



South Sudan Center for Strategic and Policy Studies



CONNECTIVITY AND CONFLICT IN SOUTH SUDAN

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ABOUT #DEFYHATENOW

#defyhatenow was initiated in early 2014 by Agency for open culture and critical transformation gGmbH (Berlin), and was supported all through from 2015 to 2018, by the German Federal Foreign Office via the ifa/zivik programme for civic conflict resolution; as a comprehensive programme “*Mobilising Civic Action Against Hate Speech and Directed Social Media Incitement to Violence in South Sudan*” with inclusion of neighbouring countries Kenya, Uganda and Sudan after 2016 incident. Together with social media literacy trainings; community level facilitation on hate speech and conflict mitigation activities, the project developed and produced a comprehensive Social Media Hate Speech Mitigation Field Guide’.

In 2019 a #defyhate now Community Based Organization was legally registered in South Sudan, while further crisis intervention initiatives have been introduced in Cameroon and Ethiopia. The #defyhatenow initiative works as platform for provision of community-based and data-driven solutions to the problem of hate speech, disinformation and misinformation. The scope of the study focuses on creating a framework for increasing trust between stakeholders through mobilizing civic action against all forms of hate speech and incitement to violence, including through disinformation created via the Covid-19 pandemic. #defyhatenow seeks to support the voices and actions of citizens working against online induced conflict within and outside the affected regions of Central Equatoria and Upper Nile by bringing youth, community leaders, grassroots organizations and civil society stakeholders into a peace-oriented media and information literacy framework. Bridging gaps of knowledge and awareness of social media mechanisms between those with access to technology and those without, #defyhatenow is a growing network of both online and offline peace builders.

ABOUT CSPS

South Sudan Center for Strategic and Policy Studies (CSPS) was established in July 2011 in Juba as a national think-tank in South Sudan. Since then CSPS has been aspiring to inform and shape the path of the country with regard to good governance based on human rights and democratic tradition, under the aegis of which the national resources are utilized sustainably for the well-being of the citizenry and humanity at large. CSPS aims at enabling the participatory development, state and nation-building as guided by applied research, which would make it possible to either influence or predict the best or worst possible future options with strategies and policies that are drawn out of objectively balanced critical thinking.

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ACRONYM

CRBT	Caller Ring Back Tune
EASSy	Eastern Africa Submarine Cable System
ETC	Emergency Telecommunications Cluster
ICT	Information Communication Technology
ISPs	Internet Service Providers
MICT&PS	Ministry of Information, Communication Technology and Postal Services
NCA	National Communication Authority
PABX	Private Automatic Branch Exchange
SMS	Short Message Service
TEAMS	The East African Marine Systems
UN	United Nations
UNDP	United Nations Development Programme
UNMISS	United Nations Mission in South Sudan
UNHCR	United Nations High Commissioner for Refugee
UNICEF	United Nations Children Fund
UNOCHA	United Nations Office for Coordination of Humanitarian Affairs
VSAT	Very Small Aperture Terminal.
VHF	Very High Frequency
HF	High Frequency
WFP	World Food Programme

CONTENTS

CHAPTER ONE.....	11
BACKGROUND AND OVERVIEW	11
1.1. Background of the Research	11
1.3. Objectives of the Research	12
1.4. The Scope of the Research	12
1.5. Research Hypothesis	13
1.6. Limitations of the Research.....	13
1.7. Organization of the Study	13
CHAPTER TWO	14
LITERATURE REVIEW	14
2. Introduction.....	14
2.1. HistoricalBackground	14
2.1.1. Mobile phone networks in South Sudan.....	14
2.1.2. Telecommunication Regulation.....	16
2.1.3. Humanitarian Telecoms Systems.....	16
2.1.4. Internet Service Providers (ISPs)	17
2.1.5. South Sudan’s first International Fibre Cable Link	17
2.1.6. Telecommunication Operation System in South Sudan	18
2.2. South Sudan’s Challenges Facing the Mobile Phone Industry	18
2.2.1. South Sudan Internet Users	19
CHAPTER THREE.....	20
RESEARCH DESIGN AND METHODOLOGY	20
3. Introduction	20
3.2. Data Analysis	20
CHAPTER FOUR.....	21
DISCUSSION, DATA ANALYSIS AND PRESENTATION OF THE FINDINGS	21
4. Introduction	21
4.1. Gender Distribution of Respondents	21
4.2. Distribution of the respondents and means of accessing information	22
4.3. Table showing the respondents’ opinion on the relationship between connectivity and conflict before and after the eruption of the conflict	22
4.4. Does conflict affect connectivity in South Sudan and how?.....	24
Figure .4. Effect of conflict to connectivity in South Sudan	24
4.5. Does access to mobile networks and internet empower or disempower political actors in South Sudan during conflict?.....	24
4.6. Does connectivity to mobile networks and internet contribute to peace building in South Sudan?	26
4.7. How does infrastructure shape the nature of conflict?.....	28

4.8.	What is the relationship between population density and Conflict in South Sudan?	29
4.9.	Do economic factors such as fluctuating economy contribute in shaping the nature of conflict in South Sudan?	31
4.10.	Do you agree that third party intervention contributes in shaping the nature of conflict in South Sudan?	33
4.11.	Do you agree that social media contribute in shaping the nature of conflict in South Sudan?	33
4.12.	How has displacement due to conflict in South Sudan affected the way you communicate and receive information from people including family members?	34
4.13.	How did lack of communication during the conflict in South Sudan, which resulted in separation of families with no contact, make you feel?	35
4.14.	Is it true that mobile network users during the conflict in South Sudan were likely to be suspected by government security forces leading to accusations of being an SPLA/IO or opposition supporters?	36
4.15.	Do you agree that in a post conflict situation such as in South Sudan, communication through mobile networks and internet (satellite phones, messenger, WhatsApp, telegram, skype and zoom) contribute towards increased understanding among communities leading to peaceful climate and coexistence?	37
4.16.	Does lack of access to mobile networks/towers (Zain, Vivacel, MTN, Thuraya satellite network) have an effect on conflict and connectivity in the context of South Sudan?	38
4.17.	Can mobile networks during conflict like the one in South Sudan be a useful device in warning people of oncoming danger?	39
CHAPTER FIVE		40
CONCLUSION AND RECOMMENDATIONS		40
5.1.	CONCLUSION	40
5.2.	RECOMMENDATIONS.....	41
REFERENCES		42
APPENDIX 1		44
1. Internet Service Providers (ISPs).....		44
APPENDIX 2		47
2. Mobile Service Providers		47

EXECUTIVE SUMMARY

This report is an outcome of a project that broadly examines the relationship between conflict and connectivity in South Sudan; the effect of conflict on connectivity and the ways in which phone and Internet connectivity influence conflict. It focuses on how people access public information and how they communicate with each other during conflict and tranquillity. It specifically tackles an aspect of discusses, accessibility, affordability, and availability of phone and Internet services to the people in South Sudan and how these attributes factors differed between the years 2013 to 2019. The main objective of this project was to identify ways in which conflict relates to connectivity with substantive aim of drawing attention to the mechanisms of control that are in place to influence people's access to information during conflict and in absence of conflict.

Desk literature review shows that, in addition to issues of accessibility, affordability and availability of mobile and Internet networks, there are five key factors that collectively determine and shape the nature of conflict and connectivity in South Sudan. These factors are infrastructure, population density, fluctuating economy, third party interference and social media. In order to comprehensively understand the nature of conflict and connectivity, it is imperative to look at these factors systematically so as to design practical and effective action entry points. This research teased out various connections and relationships among these factors and broadly demonstrate how they collectively shape conflict and connectivity in South Sudan.

A total sample size of 282 people were randomly selected States of Central Equatoria (Juba and Yei), Upper Nile (Malakal) and Rhino Refugee Settlement (Arua-Uganda) were targeted during the assessment. Male respondents accounted for 204 and 78 were females. 332 individuals interviewed, 12.7% (42) were found to be using mobile phone, whereas 2.4% (8) use only internet and 33.4% (111) use both internet and mobile phone which is totalling to 161. The remaining 51.5% (171) use none of the above or has no connectivity.

The followings are the main findings of the study:

1. On conflict and connectivity in South Sudan 91.7% of those surveyed reported that connectivity negatively affected the population while 8.4% said it has positive effect.
2. On whether access to mobile networks and internet empower or disempower political actors, the views of the respondents were that there are both positive and negative effects.
3. On whether connectivity to mobile networks and internet contributes to Peace building in South Sudan, 83.3% responded in affirmative that it does, while 16.7% said it does not.

On how infrastructure/roads shape the nature of the conflict, most respondents in the selected states/regions said it has a "double" edged impact; it contributes to escalation and de-escalation of conflict. In other words, during the conflict, it escalates, while during post-conflict it deescalates and positively contributes or enables reconstruction and humanitarian intervention or ease response The respondents also said that good infrastructure facilitates access to critical services such as

humanitarian response, health care, emergency evacuation of civilians trapped in conflict and access for third party actors who play critical roles in conflict de-escalation and peace building. Good road network they said also allows the government to easily restore security situation and return the situation to normalcy, but this is usually very difficult when bad infrastructural network impede movement and communication.

Availability of critical infrastructure such as roads is also important in addressing post conflict problems like poverty and recovery because they offer access to labour markets, food production, trade among others. The respondents noted that where there is good infrastructure, humanitarian response and the movement of people happen quicker and more easily, and this averts the impact of conflict. On the other hand, good road systems or networks provide accessibility and ease of mobility for military groups and this has contributed to the continuation of conflict in South Sudan. The respondents also said where there are bad road network counter offensives are not easy to launch hence armed groups do not easily confront each other, saving lives and property that would have been lost had the infrastructure allowed physical confrontations. In addition, the respondents said infrastructure provides business opportunities and allows people to be more proactive, but poor road infrastructure limits movement of people to their farmlands and because of small number of users there are often roadblocks by armed men, which often results into conflicts.

On relationship between population density and conflict in South Sudan, the views of respondents were mixed. Some said large population density contributes negatively during conflict by using the big numbers to mobilize and fight knowing very well that because they are the majority, they will win the war. Also, large tribes with big population tend to ignore the views of minority tribes in South Sudan and this leads to conflict. In a democratic society some argue that where leaders rule by the will of the majority, high population density helps in settling disputes. However, if there are more people, but with less access to the limited resources because of population density there will be a conflict.

On whether economic factors such as fluctuating economy contributes in shaping the nature of conflict in South Sudan, views of some respondents indicate that, indeed it contributes in shaping the nature of the conflict but negatively. For example, fluctuating economy is characterized by instability in the market, and the struggle for survival by the population often leads to conflict and violence, corruption and robbery just to mention a few negative effects.

On whether third party intervention contributes in shaping the nature of conflict in South Sudan, views of the respondents were mixed. Some view it positive, while others emphasized its negative contribution. For example, some argue that third parties are considered to be neutral in a conflict and therefore, expected to contribute to peaceful resolution of the conflict by promoting dialogue and compromise. Other respondents argue that third parties cannot be expected to be neutral in the conflict in South Sudan because they have their national interests to pursue and uses the conflict as an opportunity to achieve those national interests by becoming involved in the conflict supporting one side against the other. For example, Uganda under President Yoweri Museveni supported the

government led by President Salva Kiir Mayardit, while Sudan under former President Omar el Bashir supported SPLM/IO leader Dr. Riek Machar Teny.

On whether social media contributes in shaping the nature of conflict in South Sudan, most of respondents agreed that it contributes by spreading wrong information and hate speech and this was considered as a key ingredient in negatively shaping the conflict in South Sudan.

On displacement due to conflict in South Sudan, the views of respondents were divided. Some contended that conflict doesn't only come with displacement of people and communities from their homes or places of origin, but also destruction of properties and general infrastructure such as roads, bridges, power lines, health, and education facilities.

On how lack of communication during conflict in South Sudan make one feel, some of the respondents contended that the first thing is panic and desperation as people try to locate their loved ones. People also feel isolated, frustrated, coping with psychological problems including post-traumatic stress leading to cases of temporary, long term and permanent insanity.

On whether people in South Sudan use Mobile network to trace lost family members or to try to establish contact, 82.2% respondents said mobile networks are efficient in tracing lost family members while 18.8 thought it was not.

On whether it is true that Mobile network users during the conflict in South Sudan were likely to be suspected by government security forces leading to accusations of being SPLM/IO or other opposition members' supporters, 89.6% responded in affirmative and only 10.4% thought it was not the case.

On whether they agree that a large number of NGOs operating in South Sudan depended on Mobile network and Internet to communicate and stay in touch with their staff and field officers, 85.4% agree, while 14.6% disagree.

Finally, on whether they agree that Mobile networks during conflict in South Sudan can be a useful device in warning people of incoming danger, 81.2% agree while 16.7% disagree.

Based on the findings of the research, the study has come up with the following recommendations:

1. **Security:** Mobile networks and internet companies operating in South Sudan should regulate and monitor access to the use of their networks services. As it has been found out in this research that some individuals, groups, organizations and institutions use it for negative purposes. Additionally, those service providers should block, suspend or deny services to anyone who use the network or devices to spread hatred and hate speech leading to conflict and war. Mobile network and Internet Companies should also incorporate and embrace the concept of Media and Information Literacy (MIL) into their operations as it cuts across educational, cultural, and social divides by providing knowledge and skills to consumers in finding and evaluating the credibility of online information as well as

understanding their information needs, to search, to critically evaluate, to use and to contribute information and media content wisely.

2. **Economy:** Control and monitoring of flow of information to the public based on speculation of fluctuating economy often leads to panic and instability in the market and force the population to struggle for survival. This also results into committing of crimes such as robbery, corruption and violence which must be addressed by Mobile networks and Internet industry in collaboration with the government.
3. **Third party** intervention in conflict in South Sudan should be allowed only if it aims at creating the environment for dialogue, mediation and resolution of the conflict through peaceful means by bringing the conflicting parties together. Regional actors and international organizations 'intervention should be neutral in mediation and should avoid promotion of conflict and fuelling of the war for their national interests.
4. **Government Institutions, NGOs and Other Humanitarian organizations** in South Sudan should cooperate to address the issue of displacement of the population as a result of conflict. This is to enable the displaced people to return to their homes and places of origin as they were forced out by conflict and not of their own making. They should also assist those separated by the conflict to trace their missing family members and re-united them as a family.
5. **The Transitional Constitution of the Republic of South Sudan 2011**Part Two: Bill of Rights-Article 24 allows for Freedom of Expression and Media. Government security organs should discourage suspecting, arresting and detaining Mobile network and Internet users in South Sudan for suspicion of being anti-government even though they are exercising their right of free speech under the above law of South Sudan.

CHAPTER ONE

BACKGROUND AND OVERVIEW

1.1. Background of the Research

The ongoing conflict in South Sudan began in 2013 and continued unabated until September 2018 when some of the parties to the conflict signed a peace agreement (Inge Brinkman, Jonna Both and Mirjam De Bruijn (2017)).

This agreement, set a road map for a transitional period that ends in 2023. The conflict was triggered, among other historical underlying causes, by a political power struggle between two rivaling SPLM/A factions. The Revitalised Agreement on the Resolution of the Conflict in the Republic of South Sudan (R-ARCSS) of September 2018 and the February 2020 power-sharing deal promise improved peace and security in South Sudan (ibid).

During the prolonged war in South Sudan, communication and transport systems were destroyed such as roads, bridges and railways. Many people fled the country to neighbouring states of Sudan, Uganda, Kenya, DRC, Ethiopia and Egypt. In the beginning of the 1983 conflict, landline telephony was non-existent both in northern and southern Sudan only available in Khartoum but on limited basis. However, in 1990, the number of subscribers began to increase and the state postal and telecommunication sector was privatised and Sudantel was established as a private company. The National Telecommunication Corporation (NTC) was established in line with the privatization policy. In 1997 a group within Sudantel established a private mobile phone company named Mobitel. In 2005 another company called Areeba became a second mobile phone operator but was later bought by the South African company MTN. Initially Sudantel possessed shares in Mobitel, but after these were sold the company started its own mobile telephone providers called Sudani. In 2001, Sudani was one of the companies under US embargo and this restricted its activities to north Sudan only.¹

In South Sudan, despite the war, two companies received licences from the National Telecommunication Corporation (NTC) in 2005; Network of the World (NOW) and Gemtel via Uganda gateway. In 2007, NOW was bought by Vivacell. It was relatively small from the start but with the independence of South Sudan in 2011 it grows and its subscribers tripled (ibid). Gemtel started activities in South Sudan in 2003 and during the war it was important in rebel-controlled areas.²

¹Inge Brinkman, Jonna Both and Mirjam De Bruijn (2017).

<https://www.ascleiden.nl/Pdf/ApadQuestionsandIssues.pdf>

2

1.2. Statement of the Research problem

The research aims to find out whether conflict is related to connectivity, how conflict affects connectivity and how connectivity shapes conflict in South Sudan. In the context of South Sudan, factors such as accessibility, affordability and availability of mobile phones and internet networks to the people contributed to and shaped by and large the nature of conflict and connectivity in the country. Destruction of telephone communication infrastructures like antennas for MTN, Zain and Viva Cell. Power mobile phone network to the destruction of the antenna and poor or no maintenance. Poor or no connectivity to internet due to the destruction of the telecom infrastructures. Conflict also leads to destruction of communication equipment that are key in relaying communication. This prevents people from having access to communication network like mobile communication.

Destruction of bridges that connects one community from the other side of water body (River) to the one in the opposite side is a problem. It also leads to lack of or poor maintenance of roads and bridges. The Yei Juba road for example, is poorly maintained including Yei-Kaya, hence affecting connectivity. It became difficult to trace relative due to poor roads, no bridges and lack of telecom network to use either Mobile phone or internet. Conflict therefore, affects connectivity in South Sudan and it causes insecurity which limits travel by road, air and by water.

1.3. Objectives of the Research

The main objective of this research is to identify the way in which conflict relates to connectivity and draw attention to the mechanisms of control that are in place to influence people's access to information during conflict and in absence of conflict. The main objectives of the research are:

- To find out how conflict affects connectivity in South Sudan and how connectivity shapes conflict;
- To find out how the Internet has empowered and/or disempowered political actors in South Sudan during conflict;
- To examine how increased use of digital media has impacted the political landscape in South Sudan during conflict;
- To draw attention to the centrality of connectivity in peace building among communities in South Sudan.

1.4. The Scope of the Research

The scope of the research focuses on two states of South Sudan (Upper Nile and Central Equatoria) and Rhino refugee camp in Northern Uganda, which hosts South Sudanese refugees. These areas were selected because they were affected by the conflict at various stages during the past seven years. The regions are also geographically, economically, and ethnically diverse and different from each other. This diversity allowed the researchers measure the impact of conflict in various locations

and compare the similarities and differences in how connectivity changes based on the dynamics of the conflict.

1.5. Research Hypothesis

The hypothesis of this research was premised on principle that there is a direct relationship between conflict and connectivity and established that the effects of conflict on connectivity are measurable through the manner in which mobile networks and internet (Messenger, WhatsApp, telegram, Skype, Zoom) connectivity influence directly the victims and perpetrators of the conflict.

1.6. Limitations of the Research

The major limitation of this research was security challenges in the selected areas of Juba, Yei, Malakal and Rhino refugee settlement which resulted into reluctance of some to participate in completion of questionnaires and Focus Group Discussions (FGD). The reason being respondents were afraid because security organs could identify and arrest them despite an assurance from the field researchers that their identity would not disclosed.

Covid-19 pandemic was recorded as other research limitation because some of the respondents were afraid of contact. Thus, it made data collection especially through individual interviews difficult. Group discussions were equally problematic as people were afraid to be grouped in one place. Despite all these challenges, the field researchers tried their level best to obtain the required data.

1.7. Organization of the Study

Chapter one encompasses an overview and scope of the study. While chapter two focuses on the relevant Literature review. Chapter Three presents the research methodology used, whereas chapter four depicts the procedure of data analysis and presentation of the findings. Finally, chapter five emphasizes on conclusion and recommendations of the research.

CHAPTER TWO

LITERATURE REVIEW

2. Introduction

This chapter provides an overview of relevant literature related with this research. It covers the operation of the mobile phone networks in South Sudan, telecommunication regulations, humanitarian telecommunication systems, and existing United Nations (UN) telecommunication systems, and Internet Service Providers (ISPs). It also reviews the opportunities on how to improve communication in South Sudan through South Sudan's first international fibre cable link; key telecom developments, telecommunication companies, Internet service providers (ISPs), and challenges facing the mobile phone Industry in the country, (Lancaster 2020).

2.1. Historical Background

2.1.1. Mobile phone networks in South Sudan

One of the first mobile phone networks to invest in South Sudan was through a Lebanese investor who launched a mobile phone network called NOW (Network of the World) in South Sudan in 2007, with the infrastructure projected to reach 1 million subscribers in the region's increasingly crowded telecoms market (reference/source of information).

Vivacell was by then, the second active network operating in South Sudan, where it competed with other three nationwide mobile operators (Inge Brinkman; Jonna Both and Mirjam De Bruijn (2017). Lebanon's Pierre Fattouch Investment Group launched the operation after buying NOW (Network of the World) in 2007 (ibid). NOW is a South Sudanese company that secured a GSM licence for the region, but never launched a working network (ibid). The 2007 purchase was not widely publicised at the time. NOW's licence was sold to Vivacell, the commercial name for NOW.

It is to be recalled that South Sudan was given two mobile phone licences under a 2005 peace deal that ended more than two decades of civil war with northern Sudan. One went to NOW, the other to local firm Gemtel.

The peace accords also allowed for four nationwide mobile operators and three of them, Kuwait's Zain, South Africa's MTN, and Sudan's own Sudani. These networks have already set up operations in the South Sudan by 2007. There was however, a lack of clarity about the ownership of NOW before the 2007 purchase. South Sudan's Ministry of Information, Telecommunications and Postal Services officials have in the past said the government had a stake and also stated that NOW was entirely owned by private investors.

In the Agreement, the SPLM had a controlling stake in a company called Wawat Securities Limited, that itself owned a share in the new Vivacell operation. According to the purchase deal, Fattouch owned 75 percent of Vivacell and Wawat 25 percent. Its infrastructure could reach 1 million

subscribers and the company had plans to expand further to remote areas in South Sudan. South Sudan's population in 2008 was estimated to be 8.5 million.³

The Ministry of information, Telecommunications and Postal Services was at that time responsible for the development of the country's telecommunication infrastructure and oversaw and regulated the network and service providers. The country has no formal landline telephone network and telecommunications services are provided through satellite and mobile communications networks. Various large international mobile phone providers are present in the country, in most urban centres and along major roads. Simcards are readily available in the market and registration is legally required. Mobile Internet is available on all networks; however, data costs are still relatively high.

In the interview with cell developer of MTN in Yei he said "the conflict has affected network in so many ways not only in Yei but generally in South Sudan, but I am going to talk particularly about Yei. In 2013 when the conflict broke out in South Sudan, we have so many sites of MTN which is connected right from Juba to Yei, and Yei is a big county and has a lot of sites of MTN but the conflict has affected it in so many ways; one of the ways is that all our belonging and properties of MTN were looted and taken, and these properties includes batteries, solar and even the antennas themselves were destroyed. Others were cut off down by unknown gunman which we don't know, that's how the conflict has affected the development of the network generally in South Sudan and in greater Yei. Two, this conflict has brought rampant insecurity in the road that transportation of networks equipment which include fuel, antennas and other things have also been affected because of the insecurity. You find that the movement and the transportation of networks, things become very difficult, like for instance the fuel can get finished in Yei and to transport it from Juba is very difficult because of the insecurity. Some of our workers feared to come and bring the fuel to Yei. Then point number three is; this conflict has affected the networks in term of communications very much some of the areas as I talked in greater Yei there is no network because of this conflict. Places like Morobo were having network but due to the conflict people fled to Congo and Uganda, now that area is left empty all the things of the antennas were taken so it has affected communication that side. Even up to now our people, the administrators from Morobo, Kaya, Panyume, Lasu and Ture, they were sending us letters so that we can go and restore the lost sites. Those are the points that this conflict has affect, not only that it let to low supply of stocks. When I talk about the stocks, are the things that MTN or the networks use to supply for its dealers' things like telephones and simcard.

4

It also become very difficult for the company to supply the stocks due to the insecurity because one may send things like telephones and Simcard on the road and then it is looted by unknown gunmen (who reported this?).

³Inge Brinkman; Jonna Both and Mirjam De Bruijn (2017) The Mobile phone and society in South Sudan: A critical historical-anthropological approach. Journal of African Media Studies. Volume 9 Number 2.

⁴⁴ interview with a respondent, Yei March 2021.

“Not only that this conflict has led to a lot of distraction, most of the networks properties were destroyed in the bush for instance this telecom more particularly MTN and Vivacell when we go to the sites, everything were destroyed and were taken by the unknown gunmen. Before the conflict all these things were there in the sites, things are normal but due to the outbreak of the conflict is the one causing all this. It has affected the network in so many ways in South Sudan as I have explained.”⁵

2.1.2. Telecommunication Regulation

Reference to the existing South Sudan 2012 Communication Act that regulates the telecommunication networks in the country, the National Communication Authority (NCA) is responsible for the allocation of frequencies and agreements (source of information). The NCA mandate of regulating and managing the activities of the mobile phone networks and service providers has eased the tensions between the government regulators and service providers (reference).

2.1.3. Humanitarian Telecoms Systems

The humanitarian communications system in South Sudan, necessitated by the huge humanitarian operations in the country, is well developed and operates with 24 hours staffed radio rooms located in all major state capitals and areas with a permanent humanitarian presence (citation).

The World Food Program (WFP) led Emergency Telecommunications Cluster (ETC) has been active in South Sudan since September 2011, following the official independence of South Sudan from Sudan. The aim of the ETC is to improve humanitarian coordination by providing humanitarian agencies the ability to communicate via a stable and secure telecommunication systems in remote areas.

2.1 UN Emergency Telecommunications Cluster Provision of ICT Services in South⁶

Existing UN Telecommunication Systems						
Organisations	UNDP	WFP	UNHCR	UNMISS	UNICEF	OCHA
VHF frequencies	Yes	Yes	Yes	Yes	Yes	Yes
HF frequencies	No	Yes	No	Yes	No	No
Repeaters (Locations)	Yes	Yes	Yes	Yes	Yes	Yes
VSAT	Yes	Yes	Yes	Yes	Yes	Yes

⁵ interview with respondent in Yei, March 2021

⁶ <https://reliefweb.int/sites/reliefweb.int/files/resources/200399.pdf>

2.1.4. Internet Service Providers (ISPs)

South Sudan is one of the most expensive countries in Africa in terms of Internet usage, with an average retail cost of USD\$ 4,000 per megabit via satellite⁷. All licensed service providers use satellite-based V-Sat and WiMax technology as the country began to establish fibre optics network in February 2020. In order to directly connect to East Africa's internet fibre-optic networks serviced by The East African Marine Systems (TEAMS), Eastern Africa Submarine Cable System (EASSy) and SEACOM providers.⁷

2.1.5. South Sudan's first International Fibre Cable Link

South Sudan inherited one of the least developed telecommunications and internet markets in the world, while other infrastructures are also poor (Liquit Tech. 2020). There was once investment activity among mobile network operators who sought to expand their networks in some areas of the country, but by late 2016 both Zain South Sudan and MTN South Sudan had cut back their workforces in a bid to save on operating costs, while their falling subscriber bases have strained revenue (ibid). Such capital intense developmental projects largely depend on a negotiated end to the protracted civil war which erupted in December 2013 (ibid). Zain South Sudan in particular recorded considerable financial losses in 2015 and 2016 (ibid). Operators in the telecom sector, as in other markets, have placed themselves in survival mode and are hoping for a political settlement and a return to some degree of social stability. Although MTN and Zain reported a significant fall in the number of mobile subscribers in 2017, with a consequent severe decline in revenue, both saw subscriber bases increase in 2018 as they absorbed customers which had migrated from VivaCell after that company was closed down for failing to pay back taxes. Moreover, Zain South Sudan launched M-Gurush m-money service in 2019 and South Sudan gains its first international fibre cable link in February 2020 (Liquit Tech. 2020).

South Sudan has one of the lowest mobile penetration rates in Africa. Growth in the sector in coming years was projected to be squarely on a resolution to the political crisis and a recovery of the country's economy (Liquit Tech. 2020). The internet market and broadband market also depends to a large extent on the country developing its international fibre optic cables and on a national backbone network being in place. Sophisticated infrastructure solutions are needed to reach the 80% of the population those living outside of the main urban centres. With a negligible rate of bank account ownership, mobile payment and banking solutions also have a strong potential once a reliable mobile infrastructure is built (ibid).

The limits to growth are currently defined by widespread poverty and a low literacy rate, but the government recognises the positive feedback loop on development that access to ICT could have and was providing a range of investment incentives. For example, Liquid Telecom and Thuraya Satellite phones (ibid). Some improvement has followed from the cable link completed by Liquid Telecom in February 2020 which connects Juba directly to the company's submarine landing station

⁷Internet Providers in South Sudan. <https://isp.today/en/list-of-all-services/SOUTH-SUDAN>

at Mombasa. The cable is South Sudan's first direct international fibre link and has helped drive down the price of retail internet services for residential and business customers.⁸

2.1.6. Telecommunication Operation System in South Sudan

Telecommunication in South Sudan is of great variance. Gone are the days that communication with the outside world was dependent on hand-delivered mail or radio communication (Liquit Tech 2020). In pre-2005 era all the way until shortly after the signing of the CPA, the most sophisticated and common modes of communication in South Sudan were the Thuraya Satellite phones. These were big hand-held devices which are still in operation up to date though have been overtaken by new inventions and mobile phones (ibid). However, telecommunication companies have made a leap to the states in the last fifteen years since the CPA 2005. There was varied service from Internet service providers (ISPS) to Mobile Telecommunications. With advancement in telecom technology clients could actually get data on mobile via the data bundles provided by the Mobile companies (ibid).

2.2. Challenges Facing the Mobile Phone Industry in South Sudan

Telephone communications in South Sudan has faced numerous difficulties as a result of absence of infrastructure, particularly road networks which makes it difficult for the mobile phone industry to expand their coverage to remote areas of the country (Clottey 2020). In early days, customers complained of delays in placing calls, a problem attributed to some networks' use of satellites for transmitting calls, rather than land lines or fibre optic networks that require roads for installation. Complicated logistics and out-dated technologies also led to delays (ibid). For example, international calls originating from Sudan to South Sudan were routed from Khartoum to various switching stations before being sent on to their final destinations. There have been improvements, especially after 2017, when compared to early efforts at developing a telecommunications system for the country.⁹

⁸Liquit Tech: The first to bring fibre to South Sudan. February 11, 2020.

<https://www.liquid.tech/insights/innovationblog/The%20first%20to%20bring%20fibre%20to%20>

[South%20Sudan.](https://www.liquid.tech/insights/innovationblog/The%20first%20to%20bring%20fibre%20to%20)

⁹Clottey, Peter (2020): *South Sudan Lack of Infrastructure a Challenge for Cell Phone Industry.*

<https://www.voanews.com/africa/south-sudans-lack-infrastructure-challenge-cell-phone-industry>

2.2.1. South Sudan Internet Users

The below figure summaries internet users in South Sudan from the year 2001 to 2016. The total cumulative number of internet users stood at 2,179,963. The share of South Sudan Population in terms of penetration in 2016 is 17.1 %. The share of the World Internet Users for 2016 stood at 0.1 % and the South Sudan population in 2016 was projected at 12,733,427.

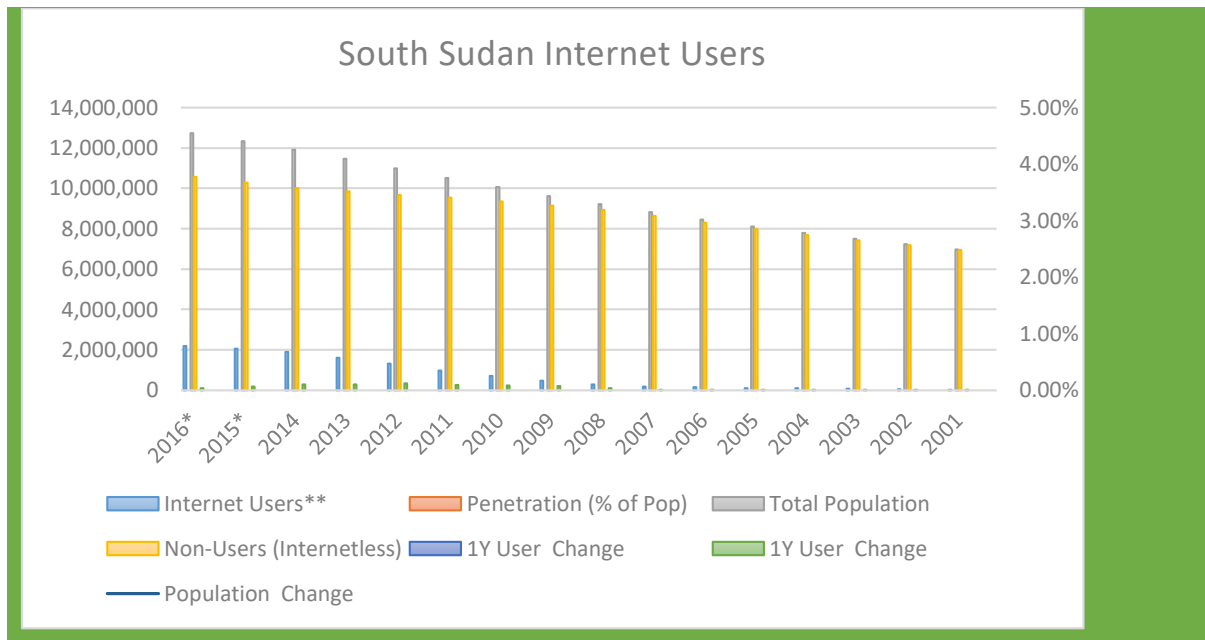


Figure 1. South Sudan internet users

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3. Introduction

The research design of this study is based on qualitative design. Marshall. C. and Rossman. G. B. (1999) argue that “research design is the result of a series of decisions the researcher has to make based on knowledge gained from the methodological literature and previous work.” And that “justification for those decisions should derive not only from the methodological literature; it should also flow logically from the research questions and the conceptual framework surrounding those questions.”

3.1. Research participants

Total of research participants were 282 as follows: 204 were male and 78 females. 42 have Mobile phones; 8 have Internet, 111 have both Mobile phones and Internet connectivity. Totalling to 161. The remaining 171 have no Mobile phones and Internet connectivity. The data collection was through focus groups, Interviews and questionnaires in the selected Regions of Juba, Yei, Malakal and Rhino Refugee Settlement in Arua-Uganda. They include Telecommunication officials/National Communication Authority, Mobile network managers/Agents, Journalists, Civil society, Social media users, and Human rights advocates.

3.2. Data Analysis

The method of analysis adopted by the study was content analysis as well as interpretation using descriptive and observation of patterns produced in answering the research questions of the raw material obtained from the data collection methods described above. The researcher has compiled the findings from the data analysis and interpreted them, in order to generate meaning from personal views of the respondents, making comparisons of the findings found in the literature reviewed for this study.

CHAPTER FOUR

DISCUSSION, DATA ANALYSIS AND PRESENTATION OF THE FINDINGS

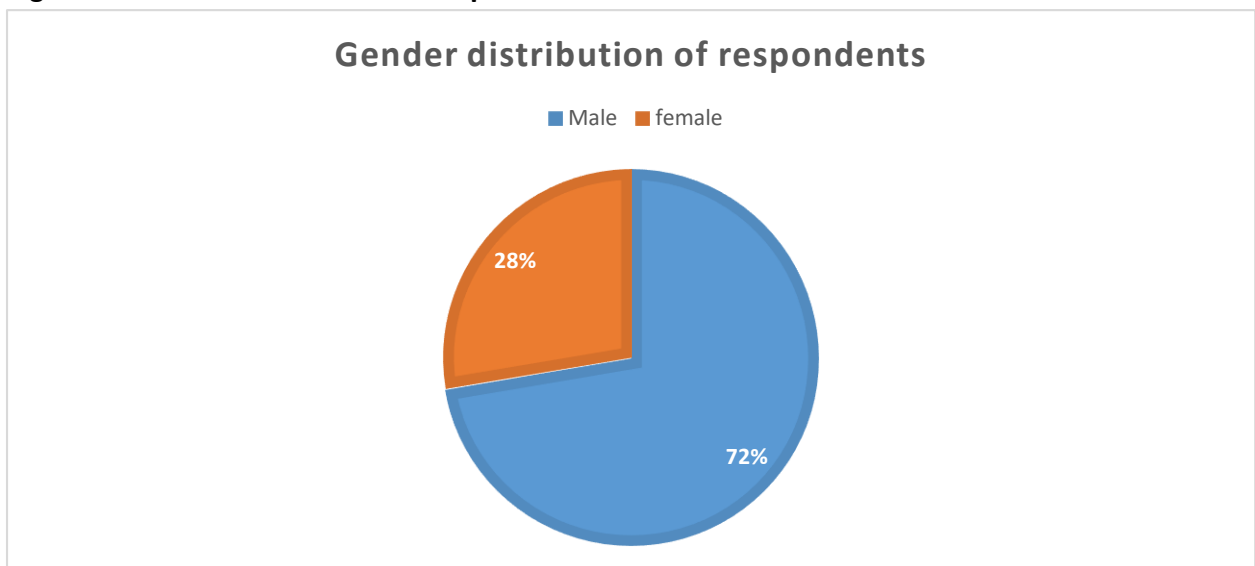
4. Introduction

This chapter presents and discusses the views of the respondents to the questions contained in the administered questionnaires. The questionnaires administered were both open ended and semi-structured. The respondents were randomly selected for this research from Juba, Yei, Malakal and Rhino Refugee Settlement in Arua-Uganda. Interviews and Focus Group Discussions were also conducted in these selected areas and the views of the respondents are also discussed and presented as per analysis below.

4.1. Gender Distribution of Respondents

This part presents Gender distribution of the Respondents as indicated below.

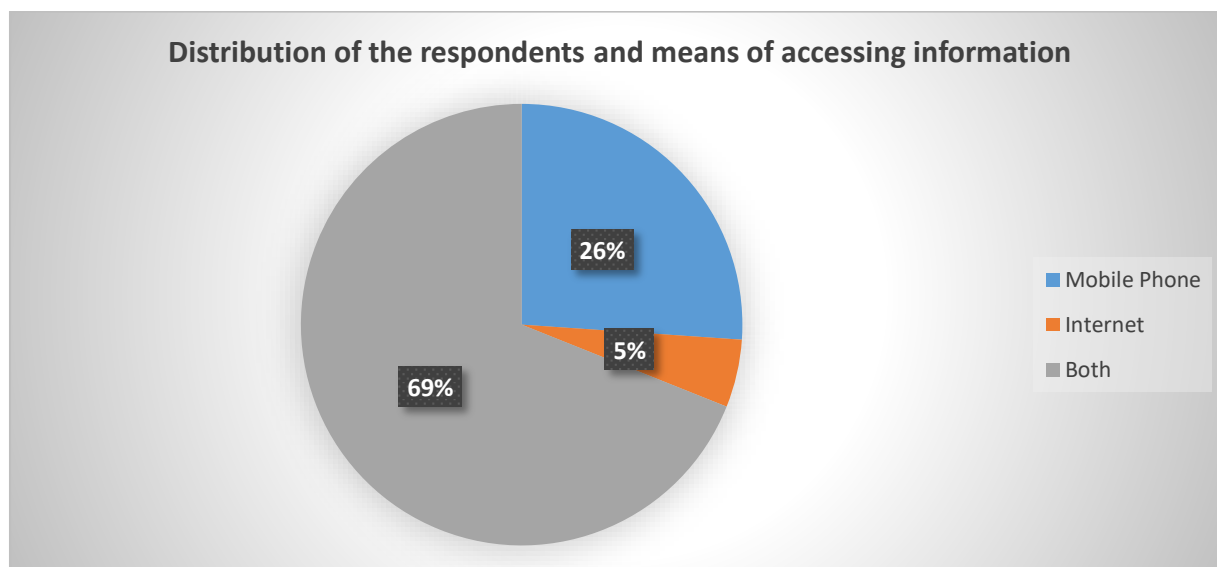
Figure 2: **Gender distribution of respondents**



of the 282 respondents, 204 were male and 78 were female

4.2. Distribution of the respondents and means of accessing information

Figure 3. Distribution of the respondents and means of accessing information.



In the above figure, majority of the respondents said they use both mobile phones and the internet for connectivity in their localities.

4.3. Table showing the respondents' opinion on the relationship between connectivity and conflict before and after the eruption of the conflict

Before conflict	After conflict
Increased connectivity increases chances of violence happening	Connectivity improves understanding amongst people and fosters reconciliation, peace building and contact tracing
Increased connectivity reduces the chances of violence happening	Connectivity leads to increase hate speech and ethnic hatred, leading to violence.

Those interviewed contended that before the eruption of conflict, it is observed that increased connectivity promotes chances of violence happening as many people at the time of the start of the conflict have access to the mobile network. On the other hand also it is observed that an increased connectivity reduces the chances of violence happening as many people become aware of the areas affected by the conflict, and parties to the conflict will try to avoid direct confrontation, while people move away from conflict areas.

Moreover, other respondents contended that connectivity after the conflict can improve understanding amongst people and foster reconciliation, peace building and contact tracing of relatives. From other perspective however, connectivity during and after the conflict may also lead to increase in hate speech and ethnic hatred, leading eventually to violence.

The relationship between conflict and connectivity therefore, is seen through the interplay between various means of telecommunications and how they have been used prior to, during and after conflict. There is a unanimous agreement that prior to actual acts of violence and during conflict, telecommunications operations in South Sudan were used as tools for mobilization and sensationalizing of communities by elites who fuelled conflicts by hosting live social media events such as Facebook live videos streamed from Diaspora to incite local communities into acts of violence. These live media events mainly target local youth groups and influential individuals who have access to social media to join militant political activities along ethnic lines that have had a devastating impact on the social fabrics of cultural groups that have existed together for a long time.¹⁰

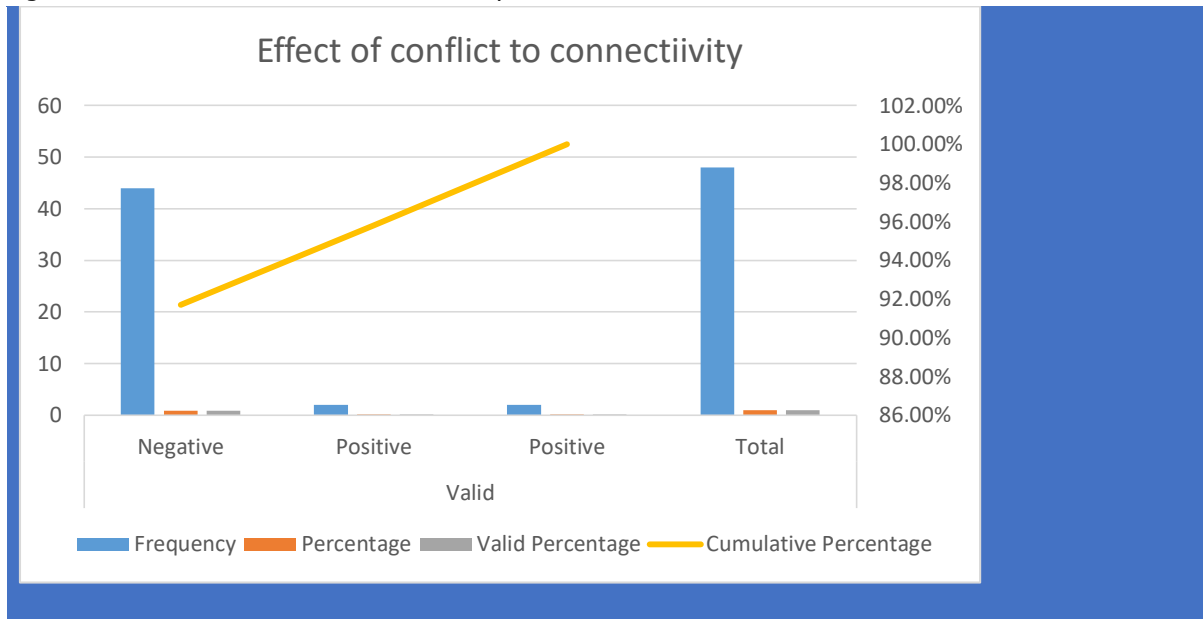
During conflict, political and aligned military groups used connectivity to communicate and launch offensive and counter offensive acts. Armed groups used communication to facilitate and coordinate information and logistics, as well as lay and execute their strategy using information coordinated through connectivity.

It is after conflict however, that connectivity played the crucial role of uniting families through contact tracing, uniting hostile groups and communities through various peace campaigns usually done by Civil society organization operating in South Sudan calling for dialogue among conflicting parties and communities and to resolve any disagreements through dialogue. Religious organizations have also been vocal and calling for peaceful co-existence among communities in South Sudan. Media houses in South Sudan played their role as the “Voice of the Voiceless” by sensitizing the citizens on the peace agreement and the actual use of communication by government to disseminate the peace process and any national and political developments around the peace agreement that can bring the nation together and this usually expedites efforts in peace building.

¹⁰https://static1.squarespace.com/static/54257189e4b0ac0d5fca1566/t/5851c214725e25c531901330/1481753114460/PeaceTech+Lab_+SouthSudanLexicon.pdf

4.4. Does conflict affect connectivity in South Sudan and how?

Figure .4. Effect of conflict to connectivity in South Sudan



Source: Primary data 2021

The Study findings above show that conflict affect connectivity in South Sudan negatively. In fact, 91.7% considered that connectivity affects negatively, while 8.4% viewed it positively. The findings also show that there is an overwhelming agreement that conflict affects connectivity negatively since the ravages of war extends to communication facilities such as a mobile network towers and internet boosters that are damaged and this results to disconnection of communication platforms such as phone and internet services.

This can also take the form of disagreements and not necessarily actual violent conflicts that damage communications systems. A good example cited is the disagreement between Vivacel mobile communication and government that ended with the closure of Vivacel to the detriments of millions of subscribers countrywide. The Ruling party in South Sudan, the SPLM had a controlling stake in a company called Wawat Securities Limited, that itself owned a share in Vivacell operation. Pierre Fattouch owns 75 percent of Vivacell and Wawat 25 percent, the South Sudanese Telecommunication Minister at the time disclosed this to a Reuters reporter. However, the Commercial Director of Vivacell was once quoted as saying 'he could not give details of the size of the company's investment or the number of subscribers. It is this disagreement that led to the closure of Vivacell operations in South Sudan¹¹.

4.5. Does access to mobile networks and internet empower or disempowered political actors in South Sudan during conflict?

¹¹Reuters Staff, February 23, 2009.

Most of the respondents in the selected regions agreed that mobile networks and internet has empowered and but also disempowered political actors in South Sudan during the conflict. The internet, especially social media mediums such as Facebook and WhatsApp have allowed for political participation among citizens through provision of free space to reach and engage political actors on a broad range of issues, which has in turn empowered the politicians to build their bases and mobilize strong support for their causes by using the internet and social media as a tool for mobilization and engagement.

However, in some cases the presence of mobile networks and the internet have given the people a voice and the means to speak to one another and this has disempowered the political actors who would have used the void to create a system that put people in the dark for their own political benefits. Broadly speaking, political actors have used telecom networks to mobilize youths support during times of conflicts and crises because it is the youth that fight these wars. What this means is that political actors who have no access to telecom for mobilization have the possibility of losing politically and militarily in terms of getting support from the public or electorate making it impossible for them to take power and run the country. Thus, political actors have been able to use the platforms to cement their influence in the process because these for a empower politicians since they use them for setting and sharing political agenda and information. Political actors also use social media and internet to campaign and wage wars against their opponents.

The increased use of digital media's impact on the political space has two pronged; it has meant that there is an increased awareness of rights' violations during conflict through citizen journalism that have exposed acts of violence such as targeted killings of civilians, abductions and rape through pictures, videos and stories shared on social media in real time. This shows that there is a relationship between connectivity and conflict in which mobile networks and Internet can both empower and disempower political actors including citizens who can claim and pursue their rights and seek justice or remedy of any wrong done to them. The respondents pointed to some of the evidences that have been used to seek justice for victims of the war. For example, the trial of the rape cases in Terrain hotel entirely relied on photo evidence and testimonies shared of the violence in which several government soldiers were tried and convicted for the various atrocities ranging from killing, rape, torture, and gang rape.¹²

On the other hand, increased connectivity has also led to increased disinformation and its associated evils such as the rapid spread of hate speech, stereotypes, and fake news. When you mix these three together in a political rhetoric, the result is a recipe for chaos and violence. For example participants in Juba said "it is largely viewed that connectivity shape and influence conflict negatively by providing avenues and spaces that have been exploited for orchestrating threats of violence, disseminate hate speeches that have sensationalized ethnic groups into violence and the actual mobilization for people to partake in the conflict".¹³ In Rhino Refugee settlement in Uganda the participants said "Negative propaganda creates fear and panic in the community"¹⁴, and Social

¹²<https://www.reuters.com/article/us-southsudan-security-idUSKCN1LM0XK>

¹³ Direct Interview with respondents in Juba.

¹⁴ Direct Interview with respondents at Rhino Refugee Settlement.

network has created conflict between government and some communities. In addition, it has also created conflict among tribes. "This is true because information on social media is never verified, hence mixed information"¹⁵. In Malakal the participants also noted that "access to mobile networks can disempowered political actors as they can use it as a means of political propaganda that can lead to misinformation"¹⁶. The internet also sometimes can be used to fuel conflict by creating false and negative information about other people which may increase conflict. In Yei town, one of the participants emphasized that "In Yei right now there are few people, particularly the youth, who are using social media because of limitation of access and most of the time they get information that are not true. Very few old people use social media. Also there are other sources online giving fake information to the youth who will take that information and pass it to the old people. It creates panic in the community"¹⁷.

It is this observation that came out again and again in the research, the notion that South Sudanese politicians have abused increased internet and mobile telecom network penetration by using it to reach more communities with sensational sentiments that have fanned the conflict beyond repair in the years between 2013 and 2020.

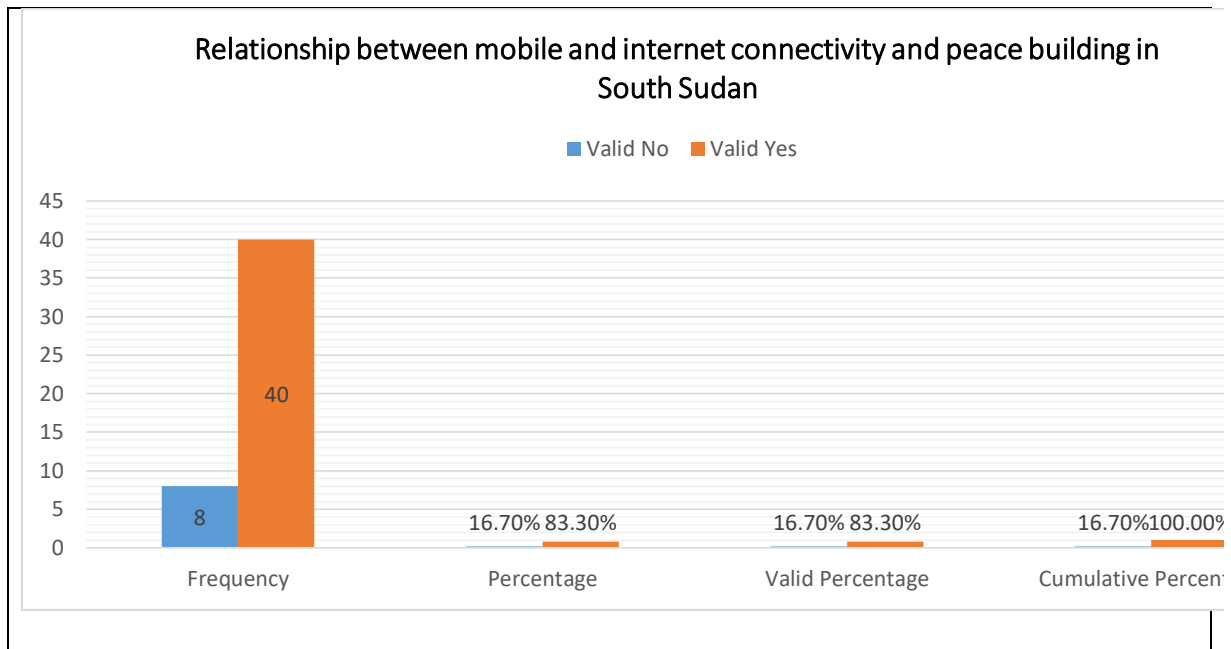
4.6. Does connectivity to mobile networks and internet contribute to peace building in South Sudan?

Figure 5. Relationship between mobile and internet connectivity to peace building in South Sudan

¹⁵ Direct Interview with respondents at Rhino Refugee Settlement.

¹⁶ Interview with respondents in Malakal.

¹⁷ Interview with respondents in Yei



Source: Primary data 2021

The study findings in all the selected regions, as shown in above graph, indicated that 83.3% agreed that mobile networks and Internet contributed positively to peace building in South Sudan. Only 16.7% said otherwise. They observed that access to mobile networks and the internet have contributed to peace building in several ways:

- (1) Using the internet to disseminate the peace agreement, peace messages and programs on the official media platforms and in some social media outlets.
- (2) Holding virtual sessions between individuals and groups for dialogue purposes and through creation of awareness activities to mobilize people for peace and educating communities about the importance of peace
- (3) The political actors have also used the internet and mobile telecom networks to mobilize their supporters and give them updates regarding developments in the country and awareness on key issues concerning implementation of the peace agreement and political activities in the country.
- (4) When used properly, connectivity helps people to coexist and live-in harmony.
- (5) Connectivity also helps people to get correct information about their situation and this increases the chance to build trust and harmony amongst themselves contributing to overall peace and stability
- (6) Connectivity allows for contextual analysis for areas of intervention in peace building and community cohesion, as well as mobilizing the resources required for peace building and reconciliation work with partners, donors, communities and political groups.



Focus group discussion: Answering interview of the questionnaire: Ocea I Village, Zone I: Rhino Refugee Settlement- Arua-Udanda¹⁸

4.7. How does infrastructure shape the nature of conflict?

Infrastructure is a double-edged sword in shaping the nature of conflicts because its presence plays crucial roles in both conflict escalation and conflict de-escalation. Good infrastructure facilitates access to critical services such as humanitarian response, health care, emergency evacuation of civilians trapped in conflict and access for third party actors who may play critical roles in conflict de-escalation and peace building.

Good road network allows the government to easily restore security situation and return the situation to normalcy, but this is usually very difficult when bad infrastructural network impedes movement and communication.

Availability of critical infrastructure such as roads is also important in addressing post conflict problems like poverty and recovery because they offer access to labour markets, food production, trade among others. The respondents interviewed said that where there is good infrastructure, humanitarian response and the movement of people happen quicker and more easily, and this averts the impact of conflict.¹⁹

On the other hand, good road systems provide accessibility and ease of mobility for military groups and this has contributed to the continuation of conflict in South Sudan. It is also argued that where

¹⁸All the photos in this report were taken with the consent of the individuals who participated in the research during interviews and group discussions

¹⁹ Interview with respondents in Yei

there are bad road network counter offensives are difficult to launch, thus armed groups do not easily confront each other, saving lives and property that would have been lost had the infrastructure allowed physical confrontations.²⁰

The a relatively infrastructure, for instance the high way between Yei and Juba, has been used by opposition soldiers to attack innocent travellers, which created a fear among the local population, who eventually opted not to use the high way for their safety. Travelling from Yei to Juba or to any other destination in Central Equatoria state during the conflict, the question of road safety became a priority for travellers. When roads are well constructed, business would flourish, because the movement of both goods and people become easy.

Road blocks and the expansion of military barracks during the conflicts do also contribute to the shaping of the conflict, travellers found often it difficult and risky to use these roads. In fact, during the conflict, people also found it risky to travel to Uganda to Yei, because there were many military check points along the roads.

During the peace time, on the other hand, roads promote confident among people because when roads become accessible, travellers can go anywhere they want and refugees in the neighbouring countries can return to their areas, resettled in their towns or do business in market places. Whereas, when roads are not accessible, it becomes difficult to afford essential needs in the markets, as prices become unaffordable.

Good road infrastructures do definitely reduce robbery on the high ways, as bandits will have little time to rob travellers for the fear of being pursue by patrol police vehicles along the high ways. In terms of ICT infrastructure in South Sudan especially MTN, Zain and other service providers, have provided the public with ICT emergency numbers to call at any time if there is a threat to their safety. For example, Ambulance number is 976; Civil Defence is 998; Customer care is 111; emergency number for roamers is 112; Police emergency number is 999 and Voice mail is +21191240. As pointed out earlier by the MTN telecommunication officer in Yei, ICT infrastructure can be found in most parts of South Sudan but due to the conflict most of the infrastructure has been destroyed making it difficult to inhabitants of the affected areas to communicate through Mobile phones or the Internet.²¹

4.8. What is the relationship between population density and Conflict in South Sudan?

²⁰Building sustainable public sector capacity in a challenging context.<http://documents1.worldbank.org/curated/en/161481493196781863/pdf/114588-WP-P156685-PUBLIC-SouthSudanCapacityBulidingASAP.pdf>

²¹<http://documents1.worldbank.org/curated/en/460341563539588094/pdf/Mobile-Money-Ecosystem-Survey-in-South-Sudan-Exploring-the-Current-and-Future-Potential-of-Using-Mobile-Money-for-Effective-Humanitarian-and-Development-Cash-Programming-Executive-Summary.pdf>

A big population may lead to competition and conflict over scarce resources especially where productivity is low, little growth and unmediated by strong institutions. Minority groups within big populations find themselves side-lined and marginalized, coupled with struggle over limited resources, and in case of South Sudan, this has been a major cause of conflict. People can fuel the conflict if they are large in population and can also easily solve the conflict because they are more, unlike a small population.

Communities use their high population to fight others because of more populated areas, and competition for services and resources which increases criminal acts. Quite often, the majority groups believe in superiority which encourage them to oppress the minorities. In Malakal one of the participants said "Yes, population density allows business growth and development if good policies are in place, but in case of South Sudan, population density is a source of conflict whereby those who think they are the majority tend to manipulate others through tribal politics and this often results into tribal conflicts through bad policies"²².

In Rhino Refugee Settlement in Uganda one of the participants further argued that "in densely populated area, the population can be easily recruited by the political actors as soldiers or fighters. High population density does fuel war in contrast to low population density"²³. In Yei a respondent emphasised that "sometime some people are not willing or used to staying with other people and prefer to live with their own relatives or communities. For example, if you are a Kakwa and you are used to staying with Kakwas, when somebody from another tribe comes with the different life style you start feeling bad at the end of the day, it creates misunderstanding. In fact, there was a situation where two children fought, one was a Nuer and the other one was a Kuku and as a result of this small fight of children, elders got involved to the extent that one was bitten, and this person ended up in hospital and up to now he has developed mental issues"²⁴. The respondent further elaborated that "dense population comes with a lot of baggage, if you are not that civilized to learn how to stay with different tribes, it really creates conflict in a particular place such as Yei."²⁵.

In other instances, population density can contribute in shaping the mindsets of people and may influence their attitudes. Also there seems to be a belief that if a tribe is bigger than other, the need for mutual respect of other people diminishes. In fact, some majority ethnic groups tend to misuse the power of being the majority to fight or intimidate the minorities. However, there is no doubt that cultural diversity can also serve as both uniting and dividing factor in conflict environment. It is therefore logical to conclude that indeed, population density does shape the nature of conflict in the case of South Sudan through competition for resources and conflict of identity.

²²Interview with Participants in Malakal.

²³Interview with respondents at Rhino Refugee Settlement.

²⁴Interview with respondents in Yei.

²⁵Interview with respondents in Yei.



Focus group discussion in Yei

4.9. Do economic factors such as fluctuating economy contribute in shaping the nature of conflict in South Sudan?

Fluctuating economy is characterized by instability in the market such as rapid decrease of the value of the local currency against the foreign currencies, pushing the prices of basic goods beyond the purchasing power of average citizens. The result is that people are pushed to the extreme to survive and this contributes further to conflict and violence as cases of high robberies, ambushes, armed robberies, public and private sector corruption among others increase as people look for illegal means of survival. In addition, rising prices of commodities leads to increased tensions among the citizens as livelihoods are hardened and little access to basic needs like food results into tensions, which is often a trigger for conflict as well as hatred, hate speeches and high rates of crime all lead to conflict.²⁶

²⁶<https://blogs.worldbank.org/africacan/how-conflict-and-economic-crises-exacerbate-poverty-in-south-sudan>

Furthermore, gender based violence increases as men take it on their families after failing to provide for their families. At one time the Medical Officer in charge of Juba Teaching Hospital told the Media that there were 52 women admitted in the hospital in a space of one day with injuries due to gender-based violence.

There are also cases as reported by the media in Courts although the Judges are withholding details until investigations are completed and the Courts make Judgement. There are also cases where marriages have broken down and the women have return to their parent's homes. There is need for research to be conducted to established figures and generate accurate data on the issue of gender-based violence in South Sudan as a result of the conflict. This will help support interventions for the victims of gender-based violence.

Poor unemployed youths can easily be mobilized to fight on behalf of various political groups. Frustration leads to criminal activities such as cattle raids in rural areas, which contributes to protracted conflict. It is also noted that some political groups tend to choose hard economic times to mobilize people against the government. Persons who are affected by fluctuation usually end up robbing and killing in order to get something to survive on. Fluctuating economy also contributes in fueling conflict because some people want to take advantage of others.²⁷

For example, the devaluation of the South Sudan Pound in December 2015 brought economic hardships, which in turn resulted in increase in urban crimes such as "unknown gunmen"²⁸ killing and kidnapping innocent persons.

In 2021 the IMF gave the government of South Sudan some 52.3 million US dollars²⁹ and 174 million USD³⁰ to inject to the market with the aim of strengthening the South Sudan Pound against the USD. The Central Bank of South Sudan upon receiving the money decided to auction the USD in the Central Bank to some selected businesses to bring more goods to the market with the aim of reducing the market prices. The result was the exchange rate of the SSP against the USD dropped from 65,000 SSP to 45,000 SSP. Other reports made public by government officials including the police spokesperson report of Highway robberies and kidnapping on Juba-Nimule, Juba-Yei, Juba-Kajokeji, and Juba-Bor Highways with kidnapers demanding SSP 5 million per person kidnapped. Some of the kidnapers were arrested but the commissioners and the police spokes- person gave no details saying investigation is ongoing without revealing any details including the identities of the kidnapers and those kidnapped.³¹

The economic fluctuation led to suffering of civil servants through low salaries that are often not paid on time. As a result of frustration, some civil servants joined different warring parties to the

²⁷<https://www.unicef.org/southsudan/media/2071/file/UNICEF-South-Sudan-GBV-Briefing-Note-Aug-2019.pdf>

²⁸<https://www.reuters.com/article/us-southsudan-violence-idUSKCN1NZ24D>

²⁹<https://www.bloomberg.com/news/articles/2020-11-15/south-sudan-to-use-its-first-imf-funding-to-stabilize-currency>

³⁰<https://www.voanews.com/africa/south-sudan-focus/south-sudan-secures-174-million-imf-loan>

³¹<https://www.theeastafrikan.co.ke/tea/news/east-africa/south-sudan-highway-attacks-3360190>

conflict in South Sudan. In addition, lack of basic needs, employment and good economic planning do fuel and prolong the conflict, sometimes leading some communities to opt for the use of wrong means of getting their daily bread. The prolonged conflict in Jonglei for example, is attributed to poverty, unemployment among the youth and due to inadequate resources, they continue to fight and hate themselves.

Economic fluctuation therefore fuels conflict because in South Sudan everybody becomes dependent on handouts, leading to corruption, robbery and other crimes.



Introduction to the Objectives of the Research: Rhino Refugee Settlement – Arua-Uganda.

4.10. Do you agree that third party intervention contributes in shaping the nature of conflict in South Sudan?

Third party actors are considered as neutral forces or parties who are credited for uniting warring groups through dialogue, peace mediations and peace building efforts. Third party actors in case of conflict in South Sudan include IGAD, AU, EU, UN, women groups, faith-based groups and civil society organizations whose role included bringing bitter South Sudanese rivals around the table to discuss sticking issues and to come up with compromises for the best interest of the people.

However, some third-party actors do contribute to conflict escalation, especially when they come to mediation with vested interests that fan the conflict instead of deescalating it, or when they take sides during the mediation to the detriment of the opposing side. This situation heightens the conflict as aggrieved party only sees the military solution.

A good example is the participation of the Ugandan army alongside South Sudan government forces in offensives against SPLM/A IO in January 2014, at the time when President Yoweri Museveni of Uganda was a principal in the IGAD mediation efforts. Similarly, Sudan government which was part of mediation was harbouring and supporting the opposition, hence taking side in the conflict.

4.11. Do you agree that social media contribute in shaping the nature of conflict in South Sudan?

The views of the participants in the selected Regions for this study as mentioned earlier agree that Social media has been credited with the spread of wrong, sometimes fake information and hate speech and this has been a key ingredient in negatively shaping the South Sudan conflict. Facebook live videos of incitements for war and violence mostly broadcasted by elites and influential people in diaspora was one of the most important platforms of hate speech, which this research has identified, because it was misleading and sensational. Indeed, social media posts mostly on Facebook and WhatsApp, depicted graphic content which was used for agitating communities into violence such as photos and videos of dead bodies purportedly of crime committed against people of a particular community or ethnic group, simply to agitate them into conflict or violence.



Explaining the questionnaire to one of the respondents at Hai Lomuku in Yei

4.12. How has displacement due to conflict in South Sudan affected the way you communicate and receive information from people including family members?

Conflict doesn't come with only displacement of people from their communities and homes, but also with destruction of property and the general infrastructure in terms of roads, power lines, health and education centres as well as communication systems such as telecom towers and boosters. Sometimes people also escape their homes without their communication gadgets such as mobile

phones. Indeed, all the aforementioned factors disrupt communication between displaced families making contact tracing difficult. Sometimes, communities have to relocate to new areas with no communication. One of the staff members working with Access Radio 88.8 in Yei said "I believe conflict affect connectivity in Yei, because many people right now are disconnected from their families and up to now they are trying to trace their families³²". A social media user in Yei interviewed also narrated that "since the conflict broke out, most of our parents, brothers and sisters are not with us. Most people are scattered so it becomes very difficult to find your love ones. Up to now some of them have not yet found their parents, relatives and friends and this makes it hard to connect and stay in touch with family and friends."

A news editor of radio Easter 94 FM the Voice of Truth and Life, and the correspondence for Juba Monitor in Yei said:"seriously conflict has contributed very negatively with regard to connectivity in the sense that we people of Yei, we have never been experiencing conflict related issues but from 2016 when the conflict started, many of us are disconnected from our love ones. When the conflict started people from the rural areas were not able to access the town and people from town were not been able to access the rural area, simply because the government did not want anyone from the rural area coming to town. Those coming from rural areas were suspected to be rebel loyalists and anyone who goes from the town to rural areas were accused of supporting the government."

For that reason, he emphasized "if you don't want to lose your life, you have to just get to stay where you were, for if you were cut off in rural area you had to remain there and if you were cut off in town, you have to remain there. In fact, until 2017, we were not able to go to Uganda, even Congo, simply because all the roads to these neighbouring countries were being controlled by either government or the opposition. As a result it really plays a great role in disconnecting us from our love ones".³³

4.13. How did lack of communication during the conflict in South Sudan, which resulted in separation of families with no contact, make you feel?

The first feeling of not being able to contact loved ones during conflict as a result of disconnection is that of panic and desperation as people are consumed with trying to locate loved ones. Lack of communication during conflict in South Sudan which resulted in the separation of families with no contact made many people feel isolated and frustrated to the extent of causing psychological problems including post-traumatic stress disorders leading to many cases of temporary and long term, or even permanent insanity.

People worry about the fate of their loved ones during the conflict especially if they cannot be located due to interruptions in connectivity as a result of conflict that disrupts the activities of telecommunication companies to provide communication services to its clients. Anxiety over the fates of loved ones gradually build, leading to intensive stress and the feeling of worry, and in the

³²Interview with a respondent in Yei.

³³Interview with a respondent in Yei, March 2021

long run these feelings of longing and bitterness lead to depression and trauma. In extreme cases, people who cannot connect with their relatives declare them dead as a way of dealing with the anxiety.

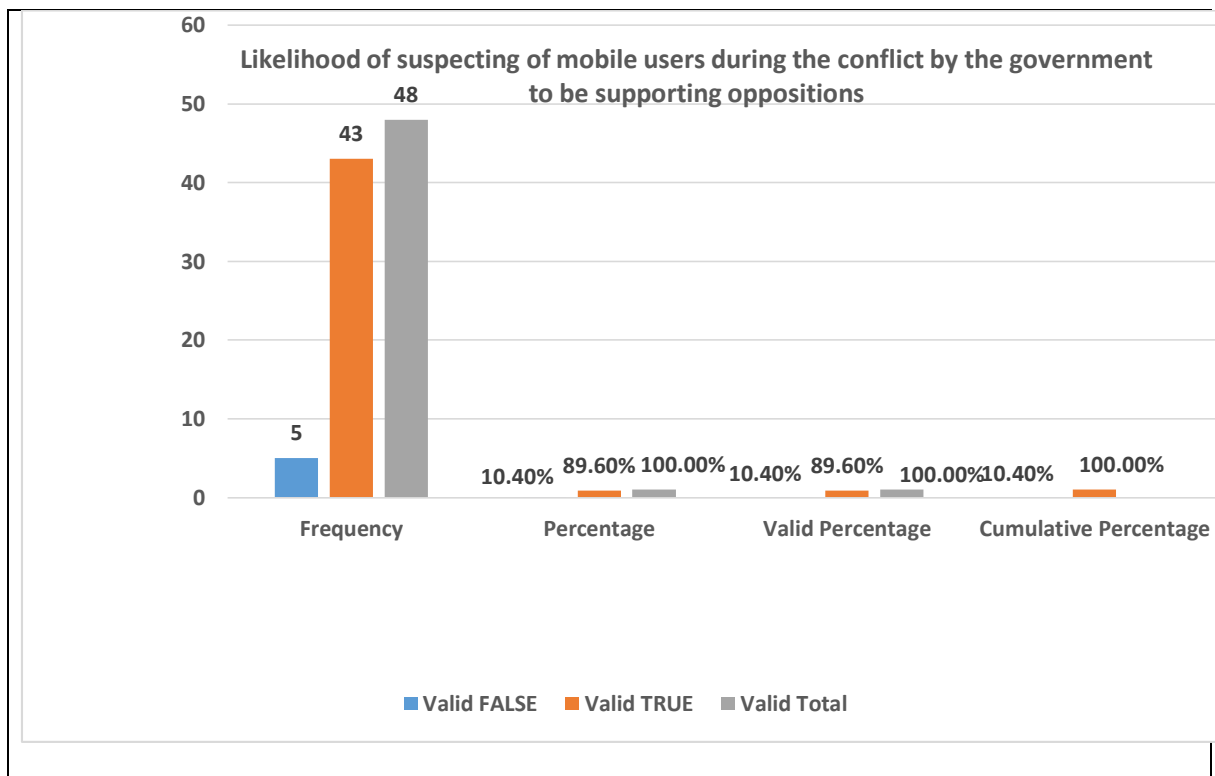
4.14. Is it true that mobile network users during the conflict in South Sudan were likely to be suspected by government security forces leading to accusations of being an SPLA/IO or opposition supporters?

As the news Editor in Yei said in an interview for this study already mentioned above, from 2016 when conflict started in Equatoria region and many of people were disconnected from their love ones. Indeed, people from the rural areas were not allowed access towns and those from towns were prevented from visiting rural areas, because doing so rendered any one a suspect to be a rebel supporter and vice versa

What this means is that during the conflict the population in South Sudan was divided into two:

- (1) those living in government controlled areas were seen by the rebels as supporters of the government and when they cross to rebel controlled areas they are arrested on suspicion of spying for the government;
- (2) those living in rebel controlled areas are seen by the government as supporters of the rebels and when they cross to government controlled areas they are arrested on suspicion of spying for the rebels.

Figure 7. Likelihood of suspecting of mobile users during the conflict by the government to be supporting oppositions



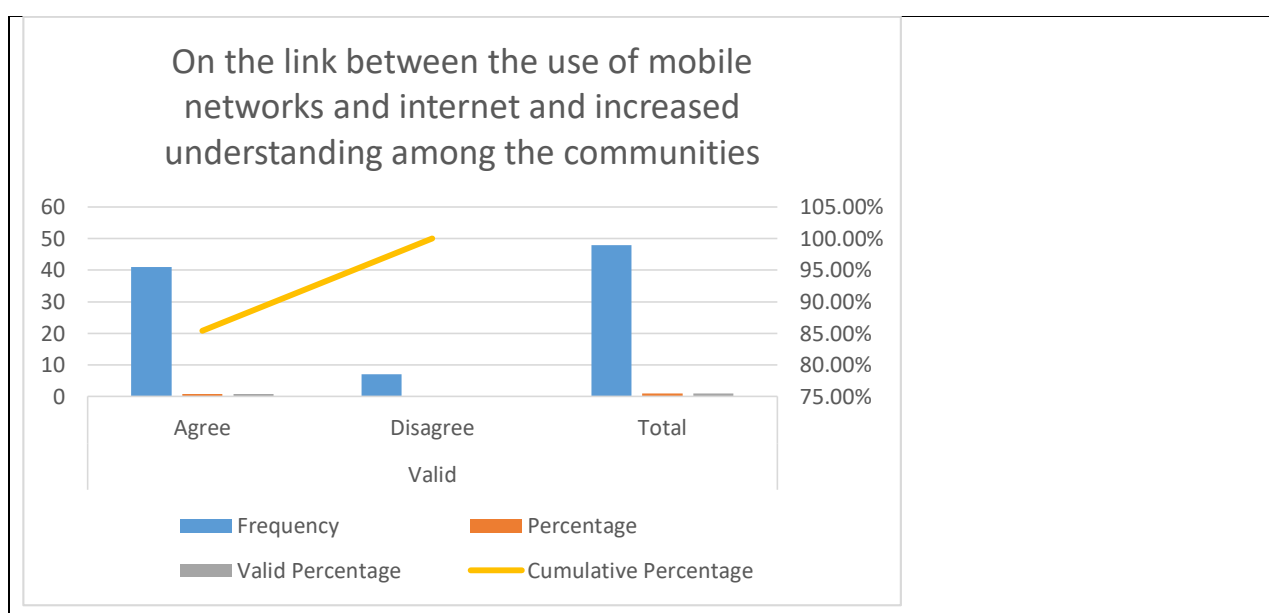
Source: Primary data 2021

Study findings above show that 89.6% of respondents agreed that mobile networks users were likely to be suspected compared to 10.4% who said it is not the case. Respondents from the selected

Regions of Juba, Yei, Malakal and Rhino Refugee Settlement agree that government secret agents often suspected mobile network users for collaborating with opposition. As pointed out earlier, these respondents include Mobile Network managers/agents, National Communication Authority managers, Journalists, Civil Society activists, Social media users, and Human Rights advocates.

4.15. Do you agree that in a post conflict situation such as in South Sudan, communication through mobile networks and internet (satellite phones, messenger, WhatsApp, telegram, skype and zoom) contribute towards increased understanding among communities leading to peaceful climate and coexistence?

Figure 9: On the link between the use of mobile networks and internet and increased understanding among the communities.



Source: Primary data 2021

The findings above show that majority of the respondents, 85.4% agreed that in a post conflict situation, communication through mobile networks and internet contributes towards increased understanding among communities leading to peaceful climate and co-existence compared to 14.6% who disagreed.

Indeed, since September 2018 when the Revitalized Agreement on the Resolution of Conflict in South Sudan was signed, the major networks in the country (Zain and MTN) whose connectivity was interrupted due to conflict in December 2013, reopened their networks, particularly in Upper Nile and Equatoria regions, where mobile network operations were closed due to conflict. Therefore, access to network telecommunications in most parts of South Sudan was restored and telephone connectivity is being intensively used in peace building campaigns by both the government and opposition supporters.

4.16. Does lack of access to mobile networks/towers (Zain,Vivacel, MTN, Thuraya satellite network) have an effect on conflict and connectivity in the context of South Sudan?

Majority of the respondents agree that lack of access to mobile networks/towers (Zain, Vivacel,MTN, Thuraya satellite network) have an effect on conflict and connectivity in the context of South Sudan. In Malakal all the participants in the group discussion agreed that “conflict affects connectivity in South Sudan, because it causes insecurity, which in turn limits travel by road, air and river”³⁴. They added that conflict leads to destruction of communication equipment that are key in relaying communication. This, according to them, prevents people from having access to communication network in form of mobile communication.

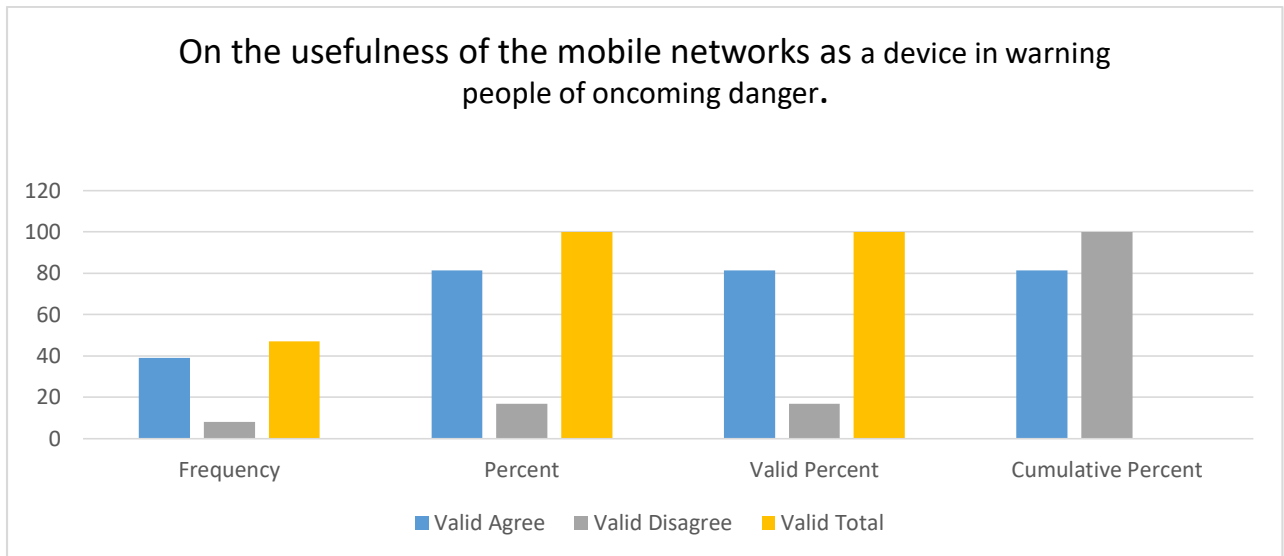
In Rhino Refugee Settlement in Arua-Uganda the respondents said “destruction of roads used for travelling and connection to other communities affect the movement of people. Destruction of bridges that connect one community from the other side of water body (River) to the one in the opposite side also affects the people ”³⁵.This is in addition to lack of or poor maintenance of roads and bridges. The Yei Juba road is poorly maintained, including Yei-Kaya portion, hence affecting connectivity. Also destruction of telephone communication infrastructures like antennas for MTN, Zain and Viva- Cell as well as lack of power to connect mobile phone network due to the destruction of the antenna and poor or no maintenance.

³⁴ Interview with respondents in Malakal.

³⁵Interview with respondents at Rhino Refugee Settlement.

4.17. Can mobile networks during conflict like the one in South Sudan be a useful device in warning people of oncoming danger?

Figure 10: On the usefulness of the mobile networks as useful device in warning people of oncoming danger



Source: Primary data 2021

The findings above show that majority of the respondents, 81.2% agreed that mobile network during conflict can be useful device in warning people of incoming danger compared to 16.7% who disagreed. Access to mobile network did play a positive role in warning people in advance as warring parties prepare themselves for counter attacks. During the conflict civilians were able to exchange information before any attack making use of mobile networks, hence reduces possibility of facing consequences of war.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1. CONCLUSION

The research has unequivocally established that indeed there was a relationship between conflict and connectivity in South Sudan with traceable negative consequences and direct impact on the population. Access to mobile network and internet by leaders in government who are tasked with running the affairs of the country during the conflict has both positive and negative effects as they use these tools selectively to get what is in their interest from the population.

Connectivity to mobile network and internet service has also contributed positively in peace building efforts as access to areas, people and production areas has become easy. Indeed, communication has become a means to build connectivity among people in peace time. Mobile networks and internet also allow people to share and interact with people of different entities through creating peace forum for dialogue in which everyone can be allowed to have his or her opinion on issues affecting country and the people. It also enables communications among people to spread message of peace and hope. This is mainly used by religious leaders and civil society organisations. Instate of using the internet for hate speech people use it to preach love and togetherness.

Connectivity to Mobile network and Internet contributes to peace building in a way that one relates to others through how they are sharing the information for instance one can get information that is posted online and its helpful to one's life and one may not keep quite with that information because it can be shared with other people. In this way it brings peace among the people and the country. Some people in the community are advocate of peace they advocate for peace and telling people how they can unite themselves in order to live in peace.

The study also has established that infrastructure in South Sudan during the conflict had two contradictory roles of escalating and de-escalating conflict. Paved and tarmac roads could act as deterrent to road robbers and bandits, while bad roads can discourage attacks as they become inaccessible to the conflicting groups.

Population density has equally positive and negative consequences and impact on the population during conflict. Moreover, economic factors such as fluctuating economy, characterized by instability in the market in relation to prices of commodities, has contributed to increased violence, corruption and robbery as people struggle for survival.

Third party intervention in the conflict in South Sudan had both positive and negative consequences, depended very much on the interest of the intervening parties and what they intended to gain through their intervention in the conflict. Social media in South Sudan contributed, especially between 2014 and 2019, through spreading of wrong information including incitement, disinformation, fake news, hate speech, leading to escalation of conflict among the communities.

Displacement of the population in South Sudan due to conflict has equally resulted in panic and desperation as people became isolated and frustrated in an effort to trace their lost family members and love ones. These frustrations also led to cases of stress and post-traumatic short and long term as well as permanent insanity. Some of the mobile network users in South Sudan during the conflict faced threats from government security organs or officials who suspected them to be communicating with the SPLM/IO members and other groups opposed to the government.

Finally, the research has also established that indeed, NGOs in South Sudan mostly relied on mobile network and internet to remain in touch with their staff and field officers. It was also established that Mobile networks during conflict were useful device as they provided early warnings to the people of incoming dangers.

5.2. RECOMMENDATIONS

After thorough investigations, analysis of the findings and based on other observations, the following are the recommendations of the research:

1. **Security:** Mobile network and Internet Companies operating in South Sudan must regulate and monitor access to the use of their networks as it has been found out in this research that some individuals, groups, organizations and institutions use it for negative purposes. They should block, suspend or deny services to anyone who use the network or devices to spread hatred and hate speech leading to conflict and war.
2. **Economy:** Control and monitoring of flow of information to the public based on speculation of fluctuating economy often leads to panic and instability in the market and force the population to struggle for survival. This also results into committing of crimes such as robbery, corruption and violence which must be addressed by Mobile networks and Internet industry in collaboration with the government.
3. **Third party** intervention in conflict in South Sudan should be allowed only if it aims at creating the environment for dialogue, mediation and resolution of the conflict through peaceful means by bringing the conflicting parties together. Regional actors and international organizations' intervention should be neutral in mediation and should avoid promotion of conflict and fuelling of the war for their national interests.
4. **Government Institutions, NGOs and Other Humanitarian organizations** in South Sudan must cooperate to address the issue of displacement of the population as a result of conflict. This is to enable the displaced people to return to their homes and places of origin as they were forced out by conflict and not of their own making. They should also assist those separated by the conflict to trace their missing family members and re-united them as a family.
5. **The Transitional Constitution of the Republic of South Sudan 2011 Part Two: Bill of Rights-Article 24** allows for Freedom of Expression and Media. Government security organs should discourage suspecting, arresting and detaining Mobile network and Internet users in South Sudan for suspicion of being anti-government even though they are exercising their right of free speech under the above law of South Sudan

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APPENDIX 1

1. Internet Service Providers (ISPs)

There have been new inventions coming into South Sudan market such as the use of satellite equipment for internet known as the Very Small Aperture Terminal (VSATs). As of May 2016, more than 15 Internet Service Providers are operating in South Sudan.

1. IPTEC LTD



IPTEC LTD is one of the licensed ISP and ICT Service & Solution Company in South Sudan. They provide Internet service via WiMAX and Satellite (V-SAT), Data communication services, Software & Web Development, ICT Service & Solutions and ICT Infrastructure Development.

IPTEC offers 4G WiMAX Internet Service in Juba and their VSAT Service is based on C-Band, KU-Band and KA-Band. IPTEC Provides Corporate Customers System Integration & Networking Solutions, ICT Consultancy, Software Development, Website Design & E-commerce solutions, and ICT Equipment Supply.

2. RCS Communication



RCS offers various Internet connectivity options, delivered via a variety of VSAT (available across the country), WIMAX (currently limited to Juba, South Sudan) and mobile satellite platforms.

3. Bilpam Communications



Bilpam Telecommunications Co. Ltd was incorporated and licensed in 2006 as an Internet Service Provider in South Sudan. They provide competitive pricing and ground technical support to various companies in the oil and gas industry, banking, manufacturing, Governmental and Non-Governmental Organizations and medium and large business enterprises. Also, they provide broadband solutions for residential users.

4. Fast Network Ltd



Fast Network Ltd (brand name fastNet) provides network designing; delivering and deploying WiMAX based broadband wireless access (BWA) solutions in Juba, South Sudan. They have embraced WiMAX large internet service portfolios.

5. Space Engineering Ltd



Space Engineering Ltd offers internet connectivity that utilizes the latest VSAT Satellite technology. Their VSAT satellite communication is available all-over South Sudan via C-band and Ku band satellite. They provide VSAT services, disaster recovery, broadband internet, private networks, IP termination services.

APPENDIX 2

2. Mobile Service Providers

1. GEMTEL Green Network



GEMTEL Green Network was the first telecom operator to launch operations in South Sudan in 2007. It has developed services and expanded its footprint to reach all remote areas. Gemtel Green Network used to offer, before it was closed GSM services as voice (Prepaid, Post-paid Account), dedicated E1 microwave link, SMS, CRBT, PABX solutions, credit transfer, other value-added services customized as per customer's demand especially for corporate.

Gemtel Green Network covered all major towns of the ten states of South Sudan (Torit, Bor, Malakal, Yei, Morobo, Kaya, Lanya, Wau, Tonj, Mapel, Pala, Aweil, Yambio, Bentiu, and Kuacjok).

2. MTN



MTN's coverage goes all across and around South Sudan with many distribution outlets. This means MTN customers enjoy wide range of services and solutions, including Internet everywhere they go.

3. Vivacell



Vivacell went live in late 2008. Since then, it has gained brand recognition throughout South Sudan, improved telecommunication services in all areas it covered, achieved a total subscriber base close to one million and had employed over 300 workers, the majority of whom were South Sudanese. However, the company was closed down in 2018 for failing to pay back taxes to the government.

4. Zain South Sudan



Zain operates in South Sudan under a Memorandum of Understanding (MoU) with the government of South Sudan. As an independent country, the population of South Sudan stands at approximately 12 million inhabitants, with prepaid customers dominating the telecom market and accounting for around 99% of the country's overall customer base.

Today, Zain South Sudan is supported by over 300 third generation (3G) voice and data enabled network sites. The technology being deployed nationwide can easily be upgraded to super-fast 4G LTE. Providing high-quality voice and faster internet access across many parts of the country, reflects Zain's commitment to spreading its wonderful world, playing a critical role in the economic and social advancement.



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