



GSJ: Volume 9, Issue 9, September 2021, Online: ISSN 2320-9186
www.globalscientificjournal.com

**Cyclone Idai Floods and Children's Human Security: A Narrative Experience of
Cyclone Idai Survivors in Chimanimani, Zimbabwe.**

Tinashe Eric Muzamhindo¹ and Ngonidzashe Mutanana (Ph.D.)²

1. Ph.D. Student, Department of Gender and Transformative Sciences Women's University in Africa
2. Senior Lecturer, Department of Gender and Transformative Sciences, Women's University in Africa

Abstract

The aim of this study was to explore the impact of cyclone Idai floods on children's human security in Chimanimani. Being a phenomenological study of the lived experiences of individual persons living within the sphere of Cyclone Idai Flood disaster risk management interventions in Zimbabwe, the researchers adopted a qualitative study. In this study, the target population were children from Chimanimani District and Chipinge District. Some survived during this Cyclone Idai flood disaster and some did not make it. The study adopted a purposive sampling strategy to recruit ten knowledgeable key informants from Chimanimani District and ten key informants from Chipinge District. The study triangulated three data collection methods; interviews, non-participant observation, and art based data collection. Research findings showed that flood disasters impacted children's environmental security which vitiates all other aspects of their human security such as food security, personal security, health and education among others. This means that the natural hazard had a direct impact on the threat to human security of children as a whole. The researchers thus concluded that environmental hazards such as flood disasters have a potential of reversing and/or barricading sustainable development by increasing vulnerability of children to multiple causes of poverty such as lack of education and skills, food insecurity, decreasing human development and transmitting the same to the next generation. In conclusion, it can be noted that disaster and risk management frameworks used in Zimbabwe lack a special focus on children and do not adhere to principles of child-sensitive social protection.

Key Words; Cyclone Idai Floods, Environmental Security, Right to Life, Right to Shelter, Education and Food Security

Introduction

In March 2019, Southern Africa was hit by a tropical cyclone which has been rated to be among the worst to have been experienced on this continent. Named Cyclone Idai, this

disaster was caused by tropical depression that originated in the east coast of Mozambique. The tropical depression swept through Mozambique, Zimbabwe and Malawi. This Cyclone left several people dead, some survivors were left homeless whilst some were injured. Children were equally affected and this study now sought to explore the human security challenges that were faced by children during and after this Cyclone Idai.

Children are of special interest to the researchers because they are part of societal groups that are deemed vulnerable to the impacts of natural disasters, such as Cyclone Idai because they lack or have limited access to economic and social resources (Cutter et al., 2008). Children may be vulnerable because of their stage of development and position in society. They comprise 35 per cent of the world's population (U.S Census Bureau, 2008). Hence, ignoring this group in disasters, such as Cyclone Idai would disregard a large portion of individuals affected by natural disasters (Westermann, 2019). This study therefore sought to explore the human security challenges that were faced by children during the Cyclone Idai disaster in Chimanimani.

Penrose and Takaki (2006) reported that at the end of the twentieth century, 66.5 million children were affected by disasters each year. What it shows is that children in Chimanimani are not the first group to be affected by disasters. Studies have been carried about children's security, but their security continues to be exposed during these disasters. An in-depth exploration of disaster effects on their security could help governments, non-governmental organisations, churches, companies and any other organisations that are willing to help children during disasters to work together towards the protection of children. Reporting security issues surrounding children is also a necessity because they are considered to be more vulnerable to disasters due to their physical size, psychological and behavioural development levels, and complete or partial dependence on adults for various forms of support and protection (Zahran et al., 2008: 372). Furthermore, since children are undergoing rapid development in their mental, social and physical capacities, their risk is even greater because of the long-term implications of their vulnerability (Barlett, 2008).

The field of research concerning children in flooding has grown and expanded rapidly over the last decade (Smucker and Wisner, 2008). However, children's vulnerability to flooding has continued to rise, a trend projected to continue (Save for children, 2012). Therefore, there is a need for an empirical study on security to this usually underprivileged social group in Chimanimani. This will provide an insight to future organisations on how to ensure protection of children during these disasters.

Many non-markets impacts, such as loss of children or environmental degradation, are rarely measured and are not fully captured by estimates (Kousky, 2016). Children may be more vulnerable after floods as they rely on caregivers, who may be unprepared or overwhelmed. For example, young children may not communicate effectively or provide the necessary information in situations where they are separated from their caregivers. Children's physiology makes them more vulnerable than adults to certain health impacts. Thus they develop health problems with long-term consequences and may have greater trouble processing emotional trauma.

Disasters, such as this Cyclone Idai can affect children through many interrelated pathways. Floods can damage schools and health care facilities, thus interrupting education and reducing the availability of medical care (Westermann, 2019). This study sought to find out the extent of damage that was caused on children in relation to these needs. According to UNICEF (2019), in many developing country contexts, loss of income, combined with the loss of assets and higher expenditures for disaster repairs, could cause a household to send children into the labour force. Some people may be wondering the extent to which the disaster has affected the children's livelihoods. Also, as Mapaure (2017) notes, disasters can cause children trauma-related problems exacerbated by witnessing their parent's stress. Though little research has examined whether living in an area at a higher risk of floods has any effect on children, some studies have explored how living with risk can affect household income and consumption choices (Westermann, 2019).

Flood effects are mediated by the individual characteristics of children, families, communities, countries, and the disaster itself (Balaban, 2012). As such, this study examines how individual characteristics of children mediated towards security challenge, how families and communities helped in mediating this child human security challenge and lastly how Zimbabwe as a country assisted in mediating towards children's security. Children in different circumstances are unlikely to respond the same way to a particular type of disaster. Impacts on children also vary across countries due to socio-economic conditions, local institutions, and political realities that influence disaster response and recovery. This study therefore sought to investigate the impact of cyclone idai on children's security in Chimanimani.

Research Methodology

Being a phenomenological study of the lived experiences of individual persons living within the sphere of Cyclone Idai Flood disaster risk management interventions in Zimbabwe, the study belongs to an interpretivist philosophical worldview. This study subscribes to an

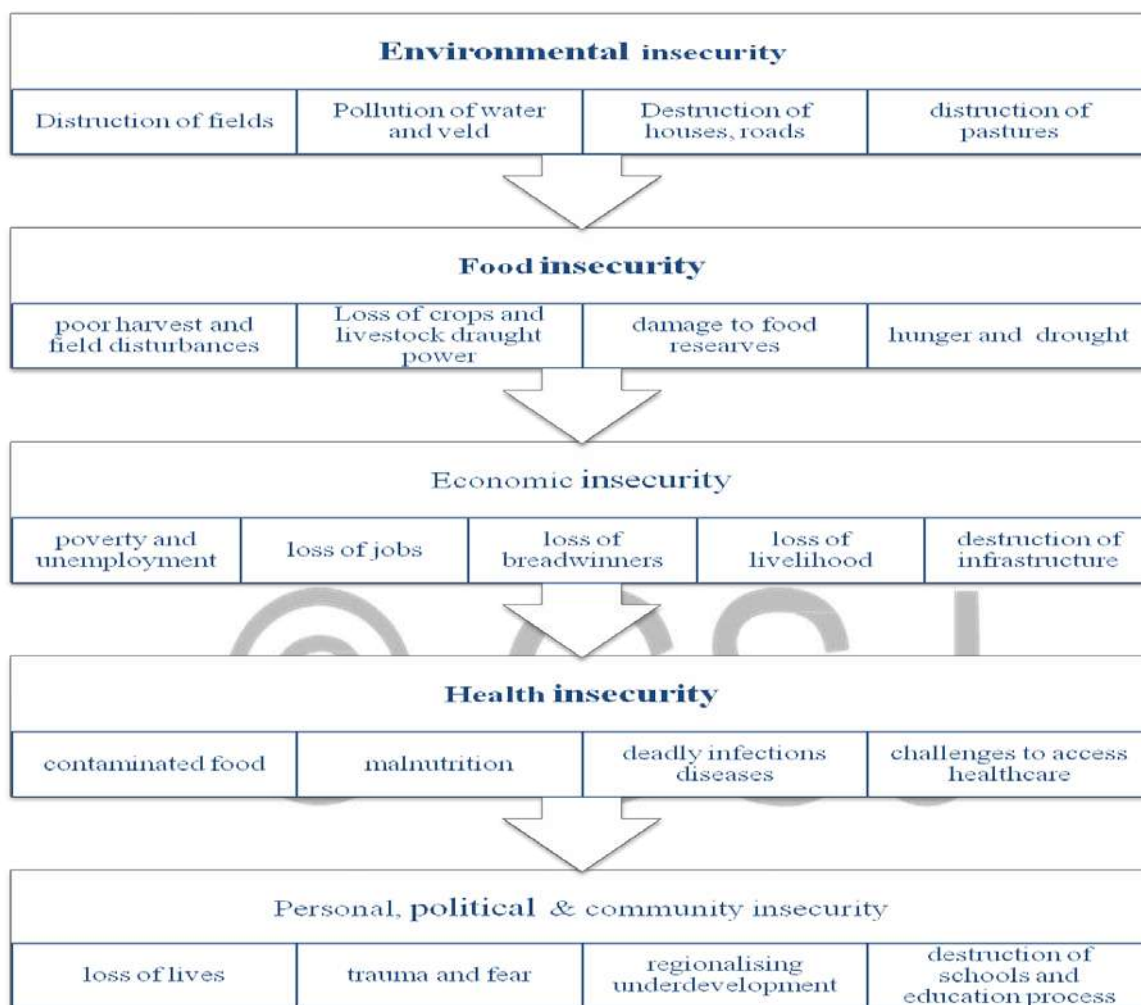
interpretivist research philosophy which contends that human nature enjoys voluntarism; people have volition to determine, construct and shape the world and reality around them (Burrell and Morgan, 1979). In line with the interpretivist philosophical worldview of the study, this study adopted a qualitative research methodology. In this study, the target population are children from Chimanimani District and Chipinge District who were victims of Cyclone Idai flood disaster and a sample size of 20 key respondents was pegged within the traditional threshold in phenomenological sampling to increase response diversity and accessibility of multiple layers of hiddenness. The study adopted a purposive sampling strategy to recruit ten knowledgeable key informants from Chimanimani District and ten key informants from Chipinge District to make a total of 20 respondents. In phenomenology, data collection methods used are those that enable greater discoveries about lived experiences, context and hiddenness (Frechette, *et al*, 2020). In-depth interviews with key informants were the most primary data collection method adopted by the researchers. However, this kind of data collection was not sufficient to describe and explore the problem under study with greater depth as it had a risk of being distorted by the researchers' voices. There was therefore the need to triangulate qualitative methods so that data from one methods informed data from the other in a hermeneutic cycle (Paley, 2014). Therefore, this study used multiple data collection methods. Findings from document studies informed in-depth interviews with key informants which, in turn, informed non participant observations. The study therefore triangulated three data collection methods; interviews, non-participant observation, and art based data collection. Data were presented qualitatively, in form of thematic summaries, analytic charts, words, themes and texts to facilitate the researcher to understand the status-quo, to plan further work based on what has been understood (Umanailo 2019: 6). This kind of data presentation was suitable for this study since it allowed presentation of data as produced through researcher's interaction with respondents who produce such data while limiting distortion to the interpretations of reality they gave. It also allowed the researcher to participate in the generation of knowledge as dictated by the constructivist research paradigm adopted in this study

Research Findings and Discussions

The study found that the Cyclone Idai flood disaster created additional barriers to child development, protection and survival which are the core objectives of the human security. The findings also indicate that Zimbabwe has been lagging behind in its commitment towards children's human security reaffirmed by the United Nations General Assembly. As shall be revealed in this study, the Cyclone Idai floods had adverse impacts on all the seven

components of the human security of children but the most directly hard-hit were environmental security and food security.

Figure 1: Summary of Impacts of Cyclone Idai on Children’s Human Security in Chimanimani



Source: Own thematic analysis of the interview transcripts.

The impact of Cyclone Idai on the two human security components discussed below had negative spillover effects on the remainder three components: personal security, political security and community security which were indirectly impacted.

Cyclone Idai and Children’s Environmental Security in Chimanimani

Children’s environmental security, as a foundation component of their human security covers such issues as prevention of natural hazards such as cyclones, floods, prevention of water pollution, destruction of shelter and cropland and droughts. The study compressed interview findings into five scripts of thematically organised summaries. As shown in the snapshots

presented below from thematic analysis scripts, Cyclone Idai affected environmental security of children in ways that injured other key components of children's human security such as food security, health security and personal security. The following key text summaries were selected for their prolific portrayal of the experiences of the impacts of Cyclone Idai on children's environmental security from a variety of people grouped into four groups from different occupational backgrounds. Box 1 below compressed findings from interviewed school authorities and Early Childhood Development service providers on the impacts of cyclone Idai on Children's environmental security and corollary effects.

Box 1: Impacts of Cyclone Idai on Children's Environmental Security/Group1

Script A: School Authorities & ECD Service Providers (X5 Interviews)

Most children were out there in boarding schools, away from their families, unaware that they will wake up the next day in a pool of torrential rains, their shelter destroyed, their clothes gone, their food damaged.

Some lost their lives, classrooms, and were traumatized to the extent that their performance deteriorated.

Emerging from this disaster, children needed new clothes, food, blankets, books, uniforms and counseling.

What we can say about impacts of the floods on the environmental security of children is that our communities were engulfed by this dark cloud of death.

Source: Snapshot from Thematic and Content analysis Scripts.

Responses given by research participants sampled from the farming community and single mothers of child victims of Cyclone Idai was compressed through thematic analysis into findings stated in box 4.2 below.

Box 2: Impacts of Cyclone Idai on Children's Environmental Security/Group2

Scrip B: Single Mothers & Subsistence Farmers (X5 Interviews)

All children's lives depend on the safety and security of the environment they live in.

Therefore, the fact that the floods descended heavily on our houses which are in most cases poorly built with weak foundation, dagger bricks and poorly thatched, it follows that life within these houses was now threatened by floods outside and the roof over our heads.

We don't talk of food, our pantries and granaries collapsed with food in them and germination and rotting followed.

You can imagine the pain of watching helplessly our hard earned livestock perishing some trees falling on them and you can't do anything.

Source: Snapshot from Thematic and Content analysis Scripts.

The perspective of children's rights defenders was captured by a Save the Children (Zimbabwe) official who noted that:

Cyclone Idai is one of those natural disasters that cause a disproportionate exposure of children to human insecurity, school dropout, sexual harassment and child labour. We have got cases of children being withdrawn from school to help parents work for food. The most affected have been girls who are made to work as farm labourers or house helpers in neighbouring towns to help sustain the family back home. The catalogue of effects is endless. Some lost their lives as the environment subjected them to unbearably cold temperature, waterborne diseases and malnutrition diseases. Some drowned whilst some fell into trenches and died trying to flee for dear lives.

Box 4.3 summarises the input from human rights organizations that specializes on defending the rights of children.

Box 3: Impacts of Cyclone Idai on Children's Environmental Security/Group3

Script C: Children's Rights Defenders (X5 Interviews)

There is no human security to talk about here. Cyclone Idai exposed children to all forms of human insecurity since a threat to the environment of such a large scale leaves children vulnerable to all forms of insecurities.

The environment is shelter, water, food, livelihood, and life.

The floods suspended all these human rights.

We are saying children were more vulnerable because they are tender;

they are not capable of taking precautionary measures and so dependent on their caregivers and parents.

It should be noted that when the disaster befell this area, a large population of children was separated from their parents in boarding schools.

As you have seen here, schools were destroyed, lost food, clothes, uniforms, and class rooms.

Children are more terrified in the absence of their mother.

Child victims also reiterated a similar account of the impact of Cyclone Idai on their environmental security and the impacts were more intense among already vulnerable and disadvantage stratum.

Box 4.4 also below summarises the findings from interviews conducted across children who witnessed Cyclone Idai Floods.

Box 4: Impacts of Cyclone Idai on Children's Environmental Security/Group4

Script D: Child Victims (X5 Interviews)

We were three girls in one room sleeping, I heard my sister who slept close to me screaming.

When we all woke up, we found that a huge pole from the roof had collapsed on top of her and she was badly injured and failing to move.

We screamed for help but there was water everywhere.

Even our grand mother could not help because her hut had collapsed.

We lost our books, our food; our clothes were swept away by water.

We lost our belongings our dolls and we keep thinking about them and remember the suffering and terror of those days.

Bridges were destroyed and we could not access our school which is across the river, our classrooms collapsed.

Our grandmother could not manage to start afresh to buy us new books, food, repair collapsed fencing in our field and kraals.

We had to quit school and try raising money for food.

Source: Snapshot from Thematic and Content analysis Scripts.

The above Boxes 1-4 revealed five key takeaway points about flood hazards on children:

- (i) floods destroyed the education infrastructure which jeopardised children's right to education and created the genesis of poverty;
- (ii) floods eliminated humanity from the face of the planet earth – children were the most endangered;
- (iii) the unpreparedness of the system mostly exposed children as they were still in boarding schools separated from their parents – this exacerbated the extent of desperation and trauma;
- (iv) floods deprived humanity of the basic needs, shelter, water, food and health – the lack of disaster preparedness made this worse;
- (v) floods fell in the category of disasters that impact the environment indiscriminately thus they suspended the enjoyment of all other rights and privileges – children suffered the most as they were not well equipped with physiological self-defence abilities.

Findings revealed that school activities were affected. It was revealed that some children spent almost three months or more without going to school. The main reasons being that parents were incapacitated to pay for their children, in some cases, bridges were destroyed and this made it impossible for children to cross raging rivers separating their villages and schools.

More findings on this issue are presented in the subtopic on the impacts of cyclone Idai on children's right to education.

The study also observed that floods led to wide spread water pollution as floods carried many forms of litter into dams and other open water reservoirs which saw people drinking contaminated water. This was reiterated by one respondent, a mother of three children who noted that:

We have witnesses a surge in number of children with serious stomach arches and related waterborne diseases among school children as water bodies and reservoirs have been contaminated by floods. Some of our children drank water from streams and pools that were our usual sources of water. They didn't know that water from those sources had been contaminated by floods that deposited many forms of pollutants from surrounding towns and villages.

The floods also destroyed agricultural investments, farms and crops which increased food insecurity in the affected communities. This was well captured in one of the interviews carried out during the study wherein a participant stated that:

Our cropland was destroyed, our homes were swept away, and we lost houses and livestock in the flood. Children were forced into hunger and drought as our pastures were waterlogged for some days leading to the destruction of vast portions of grasslands. Our cattle died last year because there was no sufficient food for them.

The destruction of food production as described above has left children vulnerable to child labour, food insecurity and malnutrition diseases.

Environmental security is very important to children's health, well-being, education, sustainable livelihoods among households and communities. Children suffer the most from flood disasters and the impact is carried forward to the next generations in form of extreme poverty. For instance the then UN Secretary General, Ban Ki-moon in December 2007 at high-level inter-governmental negotiations in Bali; Indonesia stressed that "Climate change affects us all, but it does not affect us all equally. Those who are least able to cope are being hit hardest. Those who have done the least to cause the problem bear the gravest consequences" (UNICEF, 2009). Thus their right to life, health and education depend on the nature of environmental security and the precautionary measures taken by government to cushion children in the event of natural hazards.

4.3.1.1 Threat to Children's Right to Life

Children's right to life depends to a greater extent on their environmental security as a foundation component of human security (UNDP, 2016). Children's right to life was affected

by the cyclone Idai floods in many different ways. Firstly a number of children were killed by the natural disaster with an estimate of at least 9 000 children dying in the areas of Chimanimani, Chiredzi and Mutare (Oxfam, 2019). The persisting flooding drowned a lot of the children who could not swim and locate escape routes out of the trenches created by the overflow of mainstream rivers. Interviewees reported that the inability of children to escape the trenches and seek help from the outside rescue teams contributed to many of them succumbing to death. This entails that due to their physiological (strength) limitations that make children more vulnerable to natural disasters compared to adults. This has also been revealed in previous studies on children by Holloway and Wheeler (1996) who found that children are especially sensitive to changes in the climate because they are physiologically and metabolically less able than adults at adapting to flooding and other climate-related exposure.

Secondly children were affected by the sudden flooding and harsh temperatures which traumatised them and caused a lot of them to panic leading to irresponsible decision making. The cold temperatures accompanied by strong winds caused terror and a push to run for dear lives among traumatised children resulting in injury and accidental death of such children who could have been safe if they had remained motionless. One interviewee noted that:

The constant torrential rains caused a lot of the children to suffer from anxiety and trauma, and feeling helpless they tried to take the issue into their own hands by going out of the house thinking they would find help. This irrational decision making was common with a lot of children in the Ngunu District Area.

Decision making under traumatising conditions caused many children to try and escape but to no avail as most of them fell into trenches and died because of the cold temperatures. The above mentioned statement reveals a special reaction peculiar to children that make them more vulnerable to the effects of flood disasters. The study found that children are traumatised by the sight and sound of destruction and violent nature of floods which triggers dangerous behaviour injurious to self. This is similar to findings in previous studies that reveal a relationship between young age and self-injurious decision making during natural disasters (Holloway and Wheeler, 1996; Smith and Ward, 1998). An estimate of about 400 children were found dead in trenches and streams which supposes that the panic attack and trauma influenced them to make self-injurious decisions (Government of Zimbabwe, 2019 Manicaland Province Cyclone Idai Disaster Report, 11 May 2019).

Local villagers visualised and described the events as catastrophic to children who felt stranded in houses for days without food to eat because of the harsh weather patterns outside.

This led to an estimate 158 children in Chimanimani dying of hunger that had persisted for almost a fortnight (WHO, 2020). This reveals that flood disasters expose the already impoverished families to hyper food insecurities that grossly affect children whose physiological tenderness is strained to unendurable levels. This is consistent with findings from studies conducted in Pakistan, India and Indonesia whereby numerous children died of hunger in flood disasters (Brooks & Duncan, 1997; Sullivan et al., 2013; Singh, 2015). This study reveals that a high percentage of children die in disasters because of hunger and starvation which is unendurable for most children.

The constant cold and violent wind accompanied by torrential rain were life threatening as a lot of the blankets meant to warm them were either swept away or very wet. This led to a majority of them succumbing to death due to the cold that caused fevers in most of children whose immune system is vulnerable compared to that of adults. The aforesaid is in tandem with findings from a study which revealed that children's immune system is slightly weaker than that of an adult thus they are more assailable and susceptible to cold and water borne fevers (Alcock and Ferguson, 2012; Lai et al., 2013). Interviewees were unanimous that the threats and risks to children's lives were beyond comprehension as the devastating landslide caused by flooding further intensified the risk of life of children. The cyclone Idai floods exacerbated existing risks for children while creating new risks of disease outbreaks. Children were already at risk and vulnerable to disaster because of their reliance on adults.

Interviewees also raised their concerns of the inefficiency (slowness) of government through its rescue unit team to act swiftly in maneuvering ways to rescue children who were drowning in trenches and dying because of the cold temperatures. A child-centred participatory research project in El Salvador and the Phillipines found that children have a unique ability to conceptualise and understand risk in relation to their own experience of vulnerability, and that children's risk perceptions differed according to age and gender (Tanner, 2010). Involvement or threat of disasters can interfere with their daily living, particularly through children's reaction that can cause significant distress (La Greca, 2002). Children are more likely to be killed or injured than adults, and are generally more susceptible to health disorders, diseases, and malnutrition (Akter and Fatema, 2011) because of poor diet, age, and unsafe environments. Floods may force children to miss or drop out of school as a result of destruction of schools or to help families recover from events. Girls are said to account for the majority of children taken out of school (Babugura, 2008) suggesting the impacts of disasters differ across gender of children. Children are more vulnerable to natural hazards because they are more likely to be killed or injured during disasters than adults. If children are subjected to social or economic inequalities in income, location and

gender have been shown to have a dramatic impact on children's chances of survival, their health, nutritional status and education. This also brings into question the right to life entrenched in the Constitution of Zimbabwe Section 48 subsection (1) which guarantees every person the right to life in all circumstances including in an event of a disaster. The right to life also obligates the government to take appropriate measures to safeguard life by making laws to protect people and, in some circumstances, by taking steps to protect people if their lives are at risk. The Universal Declaration of Rights Article 3 subsection (1) further reinforces the right to life stating that every human being has the inherent right to life and that this right shall be protected by law. No one shall be arbitrarily deprived of his life. The extent of threat to children's lives posed by floods was reported to be very high especially for children who already had special needs like the disabled and those with pre-existing medical conditions. Box 5 below presents a summary of content identified under the 'vulnerable' children theme.

Box 5: Impacts of Cyclone Idai on Vulnerable Children

Script A-D: Notes & Themes on Vulnerable Children

The situation was very sorrowful for children with disabilities and those from backgrounds of extreme poverty.

Children with disabilities could not save themselves as they depend on their parents to move from one point to the other and

Worse these communities cannot afford to buy modern equipment for their blind and physically impaired to escape danger.

As for children from extreme poverty background, the impacts were severe as their shelter was already poorly built and vulnerable.

They were already malnourished and incapacitated to withstand trying temperatures and days without food.

Source: Snapshot from Thematic and Content analysis Scripts.

The government rescue team intervened very late leading to death and injuries to many children. It is reported that more than 3 000 children could have been rescued if rescue efforts were swift their operations (The Sunday News, 31 March 2019, 'Disaster response: Learning from Cyclone Idai', <https://www.sundaynews.co.zw/disaster-response-learning-from-cyclone-idai/>).

A key goal of the Agenda 2030 for Sustainable Development is to improve efficiency in implementation of disaster risk management. The death toll of cyclone Idai stands at 34731, including at least 251 Chimanimani and residents 32 344 people were reported missing and 183 injured (Save the Children 2019, DTM, 2020). Findings show that the floods forced

families, especially poor ones, to make decisions that put children's lives at greater risk as attention shifted to rescuing their valuable assets that were being swept away by floods and very little attention was given to children. The interviewees corroborated that the ability to evacuate was compromised by the darkness which increased children's risks as their poor eye sight mixed fear meant that they required special assistance to locate escape routes. Owing to the fear of the darkness as many electricity power-lines had been disrupted, most of the children together with their families remained inside the house putting them at greater risk when the houses started to collapse in water. Box 6 captures the popular themes that emerged from the findings on how escaping the flood was made worse by the unpreparedness.

Box 6: How Lack of Disaster Preparedness made Escaping More Difficult.

Script A-D: Key Notes & Themes

People were caught by surprise in the middle of the night.

Darkness engulfed the community. There was no electricity.

Electricity poles were blown down by the stormy floods breaking electricity lines and turning all lights off.

Even those who had torches failed to locate them since they woke from sleep panicking as houses and trees were falling with great noise.

We only saw water flooding into the house and it was too late for us to evacuate.

You could only see clearly after lightning flashes that water had abandoned its channel.

The right to life of most children was grossly infringed by the cyclone Idai events.

Source: Snapshot from Thematic and Content analysis Scripts.

4.3.1.2 Infringement of Children's Right to Shelter

Children's right to shelter which also relies on the extent of environmental security was jeopardised by Cyclone Idai floods and impacts thereof.

Figure 2: A photo of survivors of the Cyclone in Ngangu.



Source: Adapted from OXFAM 2018.

Figure 2 above reveals four critical dangers and/or exposures to risk faced by children:

- (i) there is risk of respiratory diseases and complications which affect children the most as their respiratory systems are still developing and can easily be damaged by dusty particles in these half-destroyed houses;
- (ii) skin diseases such as ringworms emerge from constant exposure, sitting and sleeping in damp and muddy floors;
- (iii) the house exposes inhabitants to very cold and windy weather and storm and children's skin is very sensitive to cool temperatures resulting in cases of pneumonia that were reported by respondents;
- (iv) scorpions, biting insects such as mosquito and snakes had easy access to these half-destroyed houses which terrified the nights of children and will not leave their memories anytime soon.

One child interviewed during this study noted that:

Those nights will not be forgotten, we slept in wrecked houses. The cold stormy rains were getting into our houses; mosquito would bite use till morning. There are some of us who reported cases of scorpion bites in such exposed houses. You will take long to fall asleep because of fear of any dangerous animal or insect invading your blankets whilst asleep. We were really scared and traumatized for months.

The study found that Cyclone Idai floods caused landslides that destroyed an estimate of 100,000 homes, leaving 2000, 000 children homeless and vulnerable to the harsh weather temperatures (Chanza, 2020). The displaced citizens, especially children, who were most affected by the loss of shelter find it difficult to adapt to the new changes, which has intensified the humanitarian challenges in Chimanimani, Chiredzi and Mutare. Findings of this study are consistent with Tracking Displacement Matrix (DTM) (2019) which estimates that about 270, 000 individuals were affected by the cyclone Idai and 50, 905 people in 12 districts were displaced while 223 households still reside in displacement sites. The displaced citizens, especially children, who were most affected by the loss of shelter find it difficult to adapt to the new changes, which has intensified the humanitarian challenges facing the country.

Cyclone Idai floods led to serious homelessness and destitution of children. Homeless children as a result of the Cyclone Idai floods were estimated to be about 1300 including those displaced and rehabilitated into care homes (Plan International 2019, Save the Children 2019, UNICEF 2020). Numerous houses were destroyed by the landslides caused by the floods as huge rocks plundered the already fragile rural homes. Interviewees pointed out that loss of shelter for a majority of the children has ripple effects on children's well-being. Children are vulnerable to waterborne diseases as one respondent articulated that children live in constant fear of another disaster as some of the tents are giving into the harsh weather conditions.

The United Nations estimated that Cyclone Idai and subsequent flooding destroyed more than \$773 million in buildings, infrastructure, and crops (UNICEF, 2019). Research findings show that 100,000 homes were damaged and an estimate of more than 5 000 children were left homeless in the aftermath of the disaster (UNICEF, 2019). This tallies with the statistics from the government of Zimbabwe records which show that 20,002 households (61.5%) or 100,106 people (74.2% of the 2012 population) in Chimanimani and 18,330 households (28.3%) or 91,658 people (30.7% of 2012 population) in Chipinge were affected by the cyclone (UNICEF, 2019 <https://www.unicef.org/appeals/zimbabwe.html>; Government of Zimbabwe, Manicaland Province Cyclone Idai Disaster Report, 11 May 2019).

4.3.1.3 Right to Education jeopardised by Cyclone Idai Floods

The right to education also relies on environmental security. The study found that Cyclone Idai affected education in a myriad of ways that have negative impacts children's self-development. Box 7 below gives a summation of findings across interviews on the impact of floods on the education of children.

Box 7: Summation of the Impacts of Floods on Children's Education.

Script A-D: Key Notes & Themes - Children's Education

Children's right to education was infringed as some of them were withdrawn from school to assist parents to fend for the family.

Some schools became inaccessible as roads and bridges linking communities and schools were destroyed and turned into very deep rivers and dangerous water reservoirs.

Children spent months sick and traumatised failing to go to school.

Classrooms were collapsed by heavy floods destroying books, teachers' resources, food and incapacitating teachers who were also traumatised in need for psycho-social support.

Some children could not manage to go to school as they were hit by hunger, lack of proper clothing and uniforms while other parents became incapacitated to continue paying fees and buying school equipment for their children.

The schools were not informed of the impending disasters

Source: Snapshot from Thematic and Content analysis Scripts.

Firstly the destruction of infrastructure which consists of classrooms and offices meant that there were inadequate facilities for children to learn. Research findings reveal that over 3,400 classrooms were destroyed in cyclone-affected regions, including 713 in the Chimanimani area alone (UNICEF, <https://www.unicef.org/appeals/zimbabwe.html>; UN-OCHA, March 2019). The cyclone Idai's impacts put the right to education of most children in Chimanimani, Chipinge and Mutare at risk as research findings suggest that more than 105,000 children in Zimbabwe have had their education interrupted because of damage caused by Cyclone Idai (Government of Zimbabwe 2019 Tropical Cyclone Idai International humanitarian Assistance Appeal, April 2019).

Figure 3: Destruction of Bridges Hindering Children's right to Education



Source: Adapted from ZimFact.

The destruction caused by Cyclone Idai on the bridge in Figure 3 had many implications on Children's education. It meant that schools beyond the river were no longer accessible. The depth and amount of water in this river exposed many children to drowning hazards. As can be seen in Figure 3, food supplies to schools and other education reconstruction material were delayed pending reconstruction and this meant more months of disrupted education of children.

Findings revealed that in some cases, schools require extensive rehabilitation after being used as emergency shelters for children and families displaced by the storm. This creates a challenge for children's learning space which was compromised by the rehabilitation system. Respondents pointed out that 9 schools primary and secondary schools in Chimanimani were used as rehabilitation three months after the disaster had occurred. From the nine schools it is estimated that 3000 students could not attend class three months after the disaster had struck (Government of Zimbabwe, Ministry of Local Government, Public Works and National Housing, June 2019). One interviewee pointed out that:

Most of the classrooms have been destroyed and lack the required resources for children to learn for instance electricity power lines connected to the schools have not been fixed and classroom windows are in shambles. Children are unable to access their textbooks which were swept away by the flooding. In some schools, crowds of families occupied classrooms as their emergence shelter and education was halted pending provision of alternative shelter for the homeless crowds. We witnessed some of our school properties were vandalized, books damaged in the process.

Findings from research estimates showed that 140 schools in Zimbabwe were affected by the cyclone, and infrastructure and teaching materials/resources were lost or damaged. The traumatising impact of the cyclone on children is undeniable as findings reveal that not only children were affected by the experiences rather teachers too who lost families and dislocated with many friends. A school authority interviewed during this study stated that:

Our staff members were victims of the traumatizing Cyclone Idai. Some lost their children, some spouses and some found their loved ones dead or missing for good. Some teachers lost their certificates and important documents and particulars in the floods. Thus the challenge we had was of traumatized teachers teaching traumatized children leading to reduced pass rate. Many students just dropped-out. Teachers and children were incapacitated mentally and materially. The scars this has left on the community today, and effects thereof in the future of the community will not heal any time soon.

As stated earlier above, empirical evidence from the Chiredzi, Chimanimani and Mutare reveals that numerous children were forced to drop out and take up jobs to help sustain their families. These findings are consistent with a study conducted in Pakistan and India which reveals that a majority of the children more often than not dropout of schools after disasters (UNICEF, 2020). Even after the floods, children's rights enshrined in section 47 of the constitution of Zimbabwe remain an elusive dream. According to the Constitution of Zimbabwe Section 47 every citizen and permanent resident of Zimbabwe has a right to (a) a basic State-funded education, including adult basic education; and (b) further education, which the State, through reasonable legislative and other measures, must make progressively available and accessible (Constitution of Zimbabwe Amendment no,20). Chapter 2 section 19 item (d) of the constitution states that every child must have access to appropriate education and training. It is also imperative to note that sustainable development goal number 4 which aims at making education universal and accessible to all children from all works life is put to question by the effects of cyclone Idai. The level of unpreparedness in rural Zimbabwe makes efforts towards such goals an exercise in futility.

Figure 4: Early childhood development classroom block damaged by the Cyclone Idai, Chipinge District



Source: Save the Children Assessment Report, 2019.

The destruction shown in figure 4 above has a lot to be learned. It highlights the disruption of ECD and education which has an outcome of causing the community to be at least two generations behind others. A loss of early child development in a community has effects of causing low pass rates at later stages of education which in turn decreases literacy rates and related employment opportunities for future adults compared to other communities that did not suffer the flood hazards. In addition the disruption of education done by Cyclone Idai floods will have a long-term effect on communities, with school drop-outs expected due to extended absenteeism and family break-ups. Respondents also raised concerns that damage to education infrastructure could compound what were already low rates of school enrolment and learning achievement in Chimanimani and Mutare. Across the country, less than 20 per cent of secondary-school aged children are currently enrolled (UNICEF, 2020; Chatiza et al, 2013). School dropout rates increased in families whose property or livelihoods were been negatively affected by the cyclone who resorted to sending their children to work to make ends meet.

4.3.2 Cyclone Idai and Children's Food Security

The livelihood and parental care of children was heavily affected by the cyclone Idai floods that destroyed a huge chunk of crops and fruit trees that provide livelihood for most informal traders in Chimanimani, Chiredzi and Mutare. This was captured by Eddie Rowe of the World Food Programme (WFP) who noted that:

There are some families that go to bed some days without one meal — people are struggling simply because even basic medicines are not available,” says Eddie Rowe, World Food Programme (WFP) country representative and director for Zimbabwe.

Chengetai, a 15 years old girl, an orphan living with her 72 years old grandmother who is a widow, noted that:

We will never forget the destruction of our food, our chickens, and the days we spent hungry. I remember that night when I woke up in a pool of water to see my granny struggling to pull my young brother out of a pile of muddy pieces of our hut. Our food had already been swept away with our clothes in water. Our fields were destroyed and we were left with no crops. The fencing in our fields and fowl run was destroyed. We were left homeless and I even get endless nightmares. We struggled to do menial jobs to put food on the table with granny and to get medication for my young brother who was badly injured on the knee.

In addition, the research also revealed that the cyclone damaged 250 boreholes, 18 urban and peri-urban water supply systems (Government of Zimbabwe and WHO, 2019). The livelihood of children which is based on parent's ability to provide food was disrupted by the cyclone Idai as participants also noted that the fruit and vegetable market place in Ngangu was completely wiped out. Respondents pointed out that most of the parents are informal traders whose source income is dependent on the little profits made through selling fruits and vegetables. Therefore the base of the economy was destroyed by the cyclone Idai, as fruit trees and vegetables which are high market products were destroyed and inaccessible to many. Findings reveal that it is the children who suffered the most from the destruction of the market economy because the parents could not afford to provide food and school fees. One respondent pointed out that,

The level of malnutrition increased especially on children whose immune system is not as strong as those of adults who could survive on wild fruits and roots of edible wild trees. The disaster further limited the parent's ability to further source food for children and having to take care of the children's ailing health.

The cyclone's effects in other sectors also put pressure on the health sector. For instance, losses in agriculture weakened food and nutrition security in affected areas, increasing risks of malnutrition. Cases of malnutrition are however not prevalent but there are some few cases

recorded in Chimanimani and Chiredzi. The sustainable development goal number 1 of eradicating poverty and reducing hunger to zero drew a major setback as these impacts have short term and long term consequences.

The cyclone affected agricultural activities, damaged support infrastructure and caused loss of arable land, livestock and stored cereal. One respondent articulated that the road network connecting Ngangu rural district and Rusitu were completely destroyed, making impossible for agricultural produce to reach the markets intended. This led to a lot of the agricultural produce rotting before reaching the market. Interviewees state that the losses caused by the cyclone Idai are tremendous severe on children’s livelihood which is solely dependent on the ability of their parents to provide food and services from profits made selling fruits. Agricultural produce affected in Chimanimani, Chipinge and Mutare were as presented in Table 1 below.

Table 1: Amount of Agriculture Crops Damaged by Cyclone Idai in the Area of Study

Agricultural Produce	Extent of loss (hectares)
Beans	1,492.5
Tomatoes	192.4
Commercial maize	129
Bananas	100.3

Source: Government of Zimbabwe (2019). Manicaland Province Cyclone Idai Disaster Report, 11 May 2019.

The figures in Table 1 above show the deep penetrating nature of floods on agro-based economies and communities whose livelihood depends on subsistence farming. This meant that more citizens had lost their means of livelihood and sustaining their families. This has also an impact on children’s right to education as hungry children cannot afford to travel long distances to school. If they do, their performance is badly affected. Findings of the study showed that many households rely on these farm produces to send their children to school and the damage caused led to a rise in the number of school dropouts. This also paints a gloomy picture of the poor state of nutritional diet in the aftermath of the floods as beans, bananas, and tomatoes plants were destroyed at a large scale as shown in government reported figures above. Children’s access to nutritional diet was badly impacted by the consequences of floods on agriculture in the area of study.

Cyclone Idai damages directly affected livelihoods as smallholder (irrigation and dry-land) farmers were affected the most and this was articulated to having direct consequences on children’s livelihood.

Figure 5: Destruction of Infrastructure for Crop and Food production.



Source: Adapted from Philip Hatcher-Moore/Oxfam, 2019.

The destruction of electricity infrastructure as shown above has serious impacts on agriculture in the community. It affects irrigation as many water pumps went out of service, battery cage system in poultry production, it affected the meat industry as cold rooms went for months without electricity, it also affected water supply for poultry projects that financed the education, health and livelihood of children in the community. In addition, many livestock were electrocuted by falling electricity lines. This meant that the community cannot provide sufficient food for its population which was cut from the rest of the country by the destruction of roads infrastructure. It is therefore lucid that damage to agricultural, transport, telecommunications and housing infrastructure affected local economies with implications for smallholder farmers who dependant on their agricultural produce to provide for their children had collateral damages on the food security and welfare of children.

Conclusion

The study concludes that flood disasters impacted on children's environmental security which vitiated all other aspects of their human security such as food security, personal security, health and education among others. This means that those natural hazards that directly impacted on children's environment were a direct threat to human security as a whole. The study also concludes that environmental hazards such as flood disasters had a potential of

reversing and/or barricading sustainable development by increasing vulnerability of children to multiple causes of poverty such as lack of education and skills, food insecurity, decreasing human development and transmitting the same to the next generation. Disaster and risk management frameworks used in Zimbabwe lack a special focus on children and do not adhere to principles of child-sensitive social protection. This lack of concordance with child sensitive principles has made disaster and risk management to be very ineffective in ensuring the leave-no-one-behind principle of sustainable development.

References

Akter, S. and Fatema, N. (2011) *The Role of Microcredit and Microinsurance in Coping with Natural Hazard Risks, paper presented at the 18th Annual Conference of the European Association of Environmental and Resource Economists*, 29 June – 2 July 2011, Rome: Italy.

Alcock, P and Ferguson, H. (2012) *Social policy and social work*. In: Becker, S., Bryman, A. and Ferguson, H. (Eds.), *Understanding research for social policy and social work: The Policy Press*.

Bartlett, S. (2008) Climate change and urban children: Impacts and implications for adaptation in low- and middle-income countries. *Environment and Urbanization*, 20, 501–519.

Balaban, O. (2012). The negative effects of construction boom on urban planning and environment in Turkey: Unraveling the role of the public sector. *Habitat International*, Vol.36, Issue no. 1, pp. 26-35.

Babugura, A.A (2008). Vulnerability of children and youth in drought disasters: A case study of Botswana. *Children Youth and Environments*. 18 (1), 126-157

Burrell, G. and Morgan, G. (1979) *Sociological Paradigms and Organisational Analysis*. London: Heinemann.

Brooks-Gunn, J. and Duncan, G.(1997). The Effects of Poverty on Children. June 1997. *The Future of Children* 7(2):55-71. DOI:10.2307/1602387. Source: PubMed.

Chatiza, et al. (2013). *Cyclone Idai in Zimbabwe. An analysis of policy implications for post-disaster institutional development to strengthen disaster risk management. Commissioned by Oxfam in Zimbabwe*. Available: <https://oxfamlibrary.openrepository.com/bitstream/handle/10546/620892/bp-impact-response-cyclone-idai-zimbabwe-071119-en.pdf>.

Cutter, S.L et al. (2003) ‘Social vulnerability to environmental hazards’, *Social Science Quarterly*, Vol. 8, Issue no. 2, pp. 242–261.

Frechette, et al. (2020) *Capturing Lived Experience: Methodological Considerations for Interpretive Phenomenological Inquiry*, 2020 Research Article, (Online), Available :<https://doi.org/10.1177/1609406920907254> (20 February 2020).

Government of Zimbabwe. (2019) *Report to Cabinet by the ‘Cabinet Committee on Environment, Disaster Prevention and Management’ on the Prioritized Cyclone Idai and Drought Programmes and Projects*, (Online), Available: <https://www.sundaynews.co.zw/disaster-response-learning-from-cyclone-idai/>.

- Holloway, I. and Wheeler, S. (1996) *Qualitative research for nurses*. Oxford (England): Blackwell Science.
- Huni, K. (2008) "Preventable Disasters: Addressing Social Vulnerability, Institutional Risk, and Civil Ethics", *Geographisches Rundschau: International Edition, Vol. 3*, Issue no. 1, pp. 43-52.
- Kousky, C. (2016). "Impacts of Natural Disasters on Children." *The Future of Children*, Vol. 26, Issue no. 1, pp. 73–92.
- Oxfam. (2019) *Cyclone Idai in Zimbabwe: An analysis of policy implications for post-disaster institutional development to strengthen disaster risk management*. Oxford: Oxfam International.
- Paley, J. (2014) Caring as a slave morality: Nietzschean themes in nursing ethics. *Journal of Advanced Nursing*. Vol. 40, Issue no. 1, pp. 25–35.
- Polack, E. (2010) 'Child rights and climate change adaptation: voices from Kenya and Cambodia', Children in a Changing Climate Research Report, IDS: Brighton.
- UNICEF. (2009) "Joint statement on advancing child-sensitive social protection" p.2. United Nations International Children's Emergency Fund.
- UNICEF (United Nations Children's Fund), (2020) *Children's vulnerability to climate change and disaster impacts in East Asia and the Pacific*. <http://www.unicef.org/eapro> (Accessed 16 May 2013).
- UNDP, (2016) "Nature Counts Investing in Ecosystems and Biodiversity for Sustainable Development." [Online]. Available: <http://www.asia-pacific.undp.org/content/rbap/en/home/library/sustainable-development/nature-counts/booklet.html> (Accessed 4 June 2021).
- United Nations (Human Rights Council). (2012) 21st regular session of the Human Rights Council (10 - 28 September, 5 November 2012). (Online) Available: <https://www.ohchr.org/EN/HRBodies/HRC/RegularSessions/Session21/Pages/21RegularSession.aspx>.
- Westermann W.U. (2019) *The Impact of Cyclone Idai in Chimanimani: An Internal Discussion Paper*, WFD and TSURO Consultancy Report, May 2019.
- WHO. (2020) *International Classification of Functioning, Disability and Health (ICF)*, (Online), Available: <https://www.who.int/standards/classifications/international-classification-of-functioning-disability-and-health>.
- US Census Bureau, (2008) *Disaster Risk and Vulnerability: The Role and Impact of Population and Society*. (Online) Available: <https://www.prb.org/resources/disaster-risk/>.
- Save the Children. (2012) *Save the Children's role in Disaster Management in High and Middle-Income Countries Final Report 16th March 2012*, (Online), Available: https://resourcecentre.savethechildren.net/node/7796/pdf/role_of_sc_hic_mic_0.pdf.
- Smith, K .and Ward, R. (1998) *Floods: Physical processes and Human Impacts*. England: John Wiley and son.

Smucker, T. and Wisner, B. (2008) *Changing household responses to drought in Tharaka, Kenya: Vulnerability, persistence and challenge*. Source: PubMed, July 2008 Disasters, Vol. 32 Issue no. , pp. 190-215. (Online) Available:10.1111/j.1467-7717.2007.01035.x.

Zahran, S. et al. (2008) Social Vulnerability and the Natural Built Environment: A model of Flood Casualties in Texas. *Journal of Disasters*, vol. 32 Issue no.4, pp. 537-560.

© GSJ