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**B232117A**

**RESEARCH TOPIC**

**The psychological impact of Cyclone Idai in Chimanimani area as a result of climate  
change.**

A handwritten signature in black ink, appearing to read 'Dr. E. Siziba'.

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**Dr E. Siziba**

**Supervisor**

## **ABSTRACT**

*Cyclone Idai brought psychological impact to the Chimanimani people. The major thrust for the research was to assess the psychological issues brought by Cyclone Idai to the people of Cimanimani and the environment in general. Questioning and interviewing were used as instruments to gather data. The population sample was made of 200 participants around Chimanimani. The main psychological impacts of Cyclone Idai include; distress, anxiety, emotional trauma and depression were observed to the natural cause. Economic and social support like insurance and risk transfer this will develop and promote insurance and risk transfer mechanism to support cyclone risk management. Lastly, the stakeholders will collaborate on community based initiatives where they will empower local communities to take ownership of disaster risk reduction efforts and to establish volunteer programs to support cyclone preparedness and response. These initiatives are meant to combat the problem of Cyclone Idai as a result of climate change.*

## **CHAPTER 1**

### **Context and problem**

#### **1.0 Introduction**

In recent years, Zimbabwe has experienced a series of climate-related shocks that have exacerbated existing vulnerabilities within rural communities. The developed nations in 2021 agreed that the Southern Africa is particularly susceptible to climate change, with predictions indicating increased temperatures and altered precipitation patterns. As a result, climate change caused widespread destruction, loss of life, intense trauma and stress among survivors. Apart from that the disaster created a sense of anxiety and fear among affected communities, exacerbating existing psychological conditions. Also most people lost their loved ones, livelihoods and homes. The psychological first aid provided the immediate psychological support to the affected individuals, focusing on safety, comfort and emotional stability. Some church organizations offered counseling services to individuals and groups addressing immediate psychological needs and concerns. Consequently the study focused on the psychological effect of climate change in Chimanimani.

#### **1.1 Back ground of the study**

Climate change was increasingly recognized as a major threat to global psychological consequence. Climate change contributed to increased stress, anxiety and trauma to the people in the Chimanimani area. Chimanimani area experienced vast destructions of properties. The natural disaster reached Zimbabwe with heavy and severe downpour hampered the Chimanimani area. Flooding, landslides among other land degradation caused damage to properties, homes, fields, schools, roads to mention just a few. Livelihoods in Chimanimani suffered to a greater extent. A research by Oxfarm in (2021) revealed that 347 people died during the Cyclone disaster, 344 were missed and 183 had injuries. Statistics from Zimstat had indicated that women and girls were

highly affected. More people were hospitalised and gender based violence became the order of the day. Several non-governmental organisations like the Oxfarm, the Musasa project to mention just a few chipped in to assist the victims. Some researches revealed that more than 710 children were orphaned. The UNICEF helped 577 children with identification and access to documents. According to the government gazette (2020), infrastructure and buildings such as roads and classrooms were damaged leaving people with vulnerable conditions. Researches indicated that the natural disaster had a severe psychological consequences including stress, disorder, depression, anxiety to mention just a few. Climate change exacerbated the impacts particularly on the vulnerable people with limited resources. Also studied had highlighted the need for psychological support and interventions to address the psychological impacts on the disaster.

## **1.2 Statement of the problem**

Cyclone Idai which devastated Chimanimani area has had a profound psychological impact on the affected communities, health vulnerabilities and creating new ones. The Cyclone Idai had increased a significant threat to psychological and social concerns and well-being of individuals and communities in Chimanimani area. There was lack of research on the specific psychological issues at the affected communities. The impact on vulnerable populations and the effectiveness of existing health and social interventions was a major concern. This knowledge gap hindered the development of effective psychological responses and interventions, exacerbating psychological suffering of the affected communities and undermining their resilience and capacity to adapt to future climate-related disasters. Kufakunesu (2022) was of the view that lack of understanding of psychological issues to the vulnerable people was a major concern. Vulnerable populations including children, women, girls, elderly individual, people with disabilities to mention just a few suffered a lot. For Kufakunesu (2022), the psychological impact of Cyclone Idai on children and

adolescents was not well understood. Research was needed to investigate the effects of psychological trauma, displacement and loss on their health and well-being. Women and girls were disproportionately affected by Cyclone Idai due to existing social and economic inequalities. Research was needed to understand the gender-specific psychological impacts of the disasters. As well people with disabilities faced unique challenges in the aftermath of Cyclone Idai including inaccessible evacuation routes, inadequate shelter and lack of support services. Research was needed to understand their experiences and develop inclusive interventions. Indigenous communities in Chimanimani area had unique cultural and spiritual practices that was affected by Cyclone Idai. Chana (2020) noted that research was needed to understand the impact of the disaster on their cultural identity and well-being. To address the knowledge gap the researcher used the combined research methods which are qualitative and quantitative. By addressing this knowledge gap researchers and policy makers developed more effective interventions and policies to support the psychological health and well-being of vulnerable populations affected by Cyclone Idai. According to Mapuranga (2020), there was a significant knowledge gap in the psychological issues that affected communities due to inadequate consideration of cultural factors. There was a need for more research on the cultural beliefs and practices of affected communities including their perceptions on health, trauma and resilience. Local communities had not been adequately involved in research and intervention development which can lead to culturally insensitive and ineffective interventions. To address the gap, interviews, cultural beliefs and values was employed. There was also need to collaborate and work with the local stakeholders which include community leaders, healthcare providers and traditional leaders to develop and implement culturally sensitive intervention.

### **1.3 Research aim**

To evaluate the impact caused by climate change in Chimanimani area.

### **1.4 Objectives of the study**

**1.4.1** To list some psychological impact caused climate change at Chimanimani area.

**1.4.2** To investigate the cause of Climate Change in the Chimanimani area.

**1.4.3** To identify measures that will reduce climate change disasters in Chimanimani.

### **1.5 Questions of the study**

**The research was guided by following research questions:**

**1.6.1** Which ways did Climate Change affect people psychologically?

**1.6.2** What were the psychological impact of Climate Change in Chimanimani?

**1.6.3** What are the ways to reduce disasters caused by Climate Change in Chimanimani?

### **1.7 Significance for the research**

The research aimed to assess some psychological effects caused by climate change in the Chimanimani area. The communities all around Chimanimani area were affected by climate change each day, and it was extremely important that stakeholders like NGOs, government, business community and educators were aware of the reasons why it was so important to help eliminate this overgrowing issue. The study was primarily focused on how economic, political and social success was hindered by climate change, but it also considered how people understand psychological issues caused by climate change. The knowledge of climate change on both animals and people was very crucial. The study was important to all relevant

stakeholders and people associated with these challenges, as well as parents, advocates, community members and politicians.

The government should provide a safe conducive environment to all victims of the climate changes as well as providing protection from danger within their control and people have an opportunity to learn new information. Although climate change was very common around the world, proper mitigation and adaptation measures should be taken into consideration. According to some researchers, this type of natural phenomenon can be prevented through a variety of prevention strategies, however, people must have an active interest in curbing natural disasters in addition they would bring awareness and teach prevention strategies to all people in the communities.

This research can be of value to the public because it brought attention, inform others of psychological effects on climate change and how proper social skills can help address and reduce climate change incidents. More importantly, this information was to inform the public on the importance of addressing climate change issues before it becomes a widespread social phenomenon. The findings of the research would help people and relevant stakeholders to consider various practices on how to address and respond to climate change issues within the area of Chimanimani. It would assist in understanding the social skills, techniques used to help communities to solve the problems and issues of climate change. The research would assist others interested in this field because it offers valuable information on the most effective ways to manage and deal with climate change issues.

## **1.8 Justification of the study**

There was a significant knowledge regarding the psychological issues that affected communities. Climate change was increasingly recognised as a major threat to global disturbances and the study contributed immensely to the research, natural hazards and health. Moyo (2020), was of the view that Chimanimani area was highly related with disasters including floods, droughts, among others. The study highlighted the need for targeted psychological interventions in the area. The psychological impact of Cyclone Idai had consequences for affected individuals and communities, thus the study informed strategies for mitigating these consequences and promoting resilience. The study informed policy and practise, ensured that psychological considerations were integrated into disaster risk reduction and management plans. By understanding the psychological impacts of Cyclone Idai, the study promoted community resilience and enhanced the capacity of affected communities to cope with climate related disasters (Chanza, 2020). The research provided insights into the psychological impacts of Cyclone Idai, informed the development of targeted psychological interventions. It also amplified the voices and experiences of affected communities and ensured that their psychological needs are recognised and addressed.

## **1.9 Research assumptions**

The assumptions of the study were as follows:

- 1.9.1** The researcher had adequate funds to carry out this study.
- 1.9.2** Permission was sorted out from the Ministry of Lands, fisheries and climate.
- 1.9.3** The respondents were available and willing to share their view and experience in an honest manner.

**1.9.4** The economic, political and cultural environment had remained constant until the end of the research.

**1.9.5** The research instruments used was adequate and appropriate to extract the data sought.

**1.9.6** The information given by the respondents was what they felt were the psychological effects of climate change in the Chimanimani area.

### **1.10 Delimitation of the study**

These were mainly categorized into physical and conceptual boundaries. Chimanimani was the focal place for the study and the researcher resided there. Cost and accessibility was also important factors considering that the researcher has to travel away from the work to collect data. The area of research was shown at Fig 1.



**Figure 1.** Area of research

Research came from the topic psychological impacts caused b

y climate change in the Chimanimani area in Manicaland Province.

### **1.11 Study limitations**

Chimanimani community was basically where the study was focused. However, other respondents lacked cooperation as they fear to give proper information on the impact of climate change in the said area. The researcher begun the program with frank discussions about ways to reduce climate change in Zimbabwe. Through the discussion full explanation to the respondents was given so that they know the purpose of research.

Some people were restricted by their leaders in the community. However, after explaining to the leaders in the community they were allowed to participate. Those who were not allowed to participate were replaced evenly.

Had there been possibility for more research questions in interviews, the study would have been able to go more in-depth and look into other aspects of the topic. Again, given the goal and demands for the research, the researcher was carefully select questions on review and gaps from existing literature.

### **1.12 Organization of the study**

Basically the chapter was from first chapter, second chapter, third chapter, fourth chapter and the last one which is the fifth chapter. The first chapter was composed of the problem and its settings. It started with the introduction where the researcher started by introducing the chapter. The first chapter would also unpack the background to the study, the research questions and objectives respectively. The second chapter was the literature review. The review will unpack on how other scholars would view the psychological impact of climate change. It helped to find gaps within the related literature.

After the second chapter, the third chapter was highlighted. This chapter focused on research methodologies where the researcher used different research methodologies. The researcher used the mixed approach method where he encompassed both the qualitative and quantitative methodologies. Quantitative methodologies used figures to quantify information and its objective in nature. Qualitative methodology was very subjective and was time consuming.

The fourth chapter represented the data analysis. The researcher used graphs, pie charts to analyze the related data. Chapter four was both quantitative and qualitative in nature. Pie charts and graphs were used to show the statistics of people with different responses on the psychological impact of climate change caused by climate change.

Lastly, the fifth chapter which recommended the research and gave the highlights and summary of the project

### **1.13 Terms to be defined**

#### **1.13.1 Psychological impact**

According to Chanza (2016), psychological impact generally is about the effects of experience, situation or event which may result from exposure to a particular stimulus or circumstance. It is also a form of depression, disturbances, stress, fear, sadness and anger. In 2019 the community of Chimanimani were seriously affected by the natural phenomenon of cyclone idai and a lot of people were killed and properties were destructed.

#### **1.13.2 Impact**

Chanza (2019) sees an impact as an experience of effect or influence that something has on something else. Sometimes it can be a change, a result or an outcome that occurs as a direct or indirect consequence of an action, event or situation.

#### **1.14 Summary**

Generally, the chapter highlighted on the introduction of the research, the background was highlighted and noted. Research aims and objectives were also taken into consideration. Organization and delimitation of the chapter were clearly spelt out. Terms were clearly defined.

## **CHAPTER 2**

### **Reviewing literature**

#### **2.0 Introduction**

The section reviewed how different scholars say about psychological impact on climate change to the community of Chimanimani area in Manicaland Province. Reviewing related literature helped the researcher to have more information on previous successes and failures of others and come up with more advanced techniques with regards of this problem in Chimanimani area in Manicaland Province. The research was carried out basing on other researchers' ideas and experiences. By reading related literature, the researcher was able to identify existing gaps in knowledge about climate change mitigation and adaptation. Research showed that climate change had severe psychological impacts including anxiety, depression, stress to mention just a few (Watson, 2022). Empirical studies have indicated the importance of understanding vulnerability and resilience factors in the context of climate related disasters.

#### **2.1 Main ideas of the theorists**

Several theories were put forward with regards to the psychological impact of climate change in the Chimanimani area in Manicaland Province. Different theorists have different perspectives with regards to the psychological impact of climate change in the Chimanimani area (Henning, Van Rensburg and Smith, 2014). A theoretical framework was valuable in identifying gaps which existed in a particular research topic, dead-end and a platform for comparing what was known and unknown by other researchers.

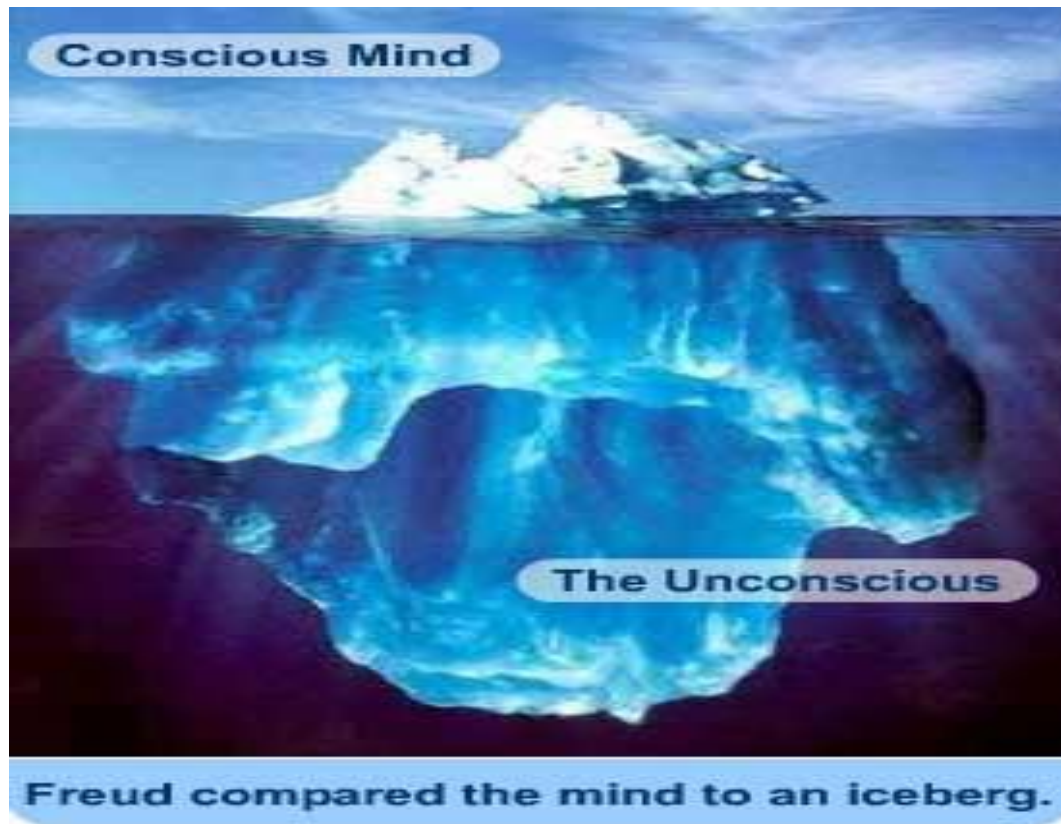
The study employed various literature review theories which includes: the psychodynamic, ecological, social learning to mention just a few on the psychological impact of climate change in

Chimanimani area. Bronfenbrenner's theory encompassed a totality of aspects including economic resources, interactions and broader contextual variables that affected people psychologically directly and indirectly. In the ecological system, individual life experiences were a function of who they were; what they anticipated to be; what they did, anticipated, with whom they interacted with, had interacted and anticipated (Berk 2013). These experiences underscored the interrelatedness of people and their physical, emotional and cognitive behaviours as they occurred in relation to specific environmental contexts.

## **2.2 The psychoanalytic theory by Sigmund Freud in relation to climate change**

To start with Freud believed that humans have two minds the unconscious and the conscious mind. The unconscious mind governs human behavior to a greater extent. His contributions to psychology and climate change are vast. Freud's theory suggested that traumatic events such as Cyclone Idai can lead to the repression of memories and emotions which can manifest as a psychological distress. He proposed that individuals use defense mechanisms such as denial, repression and projection to cope with traumatic experiences caused by climate change. For him, in the context of climate change individuals may use defense mechanisms to avoid confronting the reality of their experiences. Freud's theory suggests that anxiety and fear are natural responses to perceived threats. With regards to climate change, natural disasters can evoke anxiety and fear leading to psychological distress. The theory suggested that traumatic experiences caused by climate change can lead to fixation and regression leading to feelings of vulnerability and powerlessness. For Freud, the human psyche consist of the id, ego and superego, in the context of natural disasters like cyclones, the id may be overwhelmed by the traumatic experience, leading to feelings of anxiety and fear. The ego may struggle to cope with the trauma leading to defence

mechanisms and regression. The superego may experience guilt and shame in response to the trauma. Furthermore, the psychoanalytic theory clearly explains that individuals may deny or avoid uncomfortable truth including the coming of the natural phenomenon like climate change disasters due to unconscious fears and anxieties. From Freud's perceptions, climate change can be seen as a symbol for deeper collective anxieties for example fears of loss, control and mortality. The psychoanalysis reveals that unconscious motivations like the desire for comfort and convenience can drive climate damaging behaviours. The theory applies different approaches to climate change mitigation which include emotional awareness and education. This encourage emotional engagement with climate change issues to motivate behavioural change in the environment. The psychological support and therapy provide support and individuals experiencing climate related anxiety and depression and trauma. The cultural transformation as an approach can foster a shift toward environmental awareness, sustainability and collective responsibility. The last approach which is the policy and intervention design which incorporate psychoanalytic insights into policy and intervention design to better understand and address the psychological factors driving climate change behaviour.



**Fig 2** shows the conscious and unconscious mind

For Freud, people who experience climatic disasters such as cyclone disasters, volcanic disasters, earthquakes and landslides normally have the unconscious mind like the negative thoughts and depression. It is important to provide counselling to heal their negative mind and thoughts. The purpose of counselling to climate change victims is to provide the conscious mind so that the unconscious become conscious.

### **2.3 The cognitive behavioral theory in relation to climate change**

According to Chanza (2016), the cognitive behavioural theory is there to understand and address climate change behaviours like why people hold different beliefs about climate change such as its existence, severity and causes. Aaron Beck the chief proponent of cognitive behavioural theory

advocates that under behavioural barriers cognitive behavioural can address obstacles to climate change behaviours like lack of knowledge, limited resources and social norms. Stern (2018) reveals that engaging in climate friendly behaviours can build confidence and self-efficacy. Catastrophic thinking exaggerated negative thoughts about climate change, leading to feelings of hopelessness and despair. Generally, the cognitive behavioural theory advocates that people always have negative perceptions whenever they face the hard situations like of climate change. People need to develop skills to overcome climate change related issues. As another intervention strategy the cognitive behavioural theory encourages individuals to engage in problem focused coping strategies such as reducing carbon footprint, conserving resources and advocating for climate change policies.

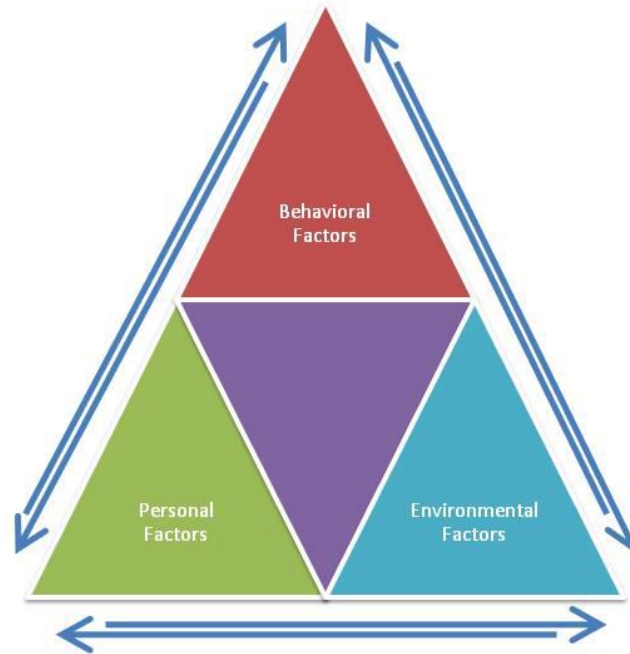
## **2.4 The social learning theory in relation to climate change**

In social learning theory, Bandura used the triadic reciprocal causation model. P –person, the individual's particular physical characteristics. E-environment, meaning the general conditions and immediate stimuli including reinforcement and punishment. B- Behaviour. An individual's observable actions and reactions. Social learning theory can identify factors influencing climate related actions such as energy consumption, transportation choices to mention just a few. According to the social learning theory people need to showcase climate-friendly behaviours and technologies. Highlight success stories and encourage peer to peer learning and sharing resources and materials is very crucial in reducing the effects of climate change.

For Bandura, any meaningful learning to take place people must pay attention to a phenomenon. Attention is not mere exposure to a model for one to ensure acquisition of behaviour but must attend to and recognize the distinctive features of a model's response. The social learning theory volcanoes, landslides to mention just a few are as a result of climate change. When they have the

knowledge about these natural disasters they look for proper ways of reducing the effects of them through adaptation and mitigation. According to Boeree (2019), some of the things that influence attention involves characteristics of the model. More attention is paid to a competent and prestigious model (Santrock, 2018). Researches from social learning theory further indicated that individuals in Chimanimani observed the traumatic events of Cyclone Idai and people imitated coping mechanisms they observed in others such as denial, anxiety and resilience. Social reinforcements like support from the relevant stakeholders had influenced individual's behaviour and coping mechanisms. The social learning theory interventions had promoted resilience and coping mechanisms among individuals and communities affected by Cyclone Idai.

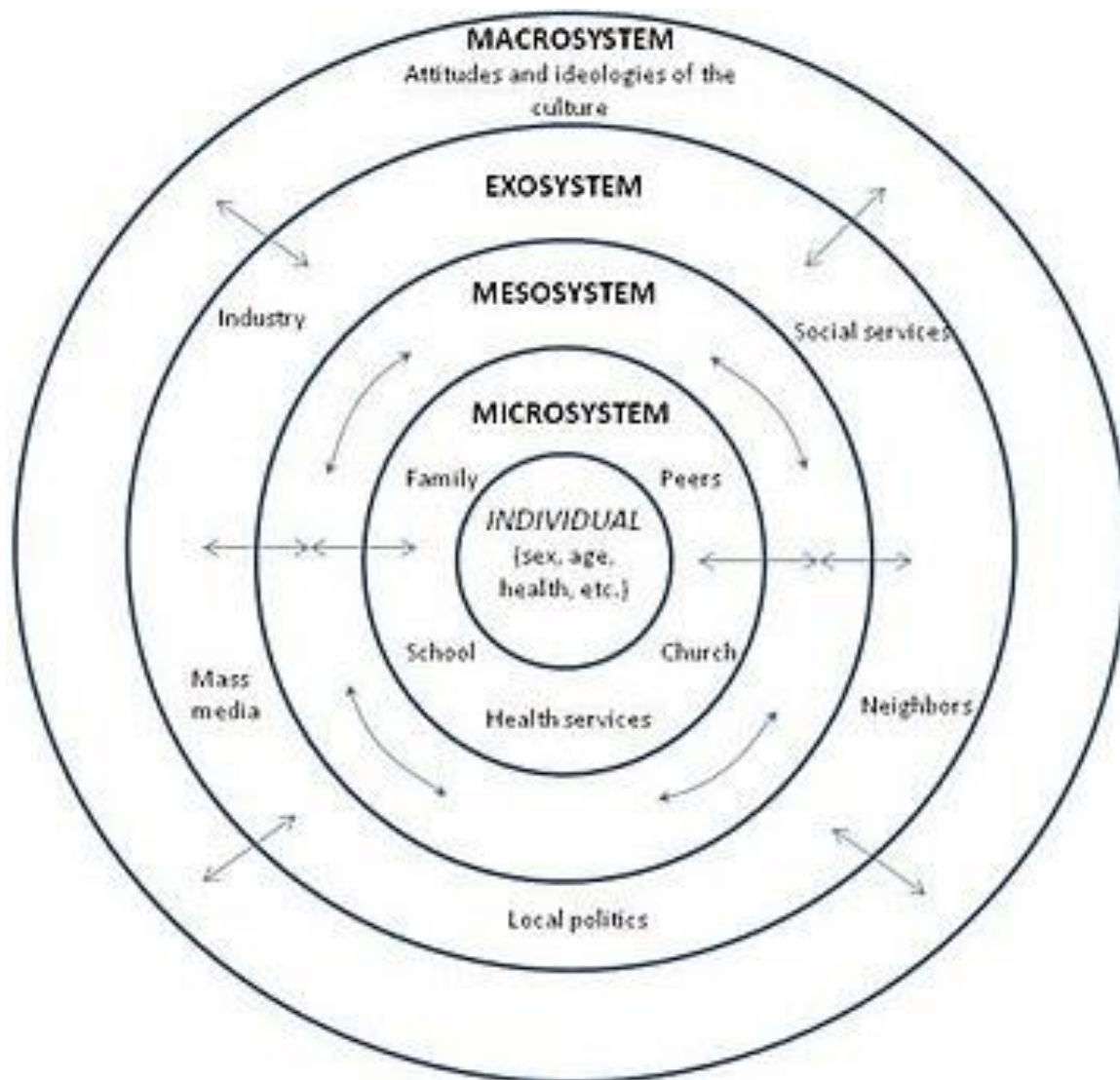
## Bandura's Triadic Reciprocal Determinism



**Fig 3** shows environmental, personal and behavioural factors affecting climate change

### **2.5 Bronfenbrenners ecological system theory in relation to climate change**

Bronfenbrenner's ecological theory holds a view that environmental systems influence climate changes in different ways and in order to understand environmental issues one must consider whole ecological systems. Bronfenbrenner (1990) cited in McLeod (2014) identifies five environmental systems that are chronosystem, macrosystem, exosystem, microsystem, mesosystem and are socially organised and support the ecology.



**Fig 4 Bronfenbrenner's theory**

### **2.5.1 Microsystem**

The IPCC (2019) sees the microsystem, as a concept in ecological theory to which the immediate environment in which an individual or species interacts. With regards to the natural disasters, the microsystem influences disasters impacts and adaptation in several ways (UNEP, 2020). The components of microsystem include, physical environment, biological components and social components. Basically on physical components, temperature rises and when this happened it

increases sea level to rise by so doing there will be floods. People will be affected psychologically. Changes in microsystem level species interactions and ecosystem process can impact forest ecosystem resilience to climate change. Researches showed that Cyclone Idai affected individuals' immediate environments including their homes, families and communities. The microsystem was disrupted leading to feelings of loss, grief and trauma.

### **2.5.2 Mesosystem**

The mesosystem a concept in the ecological theory is about the connections and interactions between different microsystems. With regards to the natural disasters mesosystem influences disaster impacts and adaptation in several ways. Mesosystem level interactions between ecosystems impact ecosystem services like pollination, pest control and climate regulation. Bronfenbrenner (2005) cited in Berns (2013) posits that fostering collaboration between institutions and stakeholders can improve climate change mitigation and adaptation. Researches showed that the connections between microsystems such as between family and community were also disrupted. This led to social isolation, decreased social support and increased psychological distress. The system had put a number of interventions which includes: the economic empowerment programs such as livelihood recovery and economic support which help alleviate poverty and social inequality. Community led interventions such as community therapy and support groups can help rebuild social connections and promote social support. Long term support and follow up are crucial in addressing the ongoing psychological impacts of Cyclone Idai.

## **2.6 Summary**

The chapter critically focused on what other researcher researched about the psychological impact of Cyclone Idai in Chimanimani area. This Chapter started by explaining various psychological theories in related to Cyclone Idai caused by climate change in the area of Chimanimani. The psychoanalytic theory, the cognitive theory, the cognitive behavioral theory, the ecological theory were some of the theory used to review the related literature. The chapter also gave the knowledge gap.

## **CHAPTER 3**

### **Research methodology**

#### **3.0 Introduction**

Basically the research noted the psychological impact that was caused by climate change. Its significance was to address some methods that were used to gather the information. The chapter exposed and highlighted the positive and negative methods used in the data collection during the time of research. Thornhill et al (2016) agrees that the researcher should use different research methodologies when carrying out the research.

#### **3.1 Research design**

Abdelhakim (2021) is of the view that the research design stands as a guiding structure which explain how the research will be conducted. The researcher used both methods, the quantitative and the qualitative methods design. There were both subjective and objective data collected from this study. Subjective information was obtained by conducting in-depth interviews whereas objective data was collected via closed and open ended questions.

##### **3.1.1 Quantitative method**

Zhou et al. (2022) argues that the quantitative methodology is the best for analyzing numerical data and is also good for scientific questions. Furthermore, he added that quantitative is utilized for summarizing, calculating averages, identifying patterns, making predictions, assessing casual relationships and exploring results to more extensive population. In order to measure the magnitude of impact, assess the level of relationships, prioritize rankings and evaluate the quality of evidence for the study. The quantitative portion of the research was pertinent. Thus objective such as reducing psychological disasters, train 100 local counsellors in climate related trauma and provide psychological first aid training of 80 community health workers can only be fulfilled

through the utilization of quantitative data. The quantitative data was used to quantify the number of people who faced the psychological impact of climate change in Chimanimani area.

### **3.1.2 Qualitative method**

The qualitative method was used for the social phenomenon and it was subjective in nature. It was basically used for gaining an in-depth analysis through understanding individual's meanings, perspectives, ideas and experience on the psychological impact of climate change in Chimanimani area. Some researchers agree that people are empowered when exposed to subjective in nature. According to Bernard (2010), the qualitative research method has the advantage of giving the despondence the opportunity to freely express their views. It helped to explain the psychological impacts of climate change in Chimanimani. The method allowed the researcher to handle manageable data. The qualitative research also involves descriptive. According to Creswell (2023) descriptive survey is used to process data comes in the research in observational situations whether these are actually observed or through questions. It is clear that questionnaires are among the tools to solicit at in descriptive (Kothari 2019).

### **3.2 Area of study**

Basically the study was conducted in Chimanimani West constituency where there were victims of cyclone idai. 200 people participated in the study.

### **3.3 Population**

Moyo (2017) defines population as the totality of objects to be study and investigate for the targeted group. The study was conducted in Chimanimani district. There were two constituencies. A sample of 200 people were used for the study. In addition to this, the most targeted people were both female and male adults and some young ones who experienced the impact of the disaster.

### **3.4 Procedure in sampling**

The researcher used probability sampling which is stratified sampling. It has chance and undue proportion of one type of institution or participants in it. One type of institution or category of participants would not have provided appropriate data (Morison, 2018). The probability sampling method was reliable and strong in representing the population under study. The method reduced bias results and was effective during research. Though the probability technic was reliable, it also had some shortcomings like requires efficient and comprehensive sampling frame (Hurry, 2021).

### **3.5 Data collection instruments**

The researcher utilized questionnaires to gather information for his research topic. The questionnaire is a deliberate opinion survey designed to gather information in response to specific questions presented to respondents (Kouser, 2020). Other scholars agree that questionnaire aim at the discovery of particular information such as attitudes and feelings. Questionnaires employ the five Ws technique to elicit replies to research inquiries Mardiana (2020). The five W's namely what, where, who and why are essential inquiries for gathering factual information.

#### **3.5.1 Surveys and questionnaire**

The researcher made sure that questionnaires are aligned with the set aim and the objectives. Questionnaires were used because they are a convenient, quick and easy way of collecting data required to answer research questions and information can be collected in large quantities. They facilitated confidentiality since names were not included on the questionnaires. This enabled respondents to give their views and opinions freely and privately. Respondents were not influenced by the researcher and as a result gave true and unbiased responses. Furthermore, questionnaires enabled responses to be documented and stored in their original state for future use. Questionnaires

have drawbacks that people's comprehension differs. It's important to note that respondents may fail to interpret the questionnaire thereby giving wrong information. If not designed well (vague and ambiguous) respondents may fail to give accurate information. The respondents responded to questionnaire just to find out if there were any questions which were not clear (pre-test). In addition, the questionnaire does not provide the researcher a chance to assess the attitude of the respondents who may just answer randomly, taking the whole exercise with levity, that is , respondents may give false information or do response acquiescence ( giving responses they think are safe or required). Such situations reduced the validity of the responses. Once again, closed questions did not give room for detailed explanations and answers. But be that as it may, the questionnaire still remains a very reliable and convenient instruction in survey methods. Questionnaires were personally administered by the researcher, thus self-administered questionnaires were used in this research. Questionnaires were left for three days and were collected after three days. The researcher collected the questionnaire in person in order to clarify some questions to respondents which they may have failed to answer.

### **3.5.2 Interviews**

Different scholars express different views about the definition of interview. Some define interview as the face to face collect of information from the respondents by the researcher. Interview has advantages and disadvantages. The disadvantages include higher cost, bias and lack of anonymity. In some instances it was expensive to visit interviewees in their communities. Interviews maybe vulnerable to the bias of the interviewer. The respondents may be known by the interviewer. The researcher contacted the interview to the victims and the survivors of the disaster this helped him to get the first hand information about the impact of cyclone idai in Chimanimani.

### **3.6 Focus group discussions**

Shuckrink (2021) sees focus group discussion as the interaction between 9-12 people who have common characteristics. The researcher conducted the group in Chimanimani area with each group made up of 10 people. The major issue discussed was the psychological impact of cyclone idai caused by climate change in Chimanimani area and the challenges faced by the victims. Focus group discussion method helped the researcher to communicate their perceptions and opinions clearly during data collection. Under focus group discussions the researcher gained more insights of the study and came up with theories which enables drawing up of relevant conclusions. It is notable that the focus group discussions provides various results from different group dynamics which gives room for a broad range of varied results and analysis of the research results (Creswel, 2019)

### **3.7 Procedure of collecting data**

Letter to conduct the research was issued at Bindura University and the researcher used it in Chimanimani communities. Furthermore, consent was sorted from the Honourable Member of Parliament for Chimanimani as well as the district offices. The letter was also taken to the chief and headmen and the permission was granted to the researcher.

### **3.8 Analysis plan**

Analysis method was used for the data. The data was quantified in figures and converted into percentages. It was entered using a computer application called statistical packages for social sciences (SPSS). The Chi-square test was used.

### **3.9 Ethical considerations**

Hussey (2017) purports that ethics of research include confidentiality, protection of privacy to mention just a few. The respondents were not threatened or coerced. The participants were fully informed and aware of what they were engaged in. More so, the researcher protected respondents' right to privacy. Hammersley and Traianou (2012) say there is need for privacy in a function of generally accepted social norms and individual's expectation about information about oneself and should not be known to others. Confidentiality means not divulging participants' information to other people who have nothing to do with the information. Confidentiality was observed as the identity and information from the respondents were not made public. The data was safely secured in a locker to avoid contamination.

### **3.10 Triangulation**

The researcher used different methodologies to gather information during research. By using different methods, this assured the researcher to come up with the information pertaining the psychological impact of cyclone idai in Chimanimani area. The methods were objective and subjective in nature.

### **3.11 Summary**

The chapter highlighted some research methods on the psychological impacts of climate change in Chimanimani area. It outlined the area of study, population, size of the population, instruments and analysis procedure. Ethical considerations was also highlighted where the researcher promised the respondents that the information would be taken as privacy and should not be divulged to other

## CHAPTER 4

### The analysis of data

#### 4.0 Introduction

The fourth chapter was concerned about the presentation and the analysis of data. The research question which was highlighted in the first chapter was answered in the fourth chapter. Research aim and objectives was achieved in the fourth chapter. According to Anderson (2021) data would be presented in the form of tables, graphs, pie charts to mention just a few. The information would be quantified so that relevant stakeholders would use it for various purposes. The findings which were obtained through questionnaires, interviews and focus group discussions were used to tabulate data. Respondents filled all questionnaires and returned it to the researcher. The research findings were presented using tables and pie charts.

#### 4.1 Data presentation analysis and response

**Table 4.1 Statistics from questionnaires**

| <b>PARTICIPANTS</b>                             | <b>AGE</b> | <b>RESPONDANCE</b> | <b>SAMPLE<br/>TARGET</b> | <b>RESPONSE<br/>RATE</b> |
|-------------------------------------------------|------------|--------------------|--------------------------|--------------------------|
| Young girls                                     | 18-30      | 33                 | 40                       | 82.5%                    |
| Young boys                                      | 31-39      | 29                 | 40                       | 72.5%                    |
| Female adults                                   | 40-55      | 35                 | 40                       | 87.5%                    |
| Male adults                                     | 56-70      | 31                 | 40                       | 77.5%                    |
| Old people                                      | 71+        | 27                 | 40                       | 67.5%                    |
| <b>Total number /<br/>Overall<br/>responses</b> |            | <b>155</b>         | <b>200</b>               | <b>77.5%</b>             |

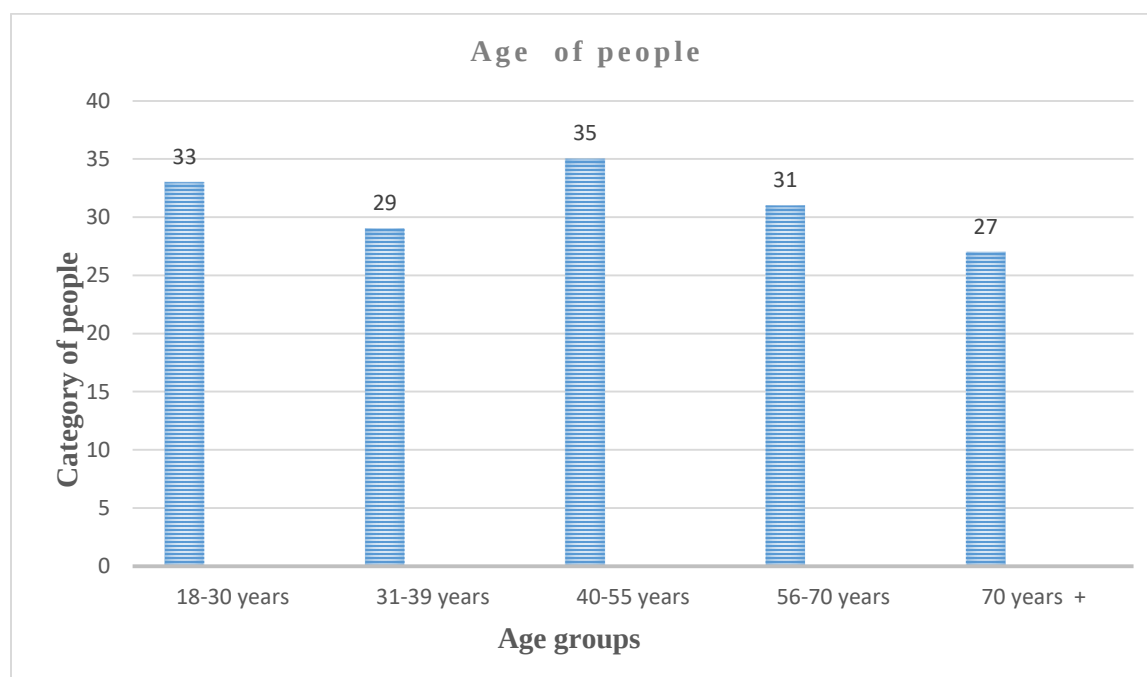
Table 4.1 above highlights that the sample target was 200 people and it was viewed to be representative of the population in Chimanimani area in Manicaland Province. The table 4.1 also depicts that questionnaires were distributed to the targeted sample and 155 people out of 200 responded which give an overall response rate of 77.5%. The sample was stratified into five

categories for which the categories for female adults, male adults, girls young ones, boys young ones and old people.

#### **4.2 Results from questionnaires**

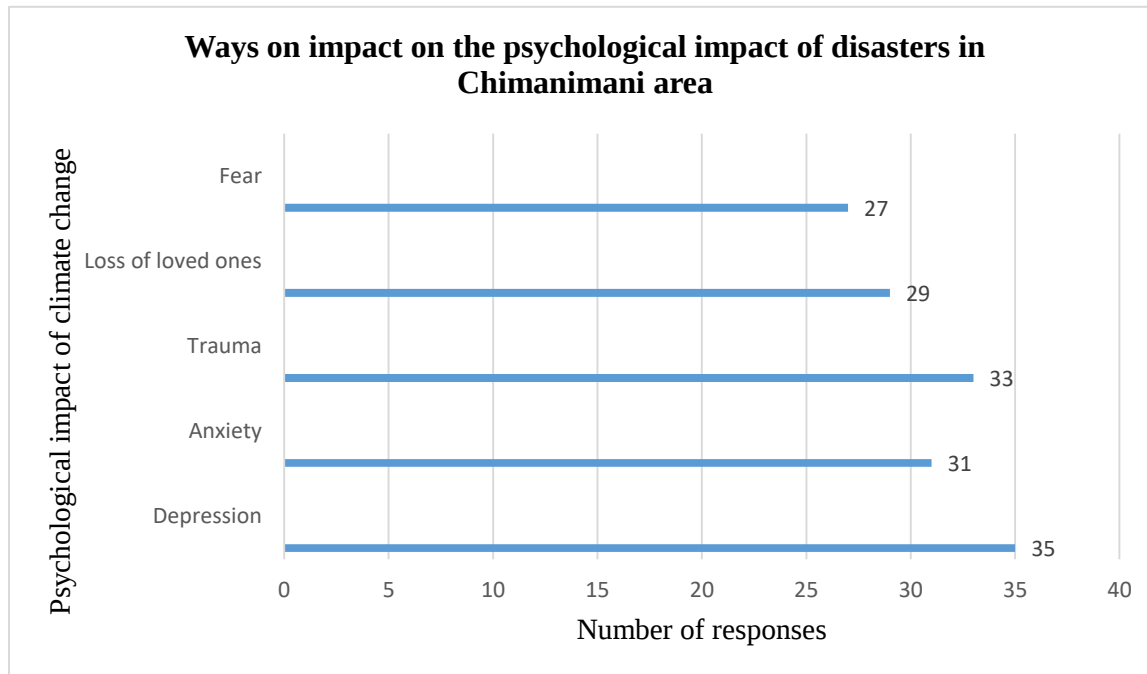
The entire questionnaires were answered and the responses are shown below as they were obtained. The questionnaires were structured differently for each category. All questionnaires responses were analyzed. Notwithstanding the aforementioned singled analysis, the research had almost the same questions for female adults, male adults, girls' young ones, boys' young ones and old people. From the results obtained climate change had a profound psychological impact on the people of Chimanimani especially to women and girls. Trauma, stress and anxiety were among of the things that affected people. Furthermore, loss of traditional ways of life had also a profound psychological impact. From the old people's views, climate change in Chimanimani district had disrupted traditional farming practices and led to feelings of frustration, hopelessness and despair among community members. From the responses, more women showed the highest responses of 87.5% than men who have 77.5% because they were the ones who were affected psychologically. Most climate disasters have a negative bearing on women because they are burden bearers and they also constituted the highest number in every places hence the need for climate justice. Girls had response rate of 82.5% as compared to boys who had low response rate of 72.5%. This showed that girls can be affected more than boys because they have more roles than boys.

### 4.3 responses by gender on the psychological impact of climate change in Chimanimani



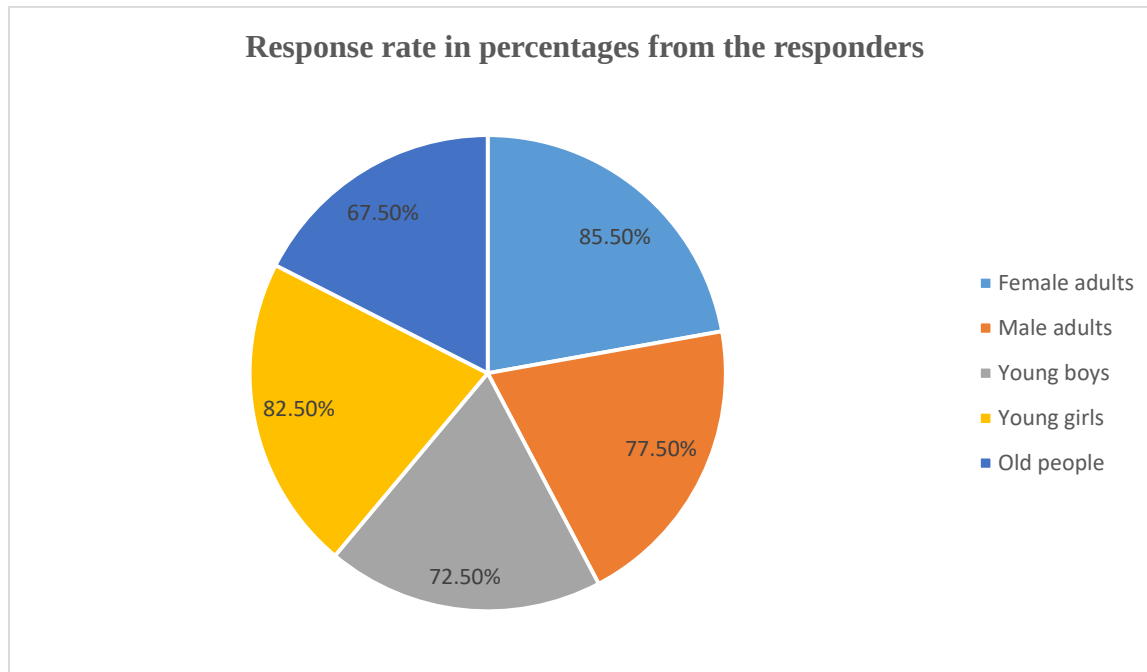
From the information given above from the total of 155 responses out of 200 sample size, response shows that the ages from 40 to 55 years are women who were affected by the climate change in Chimanimani area because they have the highest number of responses which is 35. They are followed by girls who have 33 responses. This depicts that women and girls are the ones who are affected by climate change and will continue to be affected by the climate change because they are the burden bearers. Women and girls have more roles to play when disasters like climate change and cyclones come. Boys and males have 29 and 31 responses respectively.

#### 4.4 Responses on psychological impact



From the graph given above, a total of 155 responses out of 200 sample size was analyzed where females has the largest number of responses which is 35. Women felt they were depressed with the disaster. Women are the burden bearers in any nature because they are the ones who are affected by natural disaster. Gender based violence affect women and girls in most cases. Women and girls will be having a burden of looking for food for the children. Young girls has 33 responses, they indicated that trauma was the major psychological impact in the area of Chimanimani. Girls suffered a lot during the disaster because they have more roles to play. Males has 31 responses and they believe that anxiety was a psychological impact to the people in Chimanimani area. Old people has 27 responses and believe that fear was the psychological impact of climate change in Chimanimani. Also boys has 29 responses and they believe that loss of loved ones was a major psychological impact to the Chimanimani people.

#### 4.5 Response rate by percentages on the psychological impact of climate change



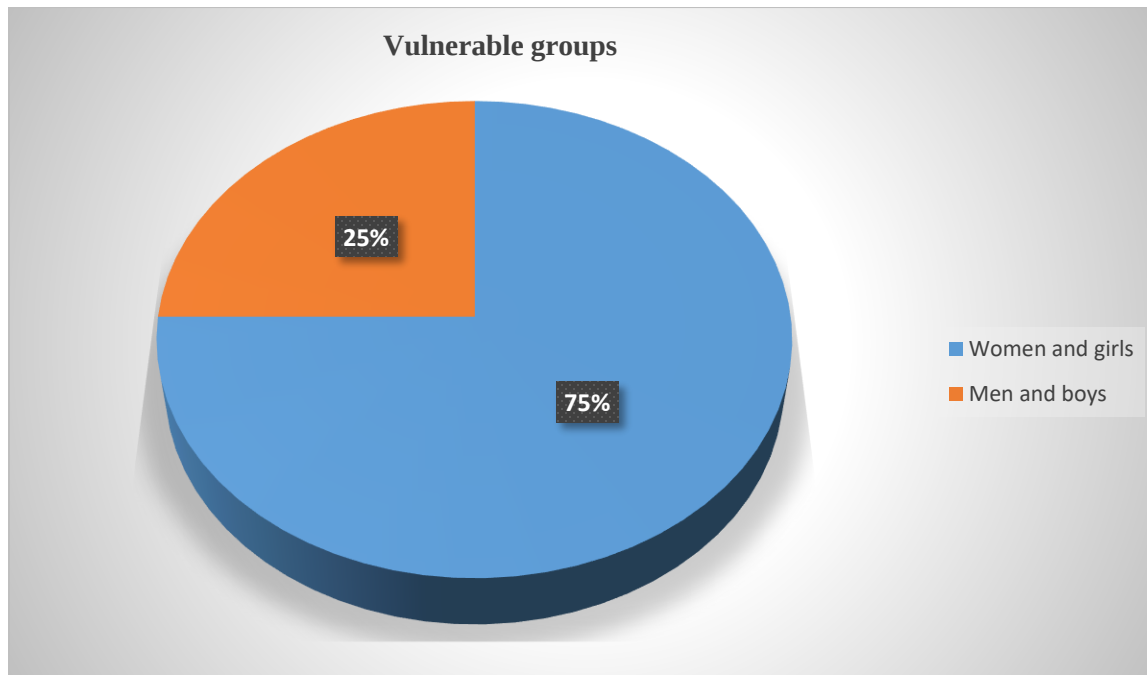
The above pie chart reveals that females have the highest percentage of 85.5% meaning to say they are the burden bearers of the climate change. Women faces all challenges in everyday life as compared to men who have 77.5%. Women and girls play crucial roles in natural disasters like climate change by providing food to the family. Women believes that depression was a major psychological impact of climate change. Old people have 67.5% believed that fear was a psychological factor that affected people in Chimanimani area. Boys believed that loss of loved one was a psychological factor of climate change in Chimanimani area.

#### 4.6 Types of psychological impacts of climate change

| <b>Psychological impact</b> | <b>Category of people</b> | <b>Number of responses 155</b> | <b>Greater extent</b> | <b>Less extent</b> | <b>Sample size of 200</b> | <b>Total %</b> |
|-----------------------------|---------------------------|--------------------------------|-----------------------|--------------------|---------------------------|----------------|
| <b>Fear</b>                 | Old people                | 27                             | 20                    | 07                 | 40                        | 67.5%          |
| <b>Loss of loved ones</b>   | Boys                      | 29                             | 21                    | 08                 | 40                        | 72.5%          |
| <b>Trauma</b>               | Girls                     | 33                             | 33                    | 0                  | 40                        | 82.5%          |
| <b>Anxiety</b>              | Males                     | 31                             | 25                    | 6                  | 40                        | 77.5%          |
| <b>Depression</b>           | Females                   | 35                             | 35                    | 0                  | 40                        | 87.5%          |

The table above shows the psychological impact of climate change in Chimanimani area and the category of people. Fear, loss of loved ones, trauma, anxiety and depressions were some of the psychological impacts of Cyclone Idai caused by climate change in Chimanimani area. 27 responses from old people 20 agree to a greater extent that climate change has a very big impact compared to 7 people who agree to a lesser extent. Trauma and anxiety have the highest responses which are 33 and 35 and the total percentage is 82.5% and 87.55 respectively. This implies that women and girls are the ones who are mostly affected by disasters like climate change because they are the burden bearers in any society. They have many roles which they take for example feeding the family and making sure that everything is in place. Boys and men have concurred that anxiety and loss of loved ones were some of the psychological impacts caused by climate change in Chimanimani. Boys and men have 72.5% and 77.5% respectively.

#### 4.7 Vulnerable groups attacked by climate change



From the information got from the responses, women and girls were mostly affected by climate change and even up to now they are still affected. Women and girls have 75% chances of being affected by natural disasters like climate change whilst men and boys have 25% chances. Women and girls bear more responsibilities as compared to men hence they will suffer severely. There is need for climate social justice bear this burden. Several researches conducted by researchers show that during the time of natural disasters women work harder and spend more time securing income and resources, exposing them to increased risks of gender-based violence. Some researchers further explain that women are the backbone of resilience taking on additional burdens during disasters and play crucial role.

#### 4.8 Ways used to reduce disasters caused by climate change

| SRATEGY                                       | COMMENTS                                                                                                                                                                      |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Psychological first aid</b>                | The affected people were given emotional support and practical help. Several non-governmental organizations, civic groups, the government and many others play a crucial role |
| <b>Counseling services</b>                    | Professional counseling services were to individuals who experienced psychological distress                                                                                   |
| <b>Education and awareness</b>                | Education on climate change was given to the individuals before the disaster came.                                                                                            |
| <b>Collaboration with local leaders</b>       | Local leaders were used to give information to people to promote psychological wellbeing and private support to affected individuals                                          |
| <b>Strengthening Disaster Risk Management</b> | There was Disaster Risk Management policies and agencies that helped to mitigate the impact of climate related disasters                                                      |
| <b>Early warning systems</b>                  | Played a critical role in reducing the impact of disasters, through disseminating early warning alerts through various channels like print, television to mention just a few. |

From the above table, it was noted that there were several ways used to reduce disasters caused by climate change in Chimanimani area. Psychological first aid, counseling services, collaboration with leaders, education among others were some of the ways used to reduce climate change disasters in Chimanimani, before, during and after the disaster.

#### **4.9 Chapter summary**

The aim and objectives of the first chapter were summarized in the fourth chapter. The research question on psychological impact of Cyclone Idai caused by climate change in Chimanimani area in Manicaland Province was answered. Data gathered during interviews was presented and analyzed. Depression, anxiety, fear among other things were some of the psychological impacts that affected people in the Chimanimani area during the climate change disaster. The chapter presented the information using tables, graphs and pie charts.

## **CHAPTER 5**

### **Research findings**

#### **5.0 Introduction**

This last chapter gave a summary on the findings and the discussions pertaining the researched topic. The problem was identified in chapter one where the aim and objectives were set. Background of the study and justification of the problem were a major concern. The related literature were highlighted in chapter two where the researcher discussed about different scholars and theorists. Different theories have different perspectives. The researchers used the psychodynamic, the cognitive, the social learning theories to mention just a few. Chapter three the research methodologies were applied. Quantitative and qualitative methods were used. Chapter four highlighted how data was presented. Questionnaires and interviews were used to collect information. On the questionnaire, the researcher made sure that respondents had adequate information. Data analysis tool kit embedded on excel was used to gain insights of the participant's dynamic empirical views. A summary concluded the chapter through an overview of the concept that were covered in the chapter. The last chapter which is chapter five gave a summary.

#### **5.1 Research findings**

The following were findings from the research:

**5.1.1** The cyclone idai caused dropout in schools, some people failed to go to school because some schools were destroyed and learners failed to acquire school resources.

**5.1.2** It was noted that the cyclone disaster brought the heavy psychological disasters to people in Chimanimani. The psychological disasters includes; depression, trauma, anxiety fear among others to the people of Chimanimani.

**5.1.3** From the statistics gathered in chapter 4, it was highlighted that women and girls were the ones who were affected because they are the burden bearers.

**5.1.4** The psychological impacts of cyclone idai brought negative consequences in the area. People had stress, properties were destroyed, people lost their loved ones, and infrastructure was destroyed. People were left homeless, animals were killed by the devastating cyclone idai.

**5.1.5** Physical stress and anxiety were more prevalent whilst the other form like psychological stress were common in the area. The common signs of natural hazards were noted as that anxiety, unwillingness and truancy and deterioration.

## **5.2 Recommendations**

**5.2.1** All area administrators need to have clearly laid down measures to reduce climate change which should be clearly explained to the people in the community. People in their communities should regularly practise the mitigation and adaptation measures so as to reduce the greenhouse gases. People in the communities should have appreciation of the government's code of ethics and platforms like committees' meetings, national campaigns should also be used to conscientise people in the area about the effects and impacts of natural disasters like cyclone idai. Administrators should provide suggestion boxes where people can give suggestions. Administrators should be very cautious because the information provided sometimes will not always be true.

**5.2.2** Educational campaigns on disasters should be regularly done in order to conscientise the people on the natural disasters. People need to be conscientised.

**5.2.3** There is need to train people who can assist during disasters for example disaster risk volunteers.

**5.2.4** People need to be encouraged to build strong houses so that during disaster they will be safe.

### **5.3 Challenges**

**5.3.1** Lack of financial resources can affect the said recommendations

**5.3.2** Differences in political will can cause people not to cooperate together.

### **5.4 Summary**

The chapter explored the psychological impact of cyclone idai in the area of Chimanimani. The research summary of the five chapters drew some issues that was very important to the study. The summary highlighted the synopsis of the study. Chapter one highlighted the context of the problem and it was focusing on the background to the study, the statement of the problem, research questions and the significance of the study. It also highlighted the assumption of the study. Furthermore, the chapter highlighted the definitions of operational terms which featured in the study. The chapter noted that natural hazards continued to precipitate enormous suffering for people in Chimanimani because of inappropriate mitigation and adaptation measures. The people were affected by the psychological trauma, stress like what the psychoanalysts say (Johnson, 2018). Furthermore, the chapter discussed the limitations and delimitations. Definition of terms were highlighted. Chapter two was about the theoretical framework where different theories were outlined in relation to the natural disasters. The ecological theory by Bronfenbrenner was highlighted. The theory emphasized that a person's surroundings has a bearing effect caused by

natural disasters like cyclone idai. People can therefore use this model to assess the psychological impact of cyclone in different areas. Chapter three illustrated the research methods. The chapter explained how the study was carried out. The selected methodology was deemed suitable for the topic. The researcher used both quantitative and qualitative research designs. Questionnaires, interviews and focus group discussions were employed as data gathering instruments. It also looked at population and the composition of the sample size.

Chapter four was based on the data analysis. The data was collected through questionnaires, observations, focus group discussions and interviews. Verbal responses were observed and noted during the interview. The researcher explained and rephrased some questions. Tables, graphs and pie charts were used to present data efficiently. Data analysis tool kit embedded in excel was used to gain insights of the participant's dynamic empirical views. Each findings was discussed in relation to the major research question. Permission to conduct the research was secured from the relevant authorities like the Member of Parliament, district administrators and others. The respondents were assured of the anonymity and their involvement in the study was voluntary. A summary concluded the chapter through the overview of the concepts that were covered in the chapter. The fifth and final chapter was based on the findings, summary and recommendations. The findings were done in relation with the research question.

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