humanitarian, peacebuilding and development efforts. This point requires intense examination because it has significant implications for sustainability, national

ownership of human security frameworks and accountability to the people and communities whose lives they are meant to stabilise.

Several reports by UN agencies, non-governmental organisations, regional organisations and South Sudan has repeatedly maintained the importance of interrelations between these four human security frameworks but it has faced challenges in implementation. The South Sudan Human Development Report 2015 devoted its fifth chapter to the complex interlinkages between peacebuilding, security, humanitarian support and development calling for humanitarian, security and development partners to analyse jointly how their assistance can reinforce and synergise with each other to balance immediate life-saving interventions with those aiming to address people's long-term needs. It went further to explain how plans stipulated in signed peace agreements by warring parties contain political, economic, social and humanitarian steps and institutional benchmarks the extent to which its implementation or otherwise serve as a bridge to a durable or collapsed peace. Refugees International, in a report in 2018, further demonstrates how peace agreements heavily supported by the international community through diplomacy and peacekeeping influence security, humanitarian efforts and indeed the people's perception of their human security. More analysis is, however, required in research policy and practice regarding how each of the frameworks impedes the others, as well as its own, goals and need for prioritisation and adaptation in different contexts.

7.2 Implications for target two goal six of the sustainable development goals

Development scholars and practitioners have argued that sanitation along with water and hygiene will promote the achievement of other goals as the SDGs are embedded in eradicating global poverty. Sanitation discourse has gained increased attention in the development community since the Milleniumm Development Goals were introduced in 2000, this was the first time that it had been highlighted as a worthy standalone development enterprise after decades of being integrated with water. Much of these discourses is focused on the local level and less on the governance aspect from the global to the local and its effects on the human security of the people at the grassroots. This does not mean that national and local level power imbalances is less of a factor, but that wrapping a human security approach around sanitation cannot only highlight the 'glocal' interplay but also expose policy and practice insights and improve our analytical capabilities. Both can also help to generate and capture understanding of the intersections between sustainability and equity.

The concern of sanitation research, policy and practice on the inequity and inadequate access to facilities is enduring and continues into the Sustainable Development Goals. Target two of goal six of the SDGs aims to 'achieve access to adequate and equitable access to sanitation and hygiene for all' but achieving this is dependent on numerous factors. Before proceeding, it is important that the meaning of the words adequate and equitable are made explicitly clear. Adequate means for something to be satisfactory and acceptable in quality and quantity while equitable means something to be done in a manner that attends to needs based on abilities and preferences. The latest policy documents known to the researcher that

seek to highlight the importance of these to meeting this target are those published by the World Bank in 2017 and 2018 and UN-Water in 2018 and 2019. These documents echoed some of the study findings including principles of human security in terms of service providers ensuring equity and links between sanitation and meeting other needs like health and nutrition. UN-Water policy report of 2018 stressed that SDG 6 is essential for progress on all other goals and vice versa and advanced an integrational approach whereby synergies and risks between goals are maximised and risks are reduced. That of 2019 paid greater attention to people in vulnerable situations and called for rights-based approach to achieving goal 6.

These documents ascribe adequate sanitation to one where human waste is properly removed, treated, and disposed of in all neighbourhoods using improved sanitation facilities, but more research is needed regarding practically implementing this in complex emergencies, particularly the behavioural and structural underpinnings. Also, adequate and equitable hygiene, including the processes to achieving them and challenges, are insufficiently discussed and this, in the opinion of the researcher, is essential as it underlies sanitation practices in every context, although it mentions handwashing facilities with water and soap or detergent as the gold standard. Furthermore, with the age long interest on inequity in sanitation, little or no research has been conducted on inequitable sanitation conditions facing different population categories in different settlement types and what counts as adequate across contexts. Other questions remain as to who decides what is adequate and equitable for sanitation and hygiene which from research, policy and practice is largely decided by development actors with little or no engagement between them and those who are expected to benefit from the service. The links between sanitation and security remain underexplored, greater understanding of relations between sustainable sanitation and human security is insufficient including potential trade-offs among adaptation and mitigation measures and potentials for protection and empowerment, and more knowledge on security and sustainable sanitation for better informed policy and decision making is needed.

A sanitation system according to environmentalists must protect the environment in terms of preventing pollution, return nutrients to the soil and conserve water resources. Ending open defecation as mentioned in target two goal six of the SDGs may not be achieved without holistic consideration of broad social practices in fulfilment of the adequate, equitable and hygiene aspects. The researcher believes this objective of sanitation and hygiene is the most politicised and least understood; a result of decades of false narrative around disposing of faeces in places aside from a dedicated sanitation facility. This provides a basis for a critique of orthodox understanding and approach to sanitation including those offered by UN agencies and non-governmental organisations. It is acknowledged from the study that in areas where sanitation facilities are inapplicable or unavailable WASH partners encourage the cat method which, with close assessment, has human security implications. It has fewer polluting tendencies than facilities like groundwater, returns nutrients to the soil, is less likely to contaminate

nearby open water sources by rain runoff and promote a clean, flies and smell free environment, critical factors which evidence has shown are important to facility use.

In defecation fields away from communities, defecating on the surface of the earth has the least negative environmental and health impact particularly in tropical countries of the world like South Sudan with temperatures ranging between 35 and 45 degrees Celsius as they decompose quicker killing diseases causing microorganisms contrary to facilities which could retain them. Certain narratives around benefits of facilities are subjective with cultural connotations to them part of which is privacy and convenience. In rural South Sudan, most people are still not wearing many clothes making privacy in terms of bodily integrity unimportant and latrines near abodes are ritually polluted. Economic activities are closely tied to sanitation practices and may be a reason for people prioritising open defecation, an example of which is South Sudan where major livelihoods are farming, pastoralism and fishing. These are livelihoods deeply ingrained in the people's culture as influenced by their environment making open defecation a necessity. To others including women and girls, open defecation period is tied to socialisation creating an opportunity to catch up with friends and neighbours.

The researcher's take on the target to end open defecation is that WASH partners should focus on environmental hygiene education targeting social norms rather than insisting on facilities use, although they could be beneficial to vulnerable groups and for use at certain times of the day. This is against the principles of policies like CLTS which aims to see communities end open defecation by constructing and always using them, but the researcher believes changing mindsets is more sustainable than enforced practices which might not necessarily yield expected benefits. That these facilities worked in the past does not mean they would be appropriate in the future as sanitation elements are rapidly changing demanding transformative technologies that can deliver more than the elementary benefits they are known for, including energy generation through biogas and other byproducts like fertiliser. Since ending open defecation would involve aiming to shape individual choices, WASH partners should encourage public scrutiny of their policies and interventions as they themselves are not immune to cognitive biases.

Paying special attention to the needs of women and girls and those in vulnerable situations is the last stream of the target. The significance of paying attention to the needs of women and girls concerns not only their physiological characteristics but also the social responsibilities and identities attached to their gender. Other people in vulnerable situations can be classified into those disadvantaged in terms of income, disability, age, migratory status, and people directly exposed to conflict, violence and abuse. Research has produced sufficient evidence that females have different sanitation needs to males and the same has been evidenced for vulnerable groups and the general population. Efforts are being made in policy to take them into consideration, especially those relating to the displaced persons context, but it is still not yet a widespread practice. Across most geographical settings, women and girls are more likely to be disadvantaged and bear the greater burden than males when sanitation facilities are either

available or unavailable. When sanitation facilities are available, they are most likely to be inadequate to meet their sanitation needs and in provision are inequitable compared to other groups making them sometimes resort to defecating in the open. The poor, disabled, and elderly groups are less likely, compared to women and girls, to have access to adequate sanitation and because of their vulnerable status, are least likely to be considered in sanitation programmes and interventions and could engage more in open defecation than others.

Sanitation research is not lacking with regards to the conditions of vulnerable groups although there are still significant knowledge gaps in complex emergencies or conflict settings, which this study has attempted to fill. Policies are also available, particularly in a displaced persons context, as to what measures to apply in addressing their inadequacy and inequity. The challenge is illuminating how 'glocal' governance and institutional arrangements promote or hinder the achievement of adequate and equitable sanitation for vulnerable groups. Another salient research, policy and practice gap is illuminating interrelations between WASH NFIs and human security. For the purpose of throwing fresh insights on policy and practice and encouraging research in this regard, this study, taking a departure from previous understanding, has introduced space as a component of sanitation. This component of sanitation highlights interconnection between environment, place, identity, land governance, globalisation processes, sustainability, social justice and human security. For example, human security and globalisation debate focuses on how development policy and practice impact on opportunities for people to meet their basic needs at the local level and how local level decisions and events can have global development policy consequences. Findings from the PoC Site study setting as a point of reference gives evidence on how this occurs practically.

7.3   Implications for South Sudan

Implications of the findings for South Sudan will be examined in relation to the South Sudan Development Plan 2011-2013, the South Sudan Vision 2040 and the 2030 Agenda for Sustainable Development. The findings have shown that sanitation and human security in South Sudan are the product of multiple complex dynamic causes with impacts on freedom and equality, two key recurrent themes in the country's development agenda. Taking a broader view, two factors remain which are climate change and conflict. According to the Climate Change Vulnerability Index 2017, South Sudan is ranked among the world's five most vulnerable countries and it is already experiencing extreme climate change. Recent reports point to the fact that the country is experiencing increasing drought and flood sometimes experienced in the same season. Also, with the ongoing conflict, access to and productive use of natural resources has worsened having socioeconomic impacts. The implications of the findings on the basis of sanitation and human security and different policy frameworks will be assessed from education, security, land, livelihood and water viewpoints. If strong national commitment can be built around these with appropriate international support, the country's chances of eliminating the worst forms of within a generation is not unrealistic.

Education, from the evidence, can accelerate South Sudan's sanitation and human security goals. Literacy, school attendance and indigenous knowledge are key education elements that can influence the causal relations between both concepts. Literacy in this sense refers to the ability to understand and apply information about any matter of human interest and is a key form of investing in people's capabilities. It is, however, of no value without what it can be used to achieve. This takes us to the crucial role of cognition in learning and how deprivations of different types hinder it, like hunger or physical health. For South Sudanese who want to acquire a formal education, particularly the females and without excluding other social groups, provision of adequate and equitable facilities in schools with corresponding access to menstrual hygiene kits may not only improve education indicators but also human security. As the country is essentially rural with strong cultural values, promotion of local indigenous knowledge about environmental sustainability, although with climate change sensitivity, is vital to both sanitation and human security. Education is sought and needed by all, is required for economic development, and contributes in the long run to promoting and developing a strong civil society. A combined attention to these would put the country on track to achieving goals 3, 4, 5, and 10.

Security is a major dilemma for South Sudan on her road to better sanitation, human security and poverty eradication more generally. Although the cost of ensuring national security has swallowed the largest percentage of expenditure since independence, security policy must be reviewed to link human security, especially community security. Recalibrating security architecture and overall governance structure to connect human security will naturally see a decline in military expenditure and rise in social development expenditure. It is expected too, that there would be an active effort in considering the role of security in the application of the sanitation related policies and programmes and potentials for peacebuilding. Provision of security will play a role in unlocking all South Sudanese' essential freedoms which are required for a better quality of life. The practical argument from all these is that people's assets are likely to be lost and their capabilities stifled. Putting security at the centre of the sanitation and human security governance framework would improve understanding of vulnerability in the context of South Sudan by identifying key vulnerable groups and typology, including their characteristics, poverty status, living conditions, the main risks they face and coping mechanisms. It is central to the realisation of most of the SDGs.

Land is the next factor considered indispensable to sanitation and human security in South Sudan and it is possibly one of the most important. Among South Sudanese, in defining categories of wealth, it would be among the first three mentioned. In urban, rural and displaced persons camps, land is an invaluable asset to people irrespective of social group. The influx of refugees, returnees and internally displaced persons since 2005 has complicated land access and use including sanitation. Lack of access to land and coherent land tenure regulations, particularly in relation to tension between national land policies and customary laws, is a limitation to poverty eradication. A reformed land policy which is

sensitive to human security elements is crucial not only for improving sanitation but also addressing social cleavages that entrench inequities robbing women and other vulnerable groups of opportunities to broaden their human capabilities. Land regulations that exclude and exploit them should be identified and removed so they can claim social and economic benefits and foster cohesion among local people. Goal six, ten and eleven of the SDGs are central to land and are critical to the country's prospects for a peaceful and prosperous future.

Productive livelihood is important to sanitation and human security and the country's realisation of goal 1 of the SGDs. Economic empowerment is critical for poor people's wellbeing, freedom from hunger, adequate income, and security of material assets are jointly central issues in poor people's lives. Evidence has proved that interventions without corresponding focus on livelihoods do not address people's human security concerns in the short, middle and long term. Cultural norms, socioeconomic contexts, gender relations and myriad other factors influence the process and outcome of any interventions. Engaging in and maintaining a productive livelihood demands a country's economy to encourage entrepreneurship, job creation, competition, and security of property or benefit rights which are currently inexistent in South Sudan. In relation to sanitation, the WASH Strategic Framework goal to broaden sewerage networks across the country is misinformed and unrealistic and should be ditched in favour of more locally appropriate technological solutions. This would serve as economic opportunities for aspiring masons in designing toilets after having accessed vocational education and credit. Human excreta are also a resource which can be tapped into for subsistence agriculture and energy especially cooking fuel although cultural barriers might prevent implementation among certain ethnicities possibly contributing to achieving goal seven of the SDGs.

Water is essential to all lives in South Sudan. The country is located at the heart of the Nile Basin which occupies almost 98 per cent of its land base but still suffers water scarcity. Being a key environmental resource, water scarcity can negatively impact both sanitation and human security and presents a formidable challenge to poverty eradication. With an increasing climate related risk, the population's vulnerability to certain climate-related health issues, including increases in illness and outbreaks of pests and disease is significant. Another circumstance of a similar nature is the need for water for hygiene, the lack of which may aggravate water-borne illnesses like cholera and diarrhoea, touching on both sanitation and human security. Although the WASH Sector Strategic Framework 2011 acknowledged the impact climate change has on WASH, the discussion was restricted to water and left out sanitation. Inequities in water access must be addressed, including the vulnerable groups, in a manner sensitive to human security principles and incorporated into water related policy frameworks. The practice of prioritising drinking water by the government should also be put to an end ensuring access to adequate water for all human needs.

7.4   Reflections on the research process and set objectives

Reflecting on the entire research process, a few limitations can be identified. Since faeces the other component of excreta is known to contain viruses accounting for the significant global disease burden, found offensive by humans, and valuations attached to it by them in terms of practice, it is beyond the scope of this study to include urine, the second component. Excreta management chain beyond disposal level, from evidence, is still limited in South Sudan and is not focused on. It is not the purpose of this study to generalise sanitation and human security across displaced persons camps in the country which are of different administrative forms but rather to examine the PoC Site model which is unique to the country. The nature of this study's data does not determine whether direct causality exists between sanitation and human security, but further research using quantitative methods could give evidence for that. The intersections between sanitation, security, sustainable sanitation and human security are complex and analysis and discussion has been primarily concerned with addressing the research question.

The introductory chapter presented the broad goal of introducing sanitation and human security in South Sudan by providing preliminary background information to place the study in context and clarifying its focus. It discussed the motivation for the study and located it within broader development research, policy and practice. The choice of research setting was also justified and specified overall aim and individual objectives after having stated the research question and problem. One additional remark made in the first chapter was informing the reader about subsequent chapters and what they were about.

Chapter two aimed to develop a conceptual model for the study. To achieve this, it started by reviewing and interrogating key literature on sanitation and its importance in human development, as well as sanitation in developing countries and in sub-Saharan Africa respectively. It also reviewed theoretical arguments on human security in developing countries, identified current arguments as regards how they relate to other concepts, and its current status in sub-Saharan Africa. Simultaneously, the section revealed what has been learnt from the arguments and positioned them in relation to new knowledge and insight this research will produce. Finally, it presented a conceptual which identified key variables of the research, their components, and the relationships between them. It can be concluded from this chapter that there were links between the two subject matters - sanitation and human security – which may be multilevel, multifaceted and complex. Also, it was assumed that testing of the conceptual framework was possible and set the stage to describing South Sudan, the third keyword in the research title.

The goal of chapter three was to provide a background to the study country, South Sudan, in relation to sanitation and human security. In the opening section of this chapter, the geography of South Sudan was described followed by the description of the peoples of the country. It then went on in section two to give a history of the country's national sanitation administration. The third section evaluated the state

of human security and sanitation in the country. In sum, as was revealed in this chapter, South Sudan was an important case study for this research in terms of aim, propositions and theoretical context.

In chapter four, the aim was to provide a research design and methodology for sanitation and human security. It started by examining research in Development Studies contained in the first section. The research methodology was provided in section two while section three justified the research methodology appropriate to sanitation and human security. Section four described the researcher's entry into South Sudan. Describing the study locations was the focus of section five while section six discussed ethical considerations during the fieldwork and after. Application and performance of appropriate research methods was provided in section seven. As a policy-oriented research, choosing a case and assessing its terrain in terms of the multiple factors that define the problem which the study addressed was crucial. Undertaking policy research is complex and to better understand the interactions between contextual factors that define the problem, site visit was relevant.

Chapter five was intended to present and analyse findings on sanitation and human security in South Sudan. It started by explaining the analytical approaches the researcher adopted and provided the rationale behind them. Section two presented and analysed research findings across study locations and settings guided by the research question. This chapter fulfilled an objective of this study by mapping and gathering data from the selected research sites in South Sudan and analysing them for causal relations between sanitation and human security. Since analysis is about the significance of the findings in terms of the study argument, research design and methods, this chapter concluded that the matched research design and methodology as applied in the study site of South Sudan, among different research traditions, proved to be appropriate in addressing the research problem.

The goal of chapter six was to discuss the meaning of the findings on sanitation and human security in South Sudan as presented and analysed in the previous chapter. This was executed by dividing the chapter into sections and structuring them using themes from the conceptual framework in the following order: sanitation and security; sanitation and sustainable sanitation; security and sustainable sanitation, security and human security; sustainable sanitation and human security; and sanitation and human security. It can be concluded from this chapter that, by discussing the wider meanings of the findings, efforts have been made to achieve the research aim, address the research question, evaluate the hypothesis and examine the research problem.

7.5 Conclusion to sanitation and human security in South Sudan

This study, guided by the research question of whether sanitation affects human security in South Sudan or not, aimed to investigate and examine this by mapping the pathways through which they occur or otherwise. After critical assessment of the research processes, it can, tentatively, be concluded that sanitation affects human security in South Sudan through the following pathways. First, sanitation possibly has an indirect influence on human security with security as an intermediary factor. Second,

that it appears to affect sustainable sanitation which then impacts human security. Third, there is a suggestion that it affects human security through security and sustainable sanitation in that temporal order. Fourth, the outcome of human security is probably produced by the sequence of sanitation, sustainable sanitation and security. Finally, there tends to be a reciprocal causal relationship between sanitation and human security.

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Appendices

This section provides key documents of the research process ranging from ethical approval to data collection instruments.

Appendix 1:   Ethical approval letter
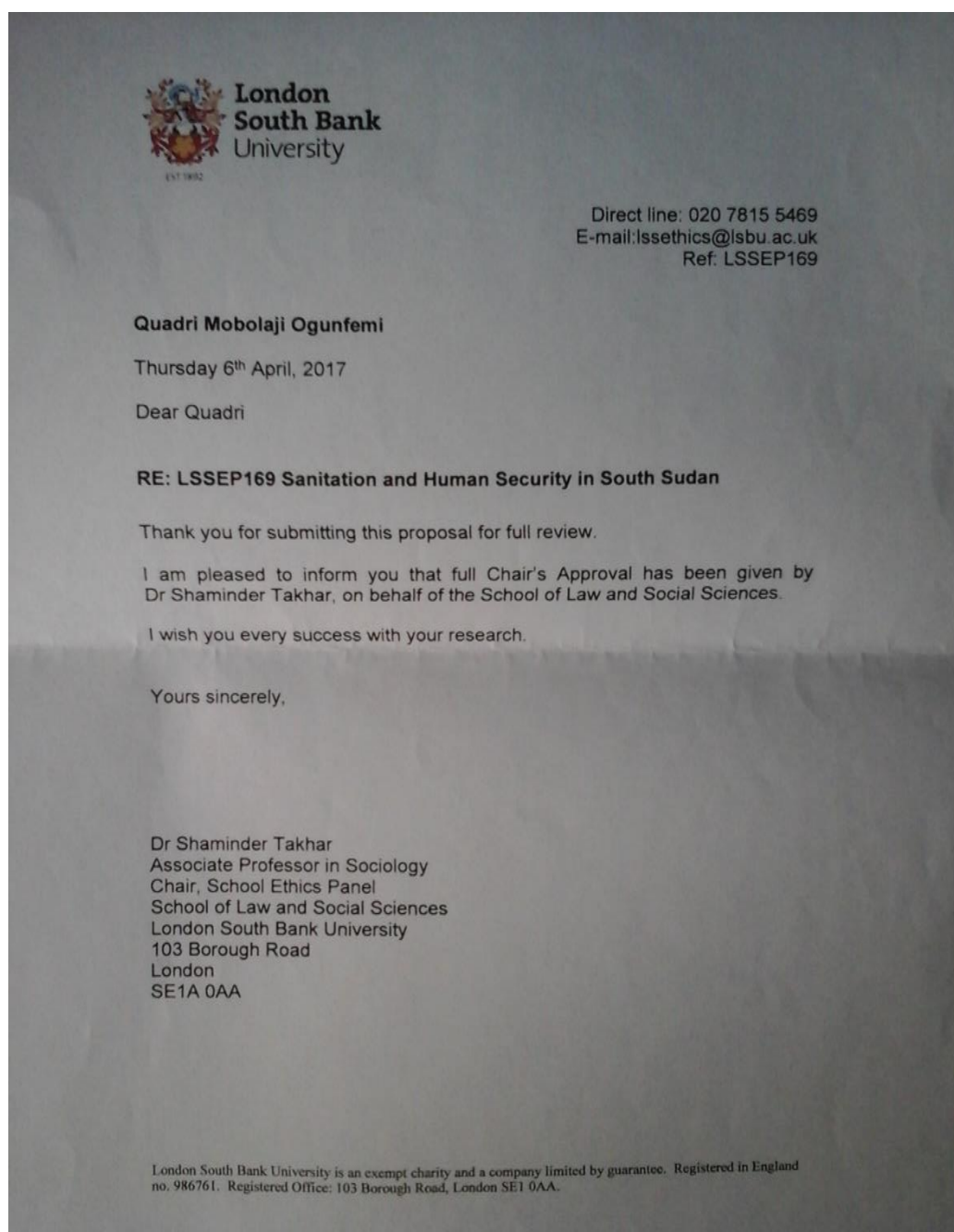
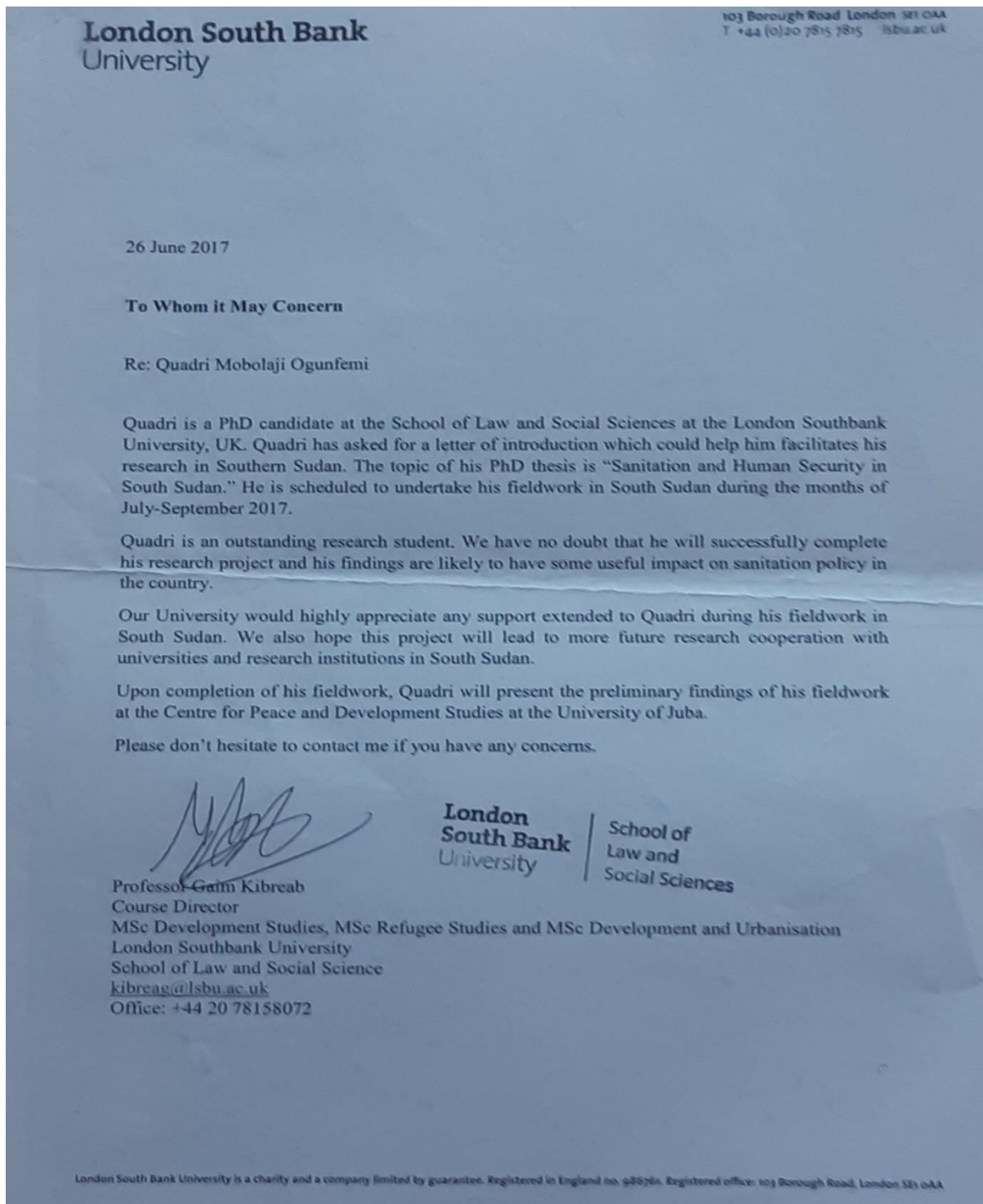Copy of the ethical review approval letter. This letter set the stage for preparation of fieldwork to South Sudan. It was presented alongside the letter received from the Centre for Peace and Development Studies for visa application.

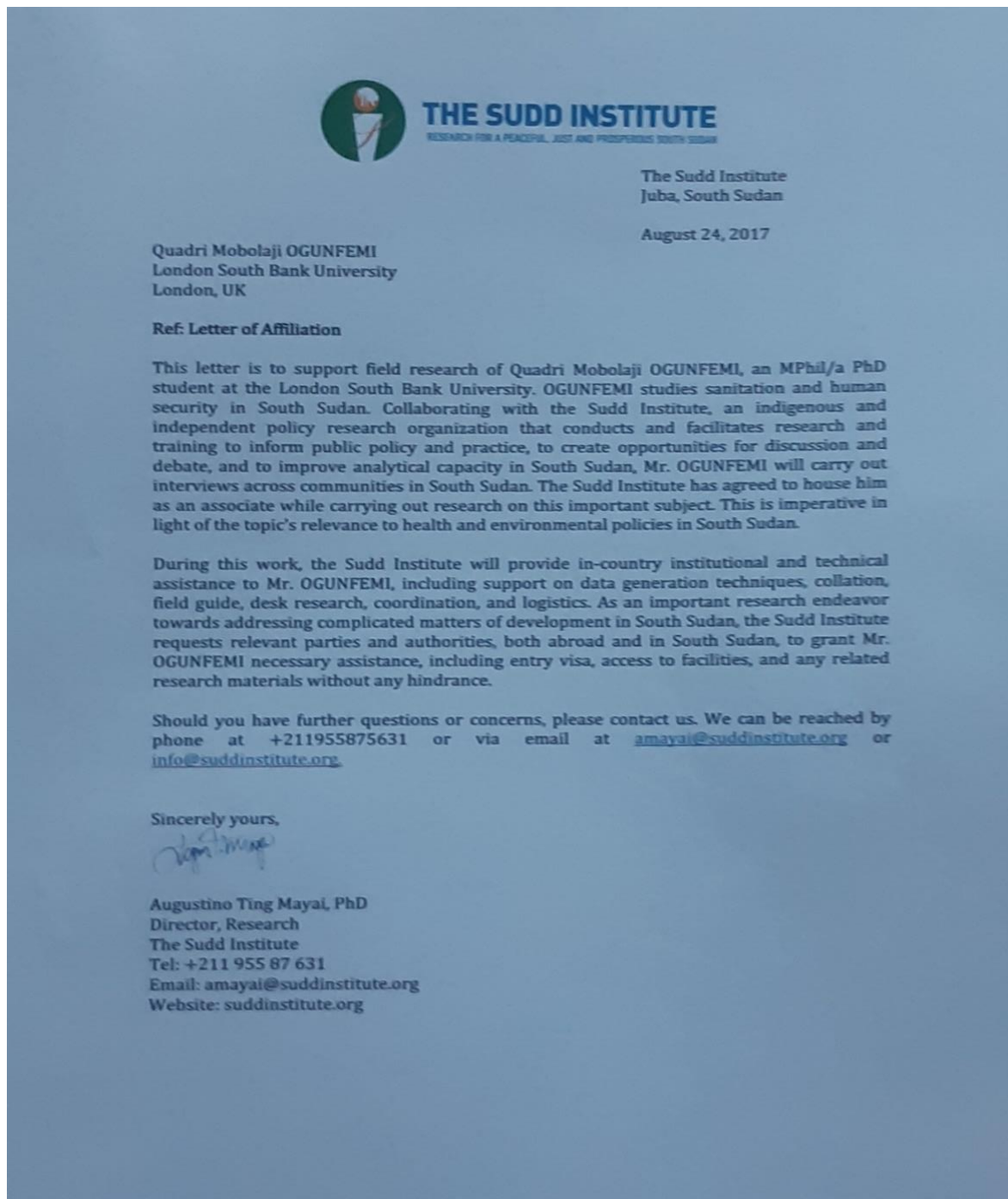**Appendix 2: CPDS invitation letter**
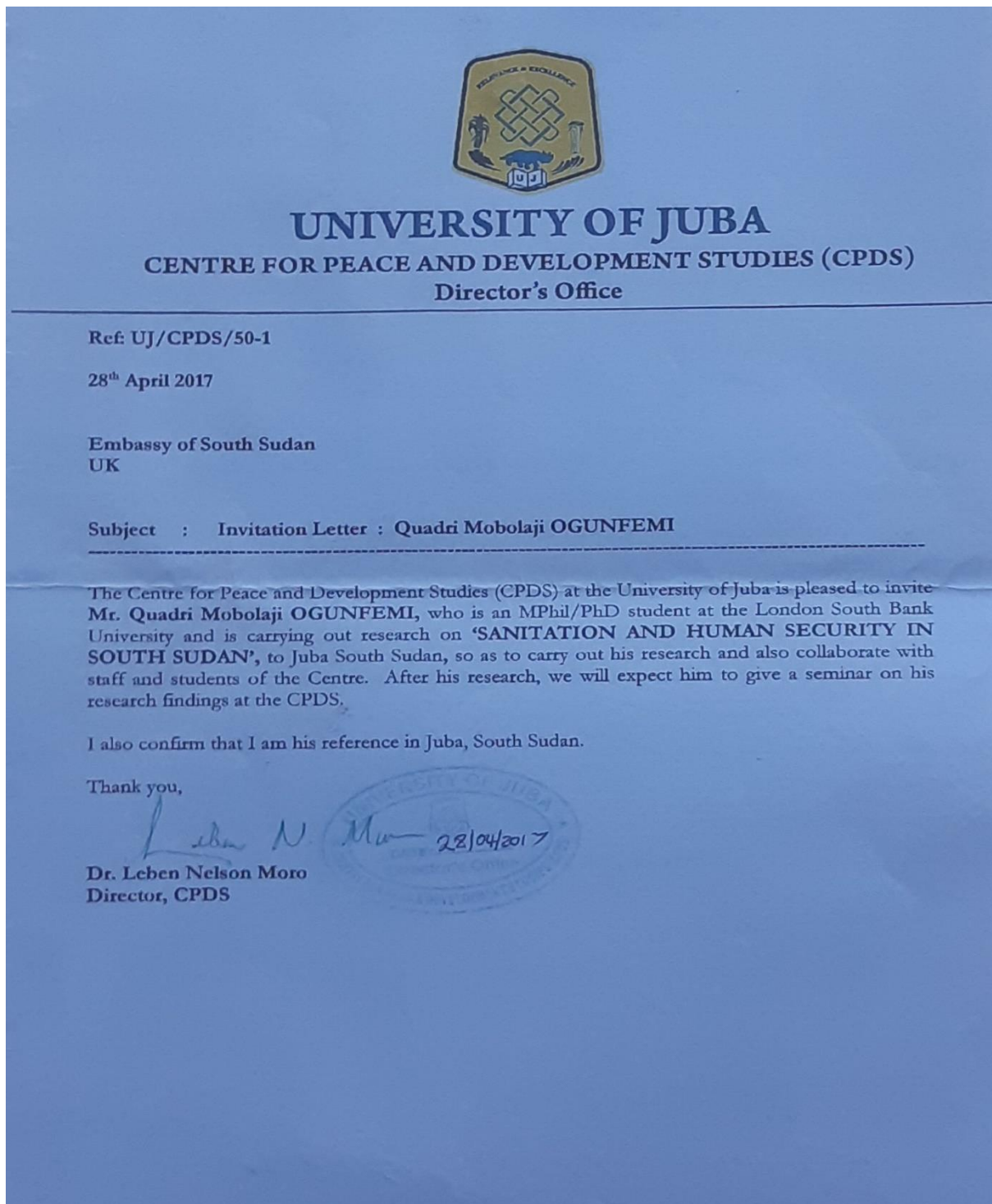
University of Juba's Centre for Peace and Development Studies invitation letter. This letter was required for visa application.

Appendix 3: LSBU introduction letter

Letter of introduction written and signed by the Director of Studies, Prof. Gaim Kibreab. The letter was requested after visa to South Sudan was acquired and all preparations for departure completed.

Appendix 4: Sudd Institute support letter

THE SUDD INSTITUTE
RESEARCH FOR A PEACEFUL, JUST AND PROSPEROUS SOUTH SUDAN

The Sudd Institute
Juba, South Sudan

August 24, 2017

Quadri Mobolaji OGUNFEMI
London South Bank University
London, UK

Ref: Letter of Affiliation

This letter is to support field research of Quadri Mobolaji OGUNFEMI, an MPhil/a PhD student at the London South Bank University. OGUNFEMI studies sanitation and human security in South Sudan. Collaborating with the Sudd Institute, an indigenous and independent policy research organization that conducts and facilitates research and training to inform public policy and practice, to create opportunities for discussion and debate, and to improve analytical capacity in South Sudan, Mr. OGUNFEMI will carry out interviews across communities in South Sudan. The Sudd Institute has agreed to house him as an associate while carrying out research on this important subject. This is imperative in light of the topic's relevance to health and environmental policies in South Sudan.

During this work, the Sudd Institute will provide in-country institutional and technical assistance to Mr. OGUNFEMI, including support on data generation techniques, collation, field guide, desk research, coordination, and logistics. As an important research endeavor towards addressing complicated matters of development in South Sudan, the Sudd Institute requests relevant parties and authorities, both abroad and in South Sudan, to grant Mr. OGUNFEMI necessary assistance, including entry visa, access to facilities, and any related research materials without any hindrance.

Should you have further questions or concerns, please contact us. We can be reached by phone at +211955875631 or via email at amayai@suddinstitute.org or info@suddinstitute.org.

Sincerely yours,

Augustino Ting Mayai, PhD
Director, Research
The Sudd Institute
Tel: +211 955 87 631
Email: amayai@suddinstitute.org
Website: suddinstitute.org

Letter of support from the Sudd Institute. This letter was issued towards the researcher's completion of data collection. The reason behind this was because the Director of Research for the Institute Dr. Augustino Ting Mayai was away from the country for much of the data collection period.

Appendix 5: CPDS institutional research authorisation letter

This is the research authorisation letter received from the Centre for Peace and Development Studies after the researcher's arrival in Juba. It is different from the invitation letter which was only used for visa application.

Appendix 6: Participant information sheet

<center>SANITATION AND HUMAN SECURITY IN SOUTH SUDAN</center>

You are being invited to take part in a research study. Before you decide whether or not to take part, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully

Background: South Sudan is said to be the country with the poorest sanitation practices globally. Sustainable development goals launched in September 2015 listed sanitation among global development priorities of the next 15 years under goal number 6. Target 2 of goal 6 seeks 'by 2030, to achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations.' Stakeholders have identified the unique challenges in effectively pursued in fragile and post-conflict settings like South Sudan. Also, human security is mostly endangered in times of armed conflicts or wars where threats to people's safety is tied not only to violence but also from deplorable living conditions, a situation which is present in the country today.

Aim: The aim of the research is to critically examine the set of pathways in which sanitation in the country helps in reducing human insecurity on the ground both at the communal level and at the individual level by drawing accounts from people in towns, villages and a POC site.

This study is proposed to last for a maximum of 6 months.

The research design of this study involves collection of secondary data from institutions working on sanitation in the country, interviewing of government officials, WASH Cluster Coordinator and POC Site 1 WASH Manager, listening to oral life testimonies of community elders, direct observation of sanitation infrastructure and practices, and then focus group discussions with men, women, elderly, youth, displaced persons, and disabled living in towns, villages, and a POC site.

You are chosen to participate in this study because of your position as a government official/ WASH Cluster Coordinator/Camp Manger of POC Site 1/ with knowledge of sanitation in South Sudan or as an individual who performs the human function of defecation.

<center>1</center>

It is up to you to decide whether or not to take part in this study. If you decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to enrol on this study you are still free to withdraw at any time without giving a reason. This can be done by verbally expressing your decision to the researcher, the community leader, sending an email to ogunfemq@lsbu.ac.uk or contacting Centre for Peace and Development Studies, University of Juba.

The research methods this study will adopt are semi-structured interview, focus group discussions, direct observation and secondary documents. If you partake in this study, a time and location will be agreed upon when you shall be asked certain set of questions that broadly covers issues of sanitation and human security. This question and answer session is not expected to exceed a maximum of two hours of your time. Whenever you have decided to participate in the study, you can opt in by approaching the researcher, the community leader, sending an email to ogunfemq@lsbu.ac.uk or contacting Centre for Peace and Development Studies, University of Juba and make your decision known.

You should be aware that there may be risks in participating in this study. First, you must be willing to sacrifice some of your time for the research and some costs may also arise as a result of this. Second, some of the questions that will be asked may potentially arouse physical and/or psychological discomfort as the research involves the need to discuss some topics that are private, sensitive, and recollection of life events and experiences. Third, the focus group research technique is a group discussion where your confidentiality and anonymity may be at risk owing to the presence of other people. Fourth, there may be pressures from people for you to divulge the information shared with the researcher during data collection. Finally, for data collection not undertaken in English language, an interpreter will be present to interpret both questions and responses.

The researcher will provide reimbursements where appropriate to participants in compensation of their time and effort. Participants should expect to benefit from the research through education about the research topic including how their sanitation condition and practices impacts their human security. Through discussions, the participants would learn from each other and gain an understanding of other viewpoints that can enable all to come to a consensus on the best way forward to address their sanitation challenges. The opportunity to reflect and relate past experience to the researcher may improve the psychological balance of respondents. The research will result in participants developing a better understanding of

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the relationship between sanitation and human security. For sanitation stakeholders, the study will increase their understanding of the need for systematic and reliable sanitation policy and programming.

All the information collected about you and other participants will be kept strictly confidential (subject to legal limitations).

Data generated by the study must be retained in accordance with the University's Code of Practice. All data generated in the course of the research must be kept securely in paper or electronic form for a period of 10 years after the completion of a research project.

Your anonymity will be ensured by ensuring that the information you share is not traced back to you both in the process of storing the data and when the final report is produced. It is guaranteed that third parties will not have access to data including audio recordings, observational notes, signed consent forms and field note apart from those which will be transcribed by a translator. As a respondent to semi-structured interview and oral life testimony, you will be asked to clarify how you wish you to be anonymous in relation to your identity and information shared in the consent form. As focus group discussion participant, your name will not be collected but replaced with identification codes. Also, names of other people and places contained in the information you share will be changed or removed.

Be assured that your identity and any information you share in the process of data collection will neither deliberately nor accidentally be disclosed to a third party that might identify you, unless you specifically grant permission that they be disclosed. Data collected from research participants will be stored in password protected and encrypted computer files. After data collection, identifying information about other people and places will be edited out. In presentation of research findings, your identity will not be revealed unless otherwise requested and direct quotations will not be used. All research data will be kept secured at all times even long after the study has been completed.

At the end of this study, findings will be presented in my thesis for a doctoral degree. They will also be used to write academic papers and used in presentations at workshops, seminars and conferences.

This research is being conducted under my capacity as a student of London South Bank University's School of Law and Social Science.

This research has been approved by the University/Law and Social Science Research Ethics Committee of London South Bank University.

Should you require further information about the research, do not hesitate to contact me, Mobolaji Ogunfemi or my supervisor, Prof. Gaim Kibreab.

If you have any concerns about the way in which this study has been conducted, kindly contact the School Ethics Coordinator and University Ethics Panel on lss-ethics@lsbu.ac.uk and ethics@lsbu.ac.uk respectively.

Thank you for taking time to read this information sheet.

10/5/2017

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Appendix 7: Participant consent form

London South Bank University
EST 1892

Research Project Consent Form

Full title of Project: Sanitation and Human Security in South Sudan

Ethics approval registration Number: LSSEP169

Name: Quadri Mobolaji Ogunfemi

Researcher Position: PhD Student

Contact details of Researcher: ogunfemq@lsbu.ac.uk

Taking part (please tick the box that applies)	Yes	No
I confirm that I have read and understood the information sheet/project brief and/or the student has explained the above study. I have had the opportunity to ask questions.	☐	☐
I understand that my participation is voluntary and that I am free to withdraw at any time, without providing a reason.	☐	☐
I agree to take part in the above study.	☐	☐

Use of my information (please tick the box that applies)	Yes	No
I understand my personal details such as phone number and address will not be revealed to people outside the project.	☐	☐
I understand that my data/words may be quoted in publications, reports, posters, web pages, and other research outputs.	☐	☐
I would like my real name to be used in the above.	☐	☐
I agree for the data I provide to be stored (after it has been anonymised) in a specialist data centre and I understand it may be used for future research.	☐	☐
Note for Principal Investigator/Supervisory team: Include statements below if appropriate, or delete from the consent form:		
I agree to the interview/…. being audio recorded.	☐	☐
I agree to the interview/… being video recorded.	☐	☐
I agree to the use of anonymised quotes in publications.	☐	☐
I agree to assign the copyright I hold in any materials related to this project to **Quadri Mobolaji Ogunfemi**	☐	☐

_____
Name of Participant   _____   _____
            Date   Signature

_____
Quadri Mobolaji Ogunfemi   _____   _____
Name of Researcher   Date   Signature

Project contact details for further information:
Project Supervisor/ Head of Division name: Prof. Gaim Kibreab

Phone: +442078158072

Email address: kibreag@lsbu.ac.uk

The participant consent form was used by respondents of semi-structured interviews. It allowed them to determine how they wish the researcher to undertake the interview and issues handle issues around ethics.

Appendix 8: Semi-structured interview schedule

Name: Job title:

Location: Date:

Start: End:

1) What is the sanitation situation in South Sudan?

   a) Urban   b) Rural   c) PoC Site

2) What are the challenges facing sanitation in South Sudan?

   (Ask in relation to the probes in question 1)

3) Who are the stakeholders in sanitation in South Sudan?

   a) What are their roles?   b) Where do they work?   c) How do they work?

4) What sustainable sanitation measures are applied by stakeholders in sanitation intervention? (Ask in relation to stakeholders in question 3)

5) What are the relationships between sanitation and human security in South Sudan?

   (Ask in relation to probes in question 1)

Appendix 9: Focus group discussion guide

Population category   Community:

Number of participants: Date:

Translator: Start:

End:

1) What is sanitation?

   a) How do you practice it?   b) Who provides in the household?

   c) Why do you practice it the way you do?

2) Does sanitation and security affect each other?

   a) How?   b) How not?   c) Why?   d) Why not?

3) What is human security?

   a) What are the threats to your human security   b) How are they threats to your human security

        c) Why are they threats to your human security?

4) Does sustainable sanitation affect human security?

   a) How?   b) How not?   c) Why?   d) Why not?

5) Are sanitation and human security related?

   a) How?   b) How not?   c) Why?   d) Why not?

Appendix 10: Direct observation/Transect walk checklist

Community category: Location:

Date: Co-observer(s):

Number of community respondents: Translator:

Start: End:

1) What are the environmental situations (ecological, natural resources, land) in the community?

2) What types of latrines are available in the community? Who uses them?

3) Where are the open defection spots in the community? Who uses them?

4) What threats to sanitation are identified in the community?

5) What sustainable sanitation measures are observed or encountered in the community?

6) What human security risks are observed or encountered in the community?