

Youth Activism, Intentional Integration of Policies to Raise Awareness on Climate Change Action among the Youth

Suleman Yahaya Jinsung

Disaster and Humanitarian Aid Management, Social Sciences, University of Ankara, Turkey

DOI: <https://doi.org/10.51244/IJRSI.2025.120800010>

Received: 24 July 2025; Accepted: 30 July 2025; Published: 28 August 2025

ABSTRACT

The aim of this study was to examine how youth activism, when intentionally integrated into policy frameworks, can raise awareness and drive meaningful action on climate change among young people in Wa Municipal. It focuses on empowering youth to become active participants in environmental advocacy and informing local policymakers on how to include youth voices in climate planning. The study also aims to support climate education, build youth leadership, and strengthen collaborations between local government, civil society, and youth organizations. The objectives for this study were to influence climate change policy programming and development, promote active youth participation in combating climate change vulnerabilities, and to advocate for a well-defined strategic policy role for youth in addressing climate change problems at the national and local levels. This study geographically focused on Wa Municipality in Northern Ghana, an area vulnerable to climate-related challenges like drought and erratic rainfall. The study explores various forms of youth engagement and assesses the extent to which these efforts are supported or limited by existing policies and institutional structures. An exploratory mixed-method approach was used for field data collection. Both qualitative and quantitative primary data were collected using the simple random sampling technique for youth respondents and the purposive sampling technique for institutional respondents. Fourteen questionnaires were distributed to public institutions, while ninety-four questionnaires were distributed to youth respondents. The data were analyzed using the Data tab Software, Excel, and Bar Graphs to create illustrations. Findings revealed there is considerable knowledge of the existence of climate change but limited representation in formal climate policy-making. Many of them lack access to reliable climate information and platforms for meaningful participation. The study highlights a disconnect between local policies and youth needs, resulting in missed opportunities for innovation and resilience. The study calls for stronger institutional support, and policy integration

Key Words: Youth activism, Climate change, Climate vulnerabilities

Abbreviations

AFAD = Disaster and Emergency Management Authority (Turkish: Afet ve Acil Durum Yonetimi Baskannligi)

IPCC = Intergovernmental Panel on Climate Change

NASA = National Aeronautics and Space Administration

FAO = Food and Agricultural Organization of the United Nations

IOM = International Office for Migration

SDG = Sustainable Development Goals

EPA = Environmental Protection Agency

NADMO = National Disaster Management Organization

MOFA = Ministry of Food and Agriculture

UNDRR = United Nations Disaster Risk Reduction

ADRC, VR = Asian Disaster Reduction Center, Visiting Researchers

INTRODUCTION

All aspects of life are impacted by the global problem of climate change, which includes extreme weather, ocean acidification, biodiversity loss, food and water insecurity, health concerns, economic disruptions, and displacements (*Editorial*, 2024). Natural disasters like heat waves, droughts, floods, and storms are occurring more frequently as a result of these factors. In order to address the issues posed by climate change and foster resilience within their jurisdictions, regional and local governments are recognized as being essential (*Building Climate-Resilient Infrastructure with Regions and Cities*, 2024).

In Northern Ghana, rising temperatures and erratic rainfall patterns caused maize yields to drop sharply, with estimates of 19% and 14% declines under climate change, respectively. This exacerbated already-existing issues with food production and rural livelihoods (Fosu-Mensah et al., 2019). Inappropriate agricultural practices, illegal mining, bushfires, and the indiscriminate disposal of waste materials are generally rampant among the youth and people in the Wa Municipality of Ghana. These practices contribute to climate change and climate change vulnerabilities. Addressing climate change requires coordinated efforts involving awareness, policy action, and community-based adaptation strategies.

This study examines the role and policy contributions of youth in addressing climate change vulnerabilities. Also, the study was limited to the Wa Municipality of Ghana due to the youth activities in the Municipality that contribute to climate change vulnerabilities. Unfortunately, there is an alarming lack of youth activism, as well as a shortage of policy instruments to engage the youth in raising climate change awareness within the Municipality. Climate change policy programming that integrates a component of roles and responsibilities for an active participation of the youth in the climate change action could greatly enhance the efforts to reduce climate change vulnerabilities, the impact of which children and young people are most affected. This study, therefore, asserts that it is essential for young people to actively participate in the formulation and implementation of climate change policies. Many studies have been conducted on the contributions of the youth towards finding solutions to climate change problems however, only a limited number of studies have focused on the nature of youth roles and responsibilities, as well as policy systems that integrate these roles and responsibilities at the national, regional, and local levels of government.

Renton, Z., & Butcher, J. (2010) emphasized the need for framing policies to ensure a sustainable future for young people, thereby promoting long-term sustainable development; the perspectives of young people should be incorporated into climate change policies. However, the primary departure of their study from this one is the limited empirical data on what assigned policy roles youth think could be integrated into climate change strategic policy plans. Ortiz (2022) emphasized global youth activism on climate change and the integration of youth in the politics of climate change. The study, however, provided limited details on how the youth activists think they could be integrated or positioned, as well as the Nature of their role in the climate change strategic plans policy structure. The primary question this study sought to answer was, "What policy ideas can the youth propose to address climate change vulnerabilities?" The study also addressed two secondary questions: "What are some of the policy expectations of the youth in the climate change action programs from their leaders?" Moreover, "What policy gaps could be formulated and integrated to enable the youth to play a role effectively in the fight against climate change vulnerabilities?"

The objective of this study was to conduct both qualitative and quantitative surveys to gain insight into the youth's perspectives on their climate change policy expectations from leaders, their policy ideas, and the nature of roles and responsibilities they wanted to be assigned. The conceptual foundation for the study considers the following key elements: integrated youth climate policy, Active youth participation, and youth policy ideas –

acting as change agents in addressing climate change Vulnerabilities - the primary issue - Youth action or activities leads to improved community resilience, enhanced adaptive capacity, and sustainability – Impact created. The hypothesis, youth policy ideas, active role, and participation have a positive impact on climate change mitigation. The primary question this study sought to answer was, "What policy ideas can the youth propose to address climate change vulnerabilities?" The study also addressed two secondary questions: "What are some of the policy expectations of the youth in the climate change action program from their leaders?" Moreover, "What policy gaps can be formulated and integrated to enable the youth to play a role effectively in the fight against climate change vulnerabilities?". This study's statement of the problem is that climate change disproportionately affects the youth and children. It is, therefore, necessary for them to actively participate in the formulation and implementation of climate change policies. Many studies have been conducted on the contributions of the youth towards finding solutions to climate change problems. However, only a limited number of studies have focused on the nature of their role and responsibilities, as well as the policy systems that integrate these roles and responsibilities at the National, Regional, and Local levels of Government. The objectives for this study were to:

- influence policy programming, development, and implementation
- push for a space for active participation of the youth in the fight against climate change vulnerabilities
- help bring clarity on the roles and responsibilities of the youth in the combat against climate change
- push for unambiguous strategic policy documents of climate change at the national, regional, and local levels that integrate a role and responsibilities for the youth.

The study targets youth aged 15–35, both in and out of school, as well as educators, local authorities, and NGOs working in the climate space and explores various forms of youth engagement—such as climate clubs, social media campaigns, and community outreach—and assesses the extent to which these efforts are supported or limited by existing policies and institutional structures, and targeted education to fully harness the potential of youth in climate action. This thesis argues that policy ideas from youth, unambiguous strategic policy plans at local levels of government, and clarity of roles and responsibilities are relevant in formulating and implementing policies intended to mitigate climate change vulnerabilities. When the importance of this study is considered, it is evident that climate change policies and programming that integrate a component of roles and responsibilities for the active participation of youth in climate change action could greatly enhance efforts to reduce climate change vulnerabilities, the impact of which is most felt by children and young people.

The justification of the study is that inappropriate agricultural practices, illegal mining, bushfires, and the indiscriminate disposal of waste materials are among the numerous issues rampant in the Wa Municipality of Ghana. These practices contribute to climate change and climate change vulnerabilities. The scope of the study aligns with the context, examining the impact of climate change on young people and the policy contributions of young people towards addressing climate change and mitigating its vulnerabilities. Geographically, the study was limited to the Wa Municipality of Ghana because accessible data and available information on youth activities contributing to climate change vulnerabilities were available.

The limitations for the study include; an important observation made at the eleventh hour about the survey questionnaire and the study in general which did not capture an important aspect which is inquiring from the youth respondents whether they were aware of an existing climate change policy or participated in any climate change activities. The difficulty in obtaining information from some key institutions due to their busy schedules however, the researcher devoted considerable time and patience to navigating the bureaucratic processes in order to secure their participation. Another is the request for money by some youth respondents before they would participate in the survey.

Introduction Of Climate Change And Disaster Management

Climate change and disaster management are increasingly interconnected issues that demand urgent global and local attention. As climate change accelerates, it contributes to the intensity and frequency of natural disasters

such as floods, droughts, wildfires, and storms. These events not only cause significant loss of life and property but also disrupt livelihoods, especially in vulnerable communities. Effective disaster management is therefore essential to reduce the risks and impacts associated with climate-related hazards. This includes preparedness, early warning systems, emergency response, and long-term adaptation strategies. Understanding the link between climate change and disasters is key to building resilient societies that can anticipate, withstand, and recover from environmental shocks.

Climate Change and Disaster Management Terms and Definitions

Climate change and disaster management are deeply interconnected, as the effects of a changing climate significantly influence the nature, frequency, and severity of disasters. Rising global temperatures have led to more intense and unpredictable weather events such as floods, droughts, storms, and wildfires, making natural disasters more destructive and harder to manage. These climate-induced hazards are placing increased pressure on disaster management systems, which must now adapt to evolving risks and longer recovery periods. As climate change continues to alter environmental conditions, traditional disaster response strategies are no longer sufficient on their own. Effective disaster management today requires proactive measures such as risk assessment, early warning systems, community education, and long-term adaptation strategies that address both current vulnerabilities and future climate threats. Integrating climate change considerations into disaster management is essential for protecting lives, infrastructure, and livelihoods, particularly in high-risk and developing regions.

The term "climate change" describes how a region's average temperature and weather patterns changes over time, mostly resulting from human activities like burning fossil fuels, deforestation, industrial pollution, and several other activities. As a result, the planet is experiencing more frequent and intense climate-related disasters, including floods, droughts, heatwaves, cyclones, and wildfires. These events are collectively referred to as natural disasters, which are usually sudden and causes damage to life, property, and ecosystems.

Disaster management is the process of planning, organizing, and implementing strategies to prevent, prepare for, respond to, and recover from these disasters. The relationship between climate change and disaster management lies in the fact that climate change acts as a risk multiplier, increasing the scale and unpredictability of natural hazards. Therefore, effective disaster management today must integrate climate science, risk reduction, early warning systems, and community resilience building to reduce vulnerabilities and save lives in a changing climate.

Background of Climate Change and Youth Relationships

Including youth in decision-making is not the only issue facing democratic thinkers, activists, and citizens in the context of climate change. According to Bohman (2007), Barry (2012), O'Loughlin and Gillespie (2012), Song (2012), Crayton (2014), IPCC (2014), O'Brien et al. (2018), it also focuses on how people can question the prevailing norms, lifestyles, decisions, and behaviors that support business as usual and its widespread, prolonged, and sometimes irreversible global effects. Also, it is recognized that some young people may feel excluded from meaningful engagement in current discussions and decisions regarding climate change, and others may object to circumstances in which their contributions are reduced to mere token gestures or "decoration" at forums or events (Hart, 2008; Checkoway, 2011; Taft & Gordon, 2013). These invited and controlled forms of citizenship and participation fail to recognize young people as independent political actors or their involvement in various alternative political spheres, where they define their notions of responsibility, community, and participation (Coleman, 2010). In response, the Sendai Framework for Disaster Risk Reduction is created. This is because young people and children are change agents and ought to be allowed to participate in disaster risk reduction

Sendai Disaster Risk Reduction Framework of United Nations

The Sendai Framework for Disaster Risk Reduction (2015–2030) represents a pivotal shift in international policy from reactive Disaster management to proactive Disaster risk reduction (DRR). Adopted by 187 UN member states in 2015, it follows and builds upon the Hyogo Framework for Action (2005–2015),

emphasizing a more comprehensive and integrated approach to managing disaster risk. Identifying threats, evaluating vulnerabilities, gauging community resilience, creating risk reduction plans, and establishing operational capabilities to carry out actions are all essential elements of a thorough catastrophe risk reduction framework (Agrawal, 2018), recovery, and reconstruction, particularly through the “Build Back Better” principle (Mizutori, 2020).

A major advancement of the Sendai Framework is its strong focus on health and well-being as central components of disaster resilience. Unlike its predecessor, it includes over 30 explicit references to health-related issues such as epidemics, mental health services, and resilient health systems. This inclusion has catalyzed the development of Health Emergency and Disaster Risk Management (Health-EDRM) as a field, supporting the integration of health systems into broader DRR strategies. The World Health Organization and partners have used the framework to establish platforms for knowledge sharing, capacity building, and research on health-focused DRR (Aitsi-Selmi & Murray, 2015; Wright et al., 2020).

Another key innovation of the framework is its insistence on a whole-of-society approach. Disaster risk reduction is framed as a shared responsibility involving national and local governments, civil society, academia, the private sector, and communities. This inclusive approach reflects the understanding that effective disaster preparedness and resilience require active participation from all sectors of society. It also calls on governments to integrate DRR into their national and local development strategies, moving beyond isolated emergency responses to long-term resilience planning (Wahlström, 2015; Henstra & Thistlethwaite, 2017).

The Sendai Framework places unprecedented emphasis on the role of science, data, and technology in DRR. It advocates for the collection of disaggregated disaster data, improved risk assessments, and greater use of tools such as geographic information systems and digital twins to support decision-making. The United Nations and its partners have fostered the creation of global partnerships to strengthen scientific research, standardize terminology, and monitor progress in DRR implementation (Dickinson et al., 2016; Macatulad & Biljecki, 2024).

Despite its achievements, the Sendai Framework faces significant challenges in implementation. Countries often struggle with aligning DRR policies across sectors, collecting reliable disaster loss data, and securing political commitment. In fragile and conflict-affected areas, conventional DRR approaches are difficult to apply, necessitating adapted strategies that account for instability and limited governance structures (Patel et al., 2021). Nevertheless, some nations have made strides by revising legislation and creating national DRR strategies. For instance, Korea and Serbia have used the framework to guide updates in emergency management laws and resilience-building programs (Kim, 2016; Vuckovic & Slavkovic, 2024).

In a nutshell, the Sendai Framework has successfully reframed the global approach to disaster risk, emphasizing resilience, inclusivity, and data-informed decision-making. While its implementation is uneven across regions, its clear priorities and cross-cutting themes provide a strong foundation for integrating disaster risk reduction into sustainable development efforts. Continued investment in governance capacity, scientific infrastructure, and community engagement is crucial to realizing its goals by 2030.

Climate Change Convention

Currently, children and young people under the age of 30 make up over half of the global population. According to Dani et al. (2020), they stand to gain the most from lowering the likelihood and severity of disasters, halting climate change, and accomplishing the Sustainable Development Goals. However, more needs to be done to effectively implement the Sendai Framework for Disaster Risk Reduction 2015–2030, including supporting and including children and youth globally in disaster risk reduction (UNDRR, n.d.).

The Agenda 2030 for Sustainable Development (UN, 2015)

It encompasses goals and pledges related to poverty alleviation, disaster risk reduction, climate change adaptation, social inclusion, economic growth, and environmental preservation. The issue of combating climate change is captured in the United Nations' Sustainable Development Goal 13 (UN, 2015).

Paris Agreement

The Paris Agreement on Climate Change limits the increase in global temperatures caused by humans to 1.5 °C above pre-industrial levels (IPCC, 2014). The report addresses climate change as part of its policies about climate change in "Item 7" (IPCC, 2014). In "item 8" of the same report, the Loss and Damage program is affirmed as the cornerstone of the global policy architecture. The UN member states are instructed by the World Humanitarian Summit (WHS, 2016) to assume the fundamental duties of disaster risk reduction and humanitarian assistance. For instance, the Asian Disaster Reduction Center Report (ADRC VR FY, 2024, p. 46) on Turkey's country (AFAD) highlights its climate change mitigation and adaptation strategic action plan for 2024-2030, which emphasizes efforts to implement policies addressing climate adaptation and mitigation issues.

Fran Seballos' 2011 research report at the Institute of Development Studies in Brighton found that children and young people are particularly vulnerable to the effects of disasters due to their unique physical, social, and psychological characteristics, which render them less able to cope with stress and deprivation (Fran Seballos, 2011). According to Back et al. (2009), the number of children impacted by disasters was predicted to be 66.5 million per year in the late 1990s; the effects of climate change are expected to raise this figure to as much as 175 million annually in the upcoming decade (Back et al., 2009). Child-centered Disaster Risk Reduction may, therefore, involve work at the community level with both adults and children to understand and respond to identified risks and vulnerabilities; training and capacity building with disaster risk reduction specialists to take children's needs and capacities into account; and engagement at international, national and sub-national levels to influence Policy and programming to account for children's needs in times of disasters and to create space for children participation. "These actions require an understanding of both how disasters impact children's welfare and development and an understanding of the social, political and cultural processes, which enable children to engage with and inform disaster risk reduction practice and policy" (Fran Seballos, 2011, p.14).

A kid born in 2000 is predicted to be exposed to atmospheric CO₂ concentrations of 463 to 623 parts per million by volume (ppmv) by 2050, according to the IPCC (2014). Children in developing nations are already at risk for health problems, and climate change may exacerbate this risk by increasing their exposure to heat, infectious diseases, and floods (Hanna & Oliva, 2016). Children will most likely live in a world that is 0.8–2.6°C warmer than it was in 1990 and where sea levels have risen by 5–32 cm. (IPCC, 2014). The poor and marginalized, many of whose livelihoods are endangered by climate change, will be most at risk from the effects of these changes, which will be spread unevenly. For example, the African Development Bank (2012) and the IPCC (2007) stated that, although Sub-Saharan Africa contributes less to climate change, it is the most affected region, and the economic cost of climate change will be higher than that of the rest of the world. However, as a result of climate change's social and economic effects, extreme weather events, and altered ecosystem functioning, wealthier societies will also be impacted, both directly and indirectly (IPCC, 2014). Given this, it is critical to comprehend how kids and teenagers see climate change, as well as how they perceive themselves and their behavior in connection to it, in order to guide the creation of suitable learning opportunities and provide additional strategies to assist and prepare children to face these obstacles in a way that is suitable for their age. According to Agenda 21 as outlined in the report of the UN Conference on Environment and Development (1992), youth and children are among the nine main civil society groups, making them important stakeholders with the duty and right to actively participate in sustainable development. Similarly, campaigns, community engagement, public hearings, and climate change education in schools were all part of the National Strategy on Climate Change's Strategy 4, which aimed to increase public awareness of the issue and encourage public participation (ONEP, 2012).

Following the COP24 in December 2018, the campaign—also known as "Fridaysforfuture," "Youthforclimate," and "Youthstrike4climate"—snowballed after 15-year-old Greta Thunberg, a Swedish climate activist, organized a demonstration in August 2018 called "Skolstrejk för climate," or "School strike for climate," which garnered international press attention (Lee et al., 2020). Children and young people, the majority of whom are in secondary school and range in age from 12 to 18, are the driving force behind the youth movement for climate change, making it unique (Rousell & Cutter-Mackenzie-Knowles, 2020). Children and young people around the world have shown an increasing interest in, involvement with, and action regarding climate change (Seitz & Krutka, 2020; Cherisch et al., 2019; Renton & Butcher, 2010).

Thousands of youths from over 100 nations staged a walkout from schools on March 15, 2019, calling on their governments to act to stop future climate damage (Lee et al., 2020). This movement is advocating for government intervention, with a primary focus on drastically reducing the use of fossil fuels (Han & Ahn, 2020). Warren (2019) indicated that these requests were directly related to the fact that if climate change is not handled, their generation will be more affected. Several children and young people were among the six million people who participated in the global strikes in September 2019 (Greenleft, 2019; Boulianne et al., 2020).

There is a lot to do on climate change at communities' level, rather than just talking and holding meetings about it. To better appreciate youth ideas and perspective on climate change, it is essential to incorporate their role and participation in local communities. It is argued that adults' misunderstanding of the true purpose of youth activism in climate change politics goes beyond generational activities that pose problems for the future (Ortiz, 2022). Although it is prevalent in adults' perceptions of youth, the idea of the child's redemptive "face" neutralizes or misrecognizes the collective and generational political agencies that youth activists build around the issue of climate change (Ortiz, 2022).

According to Weber (2010), adults are the focus of many scholarly studies examining attitudes towards and reactions to climate change. Research that examines youth voices often focuses on or includes data from young adults rather than children or adolescents (Lee et al., 2020). This is illustrated in Corner et al. (2015) and Hibberd & Nguyen (2013). There are commonalities in the studies of youth activism related to climate change. However, there are also divergences in methodologies, purposes, and aims, as youth activists examine or investigate the different dimensions through which they engage with political power to contribute to climate change politics. However, there is a lack of research on the Policy of youth activities for climate change, as well as the nature of their roles and responsibilities at the National, Regional, and Local levels of Government.

Climate change has been differently explained by scholars and international organizations. NASA gave a simplified explanation for climate change as the effects of global warming, such as rising sea levels, retreating mountain glaciers, ice melting more quickly than usual in Greenland, Antarctica, and the Arctic, and adjustments to flower and plant blooming times, as well as the average long-term changes over the entire planet, such as altered precipitation and warming temperatures (NASA, n.d.). Both human activities and natural processes cause the changes. Scientists have indicated that human activities have caused the Earth to warm over the last 50 to 100 years. For instance, FAO (2016) reveals that unsustainable agricultural practices, urbanization, and infrastructural development contribute to climate change because they lead to the emission of other greenhouse gases, such as methane (CH₄) and nitrous oxide (N₂O) (FAO, 2016). NASA (n.d.) also states that the Earth's climate has changed since the middle of the 20th century due to human activity (NASA, n.d.).

Numerous natural factors, including changes in the sun's radiation, volcanic emissions, variations in the Earth's orbit, and fluctuations in carbon dioxide (CO₂) levels, have also impacted the climate (British Geological Survey, n.d.). In a similar breadth, the United Nations refers to climate change as "the long-term shifts in temperatures and weather patterns (UN, n.d.). This definition also encompasses the natural and human factors that contribute to these shifts. The World Bank's perspective differentiates between the definitions of climate and Weather.

According to the World Bank(n.d.), "Climate refers to the long-term regional or global average of temperature, humidity and rainfall patterns over seasons, years or decades, whereas weather can change in just a few hours" (World Bank, n.d.). The World Bank (n.d.) defines climate change as the substantial shift in average weather conditions over several decades, such as growing warmer, wetter, or drier. Similar to the FAO (2016) assertion on the human cause of climate change, the World Bank indicates that the additional heat in the climate system brought on by Human activities like the combustion of fossil fuels (coal, oil, and natural gas), deforestation, agriculture, and changes in land use leads to the increase in the atmospheric greenhouse gases which cause climate change. As a result of these activities, the atmosphere contains more "heat-trapping" greenhouse gases like CO₂, CH₄, ozone, water vapor, nitrous oxide, and chlorofluorocarbons. The increase in these greenhouse gases is what has led to the changes in climatic conditions.

Youth Activism

People are increasingly thinking about and responding to young people because they are aware of democratic principles, human rights, and freedom of speech, all of which are combined with the opportunity to interact with and transform their community (Azzopardi, 2010). Youth activism refers to the persistent advocacy and lobbying by young people affected to gain greater legitimacy, involvement, and leadership in climate action (IOM, n.d.).

LITERATURE REVIEW ABOUT CLIMATE CHANGE AND YOUTH ACTIVISM

This study conducted relevant literature reviews, which included research reports, theses, Journal articles, policy documents, and other sources not mentioned. Many studies have been conducted on the contributions of the youth towards finding solutions to climate change problems. However, only a limited number of studies have focused on the Nature of their role and responsibilities, as well as the policy systems or instruments that integrate these roles and responsibilities. The concepts reviewed below are the theoretical, empirical, and conceptual frameworks.

Theoretical Review

The theoretical foundation for this study is that if climate change policy strategic plans integrate a component for the youth, and well-defined roles and responsibilities are assigned to them, they could make a positive impact. This assertion found expression, which is well-articulated in Ajzen's (1985) theory of planned behaviour which spans from intentions to actions. The central factor of an individual's intention to perform a given behaviour. Intentions are assumed to capture the motivational factors that influence behavior; they indicate how hard people are willing to try and how much effort they plan to exert in order to perform the behavior. Generally speaking, the stronger the intention to engage in a behavior, the more likely it is to be performed.

Empirical Review

The authors Renton, Z., & Butcher, J. (2010) topic titled "Securing a Sustainable Future for Children and Young People," with a research focus on framing policies to ensure a sustainable future for young people. A Journal article discovered that to ensure long-term, sustainable development, the perspectives of young people should be incorporated into climate change policies. However, a notable gap in their findings is the limited empirical data on policy initiatives led by young people.

The authors Hanna, R., & Oliva, P. (2016), topic titled "Implications of climate change for children in developing countries," a Journal article, focuses on the impact of climate change on children in developing countries. Climate Change disproportionately affects children's Education, health, and future livelihoods. However, the journal did not discuss how the youth themselves can advocate for policy change and their perspectives on climate change policy.

O'Brien, K., Selbo, E., & Hayward, B. M. (2018), in their research titled "Exploring youth activism on climate change: dutiful, disruptive, and dangerous dissent," analyzes different types of youth activism on climate change. In the study, three types of youth activism were identified: the dutiful (reformist) approach, the disruptive (oppositional) approach, and the dangerous (radical) approach. However, the study did not examine the effectiveness of each type or approach in climate change policy formulation and implementation.

Hoegh-Guldberg, O., Jacob, D., Taylor, M., Guillén Bolaños, T., Bindi, M., Brown, S., ... & Zhou, G. (2019), in their Journal article titled "The human imperative of stabilizing global climate change at 1.5 °C", discusses the need to limit global warming temperature to 1.5 °C in order to preserve significant ecosystem proportions, warming should be kept to 1.5°C instead of 2.0°C, which would also clearly benefit economies and human health. However, it did not discuss the youth-led movements that are leading this Policy advocacy.

Chersich et al. (2019), a journal article titled "Climate Change and Adolescents in South Africa: The Role of Youth Activism and the Health Sector in Safeguarding Adolescents' Health and Education." The study examines the relationship between climate change, youth activism, and public health, revealing that youth activism plays a crucial role in advocating for climate resilience, health policies, and educational reforms. However, there is limited analysis of how Youth activism leads to legislative and institutional changes.

Han, H., & Ahn, S. (2020), a research topic titled "Youth Mobilization to Stop Global Climate Change: Narratives and Impact" studies focus on what has motivated Youth to mobilize and how they have shaped global climate politics and governance. Although activists have had difficulty transforming their moral legitimacy into the authority needed for significant change, Youth collective action has been successful in problematizing global climate inaction and inertia, and in framing climate change policy from a justice perspective. However, it does not discuss how Youth activists navigate their way through political and economic barriers.

Rousell, D., & Cutter-Mackenzie-Knowles, A. (2020), in their research titled "A Systematic Review of Climate Change Education: Giving Children and Young People a 'Voice' and a 'Hand' in Redressing Climate Change," aims at identifying key areas for further research and innovation in climate change education for children and young people. The review highlights the need for affect-driven, creative, interdisciplinary, and participatory methods to climate change education—aspects that have so far been notably absent from the literature. However, data is not provided on the impact of children's climate education on climate policies.

Lee, K., Gjersoe, N., O'Neill, S., & Barnett, J. (2020), a Peer review titled "Youth perceptions of climate change: A narrative synthesis." Focused on synthesizing youth perceptions of climate change from existing literature, younger youngsters were more concerned and more inclined to act than older teenagers in certain research. However, the peer review did not explore how these perceptions and beliefs translate into climate policies.

Doni, F., Gasperini, A., & Soares, J. T. (2020), in their Book titled, "What is the SDG 13? In SDG13—Climate action: Combating climate change and its impacts" (pp. 21–30), focused on providing an overview on the SDG goal 13 which talks about climate change. The study outlined the national responsibilities associated with SDG Goal 13. The study, however, did not explain how the youth can contribute to achieving SDG Goal 13.

Ortiz, M. (2022), in his thesis titled "Transnational Youth Activism and the Intergenerational Politics of Climate Change," examines global youth activism on climate change and integrating the youth in the politics of climate change. The study found that young people are challenging the existing generational hierarchy in the climate change discourse. The study, however, provided limited detail on the outcome of youth activism.

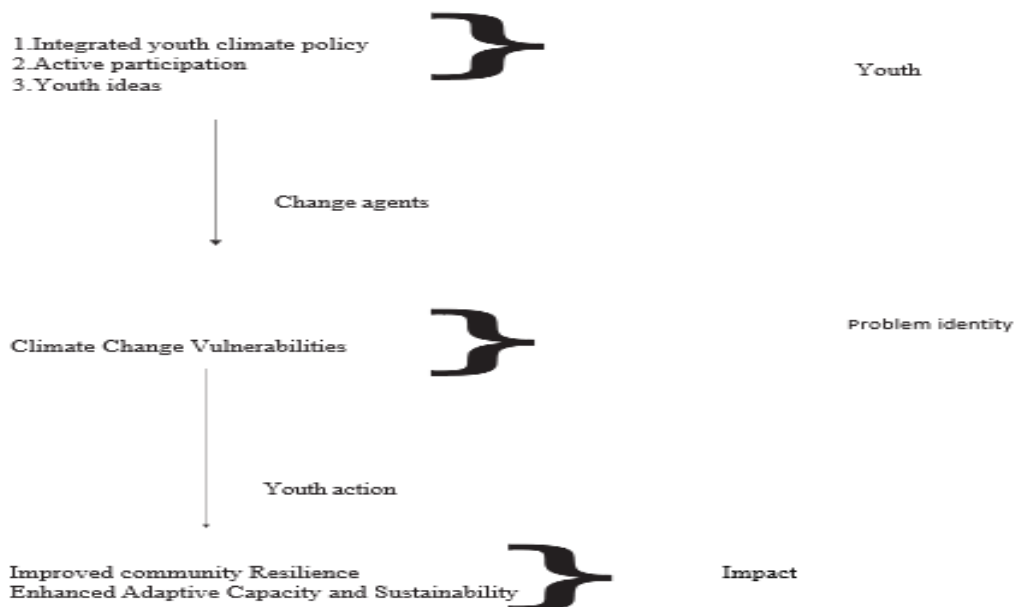
Conceptual Framework

The conceptual framework for this study posits that environmental degradation activities, such as mining and deforestation, as well as social and economic factors like poverty and inequality, a lack of access to resources in Education and technology, and climate change impacts, including extreme weather and rising sea levels, contribute to climate change vulnerabilities. The youth are capable of playing an important role in mitigating climate change vulnerabilities through activism and awareness creation, establishing youth-led movements, and promoting public advocacy. They could also play a role in mitigating climate change vulnerabilities through technological innovations, such as developing green technologies like solar panels, carbon capture, and green transportation, as well as by engaging in sustainable practices like vertical farming and Afforestation. The youth could equally play a crucial role in leadership, development, and policy implementation by participating in decision-making and proposing policy ideas that can be integrated into strategic policy plans of climate change. These roles played by the youth could help reduce climate change vulnerabilities, improve community resilience, enhance adaptive capacity, and promote a sustainable society.

The diagram below shows an outlook for the conceptual framework for how the concept looks like, considering the following elements: Integrated Youth Climate Policy, Active Youth participation, and their Policy ideas – Acting as change agents to Climate change Vulnerabilities - Identity of the main problem -

Youth action or activities which leads to - Improved Community Resilience, Enhanced Adaptive capacity and Sustainability – Impact created.

Outlook of the conceptual framework



METHODOLOGY OF THESIS

The methodology for this study outlines the study design, ethics for the Survey, data processing, illustrations, data analysis and interpretation, and the demographic interpretations of the participants. Also included are tables and figures, as well as graphical presentations of themes, results findings, discussions, and policy recommendations. In the study, both qualitative and quantitative data were collected, and a combination of qualitative and quantitative mixed-method approaches was used to collect data from the participants. The Kruskal-Wallis test, which is a non-parametric test, was used to compare the variables. The Data Tab Software and Excel were used for the processing, analysis, and illustrations of the data.

Research Design

This Survey used a mixed-methods design. A combination of quantitative and qualitative approaches to collect and analyze data (Tashakkori, 2007). The advantages of using the concept of mixed-methods design are that it yields precise and comprehensive data to meet a study aims and address the study problems. Combining qualitative and quantitative approaches has become more regular in recent years (Bryman, 2006). According to (Teddlie & Tashakkori, 2009), there are four types of mixed-method designs:

- Triangulation
- Embedded
- Explanatory
- Exploratory

The study used exploratory mixed-methods approach. In exploratory mixed-methods design, data are usually collected in a sequence order, as evident in Yazdi-Feyzabadi et al. (2021). In this study therefore, both qualitative and quantitative primary data were collected. The variables this study explored were:

- Youth policy ideas and active role – x variable

- Climate change vulnerabilities– y variable
- H0 (Hypothesis): Youth policy ideas and active role have a positive impact on climate change mitigation.

Null hypothesis	Alternative hypothesis
There is no difference between the categories of the independent variables in terms of the dependent variable.	There is a difference between the categories of the independent variable in terms of the dependent variable.

Reliability and Validity of Data Collection

The Reliability and Validity of data collection are adhered to. Reliability refers to "the consistency of a measure" (Heale & Twycross, 2015, p:66). The instrument used for a measurement should be able to measure what it is supposed to measure. The study adhered to the standardized protocol in the data collection, including avoiding data collection bias, which helps reduce measurement errors and ensure the reliability of the data. The Kruskal-Wallis test, non-parametric test, was used to compare the variables. A non-parametric test is often used when the assumptions of a one-way ANOVA is not met, such as when we cannot assume a data is normally distributed and equal variances are not present.

In addition, respecting confidentiality and privacy create a friendly and pleasant environment for data collection. The study observed this protocol. Validity deals with "whether the findings are cogent, convincing, and well-grounded" (Polit & Beck, 2004, p. 43). This means that the instrument should be able to measure the concept accurately. According to Heale and Twycross (2015, p: 66), content validity "looks at whether the instrument adequately covers all the content that it should concerning the variable."

Ethical Considerations

Ethical approval was obtained from the Ethics Committee Review Board of the Social Sciences University of Ankara, Turkey. Also, informed consent was obtained from all participants. Participants were informed of their right to withdraw at any stage of the Survey in case they did not wish to continue. The Survey was conducted with the utmost confidentiality and anonymity preserved.

Data Collection and Location

The method used to collect data for this thesis relied heavily on survey, which included Closed-ended, Open-ended, and Multiple-Choice Questionnaires. The questionnaire was divided into two main sections, sections **A** and **B**. Section **A** was for the youth in the Wa Municipality who were between the ages of 18 to 35 years. In all, ninety-four (94) youth were selected using simple random sampling. Data from open-ended questions were analyzed thematically, whereas data from closed-ended questions were coded and analyzed using Excel and the Kruskal-Wallis test Software. Section **B** was for respondents of five (5) Public Agencies and Institutions in the Wa Municipality of Ghana. In section **B**, data were collected from respondents using the purposive sampling technique. Section **B** data were equally analyzed in the same away as in section **A**, and the two results were compared. The Agencies and Institutions included the Ministry of Food and Agriculture (MOFA), the Environmental Protection Agency (EPA), the National Disaster Management Organization of Ghana (NADMO), the Forestry Commission, and the Ghana Meteorological Agency (GMET).

Three (3) and One (1) questionnaire were given to each of the individual public agencies and institutions, making a total of 14 (Fourteen). Meanwhile, 94 (ninety-four) questionnaires were given to the youth respondents, comprising both Males and Females. 54 Male participants and 40 Female participants, making an overall total Sample Size of 108 (Agencies and Institutions + Youth Respondents). The data was collected in the Wa Municipality of the Upper West Region of Ghana. Wa Municipality was selected because it is an area where environmental degradation activities, such as illegal mining, tree logging, and inappropriate agricultural practices like bush burning, all contribute to climate change. The Survey collected data on youth perceptions of

climate change policy, the negative impacts, and how they wish to contribute to solving the climate change problem.

Distribution of the Sample Size and Assumptions

In any empirical research, the distribution of the sample size plays a critical role in determining the reliability and validity of the study's findings. A well-distributed sample ensures that the population is adequately represented, reducing potential biases and increasing the generalizability of the results. This section provides an overview of how the sample was distributed across key variables. By analyzing the distribution, researchers can assess the adequacy of the sampling method and the extent to which it supports robust statistical inference.

- Ministry of Food and Agriculture = 3
- Environmental Protection Agency = 3
- National Disaster Management Organization = 4
- Ghana Meteorological Service Agency = 1
- Forestry Commission of Ghana = 3
- Youth 18 to 35 years = 94

Overall Total Sample Size = 108

The assumptions for the study were as follows; Participants would have an appreciation of the questions and concepts related to climate change. Participants in the study would cooperate and patient in sharing their opinions and ideas on climate change.

Data Analysis

This study employed an exploratory qualitative and quantitative study design to collect data using the simple random sampling technique for section **A** and the purposive sampling technique for section **B**. The questionnaires administered comprised both open and closed-ended questions. Ten (10) closed-ended questions and three (3) open-ended questions for section **A** (Youth respondents). Eight (8) closed-ended and 3 Open-ended questions for section **B** (Institutional respondents). The first of the closed-ended questions for the participants asked whether they were aware of the existence of climate change, with a "Yes" or "No" answer. The second question of the close-ended survey sought participants' opinions on whether climate change is a reality facing our generation and not a "Hoax" with True, False, or No idea responses. The third stage of the closed-ended questions requested participants to indicate whether they Strongly agree or Agree, Strongly disagree or Disagree on statements about whether children and youth are the most affected in disasters, whether disasters impact the physical and Mental health of Children, whether disasters impact due to climate change vulnerabilities, whether children are the ones who benefit the most in disaster risk reduction, whether the youth can play an active role in disaster prevention, whether the youth are well prepared and equipped to respond to disasters, whether policy ideas from youth can help improve the quality of climate change policy, whether the youth can help to fill in for the gaps of some climate change activities, whether with motivation & incentive, youth can be innovative, and lastly, whether only governments, IPCC, & NGOs have the ideas & solutions to climate change problems.

With the open-ended questions, the first task for the participants sought their personal opinions on the three (3) things they think the youth can do to contribute to climate change mitigation. The second task for participants sought their opinions on what three roles they think can be assigned to youth in society to enable them to contribute to mitigating climate change vulnerabilities. The third task for the participants sought their opinions on what three policy decisions the youth expect their leaders to implement to enable them to contribute to climate change action.

The other stage of data collection involved public institutions, which included the Environmental Protection Agency (EPA), the National Disaster Management Organization (NADMO), the Ghana Meteorological Agency, the Ministry of Food and Agriculture (MOFA), and the Forestry Commission of Ghana. In this part of the data collection, the demographic age of the participants, the questions; "Do you know about climate change?", and "Only governments, IPCC, & NGOs have the ideas & solutions to climate change problems" were excluded because the research's only interest was to obtain the perspectives of personnel from the stakeholder Public Institutions and Agencies on some key aspects of the study. Respondents in this Survey were Youth in the Wa Municipality of Ghana aged between 18 and 35 years. In all, 57 Male and 37 Female Youth participated in the Survey, making a total number of 94 Youth participants. Fourteen questionnaires (13 males and one female) were administered to participants from public institutions and agencies.

Purpose of the Study

The study aimed to identify the youth's ideas and perspectives, and the perspective of stakeholder agencies and institutions for a possible integration into climate change policy programming as a guide and direction to enable the youth to play a role and take responsibility in the fight against climate change vulnerabilities. This study, therefore, seeks to significantly enhance the quest to mitigate climate change vulnerabilities, which disproportionately affect children and young people.

Study Objectives

The objectives of the study were to;

- Identify the ideas and perspectives of the Youth of Wa Municipal on climate change
- Identify ways in which components of roles and responsibilities could be integrated into climate change policy plans
- Identify possible ways in which the Youth of Wa Municipal could play a role in the fight against climate change.

Data Presentation and Discussion

The Data was processed and presented using tools that included the Kruskal-Wallis Non-parametric test, Excel, and Bar Graphs for illustrations and projections. The same method of tools and analysis was used for both data of youth respondents and the public institutions and Agencies. The open-ended questions were classified according to themes and analyzed in terms of frequencies and percentages using Bar Graphs to illustrate and project the results.

The Results of Demographic Interpretations for Youth Respondents

A frequency count of 33 between the ages of 18 and 21 represents 35.1%, a frequency count of 32 between the ages of 22 and 24 represents 34.0%, and a frequency count of 21 between the ages of 25 and 35 represents 22.3%. Out of a total of 94 Youth respondents, 37 were Female, representing 39.4%, and 57 were Male, representing 60.6%. The majority count of 33, which represents 35.1%, indicates that a large number of the Youth respondents in the 18- to 21-year-old age range fall into this category. This is closely followed by the next majority, comprising 32 counts between the ages of 22 and 24, at 34.0%, and then 21 counts for the age range of 25 to 35, at 22.3%. Response to the question, "Do you know about Climate Change?" recorded a significant affirmative count of 77 for "Yes," representing 81.9%, and 17 counts for "No," representing 18.1%. The question, "Climate Change is a reality and not a Hoax," recorded a count of 52 for "True," representing 55.31%; "False," 2 counts, representing 2.12%; and "No idea," 40 counts, representing 42.55%. The level of Education recorded the following: High School, 58 counts representing 61.70%; Higher National Diploma (HND), 29 counts representing 30.85%; Degree, 6 counts representing 6.38%; and Master's degree, 1 count representing 1.06%.

The tables below present the demographic interpretations and a general overview of the item-by-item data analysis for the youth and institutional responses. Understanding the demographic profile of youth respondents is essential for interpreting trends, behaviors, and perceptions unique to this segment of the population. As a dynamic and influential group, young people often exhibit distinct attitudes shaped by their social environment, education, and exposure to technology and media. This section analyzes the demographic characteristics of youth participants—such as age distribution, gender, education level, and geographic location—to provide deeper insights into their responses. By examining these factors, the study aims to contextualize the findings and assess how demographic variables may influence the views and experiences reported by young individuals.

Table 1: Demographic Interpretations for Youth Respondents

Item	Category	Frequency	Ratio (%)
Age	18 – 21	33	35.1
	22 – 24	32	34.0
	25 – 35	21	22.3
Gender	Male	57	60.6
	Female	37	39.4
Level of Education	High School	58	61.70
	HND	29	30.85
	Degree	6	6.38
	Master Degree	1	1.06
Do you know about climate change?	No	17	18.1
	Yes	77	81.9
Climate change is a reality and not a hoax?	True	52	55.31
	False	2	2.12
	No idea	40	42.55

Statistical Results Findings of Kruskal-Wallis test Rank for Youth and Institutional Respondents

To determine whether there are statistically significant differences in responses among different groups within the youth and institutional population, the Kruskal-Wallis test was employed. As a non-parametric alternative to the one-way ANOVA, this test is particularly useful when the data does not meet the assumptions of normality or equal variances. In this context, the Kruskal-Wallis test was used to compare the rankings of responses across the various subgroups of the youth and institutional participants. This section presents the results of the test and interprets the implications of any significant differences observed, providing a clearer understanding of the diversity of perspectives among the youth and institutional respondents.

Table 2. Results of Kruskal-Wallis Test Rank – Youth Respondents

Groups	n	Median	Mean Rank
Children and youth mostly affected when Disaster strike	94	4	474.52

Disaster Disproportionally impact Physical and Mental Health	94	4	507.45
Disaster impact on children and youth living in poverty and vulnerable situations	94	4	417.13
Children and youth most benefit from reducing Disaster risk	94	4	369.2
The youth can play an active role in Disaster Prevention	94	4	457.98
Youth are not prepared and well-equipped to respond to Disasters?	94	5	637.23
Policy ideas from youth can improve quality of Climate change. policy	94	5	649.68
Youth can help to fill in the Gaps	94	4	554.26
With Motivation and Incentive, youth can be Innovative	94	4	533.51
Only Government, IPCC, & NGOs have ideas & solutions to Climate change problems?	94	3	104.04
Total	940	4	

Table 2 above (Youth respondents), displays descriptive statistics from a repeated measures ANOVA for 10 related groups. The table presents statistical data collected from the youth respondents. The sample size is 94. The Kruskal-Wallis test is a non-parametric test used to compare three or more groups with a metric or ordinal dependent variable. It is often used when the assumptions of a one-way ANOVA (e.g., normality, equal variances) are not met. According to the data, the Chi-squared (X^2) value was 330.16. This suggests that there is some difference between the groups. The larger the Chi-squared value, the stronger the evidence for differences between the groups. A lower Chi-squared value usually suggests that the differences between the groups are not as pronounced. Degrees of Freedom (df) is 9. The degrees of freedom for the Kruskal-Wallis test are one less than the number of groups being compared. Since there are 10 groups, the degrees of freedom are 9. The p-value(p) is $<.001$. This indicates the probability of observing the data or something more extreme if the null hypothesis is true. The null hypothesis for the Kruskal-Wallis test is that the population distributions of all groups are equal. A p-value of less than 0.001 suggests that there is a statistically significant difference between at least two of the groups. A p-value that is less than 0.05 is considered to be statistically significant. Therefore, the null hypothesis is rejected. In summary, the Kruskal-Wallis test results, with a Chi-squared value of 330.169, a degree of freedom 9, and a p-value of $<.001$, indicate a statistically significant difference across the 10 groups being compared.

The Results of the Kruskal-Wallis Test Rank for Institutional Respondents

To explore variations in perceptions or responses among different types of institutions, the Kruskal-Wallis test was applied to the data collected from institutional respondents. This non-parametric statistical method is appropriate for comparing three or more independent groups when the data does not follow a normal distribution. In this context, the test was used to determine whether there are significant differences in ranked responses based on institutional characteristics such as sector (public, private, non-governmental), organizational size, or geographic scope. The findings from this analysis help reveal whether institutional background plays a role in shaping views or priorities, thereby enhancing the depth of interpretation within the study.

Table 3: Kruskal-Wallis Test Rank for Institutional Respondent

Groups	n	Median	Mean Rank
Children and youth mostly affected when Disaster strike	14	5	56.79

Disaster disproportionately impacts physical and Mental Health	14	5	60.57
Disaster impact on children and Youth Living in Poverty and Vulnerable Situations	14	4	31.79
Children and youth most benefit from reducing Disaster risk	14	4	49.21
The youth can play an active role in Disaster Prevention	14	4	45.43
Youth are not prepared and well-equipped to respond to Disasters	14	5	64.36
Policy ideas from youth can improve quality of Climate change policy	14	5	68.14
With Motivation and Incentive, youth can be Innovative	14	5	75.71
Total	112	5	

Table 3 above (Institutional respondents) presents descriptive statistics from a repeated measures ANOVA for eight related groups. The table displays the statistics of data collected from institutional respondents. The sample size is 14, there were eight related groups. The Chi-squared (X^2) value was 24.25. This suggests that there is some difference between the groups. The degree of freedom (df) is 7. The degree of freedom for the Kruskal-Wallis test are one less than the number of groups being compared. Since there are eight groups, the degrees of freedom are 7. The p-value is .001. This indicates the probability of observing the data or something more extreme if the null hypothesis is true. The null hypothesis for the Kruskal-Wallis test is that the population distributions of all groups are equal. A p-value of .001 suggests that there is a statistically significant difference between at least two of the groups. A p-value that is less than 0.05 is considered to be statistically significant. Therefore, the null hypothesis is rejected. In summary, the Kruskal-Wallis test results, with a Chi-squared value of 24.257, df of 7, and a p-value of .001, indicate a statistically significant difference across the eight groups being compared.

Interpretations of Kruskal -Wallis test Results for Both Youth and Institutional respondents

Findings on the variables “Children and youth mostly affected when disaster strikes” show a statistically significant result for a median of 4 and a mean rank of 474.52, and “Disaster disproportionately Impacts Physical and Mental Health” shows a median of 4 and a mean rank of 507.45, respectively. This aligned with (Aksu, 2023) who discovered in his study that some youngsters may develop psychiatric symptoms such as PTSD, sadness, anxiety, acute stress reactions, and sleep difficulties.

Findings on the variable “Disaster impact on children and youth living in poverty and vulnerable situations” show a statistically significant result, with a median of 4 and a mean rank of 417.13. This aligned with (Peek, 2023). The study revealed that children are particularly vulnerable to both psychological and physical hazards during disasters, necessitating novel strategies in disaster management that prioritize the needs of children. Findings on the variable “Children and youth most benefit from reducing disaster risk” show a statistically significant result for a median of 4 and a mean rank of 369.2. Which is consistent with (Tanner et al., 2009). The study highlights how children and youth in Ghanaian communities can be empowered through community-based disaster risk reduction (DRR) by actively participating in disaster prevention and climate change impacts. Findings on the variable “The youth can play an active role in Disaster prevention” shows a statistically significant for a median of 4 and a mean rank of 457.98. This finding relates to (Apronti et al., 2015). Who indicated that by giving the youth knowledge about disasters, encouraging a culture of safety, prevention, and resilience, and empowering them to actively engage in disaster risk reduction initiatives within their communities, education and awareness-raising to empower youngsters in Ghana? Findings on the variable “Youth are not prepared and well equipped to respond to Disasters” shows a statistically significant for a median of 5 and a mean rank of 637.23. This aligned with (Baidoo, 2018) who emphasized that inadequate coordination and collaboration among disaster relief agencies, a lack of early warning systems, and limited access to ICT facilities are main causes of Ghanaian youth's lack of preparedness when it comes to

disaster response, and lack of resources for disaster education make matters worse. Findings on the variable "Policy ideas from youth can improve quality of climate change policy" shows a statistically significant for a median of 5 and a mean rank of 649.68. This aligned with ("Overlooked No More: Empowering Youth Voices in Global Climate-Change Negotiations," 2023) who emphasized that in order to improve policy impact, the paper suggests establishing national and regional youth councils, increasing training programs on climate negotiations, leveraging science diplomacy for cooperative endeavors, and creating plans to incorporate a range of youth expertise in addressing equitable climate solutions. Findings on the variable "Youth can help to fill in for the gaps" shows a statistically significant for median of 4 and a mean rank of 554.26. This finding relates with (et al., 2023) who acknowledged in his study that a sense of agency, creative ideas for daily climate acts, and understanding of climate change to actively participate in and have an impact on climate change policy initiatives with their able distinctive viewpoints. Findings on the variable "With motivation & incentive, youth can be innovative" shows a statistically significant for a median of 4 and a mean rank of 533.51. This finding correlate with (Oksanen & Hautamäki, 2015). According to the report, sustainable innovation can be fueled by inspiration in conjunction with competitiveness and inclusive solutions and supporting sustainable innovative progression addresses a variety of innovation potentials. Findings on the variable "Only government, IPCC, & NGOs have ideas & solutions to climate change problems" shows a statistically significant for a median of 3 and a mean rank of 104.04. This finding relates with (*Decolonizing the Dialogue on Climate Change*, 2023). This report argues for decolonization to revive these strategies, pointing out that the Government, IPCC, and NGOs' suggested climate change solutions frequently originate from a Western colonial mindset in contrast to indigenous knowledge systems that have traditionally supported resilience and sustainable practices.

The Results of the Demographic Interpretation for Institutional Respondents

Institutional respondents, representing organizations such as government agencies, bring structured and policy-informed perspectives to research. Analyzing the demographic characteristics of these respondents—such as institutional type, size, and functional area, provides valuable context for interpreting their responses. This section explores the demographic composition of institutional participants to identify patterns that may influence their viewpoints, decision-making processes, or priorities in disaster management. Understanding these factors is essential for drawing meaningful conclusions and recognizing the institutional diversity within the study sample.

Table 4: Demographic Interpretations – Institutional Respondents

Item	Category	Frequency	Ratio
Gender	Male	12	85.71
	Female	2	14.28
Level of Education	High School	0	0
	HND	4	28.57
	Degree	8	57.14
	Master's Degree	2	14.28
Climate Change is a Reality and not a Hoax?	True	11	78.57
	False	0	0
	No idea	3	21,42

The table above shows the demographic interpretation for institutional respondents. Out of the 14 respondents, a frequency count of 12 for Males represented 85.71%, and a frequency count of 2 for Females represented 14.28%. On the Level of Education, High school recorded zero, and Higher National Diploma (HND) recorded a frequency count of 4, representing 28.57%. Degree recorded a frequency count of 8, representing 57.14%. Master's degree recorded a frequency count of 2, representing 14.28%. The question, "Is Climate Change a Reality or a Hoax?" True recorded a frequency count of 11, representing 78.57%. False recorded zero, and No idea recorded a frequency count of 3, representing 21.42%.

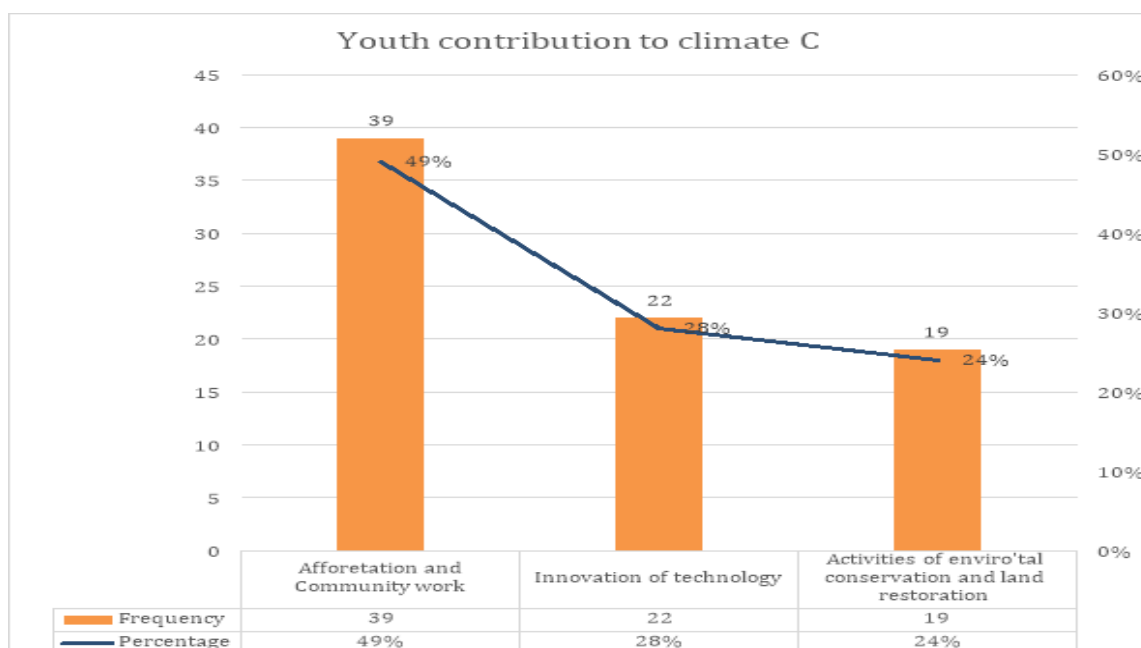
The Answers of Youth Respondents for Open-ended Questions

To visually present the key themes and patterns that emerged from the open-ended responses of youth participants, bar graphs were utilized for clarity and comparative analysis. These graphical representations help to quantify qualitative data by categorizing and displaying the frequency of recurring ideas, sentiments, or suggestions shared by the youth. This section illustrates the most commonly mentioned responses, providing insight into the priorities, concerns, and perspectives of young individuals on the subject matter. The use of bar graphs allows for a clearer understanding of dominant views and emerging trends within this demographic group.

Youth Contribution to Climate Change

The bar graph below (Figure 1) shows a frequency count of 39 for Afforestation (Theme examples: "Tree planting, Greening Ghana initiative, avoiding indiscriminate cutting of trees for firewood or charcoal, and stopping burning the bush, and stopping illegal mining"), representing 49%. Innovation and technology (Theme examples; "Develop innovative skills for climate change, Recycling of waste materials, avoid bad farming practices, develop and support green technologies, share knowledge and skills related to climate change, develop innovative solutions to environmental challenges, engage in scientific research and projects, and innovation of technologies to reduce waste") recorded a frequency count of 22 representing 28%. Activities of Environmental Conservation and Land Restoration (Theme examples: Using renewable energy sources such as solar and wind energies, using energy-efficient appliances, buying locally made products to reduce carbon emissions, adopting best farming practices, helping conserve and restore the forest, joining and support environmental organizations and groups, participate in public Education and community projects meant for the environment, employ sustainable practices to restore the land") recorded a frequency counts of 19 representing 24%.

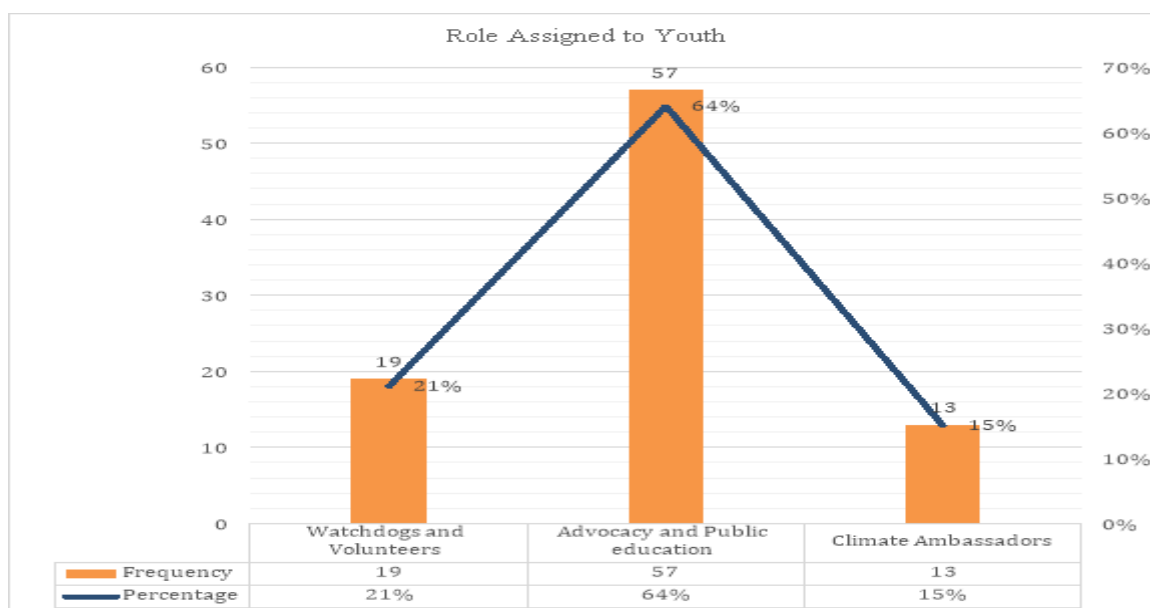
Figure 1



Role Assigned to Youth

Bar Graph below (Figure 2) indicates a frequency count of 19 for Watch Dog and Community Volunteers (Theme examples: educating members in their community on climate change, community projects, and grassroots initiatives, planting trees in communities, forest watchdogs in communities, mobilizing local action against climate change, Help local authorities to enforce bye-laws on climate change, educating farmers on best farming practices, distribute education materials in communities on the environment, volunteers for firefighting, appointing the youth as community watchdogs, youth should be made to safeguard our waterbodies") representing 21%. Frequency counts of 57 for Advocacy and Public Education (Theme examples: environmental Education, creating content for social media for public awareness on climate change, drama clubs to showcase the negative impact of climate change, Educating others on the need to protect the environment, Radio talk shows on climate change, raising awareness on the impact of climate change, Supporting NGOs whose objective is to prevent climate change vulnerabilities, educating the society on the benefits of Afforestation, organizing campaigns and events to create awareness, advocate for the use of renewable energy sources such as solar, representing 64%. Frequency counts of 13 representing 15% for Climate Ambassadors (Theme examples: climate change ambassadors, participate in decisions on climate change, active ambassadors against climate change, encouraging people to adopt the use of eco-friendly products, serve as spokespersons on climate change in schools and communities, and green entrepreneurs).

Figure 2



Policy Expectations from Leaders

The Bar Graph (figure 3) shows a frequency count of 14, representing 20% for Support for Innovation and Incentives (Theme examples: Providing equipment and tools to the youth, Motivating the youth through awards, Supporting the youth with innovative ideas on climate change, Training the youth on innovative ways to solve the problem, Reward the youth who plant more trees, Provide the youth with resources to advocate against climate change, Support for the youth to go into small scale farming). Frequency counts of 33, representing 49% for Involve youth in Decision making and Dialogue fora (Theme examples: Active participation of the youth in the fight against climate change, organizing interactive dialogues with the youth, Allowing the youth to help in decision making, Engaging the youth in decision making, Engage the youth to dialogue to express their ideas, and Listen to the youth opinions). Frequency counts of 11, representing 16% for Education and Training (Theme examples: Technology and skills training for the youth, Education, and knowledge sharing, Extracurricular on climate activities in schools, facilitating educational programs and workshops on climate change in schools, Empower the youth to educate the public on climate change, Educating and training the youth on waste management, Educate the youth on picking and recycling waste materials). Frequency counts of 22, representing 32% for Alternative Sources of Income to Avoid Illegal

Mining (Theme examples: Making agriculture more attractive to the youth to avoid illegal mining, providing an alternative source of livelihood to stop the youth from illegal mining which destroys the environment).

Figure 3



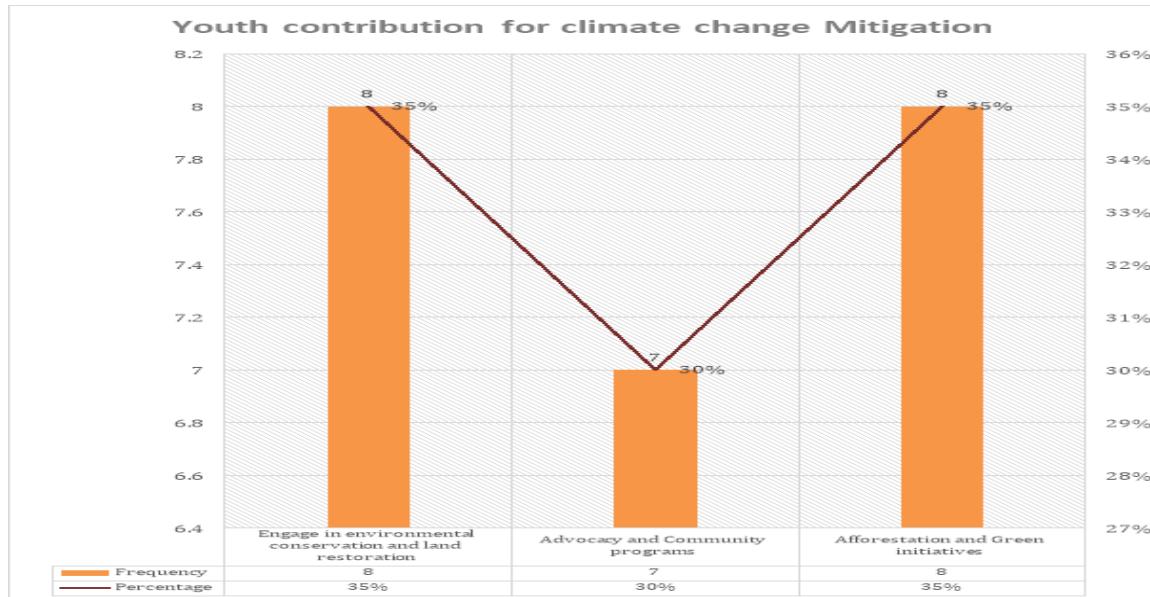
The Answers of Institutional Respondents for Opened-ended Questions

To effectively interpret the perspectives shared by institutional respondents through open-ended questions, bar graphs have been employed to categorize and visualize the most frequently mentioned themes. These respondents, representing various organizations and sectors, provided diverse insights based on their professional experiences and institutional mandates. By converting qualitative feedback into measurable data, the bar graphs in this section highlight the most common concerns, recommendations, and observations raised by institutions. This visual presentation not only aids in identifying priority areas but also enhances the understanding of institutional viewpoints regarding the subject under study.

Youth Contribution to Climate Change

Bar Graph below (Figure 4) shows a Frequency count of 8 representing 35% for Environmental Conservation and Land restoration (Theme examples; The youth can limit the use of plastics in their daily lives and segregating garbage at home, The youth should stop doing illegal mining, The youth should use renewable energy sources, They can protect the forest and water bodies, The youth should change their behavior towards the environment, The youth should engage in environmental conservation, The youth should engage in land restoration activities), Frequency count of 7, representing 30% for Advocacy and Community Programs (Theme examples; youth can spread the message of climate change education and awareness programs, the youth can advocate for change, the youth should get involve in environmental campaigns, join environmental organizations and community programs, advocacy and sensitization on climate change, sensitize their peers on the impact of climate change), Frequency count of 8 representing 35% for Afforestation and Green initiatives (Theme examples; engage them in Afforestation, the youth can plant trees, the youth must stop cutting down trees and burning the bush, the youth should support green initiatives, the youth should engage in green jobs and skills).

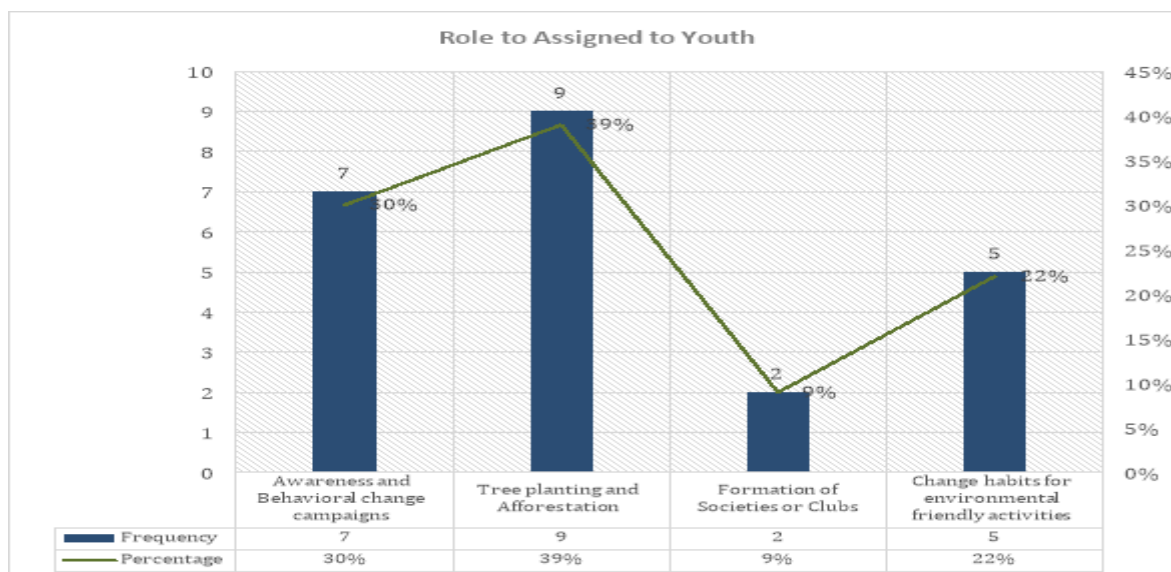
Figure 4



Role Assigned to The Youth

The bar graph below (Figure 5) shows a frequency count of 7, representing 30% for Awareness and Behavioral change campaigns (Theme examples: spreading the message of climate change, organizing climate change initiatives, educating and raising awareness, and engaging in behavioral change campaigns). Frequency count of 9 representing 39% for Tree planting and Afforestation (Theme examples: planting trees should be a duty for them, and embark on Afforestation). Frequency count of 2 representing 9% for Formation of Societies or Clubs (Theme examples: forming societies that aim at greening and safeguarding the environment and organizing climate change clubs). Frequency count of 5 representing 22% for Environmentally friendly activities (Theme example: the youth should play the role of educating people on the practice of environmentally friendly mining activities).

Figure 5



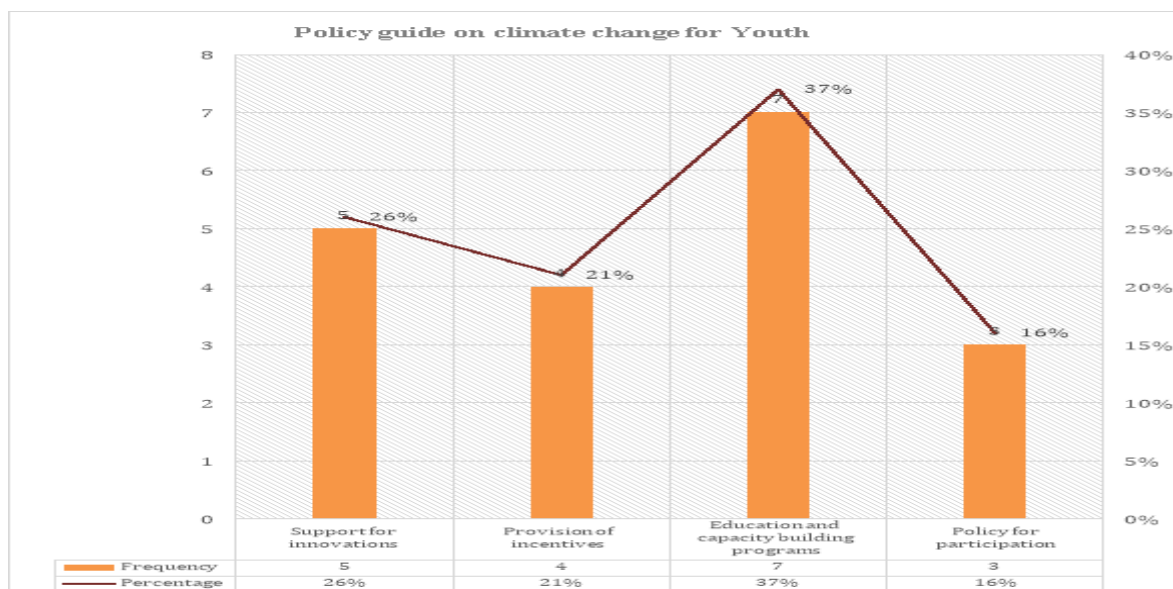
Policy Guide on Climate Change for the Youth

Climate change stands as one of the most pressing challenges of our time, and the active involvement of young people is essential in shaping sustainable solutions. As future leaders, innovators, and advocates, the youth must be equipped with clear, accessible, and actionable information on climate policy. This policy guide is

designed to empower young individuals with the knowledge and tools needed to understand climate change, engage in environmental decision-making, and influence policy at local, national, and global levels. By translating complex climate issues into youth-friendly language, this guide aims to foster awareness, encourage participation, and support youth-led initiatives that contribute to building a resilient and environmentally responsible society.

The Bar Graph 6, below shows a frequency count of 5, representing 26% support for Innovations (Theme examples: support for youth-led initiatives, Support for innovation, and entrepreneurial programs on climate change). Frequency counts of 4, representing 21% for Provision of Incentives (Theme examples; provide incentives to the youth to encourage them in youth-led climate change initiatives). A frequency count of 7, representing 37% for Education and Capacity Building (Theme examples: a guide on how the youth should engage in climate change education and training, and a policy on technical and capacity building of the youth in the area of climate change). A frequency count of 3 representing 16% for Policy of Participation (Theme examples: Policy to encourage the youth to participate in climate change activities, and policy instruments and strategies for involving the youth).

Figure 6



General Observations and Assessment of the Findings

Youth Respondents' Observations and Assessments

In the Survey of 94 youth respondents the following general observations were made: The age representation among the youth respondents in the survey showed an interesting balance across the age distribution. A slight majority of them fall between the ages of 18 to 21 years, 35.1%. The results from the Survey also revealed a positive representation of gender from the youth respondents; Males, 60.6%, and Females, 39.4%. The level of Education for youth respondents in the Survey showed High school students comprised 61.70% of the respondents, forming the core of the majority, followed by those with a Higher National Diploma (HND) at 30.85%, Degree at 6.38%, and the least, Master's degree, at 1.06%.

The question, "Do you know about climate change"? recorded a significant affirmative majority of "Yes" with 81.9%, and "No" with 18.1%. In addition, the question "Climate change is a reality facing our generation, not a hoax" recorded a slight majority of; "True" with 55.31%, "No idea" with 42.55%, and "False" with 2.12%.

A Chi-squared value of 330.169, degree of freedom(df) 9, and a p-value of <.001 indicated that there is statistically significant difference across the 10 groups being compared. Therefore, the null hypothesis is rejected.

On what the youth can do to contribute to climate change if roles were integrated into national, regional, and local levels climate change strategic plans. The following activities, in order of rank and frequency were obtained (Figure 1): Afforestation and community work (49%), Innovation of technologies (28%), and Environmental Conservation and Land Restoration (24%).

What roles and responsibilities the youth think could be assigned to them in the fight against climate Change? The data revealed these thematic areas in order of rank and frequency (Figure 2): Public Education and Advocacy (64%), Watchdogs and Community Volunteers (21%), and Climate Ambassadors (16%).

On the policy expectation from their leaders, the youth of Wa Municipality of Ghana expect the following (figure 3): Support for Innovation and Incentives 20%, Involve the youth in Decision-making and Dialogue for 49%, Education and Training 16%, and Alternative Sources of Income to avoid Illegal Mining 32%.

Institutional Respondents Observations and Assessments

Of the 14 Institutional respondents, the following general observations were made: The data showed a skewed majority of males with 85.71% among the respondents of the public institutions, while female representation recorded 14.28%. The level of education for the institutional respondents was as follows: Degree, with a slight majority at 57.14%, Higher National Diploma (HND) at 28.57%, Master's degree at 14.28%, and High School at 0%.

The question, "Climate change is a reality facing our generation and not a hoax," recorded a significant affirmative "True" majority with 78.57%, against "No idea" with 21.42%, and "False" with 0%.

A Chi-squared value of 24.257.001, degree of freedom (df) 7, and a p-value of .001 indicated that there was a statistically significant difference across the eight groups being compared. Therefore, the null hypothesis is rejected.

On how the youth can contribute to climate change, these activities (Figure 4); Environmental conservation and land restoration, with 35%; and Afforestation and the Green Ghana initiative, with 35%, having the same majority of counts and percentage. And Advocacy and community programs 30%.

On what roles and responsibilities should be assigned to the Youth in the combat against climate change vulnerabilities, the following results were obtained (figure 5): Awareness and behavioral change campaigns 30%, Tree planting and Afforestation 39%; formation of societies or clubs, 9%, and environmentally friendly activities 22%.

On the question of what policy guide leaders or authorities should put in place to enable the Youth to have a direction to play an active role in the fight against climate change vulnerabilities, the following results were obtained: Education and capacity building 37%, Support for Innovations 26%, Provision of Incentives 21%, and Policy of Participation 16%.

In summary, the age representation of the youth presented an interesting distribution indicating a close gap between the age distributions. The gender factor contributed to the survey's positive representation, bringing in diverse and rich perspectives. The study revealed there is considerable knowledge of the existence of climate change, which is consistent with climate change being a reality facing their generation, however, there is limited representation in formal climate policy-making. Many of them lack access to reliable climate information and platforms for meaningful participation. Most importantly, the key findings among both the institutional respondents and the youth respondents have extensive correlation and align with each other

The findings for this study are consistent with some aspects of existing studies: Renton, Z., & Butcher, J. (2010), emphasized the need for framing policies to ensure a sustainable future for young people thereby promoting long-term sustainable development; the perspectives of young people should be incorporated into climate change policies. However, the primary departure of their study from this one is the limited empirical data on what assigned policy roles and responsibilities the Youth think could be incorporated into climate

change strategic policy plans for them. Ortiz, M. (2022), who emphasizes global youth activism on climate change and the integration of youth in the politics of climate change. The study, however, provided limited or no details on how the youth activists think they could be positioned in the scheme of climate change strategic plans policy structure.

CONCLUSIONS AND RECOMMENDATIONS

This study aimed to identify ways in which youth and public institutions could propose ideas for integration into climate change policy strategic plans, and also to identify the youth's expectations for climate change policies from their leaders. Based on the qualitative and quantitative analysis of the youth and institutional proposed ideas, this study concludes that the youth are fully aware of the existence and the threat of climate change vulnerabilities, and are willing to direct their energies towards making a positive impact on reducing these vulnerabilities. If climate change policy strategic plans were integrated and assigned roles and responsibilities to them, they could make a positive impact in the fight against climate change. It is widely agreed that natural and artificial disasters including climate change disproportionately affect the physical and mental health of youth and Children. This problem could be extensively resolved if the youth actively participated in the formulation and implementation of climate policies, to redirect their energies into combating their future vulnerabilities.

For a meaningful practical formulation and implementation to enhance a healthy impact on the ecology, improve the resilience of communities, enhance their adaptive capacity, and promote a sustainable society, policy practitioners at local levels could consider integrating into their policy strategic plans a component of climate change policy role and responsibilities for youth in the following areas: Education and training, provision of incentives, Support for initiatives and innovations of technologies, environmental conservation and land restoration, awareness and behavioral change campaigns, involve the youth in decision making and dialogue fora, watchdog and community volunteers, Afforestation and greening Ghana initiatives, formation of societies or school clubs, alternative sources of income to avoid illegal mining, environmentally friendly activities among others not motioned here.

To better appreciate the potential of this study, future research could investigate the level of impact or outcomes youth assigned roles and responsibilities in climate change strategic policy plans have on the fight against climate change vulnerabilities.

ACKNOWLEDGEMENTS

I wish to deeply say a lot of thank you to my Supervisor Professor Dr. Asli Akay for her kindness and patience during this difficult journey. Professor, your kindness and patience are truly unmatched. In Ghana, a key supporter and financier of this Thesis, Alhaji Abdul Aziz Daud the owner and Manager of the SPP group of businesses. I shall remain forever grateful for your prayers and financial support to enable me administer the survey questionnaires. My cousin, Musah Zakaria Jinsung, an agricultural extension officer, also deserves recognition. Thank you so much for helping along the way to administer the survey questionnaires. Above all thank you, my biggest gratitude goes to Allah Almighty for seeing me through this difficult journey.

Dissertation Approval

This is to certify that the defense examination for the dissertation titled Youth Activism, Intentional Integration of Policies to Raise Awareness on Climate change Action among the Youth. Prepared by Suleman Yahaya Jinsung with student number 225437201 studying in the field of Disaster and Humanitarian Aid Management of Department Disaster and Humanitarian Aid Management. Program has been conducted in accordance with the related clauses of the Graduate Studies and Examination Code of YÖK (Council of Higher Education) on .../.../....(date) at ...(hour), and has been approved by the majority of votes/unanimous vote.

Chair: (acad.title-full name-sign.)

Advisor: (acad.title-full name-sign.)

Committee Member : (acad.title-full name-sign.)

Committee Member :(acad.title-full name-sign.)

Committee Member : (acad.title-full name-sign.)

Approval:

This dissertation has been approved by the Graduate School Administrative Board with the decision dated/...../... and numbered

Director, The Graduate School

REFERENCES

1. Acharya, P., Sharma, K., & Liu, F. (2024). Türkiye's road to recovery after the 2023 Kahramanmaraş earthquake: Lessons from Chile, Japan, and Nepal. *Natural Hazards Review*, 25(4), 04024031.
2. Agrawal, N. (2018). *Disaster Risk Management* (pp. 81–145). Springer, Dordrecht. https://doi.org/10.1007/978-94-024-1283-3_3
3. Aitsi-Selmi, A., & Murray, V. (2015). The Sendai framework: disaster risk reduction through a health lens. *Bulletin of the World Health Organization*, 93(6), 362.
4. Asian Disaster Reduction Center. (2024). Türkiye country report. Disaster and Emergency Management Presidency (AFAD), Kobe, Hyogo. Retrieved 2025, from https://www.adrc.asia/countryreport/TUR/2024/Turkiye_CountryReport_FY2024.pdf
5. Aksu, G. G. (2023). Türkiye'de Deprem Felaketi: Çocuk ve Ergen Psikiyatrisi Perspektifinden Bir Değerlendirme. *Düzce Üniversitesi Tıp Fakültesi Dergisi*, 25(1), 6–14. <https://doi.org/10.18678/dtfd.1271852>
6. Apronti, P. T., Osamu, S., Otsuki, K., & Kranjac-Berisavljevic, G. (2015). Education for disaster risk reduction (DRR): Linking theory with practice in Ghana's basic schools. *Sustainability*, 7(7), 9160–9186. <https://doi.org/10.3390/SU7079160>
7. Back, E., Cameron, C., & Tanner, T. (2009). Children and disaster risk reduction: Taking stock and moving forward. UNICEF. Baidoo, J. (2018). Challenges and Strategies for Rapid Response in Disaster Relief Operations in Ghana. *The International Journal of Management*, 4(2), 73–81. <https://doi.org/10.21522/TIJMG.2015.04.02.ART007>
8. Baidoo, J. (2018). Challenges and Strategies for Rapid Response in Disaster Relief Operations in Ghana. *The International Journal of Management*, 4(2), 73–81. <https://doi.org/10.21522/TIJMG.2015.04.02.ART007>
9. Bogdan, R., & Biklen, S. K. (1997). *Qualitative research for education*. Allyn & Bacon.
10. Bryman, A. (2006). Integrating quantitative and qualitative research: How is it done? *Qualitative Research*, 6(1), 97–113.
11. Building climate-resilient infrastructure with regions and cities. (2024). <https://doi.org/10.1787/68a39717-en>
12. Chavez, K. M., Quinn, P., Gibbs, L., Block, K., Leppold, C., Stanley, J., & Vella-Brodrick, D. (2023). Growing up in Victoria, Australia, in the midst of the climate emergency. *International Journal of Behavioral Development*. <https://doi.org/10.1177/01650254231205239>
13. Chersich, M., Scorgie, F., Wright, C., Mullick, S., Mathee, A., Hess, J., et al. (2019). Climate change and adolescents in South Africa: The role of youth activism and the health sector in safeguarding adolescents' health and education. *South African Medical Journal*, 109(9), 615. <https://doi.org/10.7196/samj.2019.v109i9.14327>
14. Creswell, J. W., & Clark, V. L. P. (2017). *Designing and conducting mixed methods research* (3rd ed.). Sage Publications.
15. Decolonizing the Dialogue on Climate Change (pp. 66–86). (2023). Cambridge University Press eBooks. <https://doi.org/10.1017/9781108769327.005>
16. Dickinson, C., Aitsi-Selmi, A., Basabe, P., Wannous, C., & Murray, V. (2016). Global community of disaster risk reduction scientists and decision makers endorse a science and technology partnership to

- support the implementation of the Sendai Framework for Disaster Risk Reduction 2015–2030. *International Journal of Disaster Risk Science*, 7, 108–109.
17. Doni, F., Gasperini, A., & Soares, J. T. (2020). What is the SDG 13? In *SDG13–Climate action: Combating climate change and its impacts* (pp. 21–30). Emerald Publishing Limited.
18. Editorial. (2024). <https://doi.org/10.54103/gicpi.2023.1.22345>
19. Fosu-Mensah, B. Y., Manchadi, A., & Vlek, P. L. G. (2019). Impacts of climate change and climate variability on maize yield under rainfed conditions in the sub-humid zone of Ghana: A scenario analysis using APSIM. *West African Journal of Applied Ecology*, 27(1), 108–126. <https://doi.org/10.4314/WAJAE.V27I1>
20. Fran Seballos, T. T. (2011). *Children and disasters: Understanding impact and enabling agency*. Institute of Development Studies.
21. Green, D. O., Creswell, J. W., Shope, R. J., & Clark, V. L. P. (2007). Grounded theory and racial/ethnic diversity. In A. Bryant & K. Charmaz (Eds.), *The Sage handbook of grounded theory* (pp. 472–492). Sage.
22. Han, H., & Ahn, S. (2020). Youth mobilization to stop global climate change: Narratives and impact. *Sustainability*, 12(10), 4127. <https://doi.org/10.3390/su12104127>
23. Hanna, R., & Oliva, P. (2016). Implications of climate change for children in developing countries. *The Future of Children*, 26(1), 115–132.
24. Hargreaves, K., Koekemoer, L. L., Brooke, B. D., Hunt, R. H., Mthembu, J., & Coetzee, M. (2000). *Anopheles funestus* resistant to pyrethroid insecticides in South Africa. *Medical and Veterinary Entomology*, 14(2), 181–189.
25. Heale, R., & Twycross, A. (2015). Validity and reliability in quantitative studies. *Evidence-Based Nursing*, 18(3), 66–67. <https://doi.org/10.1136/eb-2015-102129>
26. Henstra, D., & Thistlethwaite, J. (2017). Overcoming barriers to meeting the Sendai Framework for Disaster Risk Reduction.
27. Hoegh-Guldberg, O., Jacob, D., Taylor, M., Guillén Bolaños, T., Bindi, M., Brown, S., ... & Zhou, G. (2019). The human imperative of stabilizing global climate change at 1.5 °C. *Science*, 365(6459), eaaw6974.
28. Intergovernmental Panel on Climate Change. (2014). *Climate change 2014 synthesis report: Summary for policymakers*. <https://www.ipcc.ch/sr15/>
29. International Organization for Migration. (n.d.). The role of youth in mitigating climate risk. *Environmental Migration Portal*. Retrieved January 21, 2025, from <https://environmentalmigration.iom.int/blogs/role-youth-mitigating-climate-risk>
30. Jones, C. S. (1985). An empirical study of the evidence for contingency theories of management accounting systems in conditions of rapid change. *Accounting, Organizations and Society*, 10(3), 303–328.
31. Kelley, T. R., Knowles, J. G., Han, J., & Sung, E. (2019). Creating a 21st-century skills survey instrument for high school students. *American Journal of Educational Research*, 7(8), 583–590.
32. Kim, Y. (2016). Improving Korea's disaster risk reduction policy using the Sendai Framework 2015–2030. *Mechanical Engineering*, 129, 185–189.
33. Lee, K., Gjersoe, N., O'Neill, S., & Barnett, J. (2020). Youth perceptions of climate change: A narrative synthesis. *Wiley Interdisciplinary Reviews: Climate Change*, 11(3), e641.
34. Macatulad, E., & Biljecki, F. (2024). Continuing from the Sendai Framework midterm: Opportunities for urban digital twins in disaster risk management. *International Journal of Disaster Risk Reduction*.
35. Mizutori, M. (2020). Reflections on the Sendai Framework for Disaster Risk Reduction: Five years since its adoption. *International Journal of Disaster Risk Science*, 11, 147–151.
36. NASA. (n.d.). What is climate change? <https://science.nasa.gov/climate-change/what-is-climate-change/>
37. O'Brien, K., Selboe, E., & Hayward, B. M. (2018). Exploring youth activism on climate change: Dutiful, disruptive, and dangerous dissent. *Ecology and Society*, 23(3). <https://www.jstor.org/stable/26799169>
38. Oksanen, K., & Hautamäki, A. (2015). Sustainable Innovation: A Competitive Advantage for Innovation Ecosystems. *Technology Innovation Management Review*, 5(10), 24–30. <https://doi.org/10.22215/TIMREVIEW/934>

39. Ortiz, M. (2022). Transnational youth activism and the intergenerational politics of climate change (Doctoral dissertation, The University of North Carolina at Chapel Hill).
40. Overlooked No More: Empowering Youth Voices in Global Climate-Change Negotiations. (2023). The Journal of Science Policy & Governance, 22(02). <https://doi.org/10.38126/jspg220203>
41. Patel, S. S., McCaul, B., Cáceres, G., Peters, L. E. R., Patel, R., & Clark-Ginsberg, A. (2021). Delivering the promise of Sendai Framework for Disaster Risk Reduction in fragile and conflict-affected contexts (FCAC): A case study of the NGO GOAL's response to the Syria conflict. Progress in Disaster Science, 10, 100172.
42. Peek, L. (2023). Children and Disasters: Understanding Vulnerability, Developing Capacities, and Promoting Resilience — An Introduction. Children, Youth and Environments, 18, 1–29. <https://doi.org/10.1353/cye.2008.0052>
43. Polit, D. F., & Beck, C. T. (2004). Nursing research: Principles and methods (7th ed.). Lippincott Williams & Wilkins.
44. Renton, Z., & Butcher, J. (2010). Securing a sustainable future for children and young people. Children & Society, 24(2), 160–166. <https://doi.org/10.1111/j.1099-0860.2009.00280.x>
45. Rousell, D., & Cutter-Mackenzie-Knowles, A. (2020). A systematic review of climate change education: Giving children and young people a ‘voice’ and a ‘hand’ in redressing climate change. Children’s Geographies, 18(2), 191–208. <https://doi.org/10.1080/14733285.2019.1614532>
46. Seitz, R., & Krutka, D. (2020). Can the Green New Deal save us? An interdisciplinary inquiry. The Social Studies, 111(2), 74–85. <https://doi.org/10.1080/00377996.2019.1677547>
47. Tanner, T., Garcia, M., Lazcano, J., Molina, F., Molina, G., Tribulano, B., Rodríguez, G., & Seballos, F. (2009). Children’s participation in community-based disaster risk reduction and adaptation to climate change. <http://sro.sussex.ac.uk/id/eprint/101763/>
48. Tashakkori, A., & Creswell, J. W. (2007). Exploring the nature of research questions in mixed methods research. Journal of Mixed Methods Research, 1(3), 207–211.
49. Teddlie, C., & Tashakkori, A. (2009). Foundations of mixed methods research: Integrating quantitative and qualitative approaches in the social and behavioral sciences. Sage.
50. Thunberg, G. (2019). No one is too small to make a difference. Penguin.
51. United Nations Conference on Environment and Development. (1992). Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3–14 June 1992: Volume 2, Proceedings of the Conference.
52. United Nations. (2015). Transforming our world: The 2030 Agenda for Sustainable Development. <https://sdgs.un.org/2030agenda>
53. United Nations. (n.d.). What is climate change? <https://www.un.org/en/climatechange/what-is-climate-change>
54. Vuckovic, V., & Slavkovic, N. (2024). The impact of the Sendai Legal Framework on the Disaster Risk Reduction and Emergency Management System in the Republic of Serbia. 10th Anniversary International Forum “Safety for the Future 2024”.
55. Wahlström, M. (2015). New Sendai Framework strengthens focus on reducing disaster risk. International Journal of Disaster Risk Science, 6, 200–201.
56. Weber, E. U. (2010). What shapes perceptions of climate change? Wiley Interdisciplinary Reviews: Climate Change, 1(3), 332–342.
57. World Bank. (n.d.). Climate change knowledge. <https://climateknowledgeportal.worldbank.org/overview>
58. World Humanitarian Summit. (2016). Commitment to action. Istanbul. https://agendaforhumanity.org/sites/default/files/resources/2017/Jul/WHs_commitment_to_Action_8September2016.pdf
59. Wright, N., Fagan, L., Lapitan, J., Kayano, R., Abrahams, J., Huda, Q., & Murray, V. (2020). Health Emergency and Disaster Risk Management: Five years into implementation of the Sendai Framework. International Journal of Disaster Risk Science, 11, 206–217.
60. Yazdi-Feyzabadi, V., Nakhaee, N., Mehroolhassani, M. H., Naghavi, S., & Homaie Rad, E. (2021). Development and validation of a questionnaire to determine medical orders non-adherence: A sequential exploratory mixed-method study. BMC Health Services Research, 21, 1–11.

APPENDIX

Data Collection Instruments – Questionnaire

Section A – Youth Respondent

Gender: (1) Male (2) Female

Level of Education:

- 1) High School
- 2) Higher National Diploma
- 3) Degree
- 4) Masters

Please kindly choose the appropriate age within your own age range:

- 1) 18 – 21
- 2) 22 - 24
- 3) 25 - 35

(1) Do you know about climate change? (1) Yes (2) No

(2) Climate change is a reality facing our generation and not “a hoax” (1) Is true (2) Is false (3) No idea

Please kindly indicate whether you **Strongly agree, Agree** or **Strongly Disagree** or **Disagree** with the statements below:

(3) “Half of the world’s population are children and youth, and they are often the first and most affected when environmental, technological or biological hazards or disasters strike”

(1) *I strongly agree* (2) *I agree* (3) *I strongly disagree* (4) *I disagree*

(4) “Disasters disproportionately impact children and youth: their physical and mental health; nutritional needs to grow and thrive; access to education and decent work; economic opportunities; exposure to violence or trafficking; and choices of where they can safely live, study, play, grow and build community”

(1) *I strongly agree* (2) *I agree* (3) *I strongly disagree* (4) *I disagree*

(5) “Disaster impacts, increasing in magnitude and number due to climate change, are especially acute and life-threatening for children and youth living in poverty and other vulnerable situations”

(1) *I strongly agree* (2) *I agree* (3) *I Strongly disagree* (4) *I disagree*

(6) “Children and Youth are the ones who will benefit most from reducing the risk and impact of disasters, curtailing climate chaos and achieving the global Sustainable Development Goals”

(1) *I strongly agree* (2) *I agree* (3) *I strongly disagree* (4) *I disagree*

(7) Disaster Prevention involves but not limited to, analyzing the environment, assessing vulnerabilities and risks, and developing measures to prevent or mitigate potential hazards. While prevention requires preparation the youth can play active role in disaster prevention

(1) **I strongly agree** (2) **I agree** (3). **I strongly disagree** (4) **I disagree**

(8) Disaster Preparedness refers to developing strategies, plans, and procedures to effectively deal with potential disasters. Preparedness involves but not limited to creating emergency plans, training, and exercises to ensure that people, equipment, and systems are ready to respond to a disaster. Our youth are prepared, well equipped, and ready to respond to disasters

(1) **I strongly agree** (2) **I agree** (3). **I strongly disagree** (4) **I disagree**

(9) Policy ideas from the youth of Ghana can help to improve the quality of climate change policy programs and make a positive impact?

(1) **I strongly agree** (2) **I agree** (3). **I strongly disagree** (4) **I disagree**

(10). The youth can help to fill in for the gaps of some climate change policy programs and activities?

(1) **I strongly agree** (2) **I agree** (3). **I strongly disagree** (4) **I disagree**

(11). With a motivation and incentives support from Government, organizations, and stakeholders. The youth of Ghana can create innovative ways to enhance a sustainable climate environment?

(1) **I strongly agree** (2) **I agree** (3). **I strongly disagree** (4) **I disagree**

(12) Only the Government of Ghana, the international organizations like the IPCC, and Non-governmental organizations have the ideas and solutions to the problems of climate change?

(1) **I strongly agree** (2) **I agree** (3). **I strongly disagree** (4) **I disagree**

(14) In your personal opinion, what are the three (3) things you think **the Youth** can do to contribute to the mitigation/Prevention of climate change

(15) What role can be assigned to **the Youth** in the society to enable them contribute to the prevention of climate change vulnerabilities?

(16) What kind of policy decisions should we as youth expect our leaders to put in place to enable us to contribute to climate change action?

Section B – Institutional Respondents

Gender:

(1) Male

(2) Female

Level of Education:

1) High School

2) Higher National Diploma

3) Degree

4) Masters

Please kindly indicate whether you **Strongly agree**, **Agree** or **Strongly Disagree** or **Disagree** with the statements below:

(1) Climate change is a reality facing our generation and not “a hoax” (1) is true (2) is false

(2) “Half of the world’s population are children and youth, and they are often the first and most affected when environmental, technological or biological hazards or disasters strike”

(1) I strongly agree (2) I agree (3) I strongly disagree (4) I disagree

(3) “Disasters disproportionately impact children and youth: their physical and mental health; nutritional needs to grow and thrive; access to education and decent work; economic opportunities; exposure to violence or trafficking; and choices of where they can safely live, study, play, grow and build community”

(1) I strongly agree (2) I agree (3) I strongly disagree (4) I disagree

(4) “Disaster impacts, increasing in magnitude and number due to climate change, are especially acute and life-threatening for children and youth living in poverty and other vulnerable situations”

(1) I strongly agree (2) I agree (3) I strongly disagree (4) I disagree

(5) “Children and Youth are the ones who will benefit most from reducing the risk and impact of disasters, curtailing climate chaos and achieving the global Sustainable Development Goals”

(1) **I strongly agree** (2) **I agree** (3) **I strongly disagree** (4) **I disagree**

6) Disaster Prevention involves but not limited to, analyzing the environment, assessing vulnerabilities and risks, and developing measures to prevent or mitigate potential hazards. While prevention requires preparation the youth can play active role in disaster prevention

(1) **I strongly agree** (2) **I agree** (3) **I strongly disagree** (4) **I disagree**

7) Disaster Preparedness refers to developing strategies, plans, and procedures to effectively deal with potential disasters. Preparedness involves but not limited to creating emergency plans, training, and exercises to ensure that people, equipment, and systems are ready to respond to a disaster. Our youth are prepared, well equipped, and ready to respond to disasters

(1) **I strongly agree** (2) **I agree** (3) **I strongly disagree** (4) **I disagree**

(8) Policy ideas from the youth of Ghana can help to improve the quality of climate change policy programs and make a positive impact?

(1) **I strongly agree** (2) **I agree** (3) **I strongly disagree** (4) **I disagree**

(9) The youth can help to fill in for the gaps of some climate change policy programs and activities?

(1) **I strongly agree** (2) **I agree** (3) **I strongly disagree** (4) **I disagree**

(10) . With a motivation and incentives support from Government, organizations, and stakeholders. the youth of Ghana can create innovative ways to enhance a sustainable climate environment?

(1) **I strongly agree** (2) **I agree** (3) **I strongly disagree** (4) **I disagree**

(11) The youth of Ghana **do not** expect or need any climate change policy program initiatives intended to involve the youth in decisions making from our leaders?

(1) **I strongly agree** (2) **I agree** (3) **I strongly disagree** (4) **I disagree**

(12) In your personal opinion, what are the three (3) things you think **the Youth** can do to contribute to the mitigation/prevention of climate change

(13) What role can be assigned to **the Youth** in the society to enable them contribute to the prevention of climate change vulnerabilities?

(14) What three (3) informed policy guide on climate change should our leaders put in place to enable **the Youth** to contribute to climate change action?