

INVESTIGATING FACTORS HINDERING YOUTH ENGAGEMENT IN CLIMATE CHANGE ADAPTATION IN RURAL AREAS: THE CASE STUDY OF TA KUNTAJA IN BLANTYRE

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ABSTRACT

Youth are particularly vulnerable to the impacts of climate-related hazards, as explained by the IPCC (2022) and WHO (2010), which highlight the significant challenges young people face due to climate change. In Malawi, where 49% of the population is aged 10 to 34, youth involvement in climate change adaptation (CCA) strategies remains minimal despite their substantial representation. This study focuses on the rural areas of TA Kuntaja, Blantyre district, to identify factors hindering youth engagement in CCA efforts. It aims to evaluate youth perceptions of climate change, their involvement in CCA activities, existing policy frameworks, and how these policies are followed and integrated with disaster risk reduction (DRR). Preliminary data indicates that only 35% of young people in Malawi actively engage in climate-related activities, with youth voices often marginalized in policymaking. The study's findings will inform stakeholders and policymakers, helping them develop strategies that enhance youth participation in climate action. This, in turn, supports Sustainable Development Goal 13 and the Malawi Growth and Development Strategy III, aiming to build resilience and empower youth as advocates for climate action. Through comprehensive education, policy integration, and community involvement, the study seeks to harness the potential of youth in driving effective climate change adaptation and resilience efforts. The study found that while awareness of climate change is high, comprehensive understanding and active participation are notably low among the youth, largely due to limited formal education and training in climate-related issues. To overcome these barriers, the dissertation recommends implementing enhanced education and training programs at all levels to equip youth with the necessary knowledge and skills. Economic support in the form of financial incentives is also important to facilitate youth involvement in CCA activities. Moreover, strengthening communication and engagement mechanisms is essential to ensure that youth are informed about and can participate in existing policy frameworks. Fostering inclusive community structures that value and support youth contributions is vital for integrating their efforts into broader climate action strategies. By addressing these gaps through targeted interventions, the study emphasizes the potential to significantly enhance youth participation in climate adaptation efforts, thereby contributing to the resilience and sustainability of rural communities.

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ACCRONYMS AND ABBREVIATIONS

ACPC	Area Civil Protection Committee
CCA	Climate Change Adaptation
DC	District Council
DRR	Disaster Risk Reduction
ENSO	El Nino Southern Oscillation
FAO	Food and Agriculture Organization
GDP	Gross Domestic Product
IPCC	Intergovernmental Panel on Climate Change
MGDS	Malawi Growth Development Strategy
MSCCL	Malawi Strategy on Climate Change on Learning
NOAA	National Oceanic and Atmospheric Administration
NSO	National Statistical Office
NYNCC	National Youth Network on Climate Change
NYP	National Youth Policy
SDG	Sustainable Development Goal
TA	Traditional Authority
UNDP	United Nation Development Project
UNEP	United Nation Environmental Programme
UNFCCC	United Nations Framework Convention on Climate. Change
UNGA	United Nation General Assembly
UNICEF	United Nations Children's Education Fund
VCPC	Village Civil Protection Committee
WB	World Bank
WFP	World Food Programme
WHO	World Health Organization
WWF	World Wild Fund

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1.0. INTRODUCTION

1.1. BACKGROUND

Malawi is one of the countries which have been severely affected by the impacts of climate change. Climate change is widely considered to be one of the most consequential threats facing humanity (Cook et al., 2013). Climate change refers to the statistically significant variation in either the mean state of weather conditions including temperature, precipitation, atmospheric pressure, humidity and wind patterns or in its variability persisting for an extended period, typically decades or longer for a particular location (National Oceanic and Atmospheric Administration, 2018). Climate change poses unprecedented challenges to ecosystems, economies, and societies worldwide (Filho, 2013). According to Steffen et al. (2018), anthropogenic factors for example human activities such as burning fossil fuels, industrial processes, harmful farming methods, and deforestation have all contributed to the buildup of the greenhouse gases in the atmosphere, mostly carbon dioxide and methane hence global warming. Furthermore, climate change does not only increase the frequency and severity of extreme weather events for example floods, hurricanes, wildfires, heat waves, but also creates myriad of environmental disruptions longer lasting changes such as rising temperatures, rising sea levels, droughts, shifts in precipitation pattern that has led to changed growing seasons for crops, to shifting ecosystems and threatened livelihoods hence making whole areas becoming uninhabitable (Sanson, Burke, & Van Hoorn, 2018).

The UNFCCC makes a distinction between climate change and climate variability. Climate variability describes short term changes in climate that take place over months, seasons and years. According to UNFCCC (2009), climate variability involves climatic parameter of a region varying from its long term mean. For example, El Nino and La Nina, the two phases of the El Nino Southern Oscillation (ENSO), are the most important drivers of year to year variability in climate in the pacific region. These different phases of ENSO, El Nino and La Nina, cause droughts and floods in different regions depending on the location and intensity of event at a specified time. Each El Nina and La Nina event is different such that they have different impacts on the environment and humans (Michael Ghil et al., 2023).

According to Costello et al. (2009) and Watts et al. (2017), the biggest threat to world in the twenty-first century is climate change. The risks presented by this unprecedented issue not only jeopardize the planet's sustainability and health, but they also worsen social, economic, environmental, and geographic disparity between generations (IPCC, 2014; Meyer, 2017). For example, the melting of 40% of the Arctic sea ice over the summer months in the Northern Hemisphere is the most obvious sign of climate change (UNEP, 2013). However, World Bank (2010) reported that economists predicted that the effects of climate change could cause damage equivalent to 5% of global GDP by the year of 2100. If a wider range of risks and effects are considered, the estimated loss could reach 20% of GDP or higher. The World Bank Climate Profile of Malawi states that Malawi is particularly prone to adverse climate hazards including dry spells, seasonal droughts, intense rainfall, riverine floods and flash floods. It is for this reason that the Malawi Government has also fully recognized the climate change threat. For example, the Malawi Growth and Development Strategy (MGDS) III, acknowledges that climate change affects youth productivity and child development, thus the government has identified that a more systematic approach to adapt to climate change and building resilience is required. There is a need that human population must adapt to the climatic changes (IPCC, 2022). Climate Change Adaptation involves the modification of natural or human systems to mitigate harm or take advantage of all chances in response to present or anticipated climatic stimuli or their effects (UNFCCC, 2009).

Youth are one of the more vulnerable and severely affected groups from the impacts of climate related hazards (IPCC, 2022). Malawi NSO (2018) reports that 49% of the youth in Malawi are aged 10-34. The Government of Malawi, through is National Youth Policy (2013), defines Youth as the person aged between 10-35 years. Globally, Youth serve as foundation of society, hence participation in all societal endeavors and all other activities, from the planning stage to implementation, is necessary (Oladeji et al., 2017). Furthermore, climate change also decreases the availability of nutritious food and clean water which leads to malnutrition and ill health, rendering children and young people particularly vulnerable (WHO, 2010).

While the urgency of addressing climate change is undeniable, the role of youth in Climate Change Adaptation efforts is often underestimated and underexplored (UNFCCC, 2012). Young people in the current generation will bear the brunt of the effects of climate change when they grow up in the next 10 to 20 years (IPCC, 2014; 2018). Therefore it is not surprising that movements led by them have started to urge governments and international organizations to take action right away. Encouraging sustainable lifestyles, promoting the use of renewable energy sources and building adaptive capacity and resilience are some examples of actions that youth can undertake to combat climate change (Youth and Climate Change, 2010). Therefore, United Nations are trying to support youth in combating climate change through educational programs, adaptation initiatives and participative involvement (UNICEF, 2016).

With this in mind, this study aims to analyze factors hindering youth engagement in CCA and how Climate Change affects the lives of youth in rural areas, specifically communities of TA Kuntaja. The area has high vulnerability to climatic hazards such as floods and drought due to its geographical location and its physical and socio-economic environment.

1.2. PROBLEM STATEMENT

In Malawi, youth constitutes 55.7% of the population (NSO, 2020), yet their involvement in planning processes including those related to climate change is minimal (M Zimba et al., 2021). In Lilongwe, in April 2018, the Youth under the banner of National Youth Network on Climate Change (NYNCC) bemoaned their inadequate participation in the formulation of strategies that address issues of climate change (the Nation, 2018). The United Nations Development Programme (2020) reports that only 35% of young people in Malawi are actively involved in climate-related activities. In a recent study by Green et al. (2021), it was found that youth voices are often marginalized in climate policymaking, limiting the effectiveness of climate strategies. Furthermore, another survey conducted by Climate Watch (2022), found that only 20% of youth feel that their perspectives on climate issues are adequately represented in policy discussions.

According to the World Wildlife Fund (2023), the limited engagement of young individuals in climate action is hindering the pace of change required to combat global warming. The study will be conducted in areas of TA Kuntaja in Blantyre district. Blantyre district council in coordination with other partners like Makazi Foundation, on several occasions has engaged communities of TA Kuntaja in various climate change activities. But studies and reports have showed that among the participants, only a few young people participate in these activities. Therefore this study will investigate the factors that hinders the engagement of youth in CCA and will seek to bridge this gap by focusing on the critical yet often overlooked dimension of harnessing the potential of youth as active participants in CCA.

1.3. RESEARCH OBJECTIVES

1.3.1. Main Objective

The main objective of the study is to assess factors that hinder the engagement of youth in climate change and adaptation strategies in rural areas.

1.3.2. Specific objectives

The study is also concentrating on the following specific objectives:

- To evaluate how youth perceive issues of climate change
- To examine the extent to which youth are involved in CCA activities.
- To evaluate existing policy frameworks and community structure of Climate Action.
- To examine how youth use and follow the existing policies of Climate change
- To integrate youth participation in CCA and DRR.

1.4. RESEARCH QUESTIONS

This research therefore seeks to answer the following questions:

- How does youth in rural areas perceive issues of climate change
- What is the extent or level of youth involvement in CCA strategies?
- What policy frameworks, community structures and advocacy efforts exists?
- How does youth use and follow the existing policies of climate change?
- How can youth engagement in CCA be integrated with DRR?

1.5. SIGNIFICANCE OF THE STUDY

This study is significant because it will help to achieve Sustainable Development Goal 13, known as "Climate Action," which is a global initiative aimed at urgently addressing climate change and its impacts. Furthermore, the Malawi Growth and Development Strategy (MGDS) III, acknowledges that climate change affects youth productivity and child development, thus government has identified that a more systematic approach to adapting to climate change and building resilience is required.

The study seeks to address current issues on the ground such that government stakeholders including Blantyre District Council and other stakeholders will use the outcomes to understand how young people perceive issues of climate change and they will be able to make informed decisions towards the development of policies and initiatives that will promote youth to meaningfully participate and engage in policy formulation so that their views and perspectives are heard and acted upon. This will empower youth to become advocates for climate action (UNFCCC, 2019). Lastly, through understanding the concept of climate change and the impacts of climate related hazard, the study will help to build disaster resilience among youth both at local level and national level. Young people will be able to shift the emphasis onto what individuals and communities can do for themselves and how they can strengthen their capacities to prepare, cope with, withstand, respond and recover from the impacts of disasters in a timely and effective manner, rather than focusing on their vulnerability to disaster or their needs in an emergency (Youth and Climate Change, 2013).

2.0. RETERATURE REVIEW

An overview: The concept of climate change in Malawi

In 2030 Agenda for Sustainable development, the Goal 13, known as "Climate Action," is a global initiative aimed at urgently addressing climate change and its consequences. It comprises five targets, including enhancing resilience and adaptive capacity to climate-related hazards and natural disasters in all countries, integrating climate change measures into national policies, strategies and planning and Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning. The UN emphasizes the need for immediate action to mitigate and adapt to climate change for the resilience, health and well-being of the people by helping more vulnerable regions such as land-locked countries, the developing countries and island states become more resilient to reduce the impacts of disasters (UNGA, 2015).

Malawi, like many other developing countries in sub-Saharan Africa, is grappling with adverse impacts of climate change. This phenomenon is causing untold misery to the populace; and it is manifested in the frequent occurrence of climate related hazards such as severe floods, strong winds, drought episodes and protracted dry spells. These hazards have serious repercussions on human health, social, economic and agriculture production in the country. Effective implementation of climate change response initiatives requires high levels of awareness, knowledge and skills on climate change across all socioeconomic sectors, as stipulated in Article 6 of the UNFCCC in 2009. Therefore, in 2013, Government of Malawi formulated a Strategy on Climate Change Learning to address knowledge gaps that are key for formulating informed policies and climate change interventions. The Government of Malawi is also a signatory to the 2015 Paris Agreement which intends to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase. The key vision and planning documents of the Government are starting to address aspects of climate change and disaster risk management hence reducing the impacts of the climate related hazards.

As such, government has developed different policy frameworks such as the National Climate Change Management Policy (2016) in order to enhance coordination and implementation of climate change activities, and also to foster the development of climate related technologies and capacity building.

In 2009, the Malawi Government designated Climate Change, Environment, and Natural Resources Management as one of the Key Priority Areas in the Malawi Growth and Development Strategy III. It is therefore, necessary for the country to mainstream climate change mitigation and adaptation measures in all sectors for improved resilience and sustainable development. On its path towards climate resilient growth, the key element and strategy to guide the actions on climate change adaptation and mitigation is the National Climate Change Management Policy (2016). The policy serves as a guide for integrating climate change concerns into the development planning process. Its objective is to establish a supportive political and legal framework for coordinated climate change management. The policy offers strategic direction on institutional structure, priorities, and actions, encompassing adaptation, mitigation, technology transfer, and capacity building in Malawi (Malawi's Strategy on Climate Change Learning, 2021).

However, The Malawi National Youth Policy acknowledges the unique challenges young people face in the context of climate change. This policy emphasizes the integration of environmental and climate change initiatives into youth participation structures, aiming to build their capacity for meaningful engagement in related activities. Recognizing the significant potential for positive change through the creative ideas, activism, and mobilization efforts of children and youth, their involvement is seen as critical in addressing the global climate crisis. (MSCCL, 2021). Climate Change Adaptation still faces gaps despite limited progress, with a focus on short-term risk reduction like flood protection. These efforts tend to be small-scale, fragmented, sector-specific, and planning-oriented, leading to disparities, especially affecting lower-income populations in addressing adaptation challenges (IPCC, 2023).

Youth participation in Climate Change

In Malawi, a research study conducted in Mzuzu in 2021, analyzed Youth Engagement Strategies in Climate Action Planning. The study, led by Josephine M. Zimba, B. Simbeye, and S.C Chirwa, aimed to examine how existing stakeholder engagement strategies in climate planning affect youth in climate action. The research assessed the level of youth involvement in the planning processes within Mzuzu City. The study revealed that one of the factors influencing youth involvement is the effectiveness of the existing Stakeholder Engagement Strategies.

In Mzuzu City, three main engagement strategies were identified. First, stakeholders preferred using existing community structures for engagement, ensuring targeted communication aligned with community interests. However, this approach didn't fully engage youth. Second, direct engagement with youth groups and clubs was employed by some organizations, but it primarily benefited those already involved in such groups. Lastly, individual community leaders, like chiefs and ward councilors, played a key role in community engagement, serving as informants and strengthening community involvement through partnerships. These strategies had varying degrees of success in enhancing community engagement activities and outcomes (Wiseman et al., 2010). The study identified barriers to Youth Engagement in Local Climate Action Planning Processes, including limited awareness of these processes, cultural considerations and youth attitudes. UN member states recognize that addressing CCA necessitates collaboration with diverse stakeholders, including youth. They acknowledge youth as influential stakeholders and have established YOUNGO within climate change policy negotiations to involve them in shaping global adaptation policies (AdaptForOurFuture, 2021, pg. 5).

Another research was conducted by V. Sanson in 2019 which was focusing on responding to the impacts of the climate crisis on children and youth. The study emphasized on helping children and youth in developing countries. Programs across the developing world aim to build the resiliency of communities, families, and young people to climate impacts (UNICEF Office of Research, 2014).

They include unfunded grassroots projects, as well as programs funded and implemented by United Nations agencies and international non-government agencies. An important component of interventions focused on children and youth is agency (Hart, 2014). The Convention on the rights of the Children states that children have the right to participate in and influence decision-making processes that are relevant to their lives (United Nations General Assembly, 1989). Therefore, it is important to treat young people as active agents and protagonists for change, rather than simply as victims. (Hart et al, 2014).

Programs at local, national, and international levels support actively engaging children and youth in increasing awareness of climate change, taking part in disaster preparedness and response projects, promoting renewable energy, developing environmentally sustainable practices, and advocating for urgent action on the climate crisis (Children in a Changing Climate Coalition, 2009; Plan International, 2015; United Nations Joint Framework Initiative on Children, Youth & Climate Change, 2013). However, these programs each a small minority of children who need those, few are taken to scale, and evaluation data are scarce. (Sanson, Wachs, et al., 2018).

Civic Knowledge and Youth Engagement

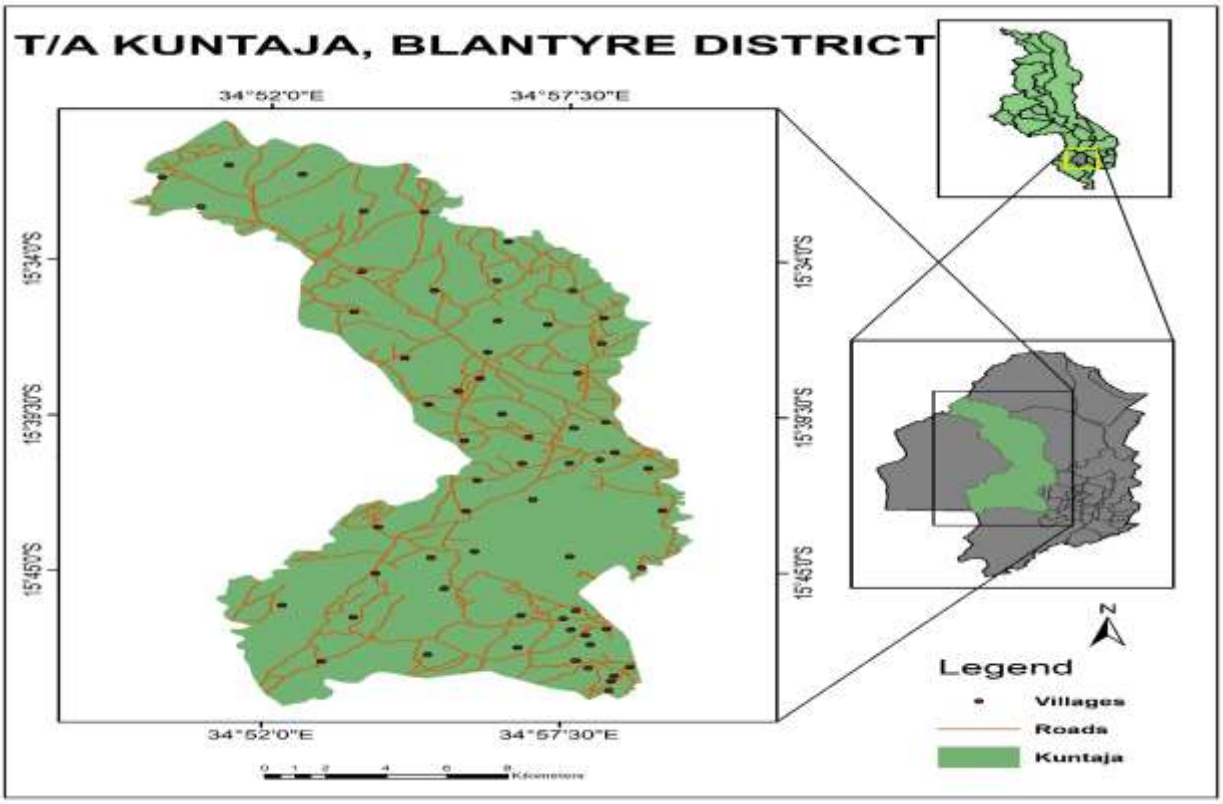
Another research was done by E. Kessler in 2021 on Climate Change Concern among Youth which examined the role of Civics and Institutional Trust. The study explained that given that the process of generational cohort replacement will shape future democratic processes and policy decisions, socializing youth in meaningful civic engagement is important to help address issues such as climate change (Miranda et al., 2017; Quintelier, 2015). Civic and climate change knowledge are both significant predictors of climate change awareness and perceptions of its risk (Barkan, 2004; Luís et al., 2018; Maibach et al., 2011). Higher civic knowledge and engagement is related to higher acceptance of specific attitudes and scientific issues (Galston, 2001). Research is needed to understand how civic knowledge may enhance climate change perceptions in youth (Kessler, E., 2021).

3.0. METHODOLOGY

3.1. THE STUDY AREA

Blantyre District have 7 TAs and have a total population of population of 417,453 of which 54% are youth (NSO, PHC, 2018), with a population density of 189 people per square kilometer. It surrounds the commercial metropolis of Blantyre City. The district's total land area is 201,696 hectares, it has a moderate climate that is usually warm and temperate. The rainy season in Blantyre is substantially greater in the summer. In Blantyre, the average temperature is 20.7 C. The annual precipitation total is 1086 mm. This decision is justified by the fact that the district is one of the areas that has been heavily affected by the impacts of climate change for example, floods, tropical cyclone Anna and tropical cyclone Freddy. TA Kuntaja of Blantyre District is selected as the research location for the study. This area has been chosen because it is one of the mostly affected areas that was hit by both Tropical Cyclone Ana and Tropical Cyclone Freddy such that the area is more vulnerable to the impacts of climate change.

Figure 1. Map of the Study Area



3.2. RESEARCH DESIGN

A research design is an approach or a collection of techniques that use empirical data for analysis to address the study or research questions (Bhandari, 2023). A case study is a suitable research design if you wish to gain or learn specialized, contextualized, in-depth information on a particular real-world subject (Baxter and Jack, 2008). It enables you to investigate the salient features, interpretations, and ramifications of the case. It is a method that aids in investigating a phenomenon in relation to its surroundings by utilizing a range of data sources (McCombes, 2023). Although the majority of this research is qualitative in nature, in order to understand the case thoroughly, the research has used not only only qualitative approach which involves understanding subjective experiences, beliefs, and concepts and gaining in-depth knowledge of a specific context or culture, but also quantitative approach which includes measuring different types of variables and describe frequencies, averages, correlations, test hypotheses about relationships between variables and also test the effectiveness of a new treatment, program or the product (Hassan, 2024).

3.3. SAMPLING AND SAMPLING TECHNIQUES

A purposive sampling technique was used to determine which individuals or youth who were to participate in the research. Purposive sampling is a sampling technique which involves selecting the sample based on the criteria that are determined by the interest of the researcher to obtain relevant data regarding the significance, meaningful understanding and depth of the researched matter (Palinkas et al., 2013; Palys, 2008). I had to determine the actual sample size for the research, according to the different methods that were undertaken. A sample of participants was drawn from the total population of youth aged from 18 to 34 in the community of GVH Chilingani in the villages of Mzinganguo, Jeweta and Chibwana which is 156 according to NSO (2018). Using the slovin's formula "n=N/1+N (e) ^2" with the use of 90% confidence interval of 0.1 as the margin error, the sample size was generated from the population. The Sample of 61 people out of the total population of 156 in the area were interviewed about their experience on CCA.

3.4. DATA COLLECTION

The methods of collecting data, namely interviews, observation, and surveys, were used. Interviews included semi-structured interviews, in-depth interviews, and Key Informant Interviews. During the surveying process, a questionnaire, a research tool featuring a series of questions, was utilized to gather useful information from respondents. This questionnaire featured both open and closed questions and was in an interview format. Tools used to collect data included written questions on paper as well as an android application called Kobo-collect. Both primary data and secondary data were collected to ensure the success of the project. The research began with interviews with people who have firsthand knowledge of the topic, including 2 local leaders, 1 ACPC, and 1 VCPC. Other key informants who were interviewed were 2 Blantyre District Council officials. Obtaining first-person stories of their expertise and viewpoints helped to elucidate the results in a meaningful way. I successfully recorded three key informant interviews using a recorder, although I also transcribed the responses in my notebook. Some key informants requested that I only write down their responses rather than record them. Lastly, I conducted individual and separate interviews with 61 participants, comprising 35 males and 26 females from the villages of Mzinganguwo, Jeweta, and Chibwana.

3.5. THE ETHICAL CONSIDERATIONS

The respondents voluntarily participated in interviews, and their confidentiality was carefully considered. Challenges that arose during the study, such as obtaining informed consent were considered. The identities of the participants were kept confidential to ensure respect for their autonomy and privacy. Some key informants requested that I only write down their responses rather than record them, and I complied with their wishes. Additionally, efforts were made to minimize potential harm or discomfort to participants during the interview process, such as providing a comfortable and private environment for discussions and avoiding sensitive or intrusive questioning. Furthermore, all the data that were collected were stored securely and used solely for the purpose of research, with measures in place to protect against unauthorized access or disclosure.

3.6. DATA PROCESSING AND DATA ANALYSIS

Separate analyses were conducted for the qualitative and quantitative data. Following data collection, the data were consolidated and arranged. Thematic analysis was used to process and interpret qualitative data. This method comprises familiarizing, coding, producing, and naming themes in order to define, organize, assess, and document data patterns (McLeod & Evance, 2023). I initially collected all of the qualitative data using several methodologies. I entered all of the data I had gathered, primarily through the use of thematic analysis, depending on the themes I had identified, for example, youth perspective of CCA, variables or factors influencing youth involvement in climate action, and the level of youth engagement in CCA. In order to differentiate the various responses under the subthemes and to make it easier for me to isolate the responses for analysis, I used various codes and colors for the responses under the themes. I then grouped related responses based on the varied responses in the different codes to provide additional emergent themes from the findings, which were the original contributions of my research.

Conversely, statistical techniques were used to analyze quantitative data, including variance, mean, median, standard deviation, and other indices of central tendency. I entered data into Excel and performed basic analyses using the Statistical Package for the Social Sciences (SPSS) tool, mostly focusing on frequencies, mean, and standard deviations. The data entry template was created and all of the quantitative data gathered throughout the village survey was entered. The means, mode, median, range, and other measures of central tendency were used to summarize continuous data. Frequency counts and proportions were used to summarize categorical data. The results obtained from the research participants who were sampled were utilized to explain the relationships between various aspects that impact youth engagement and their level of participation in CCA.

A Likert scale was employed to determine how young people perceived or felt about taking part in climate change initiatives to accomplish the first specific objective. The Likert scale is used in survey research to measure respondents' opinions on a certain topic, in this case, youth participation in CCA (Jim et al., 2019).

To assess people's perceptions of their participation in CCA, the first explicit purpose of the study was to create a five-point Likert scale measure in SPSS ranging from strongly disagree to agree. The Likert scale total for each response was computed using the convert menu. Additionally, the mean score was computed to determine the proportion of respondents who scored below and above average.

Finally, the information was presented in charts, graphs, and tables to aid in the understanding of the results.

Table 1. Statistical Test

METHODOLOGY OF SOME STATISTICAL TESTS	
Qualitative Data analysis	**Youth perception towards CCA**
Thematic analysis -Data reduction -Data organization -Data Conceptualization -Connection of the data around themes and concepts -Examination of relationships	-Formulation of Likert variable template in spss -Data entry and replacing data using multiple imputation method -Transform menu Sum of Likert for each responded -Calculate statistical mean/ deviation -Established a perception i.e. average.

4.0. RESULTS SECTION

The purpose of the questionnaire's first section (A) was to collect information on the sociodemographic and demographic characteristics that affect young people's participation in Climate Change Adaptation. It had fifteen questions covering a range of topics, including gender, age, marital status, principal source of income, and educational attainment. 61 individuals participated in the study. Out of the 61 individuals interviewed, 35 were men and 26 were women. Notably, male participants made up 57.4% of the sample population, while female participants made up 42.6%. The higher percentage of male participants stems from the fact that males were more willing to participate in the interview than females, who were preoccupied with household chores at the time of data collection. The young people in the interview ranged in age from 18 to 33. The age group that attracted the greatest number of participants, at 39.3%, was 26–29, followed by 30-33 with 27.9%, while the remaining age groups made up 32.8%. Farming accounted for the majority of respondents' reported sources of income (55.7%), with work coming in second (18%) and other sources of incomes covering 26.3%. In terms of education, just a tiny percentage of respondents (3.3%) had tertiary education, while more individuals (47.5%) had only completed secondary school, and the rest had done primary school level.

The results indicate that the awareness, knowledge, and engagement of the respondents with climate change adaptation varied widely. Although there is a higher level of awareness regarding climate change, the population studied appears to have a relatively low level of active involvement in CCA programs and engagement with policy frameworks. Every participant (100%) said they have heard of climate change. In terms of their degree of understanding regarding climate change, 29.5% said they were extremely knowledgeable, 47.5% said they were somewhat knowledgeable and 8.2% said they knew nothing about CCA. Among 61 respondents, just 27.9% had received formal education or training in CCA, whereas the majority (72.1%) had not. The percentage of respondents who said they were active in a CCA programs was about 31.1%, the rest 68.9% said they never participated in any initiative or program of CCA.

Table 2. Demographic data and other Important Variables in CCA

DEMOGRAPHIC FACTORS AND OTHERS		COUNT	COLUMN N (%)
Sex	Male	35	57.4%
	Female	26	42.6%
Marital Status	Single	31	50.8%
	Married	23	37.7%
	Divorced	4	6.6%
	Separated	2	3.3%
	Widowed	1	1.6%
Age	18-21	7	11.5%
	22-25	13	21.3%
	26-29	24	39.3%
	30-33	17	27.9%
Level of education	Primary	29	47.5%
	Secondary	24	39.3%
	Technical/ other college	6	9.8%
	Tertiary	2	3.3%
Main source of livelihood	Work	11	18%
	Farming	34	55.7%
	Business	7	11.5%
	Other	9	14.8%
Heard about Climate Change	Yes	61	100%
	No	0	0%
Knowledge about climate change	Very knowledgeable	18	29.5%
	Somewhat knowledgeable	29	47.5%
	Not very knowledgeable	9	14.8%
	Not at all knowledgeable	5	8.2%
Received formal education/ training	Yes	17	27.9%
	No	44	72.1%
Involved in any CCA initiative/ activity	Yes	19	31.1%
	No	42	68.9%
How often do they engage in CCA activities	Regularly	3	4.9%
	Occasionally	6	9.8%
	Rarely	10	16.4%
	Never	42	68.9%
Aware of any policy framework related to CCA	Yes	17	27.9%
	No	44	72.1%
Actively following/ engage with existing CCA policies	Yes	7	11.5%
	No	54	88.5%

4.1. DESCRIPTIVE STATISTICS

Descriptive statistics summarize and present features of a population sample using quantitative methods. It involves the process of utilizing and analyzing a sample rather than using the data to learn about the population that the sample is thought to represent (Z. Holcomb, 2016). Some measures used to describe a dataset are measures of central tendency and measures of variability or dispersion. Measures of central tendency include the mean, median, and mode, while measures of variability include the standard deviation, variance, and the minimum and maximum values of the variables and skewness. All the values of skewness lie within the range of (-1 to +1). All these values are presented in the table below:

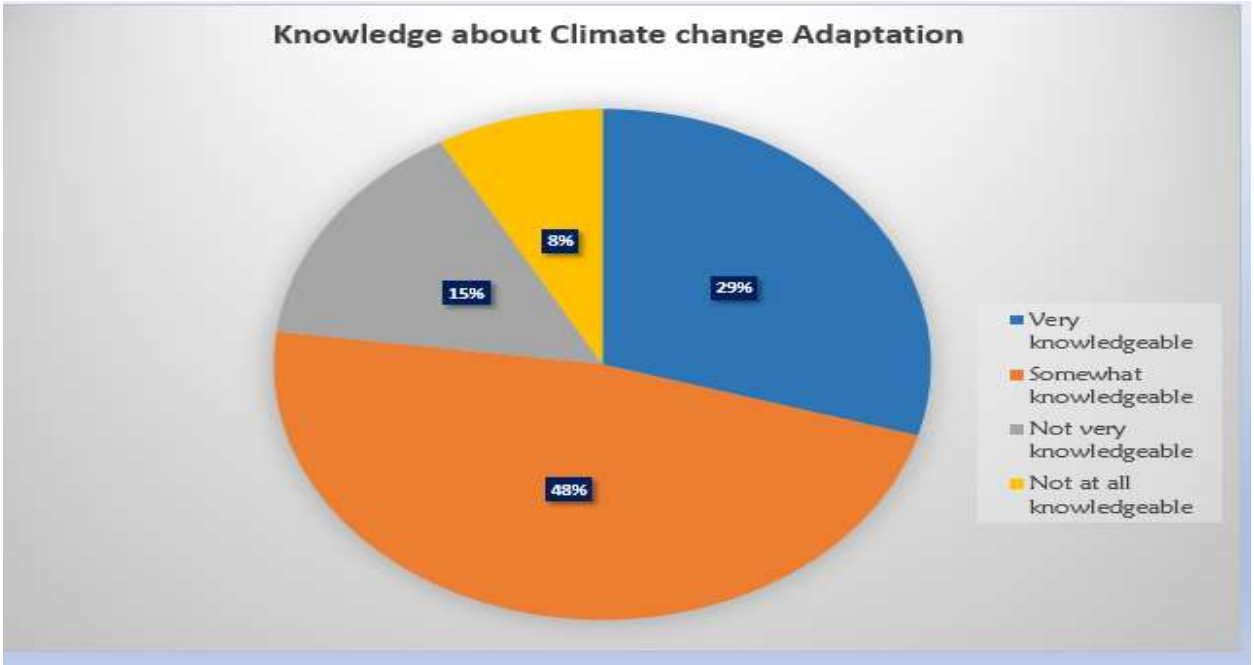
Table 3. Descriptive Statistics

Variables	mean	Standard deviation	Skewness
Sex of main respondent	31.12	6.3	0.57
Age	17.75	7.14	0.39
Level of education	23.89	13.25	0.48
Main source of livelihood	23.06	12.61	0.56
Knowledge about climate change	20.83	10.66	0.48
Received formal education/ training	36.47	19.09	0.72
Involved in any CCA initiative/ activity	34.85	16.26	0.69
Aware of any policy framework related to CCA	36.47	19.09	0.72

Results: Knowledge about Climate Change Adaptation

Understanding the varying levels of knowledge among youth about climate change is critical for developing effective educational strategies and engaging this demographic in meaningful climate action.

Figure 2. The level knowledge about CCA



According to the data, 18 of the 61 respondents were extremely knowledgeable (30%). This group is made up of young people who are well knowledgeable about climate change. Their extensive expertise can result in preemptive measures and well-informed choices. They are probably going to promote sustainable behaviors, take part in advocacy, and use campaigns to raise awareness and educate others. 48% of the participants had some level of knowledge. Given that this is the largest demographic, almost half of the young people have a moderate awareness of climate change. Even though they might not be specialists, they understand the fundamentals and the significance of the problem. Due to their ease of education and mobilization for climate action, this group is essential for raising awareness. However, some respondents (14.8%) and some but not all (8.2%) were not very knowledgeable. This group does not understand or have awareness of climate change. Since their ignorance now impedes attempts to mitigate climate change collectively, they represent the most pivotal sector to target.

4.2. UNDERSTANDING YOUTH PERCEPTION ON CLIMATE CHANGE ADAPTATION

Youth perceptions of climate change involves how young people interpret and understand issues of climate change (Zaid et al, 2022). According to K Lee (2020) the perception of young people towards climate change is influenced by various elements such as level of education, formal training, awareness, and involvement in climate-related activities. It is assumed that young people's perceptions will be based on their awareness of climate change, which includes their knowledge and understanding of the concept, causes, effects, and potential remedies. Surveys, interviews, and quizzes that probe people's level of knowledge about climate change issues can be used to gauge awareness. Topics include greenhouse gas emissions, trends in global warming, impacts on ecosystems, and the role of human activity may be covered in the questions (Zaid et al, 2022).

Another consideration is if they have received formal training on CCA. Formal training refers to structured educational programs or courses that focus specifically on sustainability, environmental science, climate change, or related themes (Zeeshan, 2021). To assess the youth viewpoint in this context, it is important to find out if they have taken part in formal training in CCA topics, such as workshops, seminars, or academic courses. In order to evaluate youth perspective in this regard, it is necessary to determine whether or not they have participated in academic courses, workshops, seminars, or other official training in these areas. Exams, evaluations, or real-world applications of acquired knowledge can be used to determine how effective such training was. (Chirwa et al, 2021)

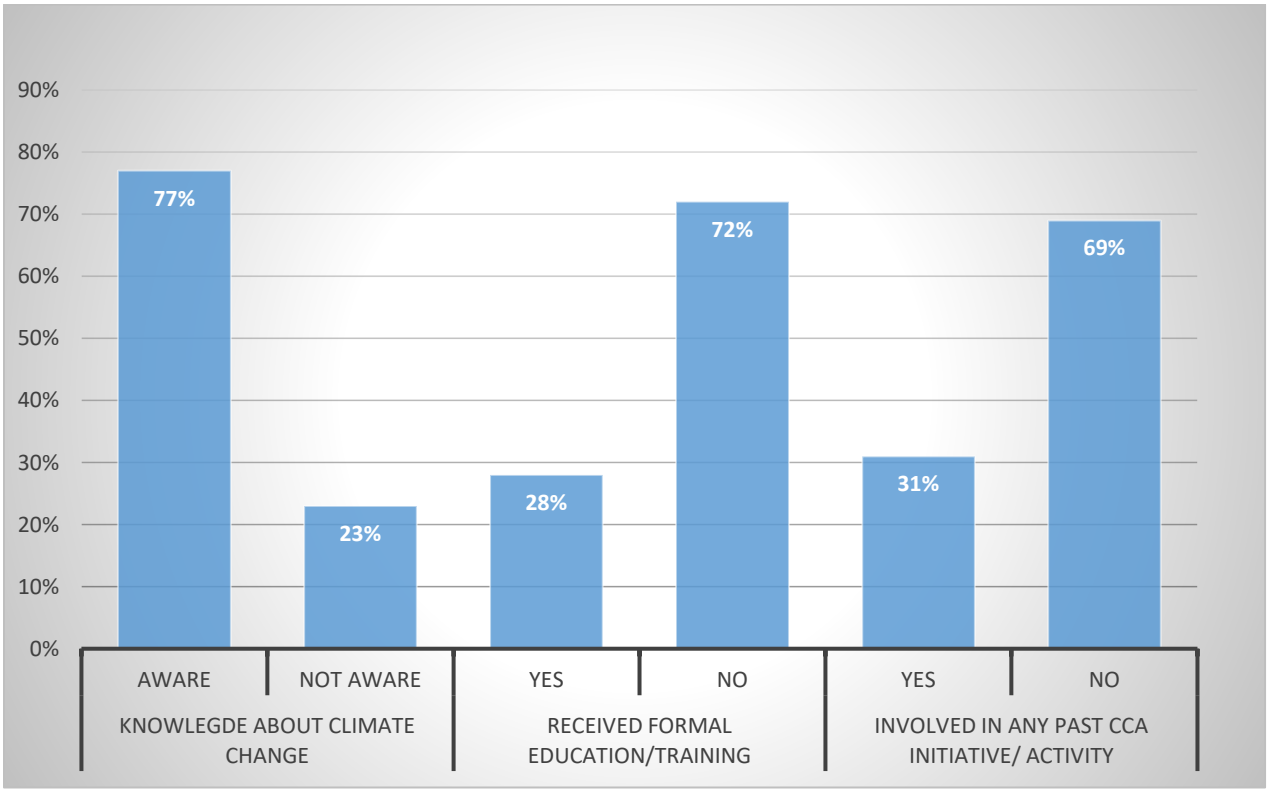
Education level has a major impact on youth's perceptions about climate change. One of the main determinants of how young people view climate change is education. A person's educational background, including their academic credentials, study areas, and achievement levels, must be taken into account while evaluating this component (Zeeshan, 2021). This involves taking into consideration the educational histories of individuals, taking into account their degrees, areas of expertise, and course of study. According to H Hussein (2021), higher levels of education are typically associated with increased knowledge, understanding, and engagement with climate change issues.

The involvement of youth in climate action is the final point. This section focuses on the extent to which young people actively participate in initiatives, campaigns, or projects aimed at addressing climate change. It entails evaluating their involvement in a range of endeavors, including community service, advocacy, environmental volunteerism, and adopting sustainable lifestyles. Monitoring participation rates, calculating the effect of activities, or interviewing people to learn about their experiences and motives are a few examples of evaluation techniques (Zaid et al, 2022).

Results: Youth perception on Climate Change Adaptation

The study used a thorough method for assessing the perceptions of young people of the Chigwaja community of TA Kuntaja on climate change by combining awareness levels, formal training received, educational backgrounds, and involvement in climate initiatives.

Figure 3. Youth perception on CCA

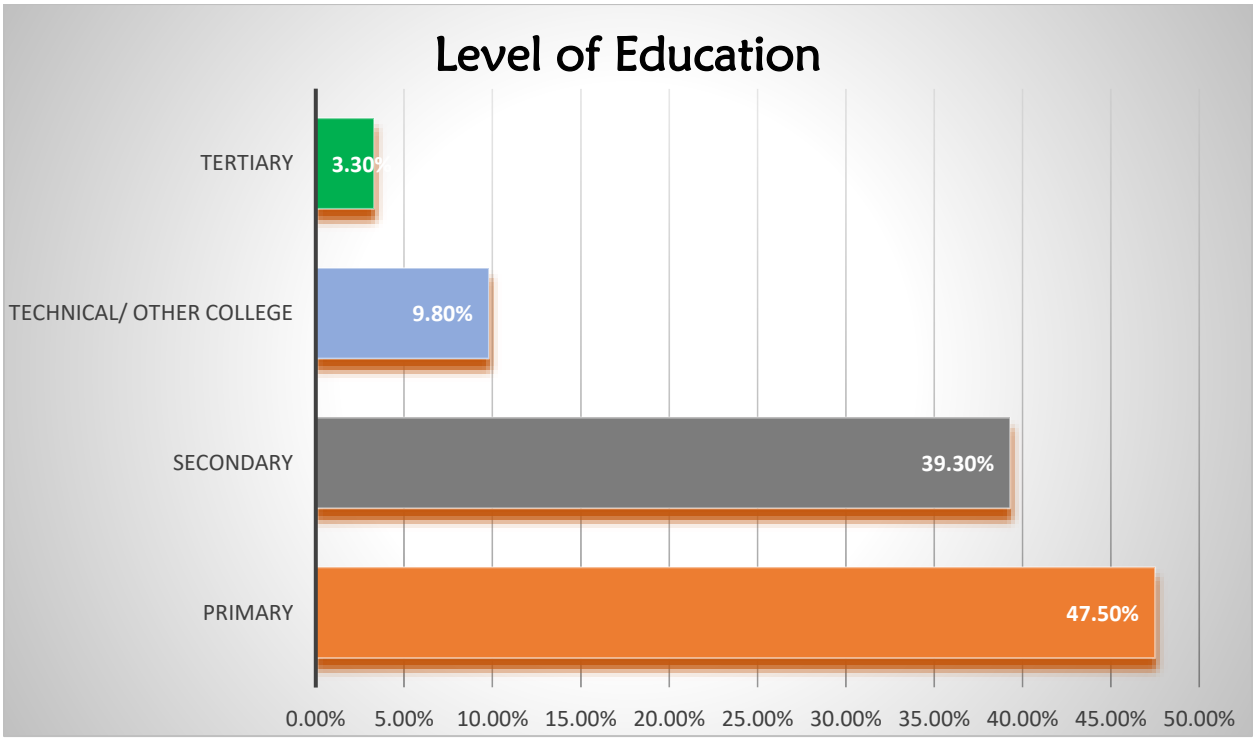


The graph explains more about how young people of TA Kuntaja perceive issues of CCA and their involvement in CCA. The graph shows that 77% of all the respondents are aware of Climate Change Adaptation. Although a large number of young people (77%) are aware of climate change, only 28% have had formal education or training in the area. This shows that even if a large number of young people acknowledge that climate change is a problem, their comprehension of the subject may be limited or restricted to common knowledge without a thorough understanding of the scientific, social, and economic facets or concept of the problem. Moreover, just 31% of people really participate in climate change adaptation programs, despite considerable knowledge. This alludes to obstacles such a lack of money, opportunities, or encouragement for young people to engage in these kinds of activities. With the high degree of awareness, there is a great chance to include and inspire young people through formal education and participation in CCA programs. Closing the achievement gap in education and expanding opportunities for engagement could leverage this conscious capacity of this group to lead climate action.

THE LEVEL OF EDUCTATION OF YOUTH PERCEPTION ON LIMATE CHANGE ADAPTATION

Youth attitudes and behaviors about climate change adaptation are greatly influenced by education. A higher education level helps people become more conscious of and knowledgeable about climate-related concerns by providing access to scientific data and developing their critical thinking abilities. This makes it possible for young people with education to evaluate risks, create flexible plans, and take part in environmental activism. They are more likely to have access to resources, take part in intellectual conversations, and have an impact on policy choices. On the other hand, a lesser level of knowledge restricts resources, critical thinking skills, and access to detailed information, which increases dependence on false information and decreases involvement. While less educated people find it difficult to acquire influence, educated adolescents also develop and spearhead communal initiatives. Thus, incorporating climate education into curricula is essential to equipping young people to effectively tackle climate concerns.

Figure 4. The level of Education of the respondents

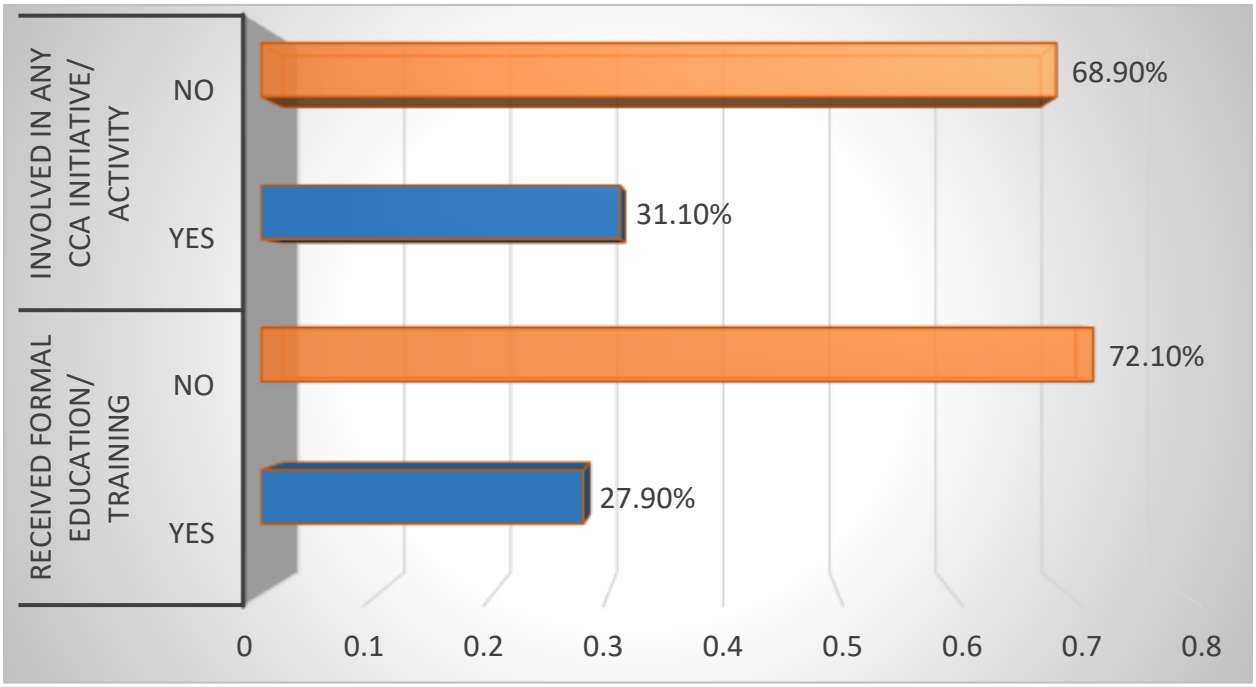


According to the data, 29 out of 61 respondents representing 47.5% and 24 out of 61 which represents 39.3% only completed their elementary or secondary school respectively, indicating that they have a limited awareness and comprehension of climate change, which may make it more difficult for them to participate in CCA. While youth with secondary education have a greater understanding of basic climate science and some critical thinking skills, their access to resources is still minimal. Youth with primary education may lack critical thinking skills in term of climate actions. A smaller percentage of young people (3.3%) and those with technical or other college degrees (9.8%) have completed postsecondary education, which gives them more advanced critical thinking abilities and specialized knowledge, enabling them to take the lead in and participate in climate adaptation initiatives. Higher education relates with greater awareness. Respondents with tertiary education showed that they are more aware about climate change compared to those with only primary education. Improving educational opportunities and incorporating comprehensive climate change education are essential for fostering young engagement in initiatives or activities of climate change adaptation.

4.3. THE LEVEL OF YOUTH PARTICPATION IN CLIMATE CHANGE ADAPTATION

The involvement of young people in climate change initiatives is essential for sustainable and creative solutions to the urgent problem of climate change, which calls for strong adaptation measures to lessen its negative impacts of climate related hazards such as floods, landslides and floods. Young people have the ability to lead climate action, and this is increasingly acknowledged, but their actual involvement is still low. Among 77% of the youth who have the knowledge on CCA in the areas of GVH Bwanamsompho of TA Kuntaja, Only 27.9% of youth have received official education or training in CCA. Based on the data, only 31.1% were actively involved in relevant projects. The information suggests that young people's participation in CCA projects and formal education/training are both somewhat low. It may be possible to increase young participation in climate change adaptation by addressing these gaps through focused education, expanding possibilities for participation and increasing awareness.

Figure 5. The data of youth participation in CCA



Only 27.9% of the youth, according to the data, have gotten official education or training in climate change adaptation. This indicates that a significant portion of young people (72.1%) do not have formal educational background on climate change issues. The low level of engagement is a result of this gap, which affects their knowledge, awareness, and ability to participate in CCA activities successfully. However, of the 61 participants who answered the questions, 31.1% said they had taken part in previous Climate Change Adaptations programs or events, while 68.9% said they had not. This suggests that less than one-third of the young people polled are actively working to adapt to climate change. Additionally, the study revealed that participants who got training were also actively taking part in CCA programs. It is obvious that educational initiatives to raise knowledge and develop skills linked to climate change adaptation must be strengthened, since 72.1% of youth do not receive formal education or training. Since formal education and training are essential for effective participation, the low proportion of trained people probably has a role in the general low level of youth involvement in CCA activities.

4.4. POLICY FRAMEWORKS ON CLIMATE CHANGE ADAPTATION

4.4.1. THE EXISTING POLICY FRAMEWORKS ON CLIMATE CHANGE ADAPTATION

The frameworks that deal with Climate Change Adaptation (CCA) in Malawi, show a strong dedication in reducing the effects of climate change and highlight the critical role that young people play in these endeavors. These frameworks comprise all-encompassing policies that emphasize urgent adaptation needs, incorporate climate change plans into national development, and specify investment priorities. Additionally, they emphasize youth empowerment via training, education, and hands-on involvement in climate-related projects. These existing policy frameworks operate at both local and national level. These frameworks include; The National Youth Policy, the Malawi Growth and Development Strategy (MGDS) III, the National Climate Change Investment Plan (NCCIP), the National Adaptation Programs of Action (NAPA), and the National Climate Change Management Policy (NCCMP). Furthermore, numerous programs and platforms, such as youth networks and educational initiatives encourage youth to actively engage in efforts to build climate resilience.

The National Climate Change Management Policy (NCCMP)

The Framework was established in 2016 by the Environment Affairs Department (EAD) created the framework in 2016. Through Green Economy initiatives for Malawi, the policy seeks to advance adaptation to climate change, mitigation of its effects, technology transfer, and capacity building for sustainable livelihoods. It ensures that the opinions of youth are considered when formulating policies and promotes youth participation in decision-making processes. To equip youth with the necessary knowledge and skills to make wise decisions about climate change, the NCCMP provides funding for educational programs and public awareness campaigns. Additionally, it emphasizes on youth's ability by offering education and materials to improve their knowledge of climate science and policy advocacy. The program supports youth-led initiatives, encouraging a sense of accountability and ownership. It also establishes forums for young people to interact with stakeholders and legislators, encouraging communication and cooperation. The NCCMP uses these tactics to tap into young people's creativity and enthusiasm in addressing climate change.

Malawi National Youth Policy

The framework was established in 2023 and it seek to empower youth by giving them access to the resources and venues needed to take an active role in climate change. To guarantee that young people comprehend the science and effects of climate change, public awareness campaigns and the inclusion of thorough climate education in national curricula are essential elements. Funding for projects run by young people, training courses, and workshops all contribute to capacity building. Through the creation of youth councils and guarantees of inclusion in decision-making procedures, the policies also support young representation and engagement. Infrastructure support offers resources for cooperation, while financial support for climate studies and initiatives is given through grants and scholarships. Collaborations with non-governmental organizations, global associations, and youth groups augment prospects for youthful climate advocates to exchange expertise and approaches within and across national boundaries.

The Malawi Growth and Development Strategy (MGDS) III

MGDS III (2017) presents the government's long-term plan for creating a resilient, competitive, and productive country. The Malawi Growth and Development Strategy (MGDS) III is a comprehensive framework created to mitigate climate risks and promote sustainable economic growth and development. It acknowledges the significance of constructing resilience against climatic shocks and incorporates climate change adaptation into the larger national development agenda. By stressing youth empowerment via education, training, and job opportunities in green industries, MGDS III improves youth engagement in climate change adaptation. It promotes the inclusion of lessons on climate change in school curricula, ensuring that students are knowledgeable about environmental issues. Along with providing workshops and training programs to educate adolescents with the skills necessary for climate adaptation and green jobs, the strategy also supports activities aimed at developing capacity. Furthermore, MGDS III encourages youth-led initiatives and entrepreneurial endeavors in sectors that are resilient to climate change, promoting creativity and proactive.

The National Adaptation Programs of Action (NAPA)

NAPA are initiatives that are established by least developed countries (LDCs) to address urgent climate adaptation needs. NAPA focuses on identifying key vulnerabilities, prioritizing actions, developing project proposals, and engaging stakeholders. Youth involvement in NAPA is necessary for enhancing the effectiveness and sustainability of these efforts. This can be achieved through climate education, training programs, youth councils, and support for youth-led projects, tech-driven solutions, research, advocacy, awareness campaigns, and community engagement. For example in Malawi farmers are trained on how on various activities. Integrating youth in NAPA leverages their innovation and long-term perspective, fostering resilient communities and ecosystems.

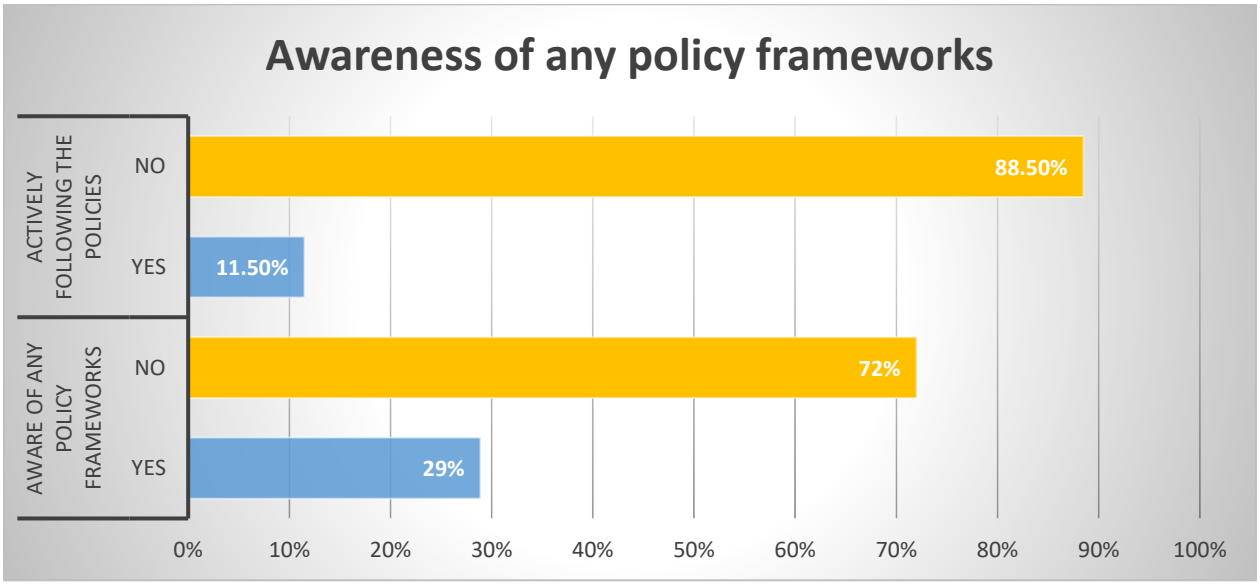
The National Climate Change Investment Plan (NCCIP)

In an effort to raise funds for climate-related projects, the National Climate Change Investment Plan (NCCIP) defines strategic investment goals for climate change adaptation and mitigation. It highlights the value of youth involvement and acknowledges that enhancing youth capacity is necessary for long-term climate resilience. In order to ensure that young people are prepared to participate to climate action, NCCIP comprises programs aimed at improving youths' knowledge and abilities in climate science, technology, and policy. Many youth networks are actively involved in Malawi's attempts to adapt to climate change, including the Youth Network for Climate Change and the Malawi Youth Climate Network. These networks give young people a place to work together, exchange expertise, and take the lead on projects that benefit the community. Additionally, climate change is becoming a more prevalent topic in educational programs in colleges and universities. Integrating the topic of climate change into their curriculum to get pupils ready for involvement in adaption initiatives. Youth that receive training in disaster risk reduction, sustainable agriculture, and climate resilience are further supported by capacity-building initiatives implemented by governmental and non-governmental groups.

4.4.2. YOUTH AWARENESS ON THE EXISTING POLICY FRAMEWORKS ON CCA

meaningful involvement of Youth requires a comprehensive understanding of existing policy frameworks on Climate Change Adaptation (CCA to empower them as active participants in shaping resilient and sustainable futures. By equipping young people with knowledge of CCA policies, we pave the way for informed decision-making and impactful climate action.

Figure 6. The level of youth awareness on policy frameworks in CCA



The vast majority of young people (72.1%) are not aware of the current frameworks for policies pertaining to climate change adaptation. This implies that young need to be better informed about these policies and educated about them. Just 11.5% of people who are aware of the policies are actively adhering to or interacting with them. This indicates a lack of awareness as well as engagement and active participation in CCA policy. The intricacy of climate change adaptation (CCA) policy frameworks, information accessibility issues, and inadequate educational initiatives are the main causes of the low understanding of these frameworks. Youth are also frequently excluded from decision-making processes, and their understanding is further hampered by conflicting priorities and an abundance of information. To tackle these obstacles, it is imperative to streamline the wording of policies, improve accessibility to information, prioritizing youth inclusion in decision-making, and elevating climate change as a public priority.

4.5. FACTORS THAT HINDER YOUTH ENGAGEMENT IN CCA IN RURAL AREAS

Youth engagement in climate change adaptation (CCA) is important for building resilient communities and ensuring sustainable development, particularly in rural areas where the impacts of climate change are often acutely felt. However, despite their potential as agents of change, youth involvement in CCA initiatives in rural settings faces numerous challenges and barriers. Understanding the factors that hinder youth engagement in CCA is essential for developing effective strategies to overcome these obstacles and harness the energy and creativity of young people in addressing climate-related challenges. Based on the information gathered and the perspectives of Key Informants, the study has evaluated a number of factors that prevent young people from participating in CCA. These factors include attitude and characters of the youth, lack of knowledge and information about climate change, lack of financial resources, stakeholder engagement strategies, illiteracy and lack of platform or recognition as key contributors in decision-making platforms. These factors have contributed to the marginalization of youth voices and their limited participation in adaptation efforts.

Attitude and Character

Youth participation might be severely hindered by a generalized disinterest and sense of complacent. Young people are not motivated to actively participate in climate change issues if they view it as a distant or less urgent issue than more pressing personal issues. Furthermore, their fear of failing and risk aversion may keep individuals from speaking up in climate change activities or taking big risks. They may be reluctant to participate because they are afraid of being judged negatively by others or because they don't think they can have a significant impact. Their willingness to cooperate is further reduced by challenges with confidence. Moreover, a deficiency in tenacity and resilience in experiencing failures may cause disengagement. It is more difficult to organize young people for long-term, successful climate change adaptation initiatives when they possess these unfavorable attitudes and character traits.

Lack of Knowledge and Information about Climate Change

Although all respondents (100%) have heard about climate change, indicating a high level of awareness across the community, they are lacking in-depth knowledge about specific climate issues, adaptation strategies, and mitigation techniques. This prevents them from effectively participating in climate initiatives or understanding the importance of their involvement. They find it difficult to recognize the importance of acting quickly if they do not have a thorough awareness of the origins, effects, and solutions associated with climate change. This lack of understanding may cause them to feel hopeless and confused, which lowers their desire to take part in adaptation programs. Furthermore, Youth also fail to recognize their potential involvement in climate action due to a lack of reliable and easily accessible information resulting in less likely to participate in, support, or spearhead adaptation activities which ultimately undermines the overall effectiveness of climate change initiatives.

Lack of Financial resources

Financial resources are necessary for the successful operation of many youth-led projects and community activities. Without money, it is challenging to plan events or even maintain ongoing initiatives. The availability of equipment, basic supplies, meeting or activity spaces, and transportation may be limited for young people. Their participation in CCA is restricted in its breadth and depth by this lack of resources. Youth-led projects frequently depend on the donations of people or supporters who share their values. Youth involvement in CCA may ultimately be hampered by limited access to funding. Without enough funding from sponsors or donors, youth find it difficult to continue their projects or maintain their efforts over time. For example in the community of VH Chigwaja of GVH Bwanamsompho they have a youth-led local organization but it is failing to operate its activities and programs due to lack of funds. Youth participation in CCA is further hampered when local authorities do not offer sufficient resources or assistance. The absence of support from local authorities might pose difficulties for young people seeking to get permits, gain entry to public areas, or establish credibility in the community. These obstacles can impede their capacity to plan and engage in civic affairs.

Stakeholder engagement strategies

To address the low rate of youth involvement in CCA, stakeholder engagement needs to be approached with greater purpose and creativity. While the goal of existing stakeholder engagement initiatives is to leverage public support, knowledge, and experience to address climate concerns, youth are frequently left out in meaningful ways. The main method of participation, consultations, sometimes leads to tokenistic attempts that undervalue the contributions and viewpoints of young people. Leveraging existing local government systems is one of the three primary solutions that has been identified. It comes with potential as well as obstacles. Firstly, involving civil protection and development Committees can aid in focusing actions more effectively, there is a significant risk of elite capture that could sideline the voices of marginalized youth within communities. Likewise, while active involvement in youth groups or clubs is helpful in empowering and inspiring young people, it unintentionally leaves out individuals who are not members of these formalized groups, perpetuating disparities in participation. Lastly, while using certain community leaders as key informants can improve community involvement, doing so frequently leads to partiality and the marginalization of important voices. Youth without links to or influence within the current power structures may be further marginalized by this reliance on community leaders. Communities can effectively address the complex challenges posed by climate change by harnessing the creativity, energy, and skills of youth and by prioritizing inclusivity and fairness in stakeholder engagement initiatives (Zimba & others, 2021). Effective stakeholder engagement strategies ensure that youth voices are heard and represented in decision-making processes related to CCA. When youth feel included and valued, they are more likely to actively participate in community initiatives, contributing their ideas, perspectives, and energy to address climate change issues. This can also empower them to take ownership of CCA efforts in their communities hence developing a sense of responsibility and pride in their contributions, leading to increased commitment and long-term sustainability of initiatives. Lastly, Effective Stakeholder Engagement Strategies fosters collaboration and networking opportunities between different community members, organizations, and the agencies that are involved in CCA.

Illiteracy

Lack of literacy or formal education might restrict information availability and make it more difficult to understand climate-related issues. People with lower educational levels, such as those in primary school, have a harder time accessing and understanding information about adapting to climate change. They are also less exposed to complex scientific concepts related to climate change and have trouble understanding technical reports, scientific studies, or government policies related to climate change. As a result, they are less able to stay informed and participate in informed decision-making processes. Additionally, illiteracy enhances misinformation or a lack of awareness regarding concerns related to climate change. People with low levels of education might not completely understand the urgency and severity of the climate change impacts, which could cause them to become apathetic or uninterested in efforts to adapt. As a result, they become uncomfortable or alienated in conversations on climate change, which prevents them from participating in decision-making procedures and locally based adaptation initiatives. On the other hand, education is often linked to innovation and problem-solving skills. Individuals with higher levels of education may be better equipped to propose innovative solutions to climate change challenges and participate in the development of adaptation strategies.

The lack of access and recognition in decision-making platforms

Youth's ability to influence policies, programs, and initiatives aimed at addressing climate change is limited when they are not included in platforms for decision-making connected to climate action. This is because their opinions and perspectives are frequently disregarded or excluded. Youth may feel disempowered and cut off from the decision-making process if they are not given a seat at the table. Removing young people from forums used for decision-making means losing out on insightful opinions and suggestions from a group that is disproportionately impacted by climate change. Youth bolster climate change initiatives with new insights, creative ideas, and a feeling of urgency. Youth who feel that their opinions are not heard or appreciated in decision-making processes may lose interest in and motivation for tackling climate change.

Youth who feel left out of decision-making platforms may become disillusioned and apathetic, which will lower their willingness to take part in advocacy campaigns and climate-related projects. Trust among young people in government institutions, policymakers, and established authority is undermined when they believe that decision-making procedures are exclusive and insensitive to their concerns. Establishing inclusive decision-making processes that actively incorporate youth and acknowledge their contributions to climate action is necessary to establishing legitimacy and trust.

THE WILLINGNESS OF YOUTH TO PARTICIPATE IN CLMATE CHANGE ADAPTATION

The study reveals a complex picture of youth willingness to participate in climate action in rural areas. On one hand, there is a significant level of awareness about climate change among the youth, with all 61 respondents (100%) having heard about the issue. This indicates a solid foundation of general awareness, which is essential for fostering engagement. However, the depth of this knowledge varies considerably, with only 18 respondents (29.5%) describing themselves as very knowledgeable and 29 respondents (47.5%) as somewhat knowledgeable. This variation in understanding could influence the level of engagement, as a more comprehensive understanding of climate change might correlate with a greater willingness to participate in climate action.

Despite the high awareness, actual involvement in CCA initiatives is relatively low. Only 19 respondents (31.1%) reported participating in any CCA activities, and even fewer, just 3 respondents (4.9%), engage regularly. The majority, 42 respondents (68.9%), have never participated in CCA activities. Several barriers to participation were identified, including a lack of formal education or training on climate change, which 72.1% of respondents have not received. Additionally, awareness of policy frameworks related to CCA is limited, with only 27.9% of respondents being aware of such policies, and a mere 11.5% actively following or engaging with these policies. This gap between awareness and active participation suggests that while there is a willingness to engage, significant obstacles such as inadequate knowledge, lack of resources, and insufficient support structures need to be addressed to fully harness the potential of youth in climate action.

4.6. INTEGRATING YOUTH PARTICIPATION IN CCA AND DRR

Including young people in CCA and DRR-related planning, decision-making, and implementation processes is an important aspect of integrating their participation in these initiatives. This entails appreciating and making use of the fresh viewpoints, enthusiasm, and creative ideas that young people offer to the fight against climate change and disaster resilience initiatives. In order to ensure that young people's perspectives are heard and respected at every step, effective integration requires providing them with chances to actively participate in and develop policies and programs. Effective integration requires removing cultural and attitude barriers that could diminish the voices of young people. Communities may create an environment that is more flexible and resilient while maximizing the abilities and potential of their younger members by addressing these factors. Below are other factors that are also involved in linking youth participation in CCA and DRR.

Firstly is education and awareness. Integrating youth participation in disaster risk reduction (DRR) and climate change adaptation (CCA) requires education. Including CCA and DRR subjects in school curricula is one practical way to make sure pupils are exposed to these important concepts at a young age. Youth awareness can be further increased by holding workshops and seminars on catastrophe risk and climate change. These events will provide young people with the information and abilities they need to comprehend and confront these issues. Furthermore, media initiatives that make use of blogs, videos, and social media can efficiently disseminate information and involve a larger group of youth in conversations on disaster preparedness and climate resilience.

Capacity Building is another important factor to increase the abilities of youth to engage in CCA and DRR. Specialized training programs that give young people real-world experience in risk assessment, emergency response, and climate adaption techniques can help achieve this. Programs for youth leadership can also be quite helpful, since they provide young leaders with a forum to learn about, discuss, and carry out CCA and DRR-related projects. Youth who are equipped with the right skills and information can actively contribute to the resilience of their communities.

Thirdly is Policy and Advocacy. Incorporating the perspectives of youth into CCA and DRR policies requires ensuring their representation in policy-making processes. In local, national, and international organizations that influence disaster risk reduction and climate adaptation policy, youth ought to be represented. Another successful strategy is to assist youth-led advocacy groups, which gives young people direct control over practices and policy. Youth participation in these processes helps ensure that policies better represent the perspectives and needs of the younger generations that climate change and catastrophes will most likely touch.

Another factor is Community Engagement. Engaging the community actively is another important tactic. Youth may put their knowledge and abilities to use in real-world situations by participating in local projects that emphasize climate adaptation and catastrophe preparedness. Young people can be further engaged by offering volunteer opportunities in disaster response and recovery activities, which can help to create a feeling of responsibility and community duty. Youth can play a major role in creating resilient communities by actively participating.

Technology and Innovation also greatly enhance youth participation in CCA and DRR. Developing and utilizing digital platforms, such as apps and online portals, can engage youth in tracking climate data, reporting disasters, and sharing knowledge. Establishing innovation hubs where young people can develop and test new technologies and approaches to CCA and DRR is another effective strategy. By harnessing the creativity and technological prowess of youth, communities can benefit from innovative solutions to climate and disaster challenges.

Funding and Resources also enhance integration of youth participation in CCA and DRR. It is imperative to allocate sufficient financial and material resources to youth-led CCA and DRR activities. Young people's projects and research can receive financial support through grants and scholarships. Establishing resource centers with supplies, equipment, and knowledge might further encourage youth to participate in CCA and DRR initiatives.

Youth can contribute to efforts to reduce catastrophe risk and adapt to climate change more successfully if they have access to the resources they need.

Last but one is Partnerships and Networks. Creating networks and alliances can increase the effect of young involvement in DRR and CCA. Working together with non-governmental organizations (NGOs) that prioritize disaster risk, climate change, and youth participation can provide significant benefits and resources. Providing teenagers with access to global networks and projects that promote CCA and DRR can further increase their prospects and impact. These collaborations give young people access to a greater variety of experiences and knowledge.

Lastly is Recognition and Incentives. Maintaining young participation in CCA and DRR requires acknowledging and rewarding their efforts. Recognition of creative thinking and accomplished youth projects through awards and contests might spur others to action. Creating incentive schemes that include jobs, internships, and scholarships can help to promote young involvement even more. Communities may encourage a culture of active involvement and creativity among youth by recognizing and appreciating their contributions.

5.0. DISCUSSIONS

The primary objective of this study was to evaluate the factors hindering youth engagement in CCA strategies in rural areas. Understanding these factors is necessary for developing effective policies and interventions to enhance youth participation in climate action, which is essential for the sustainability of rural communities. The study employed both qualitative and quantitative methods. The data collected were analyzed, and various themes emerged, including perceptions, involvement, policy frameworks, and community structures related to climate change. The total number of respondents, including key informants, was 61. The demographic data revealed a balanced mix of genders, with a slight majority of males: 35 males representing 57.4% and 26 females representing 42.6%. The marital status distribution shows that half of the respondents, 31 out of 61, are single (50.8%), while a significant portion are married (37.7%), with smaller percentages for divorced, separated, and widowed individuals. The age distribution skews towards the younger segment, with the majority being between 22 to 33 years old, indicating a youthful demographic. The education levels are relatively low, with almost half (47.5%) having only primary education and a small fraction possessing tertiary education (3.3%). The main sources of livelihood are predominantly farming (55.7%), followed by wage work (18%), business (11.5%), and other sources (14.8%).

A critical finding is that all 61 respondents (100%) have heard about climate change, indicating widespread awareness. However, the depth of knowledge varies significantly. About 18 respondents out of 61, representing 29.5%, stated that they are very knowledgeable, while the majority of respondents, 29, representing 47.5%, were somewhat knowledgeable. A notable 23% have limited or no knowledge about climate change. This suggests that while awareness is high, a comprehensive and deep understanding is lacking, which could impede effective engagement in CCA activities. Only 13 respondents, which is 27.9%, have received formal education or training related to climate change. This gap in formal education is a significant barrier to effective youth engagement in CCA initiatives. The majority (72.1%) have not received any formal training, underscoring the need for enhanced educational programs to equip youth with the necessary skills and knowledge.

Youth participation in CCA activities is comparatively low. Just 19 (31.1%) of the respondents said they had taken part in any CCA projects. The frequency of engagement is likewise low, with only 3 respondents (4.9%) and 6 respondents (9.8%) reporting occasional engagement. 42 respondents, or 68.9% of the sample, strongly disagree that they never engage in CCA activities. This suggests that there may be significant obstacles to active engagement, such as a lack of opportunities, segregation, resources, or enthusiasm. There is a dearth of knowledge regarding policy frameworks pertaining to CCA; only 17 respondents (27.9%) reported being aware of any policies. In addition, the percentage of responders that actively participate with these policies is significantly smaller, at just 7. This points to an essential area for intervention because successful climate action depends on an understanding of and engagement with policy frameworks.

The research emphasizes how important it is to have young involvement in both CCA and DRR initiatives. Considering the demographics' high prevalence in rural areas, fostering resilient communities requires their active participation. Youth integration can improve rural regions' ability to adapt to the effects of climate change by fostering creative, locally relevant solutions. However, youth involvement in CCA efforts in rural settings faces many obstacles and hurdles, despite their potential as change agents. It's critical to comprehend the barriers preventing young people from participating in CCA in order to create workable solutions that will allow kids to contribute their enthusiasm and inventiveness to solving climate-related issues.

Based on the information gathered and the perspectives of key informants, the study has evaluated several factors that prevent young people from participating in CCA. These factors include attitudes and characteristics of the youth, lack of knowledge and information about climate change, lack of financial resources, stakeholder engagement strategies, illiteracy, and lack of platforms or recognition as key contributors in decision-making processes. These factors have contributed to the marginalization of youth voices and their limited participation in adaptation efforts.

LIMITATIONS OF THE PROJECT

One significant limitation of this study was the challenge of balancing school time with project time. Since the project work was scheduled to be done while we were studying other courses or modules. It was not easy to balance the project time with the time to attend class lessons and other given assignments. Furthermore, given that the target population primarily consists of youth who are still in school, coordinating study activities with their academic schedules proved difficult. Many students were unable to fully participate in the research due to their academic commitments, leading to potential gaps in data collection. This limitation not only affected the availability of participants but also the depth of engagement and the quality of responses. The dual pressure of academic responsibilities and involvement in the study may have caused fatigue among participants, thus impacting the overall reliability of the data collected.

Another notable limitation is that not all key informants were met during the data collection phase as planned .Out of 5 Key Informants that were planned, 3 were interviewed. Key informants such as local government officials, community leaders, and representatives from environmental organizations provide critical insights and contextual understanding necessary for a comprehensive analysis. Their unavailability to participate led to an incomplete perspective on the institutional and policy frameworks affecting youth engagement in CCA. This gap in data can skew the findings and limit the study's ability to fully understand the barriers and opportunities within the existing climate action infrastructure.

RECOMMENDATIONS

To enhance youth engagement in climate change adaptation strategies, the following detailed recommendations are essential:

Establish Youth Climate Action Groups in Schools and Communities

Establishing Youth Climate Action groups within schools and communities is essential for fostering a proactive and engaged youth population in climate action efforts. These groups can serve as collaborative platforms where young people come together to learn about climate change, discuss its impacts, and develop local initiatives to address environmental issues. By creating such groups, schools and communities provide a structured environment for youth to engage in climate projects, raise awareness among peers, and advocate for sustainable practices. These groups can also facilitate peer-to-peer education, empowering young leaders to take initiative and inspire others. Additionally, these action groups can partner with local environmental organizations, thereby expanding their reach and impact while offering youth valuable networking and learning opportunities.

Provide Opportunities for Youth to Take Part in Decision-Making Processes

Involving youth in decision-making processes related to climate action is essential for empowering them and ensuring that their perspectives and ideas are integrated into policy and strategic planning. This can be achieved by including youth representatives in local government committees, environmental councils, and community boards where climate-related decisions are made. Creating dedicated youth advisory panels or councils that regularly consult with policymakers can provide a formal mechanism for youth input. These opportunities not only give young people a voice in shaping their future but also educate them on governance and policy-making processes. Encouraging youth participation in decision-making fosters a sense of ownership and responsibility towards climate action initiatives, ultimately leading to more inclusive and effective strategies.

Conduct Training and Formal Education on Climate Action

Providing comprehensive training and formal education on climate action is fundamental in equipping youth with the knowledge and skills necessary to address climate challenges effectively. Integrating climate change topics into school curricula ensures that all students gain a basic understanding of environmental science and sustainability. Beyond the classroom, offering targeted training programs such as workshops, seminars, and online courses can deepen this knowledge and focus on practical skills. These programs should cover a range of topics including climate science, sustainable development practices, adaptation strategies, and project management. Partnerships with educational institutions, non-governmental organizations, and environmental experts can enhance the quality and accessibility of these training programs. By investing in education and training, communities can cultivate a knowledgeable and skilled youth population ready to lead and innovate in climate action.

6.0. CONCLUSSION

The study have assessed factors hindering youth engagement in climate change adaptation (CCA) activities or initiatives in rural areas, focusing on youth perceptions, involvement, policy frameworks, and adherence to policies. Demographic data revealed most respondents were male, single, aged 26-29, with education levels primarily at the primary and secondary stages. Farming was the main livelihood, indicating strong dependency on agriculture. All respondents had heard about climate change, with varying knowledge levels; however, 72.1% lacked formal training. Most youth were not involved in CCA initiatives, and only 11.5% actively followed CCA policies. Key findings highlighted the need for improved education and training, better policy awareness and engagement, economic diversification, and enhanced community and institutional support. Recommendations include developing comprehensive climate education programs, increasing policy outreach, promoting sustainable livelihoods, and strengthening community-based initiatives to encourage youth participation in CCA activities. Addressing these factors can significantly enhance youth engagement in climate change adaptation, leading to more resilient and sustainable rural communities.

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