

Adapting Together, Thriving Tomorrow



National Youth Climate Adaptation Strategy Ghana



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Foreword

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Acknowledgements

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This Strategy is a testament of youth's willingness to effectively engage in the development and implementation of climate change policies and programs at all levels; local, national, regional and international, depicting their readiness to take their place as current leaders in driving climate action globally.

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Contributors

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Executive summary

The National Youth Climate Adaptation Strategy: Ghana addresses the urgent need to identify and mitigate the key climate risks and vulnerabilities impacting youth (18-35 years) in Ghana, and overall, enhancing their adaptive capacities to improve their climate change resilience. Through a comprehensive analysis of data gathered through desktop literature review, surveys and a validation workshop, as well as secondary data on unemployment trends from the Ghana Statistical service, the strategy highlights the most vulnerable areas and demographics, providing a roadmap for targeted interventions and policy recommendations.

Key findings reveal that regions in Northern Ghana and cities that are highly populated, like Accra and Kumasi, are particularly the most vulnerable based on how climate change has impacted different regions across Ghana. Generally, young people aged 25–32 years old in Northern Ghana and 18–26-year-olds in Southern Ghana are also more vulnerable due to their precarious unemployment situations. In terms of gender, females are more disadvantaged than their male cohorts.

From the planning perspective, it is noted that youth participation should be integrated into Ghana's National Adaptation Plan (NAP) process at every stage and in every sector (agriculture, water, etc.) and step of the adaptation planning and implementation process after the hybrid framework that engages stakeholders at the national and local levels. This should include providing funding and ensuring the consultation processes and platforms are accessible and inclusive to enable disadvantaged youth, like those in remote locations and persons with disabilities, to participate in climate planning forums both locally and nationally. Furthermore, youth engagement should follow Roger Hart's Ladder of Participation, which promotes high levels of youth involvement in planning, from merely being informed to being more involved in decision-making. This would help to ensure that the NAP process is inclusive, comprehensive and acceptable by all stakeholders, especially youth who make up the largest demography in Ghana.

The findings indicate that in practice, interventions in climate-smart agriculture and agroecology programs for supporting young farmers, especially females, should be a priority. In urban areas, such as Accra and Kumasi, significant health challenges from heat stress and respiratory conditions call for improved healthcare infrastructure and the promotion of green jobs like those in renewable energies and recycling. Increasing educational resilience emerges as a priority, with a focus on integrating climate change education at all levels of education in both environment and non-environment related programs of study and enhancing sustainability-focused research to equip youth with the necessary skills to adapt better. Strengthening partnerships with CSOs, NGOs and global networks can also help in exchanging knowledge and amplifying resources for youth-led climate adaptation initiatives.

By implementing this catalogue of strategies, the Strategy aims to create a resilient and sustainable future for Ghanaian youth, who are the most vulnerable to climate change. This is expected to enable them to effectively adapt to and mitigate the impacts of climate change. This comprehensive approach not only addresses immediate vulnerabilities but also lays the foundation for long-term resilience and sustainability.

Abbreviations

AHIES:	Annual Household Income and Expenditure Survey
CDKN:	Climate and Development Knowledge Network
CSO:	Civil Society Organization
EPA:	Environmental Protection Agency
IPCC:	Intergovernmental Panel on Climate Change
NAP:	National Adaptation Plan
NAPF:	National Adaptation Plan Framework
NGO:	Non-Governmental Organization
NYCAS:	National Youth Climate Adaptation Strategy
NYA:	National Youth Authority
OPD:	Out-Patient Department
UNDP:	United Nations Development Programme
UNFCCC:	United Nations Framework Convention on Climate Change

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1. Introduction

1.1. Background

Climate change is arguably the most significant socio-ecological challenge confronting the world in the 21st Century. The phenomenon is significantly altering the planet and life as it has been known, leading to more frequent and severe weather events, like floods and heatwaves. Rising temperatures contribute to sea-level rise that threatens coastal areas with increased flooding and erosion. Biodiversity is under stress, with many species facing extinction due to changing ecosystems (IPCC, 2022). Critical sectors like agriculture and food security are also jeopardized by unpredictable weather patterns and reduced crop yields, while water resources continue to dwindle. Thus, climate change exacerbates social and economic inequalities, disproportionately affecting vulnerable populations (e.g., women, youth, physically challenged persons) and poses challenges to global health through increased climate-related diseases (Adams & Nyantakyi-Frimpong, 2021; Lwasa et al., 2014). Given that young people form the biggest demography of the world's population (70% of Africa's populations are under age 30 (Mo Ibrahim Foundation, 2019)) and are as well not physically, socially and economically resilient as older populations, they tend to be more vulnerable to the impacts of climate change (Amponsem et al., 2019).

The climate crisis is, in so far, reshaping the world that youth and future generations are set to inherit. Its far-reaching impacts necessitate urgent and coordinated action to mitigate its effects and build resilience. It is on the back of these that young people worldwide have been speaking out against the harsh effects of climate change, especially since the Global Climate Strikes in 2019 (Han & Ahn, 2020). Their powerful and unified voices have inspired millions of people and thrust climate justice into the public eye, declaring the urgent need for action to address the climate crisis. The African Youth Charter (2006) and the National Youth Policy (2022) of Ghana affirms that every young person has the right to participate in all spheres of life and promotes the active participation of youth in society and decision-making forums. Moreover, it is expedient that youth be involved in the processes for climate action to achieve inclusivity, acceptability, sustainability and cooperation from all parties in the design and implementation of interventions (Anderson et al., 2021; Santoro et al., 2019). However, this is often not realized in practice. In many sectors in Ghana, a significant number of youths are marginalized, often relegated to ground-level work and seldom participate in decision-making processes that directly or indirectly affect them.

Further in Ghana, young people— defined as people aged from 15 to 35 years according to the Children's Act 1998, Act 560 and the National Youth Authority Act 2016, Act 939, and making up 38% of Ghana's population— face significant legal and institutional barriers in their efforts to participate in climate action and promote sustainability. Youth are frequently excluded from policy-making processes and their voices are not adequately represented in climate adaptation and sustainability planning (Davies & Hügel, 2021). This lack of inclusion results in the specific needs and perspectives of young people being overlooked in national and local strategies. Furthermore, there are insufficient opportunities for young people to be mentored, trained and gain the experience needed to acquire the necessary skills for effectively participating in climate action and advancing sustainability practices, especially those that have completed their first cycle education (Davies & Hügel, 2021). Financial constraints also pose a major challenge; securing financial support for youth-led projects is difficult, with limited access to grants, loans or other funding sources for undertaking local and national initiatives. Also, underlying high levels of poverty and unemployment among youth exacerbate these financial barriers and make it challenging for them to invest time and resources in climate action activities, which make many apathetic to climate action (Mburu & Makori, 2015).

On-the-ground, climate action and sustainability initiatives led by young people are hindered by several practical challenges. There is a lack of adequate knowledge about climate change, its impacts and the potential solutions due to limited climate education and awareness programs (Manteaw et al., 2022). Additionally, access to advanced technologies and tools that can aid in climate action and sustainable practices, such as in agriculture and water, is often restricted, particularly in rural and per-urban areas. Environmental challenges, such as deforestation, soil erosion and the direct impacts of extreme weather events further complicate efforts to advance sustainability and resilience building. Social and cultural barriers, including apathy towards climate issues and cultural norms that hinder the participation of young people, especially girls and young women, also play a role (Assan et al., 2020). Limited networking and collaboration opportunities result in fragmented efforts, while complex regulatory requirements and bureaucratic processes further impede the implementation of youth-led projects and initiatives.

Addressing these practical challenges requires targeted support, education and resources to empower young people to contribute effectively to climate resilience building (Amponsem et al., 2019). These far-reaching challenges necessitate urgent and coordinated action, including creating the enabling policy framework, to reduce youth vulnerabilities to climate change and in building resilience (Kumar, 2023).

1.2. Objectives

Against this backdrop, the Chapter 11 of Ghana's National Adaptation Plan Framework (NAPF) emphasizes the need to involve young people in national adaptation planning processes and outlines ways to engage the youth effectively. Further, it recognizes the need to better define how young people in Ghana can be meaningfully empowered to respond to climate change. Besides enhancing their resilience and adaptive capacity, this would help to leverage existing and new opportunities for sustainable development.

This strategy takes this recognition forward by specifically seeking to:

1. Identify the key climate risks and vulnerabilities affecting youth and
2. Develop inclusive strategies to enhance youth adaptive capacity and strengthen their resilience to climate change.

By addressing these specific objectives, the Ghana Youth Climate Adaptation Strategy seeks to create a comprehensive and actionable plan that enables Ghanaian youth to become proactive agents of change in the face of climate challenges to improve their resilience.

2. Youth engagement in climate action

2.1. Doubling down the case for youth participation in climate action

The involvement of youth in climate adaptation is, first, a matter of justice. Young people have a right to a healthy environment and a sustainable future (Mackey, 2012). Engaging them in climate adaptation ensures that their voices are heard, and their needs are factored in decisions that will significantly impact their lives and future generations. This also helps to uphold the principles of intergenerational equity and ensure that the needs and rights of future generations are respected and safeguarded, which is the foundation of the sustainable development concept (Brundtland, 1989). Also, involving youth in climate adaptation promotes more inclusive and democratic decision-making processes. Young people, particularly those from marginalized and vulnerable groups, often bring attention to issues and needs that might otherwise be overlooked. Therefore, ensuring their participation helps create more comprehensive and equitable adaptation strategies that address the diverse needs of the population in a just and equitable way (Stuart & Woodroffe, 2016).

Second, young people tend to be more open to new ideas and technologies and bring creativity and innovation to climate adaptation strategies. Their fresh perspectives can lead to the development of novel or more efficient solutions and approaches that may not be apparent to older generations. For example, young people are adept at using digital technologies and social media, which are powerful tools for raising awareness, sharing information and mobilizing action as demonstrated in many youth-led activisms (e.g., Fridays for Future) (Cortés-Ramos et al., 2021). Involving youth in adaptation planning can, therefore, drive more dynamic and effective responses to climate challenges. If promoted in this sense, young people can play a vital role in their communities as agents of change, enhancing community resilience through their innovative and creative initiatives. The results of such efforts could be raising climate and environmental awareness, helping to mobilize community support for climate action and implementing practical solutions that strengthen the overall adaptive capacity of their cohorts and communities.

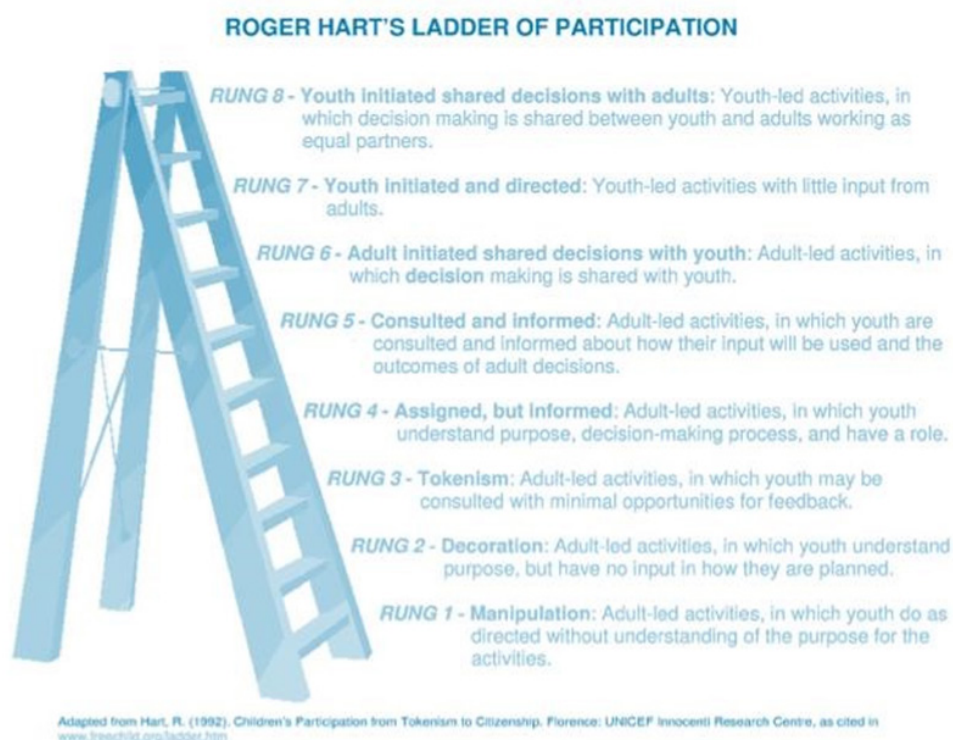
Thirdly, investing in youth involvement in climate action today will equip them with the skills and knowledge required for building long-term capacity for climate action (Narksompong & Limjirakan, 2015). By educating and empowering all young people, we prepare a generation of informed and capable leaders who can continue to drive climate adaptation efforts through into the future. This point is particularly significant as presently, young people do not have sufficient opportunities to gain on-the-job experience since their participation in climate action is limited, revealing a grave gap. Yet, this long-term perspective is essential for sustaining adaptation initiatives and achieving enduring resilience against climate impacts.

Fourth, youth have proven to be effective advocates for climate action, as evidenced by the global climate strikes and movements led by young people (Han & Ahn, 2020). Their passion and ability to mobilize large groups can drive significant public support and political will for climate adaptation. Youth involvement in adaptation efforts can, thus, amplify advocacy efforts, influence policies and encourage greater commitment from governments and other stakeholders (Frank, 2006).

2.2. Roger Hart's ladder of participation: How youth participation should look like

Roger Hart's Ladder of Participation provides a framework for understanding the varying levels of youth involvement in decision-making. The framework emphasizes the progression from non-participation to full empowerment and is adopted in this Strategy to help set the rubrics for meaningful and effective youth engagement in climate action.

Figure 1. Roger Hart's ladder of participation (source: (Mafileo & Api, 2009))



The lowest levels of the framework, manipulation and decoration, show how young people can be used symbolically to support causes without their understanding or significantly influencing such causes. This tokenistic involvement often leaves young people frustrated, as their presence is more about appearance than substance. This may manifest through youth inclusion in climate events, projects or campaigns without them having any real input or decision-making power.

As one climbs up the ladder, the involvement becomes more substantial in the assigned but informed stage. Here, youth are given specific roles and understand their purpose within adult-initiated projects. This may provide clarity and foster a sense of contribution. The consulted and informed level improves this by ensuring that youth opinions are sought and considered seriously, allowing them to see how their input influences outcomes.

The higher rungs of the ladder represent deeper levels of engagement. In adult-initiated, shared decisions with youth, projects are co-designed with significant youth input, balancing guidance and empowerment. At the youth-initiated and directed level, young people lead their own climate action projects with adults providing support as needed. This drives leadership and ownership among youth.

The pinnacle of Hart's ladder is to have youth-initiated projects and shared decisions with adults. Here, young people not only initiate projects but also share decision-making with adults. At this point, the partnership ensures that youth leadership is central but also benefits from adult experience and resources, leading to innovative and effective climate solutions (fig. 1). Thus, meaningful youth participation in climate action should reflect the higher rungs of the Hart's ladder. If implemented in practice, it helps to move youth involvement in climate action beyond tokenism to genuine empowerment, allowing young people to significantly contribute to and shape the future of climate resilience and sustainability and take advantage of the wider benefits thereof.

3. Context and methodology

3.1. Climate change in Ghana

The impacts of climate change in Ghana are already notable on the agriculture, water resources and health sectors and particularly in coastal regions, with projections indicating worsening conditions if extensive mitigative actions are not taken.

In agriculture, the sector's sensitivity stems from its dependence on rainfall, making it highly susceptible to changes in precipitation patterns and temperature. Currently, Ghana faces reduced crop yields, which is significantly attributable to irregular rainfall, prolonged droughts and increased temperatures. These climatic changes have led to a decline in staple crops such as maize and millet and directly impact food security. Projections suggest that if global warming trends continue, crop yields could decline significantly by 2080, further exacerbating food insecurity. Although cassava and groundnuts are more resilient to climatic extremes, they may also face challenges (Asare-Nuamah & Botchway, 2019; Bandanaa et al., 2016).

For water resources, even though overall precipitation levels are not expected to change drastically, increased temperatures and population growth will reduce per capita water availability. This decline is expected to be most severe after 2050, especially in northern Ghana where drought is already driving climate induced migration. As temperatures are expected to increase between 1.7 to 3.7°C by 2080, the frequency and intensity of droughts are likely to increase (Desjonquieres et al., 2024).

In terms of health, rising temperatures and increasing frequency of heatwaves are leading to higher incidences of heat-related illnesses and mortality. The population exposed to at least one heatwave per year is projected to rise from 5% in 2000 to 19% by 2080. Moreover, climate change exacerbates the spread of vector-borne diseases, such as, malaria, which remains the most reported OPD (out-patient department) case in health facilities, and dengue fever, particularly in the northern regions (Heuschen et al., 2022).

Historical data is also showing that Ghana's physical infrastructure is highly vulnerable to extreme weather events, such as through damage to roads, bridges and sewage systems due to floods and storms. For instance, in 2007, extreme weather events led to the destruction of 1,016 km of roads, the collapse of 13 bridges and damage to 442 sewers in northern Ghana alone (Desjonquieres et al., 2024). Future projections suggest that these trends will continue, and infrastructure will become increasingly susceptible to damage from higher temperatures and more intense rainfall.

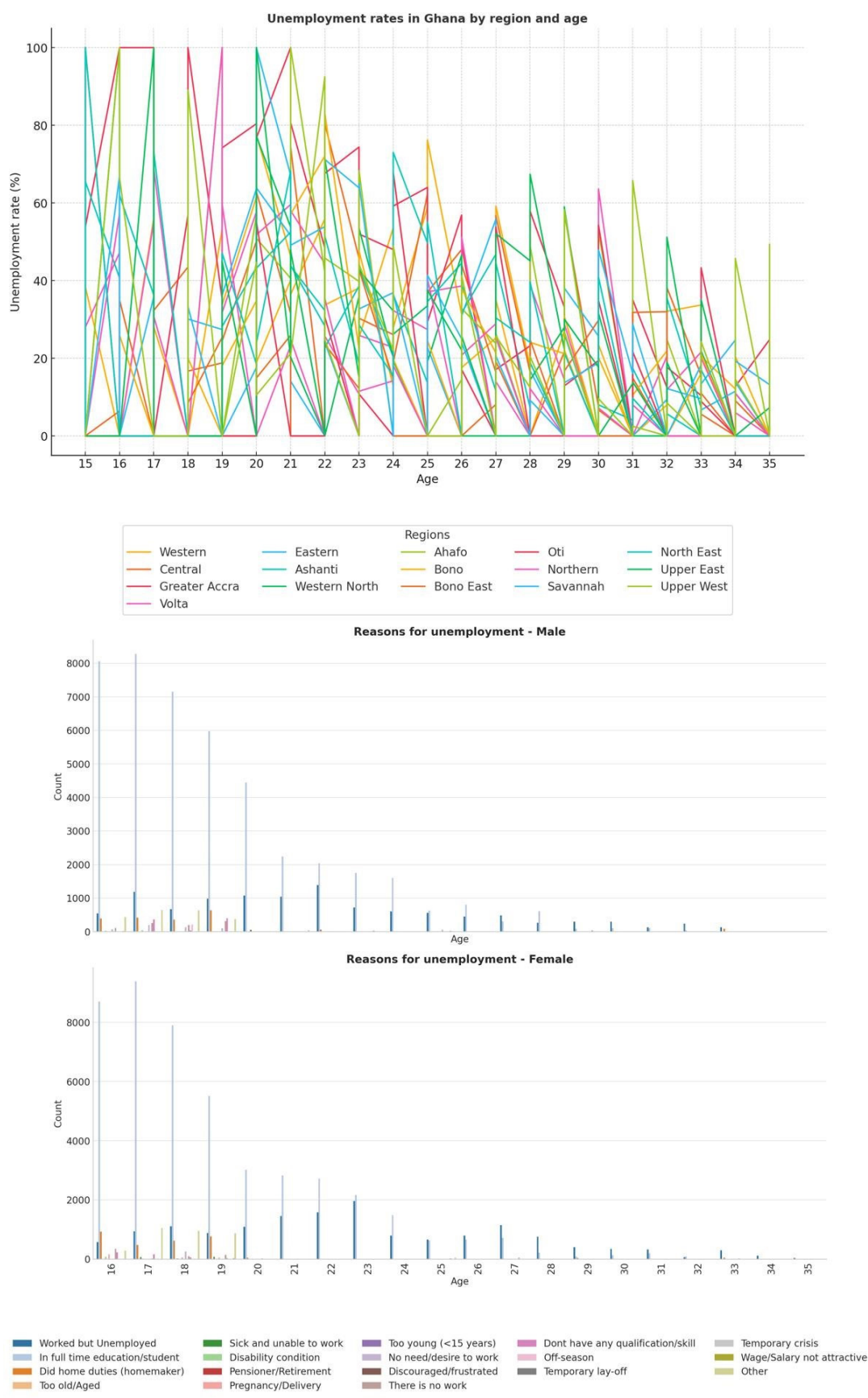
Especially in coastal areas, like Sharma and Keta, devastating impacts through sea level rise and coastal erosion are verifiably visible. By 2080, sea levels are expected to rise by 39 cm under the high emission scenario (RCP6.0). This rise will worsen coastal erosion, cause flooding and as well the salinization of freshwater resources which will endanger coastal communities and their infrastructures. The economic and social costs of these impacts will be substantial (IPCC, 2022).

3.2. Youth, employment and vulnerability in Ghana

There is significant regional, gender and age-based disparities in based on data from the Ghana Statistical Service. Unemployment rate across all regions and ages in Ghana is approximately 17%. The Greater Accra (21%) and Ashanti (24%) regions exhibit the highest average unemployment rates. The rate in the Central region (8%) is also notably high, while regions like Western North, Bono and Savannah report lower rates or missing data.

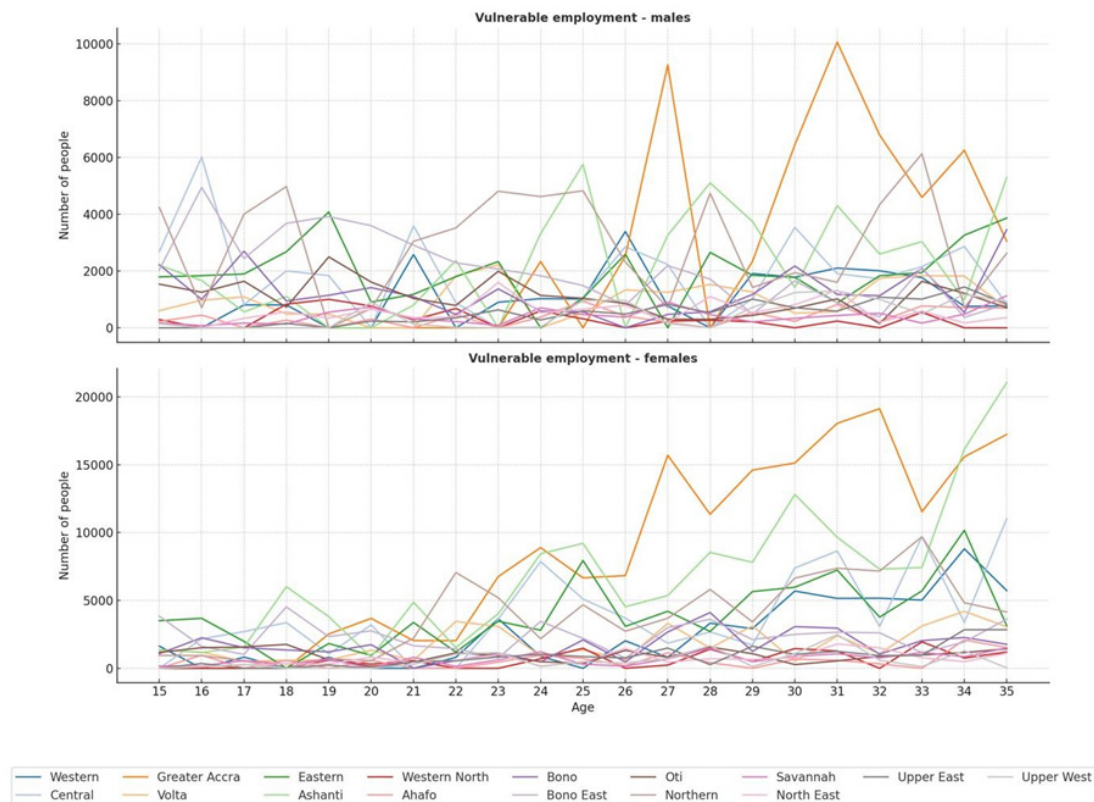
Female youth face particularly high unemployment, especially in regions like Greater Accra and Ashanti (fig. 2).

Figure 2. Youth unemployment in Ghana (source: Annual Household Income and Expenditure Survey (AHIES)).



Beyond being in full-time education (90%), lack of available work (6%) and performing home duties (2%) are the main reasons reported for being unemployed for many youths in Ghana (fig. 3). Expectedly, younger age groups, such as 15-year-olds, show high unemployment due to being in full-time education or being students (91%). Other 15-18-year-olds report unemployment due to doing home duties (or being homemakers) (3%). Reasons like “too old/aged,” “sick and unable to work” and “disability condition” are more relevant in older age groups. Urban areas generally have higher counts for “in full-time education/student” (100%), while rural areas show higher counts for domestic duties. Gender differences reveal higher education-related inactivity for males and higher domestic duties for females, especially in rural areas.

Figure 3. Youth in vulnerable employment (source: Annual Household Income and Expenditure Survey (AHIES))

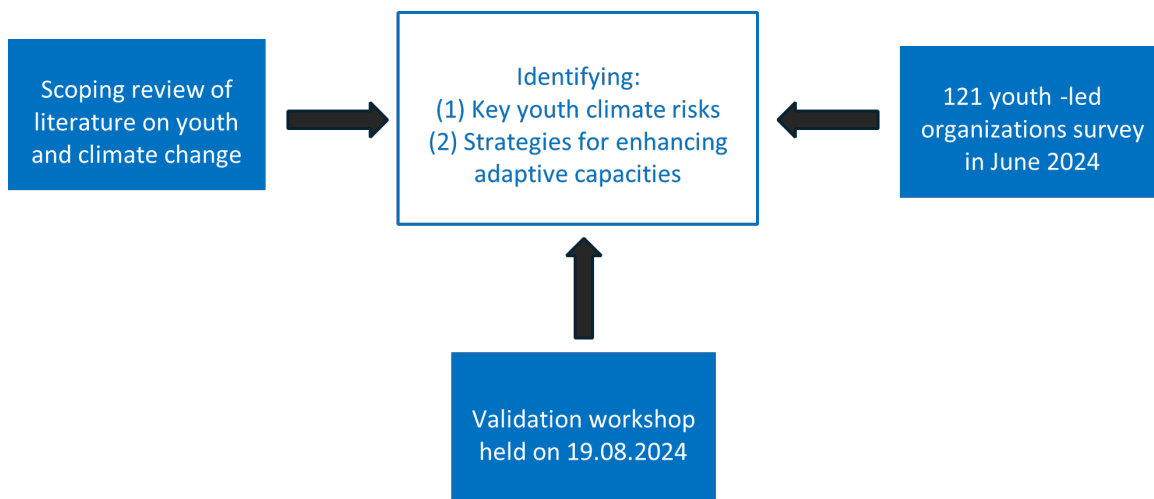


Additionally, a significant number (64%) of the youth population is engaged in vulnerable employment, where workers are more likely to have insecure working conditions, low remuneration and little or no social protections, such as health insurance or unemployment benefits. Rural areas (28%) exhibit a notable percentage of vulnerable employment, compared to urban areas (13%). Younger age groups (15-19) face a significant vulnerability (19%), while older age groups (20-35) show an increasing trend (82%) in vulnerable employment. Furthermore, many young people are entering the informal sector, which accounts for 75% of the work force (UNDP, 2024). Such young people face vulnerabilities, like unfavourable weather conditions, vehicular dangers and exploitation from employers and customers due to lack of written work contracts (Yeboah et al., 2015). Also, those with disabilities are further disadvantaged due to inaccessible infrastructure, including work spaces and accommodation; timely and inclusive information; as well as inadequate laws, policies and protections (Caminiti, 2024). Others face difficulties in accessing health care, including unpleasant attitudes of health providers and poor organization of health systems in terms of equitable access for the poor (Akazili et al., 2018). Some young people that attempt to navigate their pathways by acquiring skills for informal self-employment are often constrained by the lack of structures in such training efforts and the difficulties with obtaining start-up capital (Lamptey & Debrah, 2018).

3.3. Research approach and data collection

The research approach was mixed-methods design. Data collection involved multiple methods to ensure a robust and comprehensive dataset. First, a desktop review was conducted, scoping existing literature on youth and climate change adaptation in Ghana and assessing secondary data from the Ghana Statistical Service (<https://statsbank.statsghana.gov.gh/index.html>) to understand youth demography dynamics. The desktop review also included a mapping of youth-led climate organizations (organizations, groups and movements initiated and run by young people who are passionate about addressing climate change) working in Ghana and some of the activities they are engaged in. This provided a foundational understanding of the context and identified key focus areas for the study. The data from the Ghana Statistical Service helped to identify the regions that should be given priority. Next, online surveys were disseminated to individuals working with or leading youth-led climate and sustainability organizations across Ghana (fig. 4). These surveys helped to gather detailed information on their activities and opinions for enhancing youth climate adaptive capacities.

Figure 4. Methodological approach.



3.4. Data analysis and presentation

The data collected from the surveys, which were collected using semi-structured questionnaires, were analyzed using a combination of frequency and descriptive statistics, as well as thematic analysis. Frequency and descriptive statistics were performed to visualize the trends and patterns in the data. This statistical analysis provided a clear overview of the most prevalent issues and characteristics of youth-led climate organizations in Ghana. Additionally, thematic analysis was conducted to explore the qualitative data in depth. This involved identifying and analyzing key themes within the interview transcripts and open-ended survey responses.

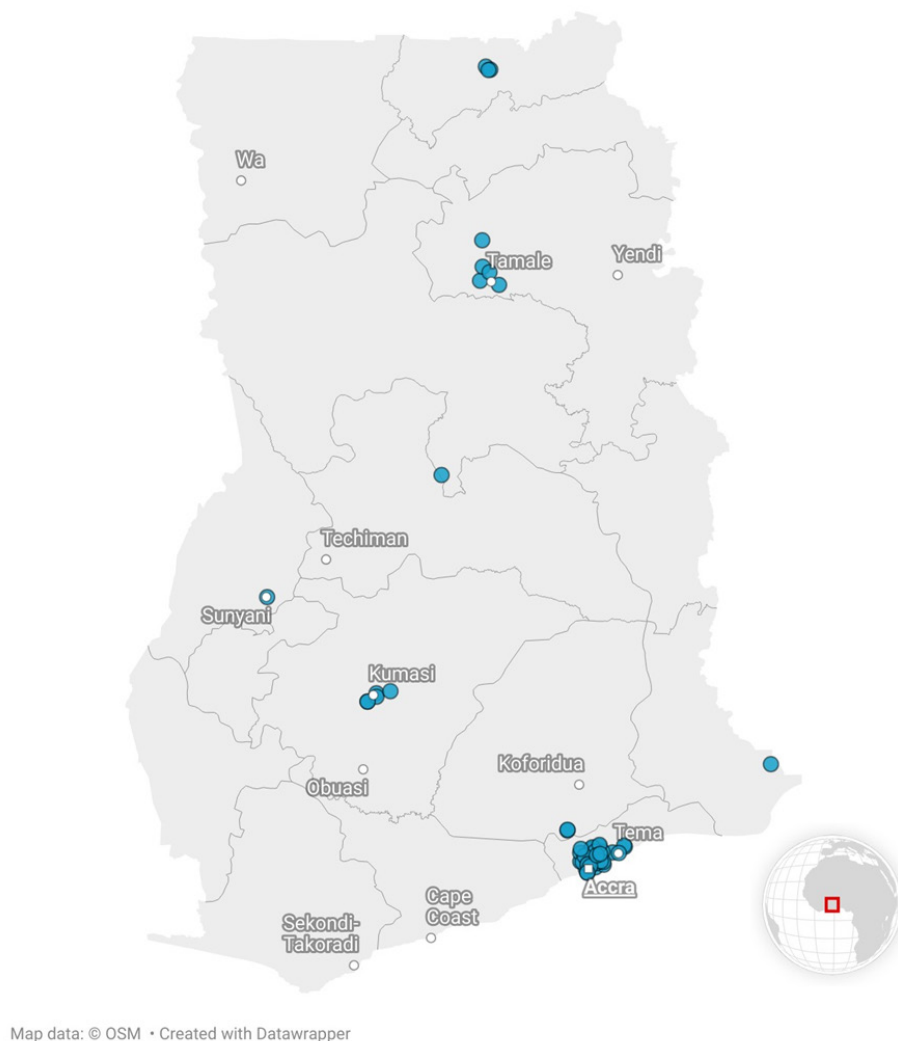
The preliminary results were then presented to a workshop attended by over fifty young people involved in youth climate action as practitioners, researchers, advocates among others on August 19, 2024. At the workshop, the preliminary results and strategies contained in this plan were presented for validation and feedback were documented by the workshop facilitators. These feedbacks were then integrated into the draft plan.

4. Mapping of youth climate organizations in Ghana

4.1. Overview of youth-led organizations

Youth-led climate and sustainability organizations in Ghana (fig. 5) are diverse and dynamic in terms of the range of thematic areas they focus and the range of activities they engage in. In a broad sense, this reflects a comprehensive approach to environmental conservation and sustainable development. Thematic areas prominently include expected areas like youth empowerment, climate action and environmental education, but also areas like waste management, biodiversity conservation, and sustainable living (habits and practices). Their activities range from tree planting, clean-up campaigns and educational workshops to policy advocacy, leadership training and capacity building. Many organizations engage in hands-on community projects and environmental awareness campaigns, while others focus on innovative solutions, like mobile recycling services and climate entrepreneurship. This broad scope of activities highlights a strong commitment among Ghanaian youth to address various environmental challenges and promote sustainable practices through multifaceted strategies and grassroots engagement, also including exploring green business opportunities.

Figure 5. Map of youth-led organizations working in climate change and/or sustainability



5. Assessment of climate risks and vulnerabilities

This section presents results from the data that detail the risks and vulnerabilities to climate and as well how young people in Ghana are responding to these impacts of climate change.

5.1. Impact of climate change on youth in Ghana from survey

1. Health impacts

The reported health impacts of climate change on youth in Ghana were both physical and mental. The increasing temperatures and rising levels of air pollution in Ghana, as reported, significantly impact the physical health of young people. They are more susceptible to heat stress and respiratory issues, such as asthma and bronchitis. As temperatures have increased in Ghana, the incidence of heat rashes, hyperhidrosis (excessive sweating), heat exhaustion and heatstroke among youth were reported to have spikes, affecting their daily activities and overall well-being. During heatwaves, young people are particularly vulnerable, with many experiencing symptoms that require medical attention. Especially in Accra, heatwaves have caused numerous cases of heat-related illnesses.

In terms of the mental health impacts, young people are faced with increased anxiety, stress and climate-related trauma due to the constant threat of extreme weather events and environmental degradation. Many young Ghanaians expressed feelings of helplessness and fear about their future having witnessed some of the direct impacts of climate change on their communities.

2. Educational disruptions

Extreme weather events like floods and storms frequently disrupt schooling in Ghana. These events damage educational infrastructure, making it difficult for students to attend classes regularly. Particularly, regions such as the Northern and Volta have schools often forced to close temporarily after heavy rains and interrupting the academic calendar and consequently, students' learning outcomes.

Besides, the allocation of resources to disaster recovery and response detracts from educational funding and support. Government and community resources that could have been used to improve educational facilities and programs are mostly redirected to repair damaged infrastructure and provide emergency relief, which limits the quality of education.

3. Economic and employment challenges

Agriculture is one of Ghana's most important economic sectors and with many young people depend on the value chain for their livelihoods. Unpredictable rainfall patterns, prolonged droughts and extreme weather events disrupt agricultural activities and lead to reduced crop yields and food insecurity. As indicated, young farmers in the northern regions and as well Brong-Ahafo and Ashanti have reported significant losses in income due to these climate-induced challenges. In the coastal and fishing areas in Greater-Accra, Central, Western and parts of Volta region, warming ocean temperatures and other unpredictable weather patterns have reportedly led to declines in fish stocks. These realities affect the livelihoods and incomes of tens of thousands of young people.

As food and fish yield declines, together with other disruptions in economic instability due to climate change leads to increased food prices and cost of living. Young people, especially those from low-income families, struggle to afford basic necessities, further exacerbating their economic hardships. In major cities such as Accra, the rising cost of living due to food and water scarcity disproportionately affects the youth and many have reported how impossible decent living is.

4. Social and environmental displacement

Some of the impacts of climate change reported were related to physical displacements and climate-induced migration resulting from the rising sea levels and increasing hazards like floods. In coastal areas like Ada and Keta, young people and their families have been forced to relocate due to flooding and coastal erosion, which has disrupted their lives and education.

Usually, there are disruptions in communities where young people are forced to migrate as there are social upheavals and strains on destination community resources. As displaced populations, mostly young people, move into new areas, the pressure on local resources such as water, food and shelter increases, leading to conflicts and social tensions. Young people often bear the brunt of these disruptions and face challenges in integrating into new communities and accessing basic services.

5. Food and water insecurity

As adverse weather conditions negatively impact crop yields, they lead to hunger and malnutrition among young people beyond economic challenges. In very agrarian regions like the Upper East and Upper West, droughts and erratic rainfall have resulted in poor harvests, exacerbating food insecurity and malnutrition rates among children and adolescents.

On the other hand, water scarcity due to prolonged droughts and changing rainfall patterns affects daily life and agricultural activities. In rural areas, young people often spend significant time fetching water from distant sources, reducing the time available for education and other productive activities. Additionally, water scarcity impacts agricultural productivity, further aggravating food insecurity.

6. Environmental and social inequities

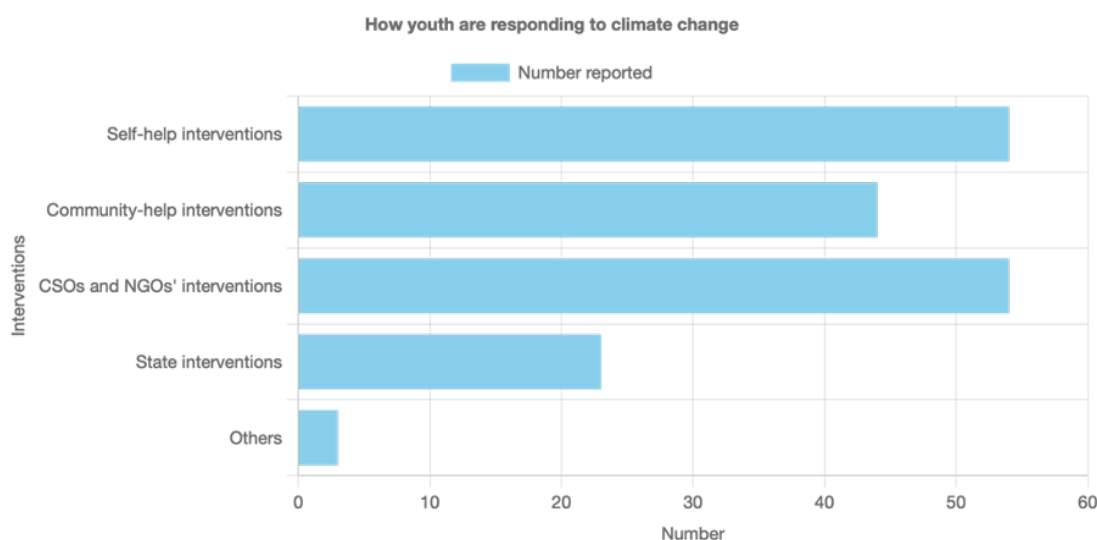
Climate change was also reported to be deepening some existing inequalities. Marginalized youth, including those from low-income families and rural areas and are already disadvantaged through limited access to resources, education and opportunities, face heightened risks and vulnerabilities. They are disproportionately affected, yet with fewer resources to adapt to climate change.

5.2. How youth are responding to the impacts of climate change

The survey results indicate that Ghanaian youth are actively responding to climate change through various strategies. A significant 53% engage in self-help initiatives and rely on interventions by Civil Society Organizations (CSOs) and Non-Governmental Organizations (NGOs). These efforts include individual and household actions, such as improving energy efficiency and adopting sustainable agricultural practices, supported by resources and training from these CSOs and NGOs.

Community-help interventions are also prevalent (fig. 6). Some youth (43%) participate in communal labor and community-based efforts to address climate-related issues. Such efforts range from tree-planting activities, desilting drains and building flood defenses with sandbags to enhance community resilience.

Figure 6. How youth are responding to climate change (source: online survey)



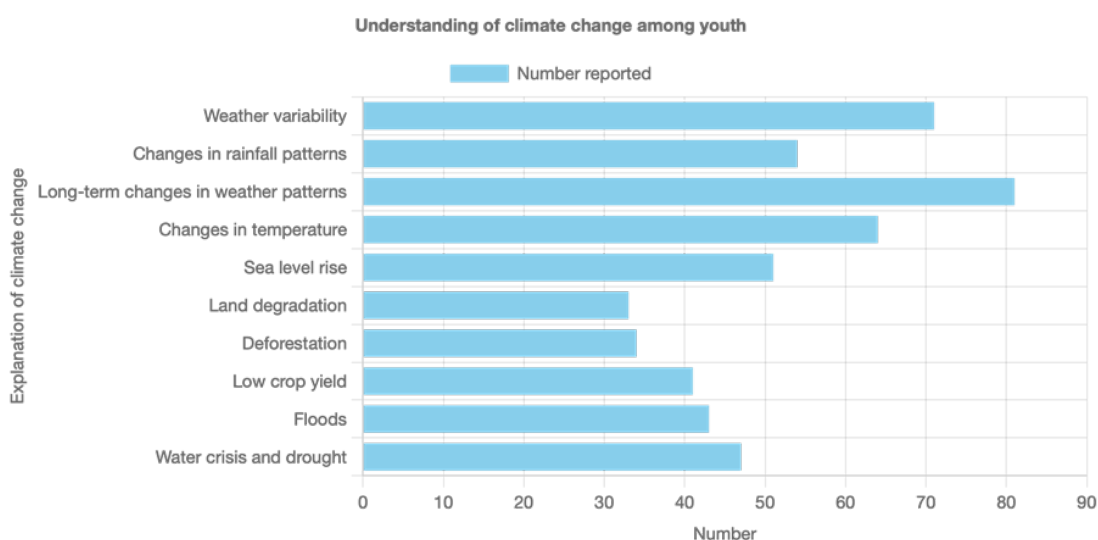
Economic and livelihood responses, such as the adoption of greenhouse farming techniques, are gaining traction, especially major cities like Accra and Kumasi. These methods improve crop yields despite climate challenges, offering both adaptation and economic opportunities for young people.

However, only 23% of youth receive support from national and local governments, indicating a significant gap in governmental support. This suggests a need for increased and more effective governmental policies and programs to support youth-led climate adaptation efforts.

5.3. Perceptions on climate change and harnessing opportunities

The survey results reveal that a significant 79% of respondents associate their understanding of climate change with long-term changes in weather elements observed over time, revealing a sound understanding of the climate change phenomenon. Also, the data indicates other notable associations with climate change, such as changes in temperature (83%) and weather variability (70%), reflecting a broad understanding of various climate-related phenomena among the respondents (fig. 7).

Figure 7. How youth understand climate change (source: survey).



The survey results indicate that an overwhelming 80% of respondents perceive significant opportunities arising from climate change for adaptation. Among these, innovation and technological development stand out prominently. Many respondents highlighted the production of environmentally friendly products, such as, bags and shoes made from recycled materials, and as well, the development of green technologies, including advanced recycling processes, water-to-energy technologies and electric vehicles. These innovations are seen not only as avenues for reducing environmental impact but also as catalysts for new job creation in roles like product designers, renewable energy engineers and sustainability consultants.

Table 1. Reported opportunities that can be generated from climate change.

Category	Opportunities	Description	Examples of jobs/ opportunities
Innovation and technological development	New products and services	Development of climate-smart products like renewable bags and shoes.	Product designers, manufacturing technicians, marketing specialists
	Green technologies	Advanced recycling processes, water-to-energy technologies, carbon capture, electric vehicles, and energy storage.	Renewable energy engineers, carbon capture specialists, electric vehicle technicians, energy storage analysts
	Sustainable solutions	Tailored solutions to prevent tipping points in climate change.	Climate scientists, environmental engineers, sustainability consultants
Economic and employment opportunities	Job creation	New jobs in renewable energy, climate advocacy, consultancy, and project management.	Solar panel installers, wind turbine technicians, climate policy analysts, project managers
	Green entrepreneurship	Opportunities for businesses in renewable energy, eco-friendly products, and green financing	Green business owners, ecofriendly product developers, sustainable finance advisors
	Climate funding and finance	Grants and financial support for climate mitigation and adaptation projects.	Grant writers, financial analysts, environmental fund managers
Research and education	Study and research opportunities	New avenues for researchers to develop innovative solutions and study climate impacts.	Climate researchers, environmental scientists, data analysts
	Educational programs	Opportunities for young people to learn about sustainability and climate change mitigation.	Sustainability educators, curriculum developers, training coordinators
	Knowledge sharing and skill acquisition	Capacity building, networking, and professional development in climate-related fields.	Workshop facilitators, professional development coordinators, network managers

Policy and governance	Policy adaptation	Development and implementation of climate policies to support sustainable growth.	Policy advisors, environmental lawyers, government officials
	Climate negotiation and advocacy	Roles for individuals as climate negotiators, activists, and policy advocates.	Climate negotiators, environmental advocates, non-profit directors
	Youth engagement in local governance	Facilitating structured youth involvement in local governance by NDPC and MMDAs through training, mentorship, and access to decision-making platforms.	Youth coordinators, governance mentors, local governance advisors
Agriculture	Climate-smart agriculture and Agroecology	Integration of sustainable practices like crop rotation, agroforestry and conservation tillage to enhance soil health, water use efficiency and crop resilience.	Agricultural scientists, soil health consultants, organic farmers
	Agri-tech innovation	Application of IoT, AI, and big data to optimize precision farming, improving yields and reducing waste through smart irrigation systems, drones, use of solar power and bioenergy in farming to reduce carbon footprint and automated machinery.	Precision agriculture technicians, agri-tech developers, drone operators, bioenergy engineers, solar equipment technicians
Sustainable development and environmental restoration	Renewable energy growth	Expansion of renewable energy sources like solar, wind, and hydroelectric power.	Renewable energy technicians, solar farm managers, hydroelectric engineers
	Climate-resilient infrastructure	Development of green buildings, smart grids, and flood-resistant structures.	Green architects, civil engineers, infrastructure planners
	Eco-tourism and conservation	Promotion of sustainable tourism and biodiversity conservation.	Eco-tourism guides, conservation biologists, park rangers

Community and global cooperation	Networking opportunities	Collaboration among communities, states, and countries for climate action.	Community organizers, international relations specialists, collaboration coordinators
	Inclusiveness and unity	Opportunities for global cooperation in addressing climate change challenges.	Global initiative coordinators, climate diplomats, international NGO workers
	Local and global impact	Enhancing the development of regions through technological innovation and sustainable practices.	Development specialists, technology transfer experts, sustainable development consultants

Economic and employment opportunities are also a key focus, with respondents identifying job creation in renewable energy sectors, climate advocacy, green entrepreneurship and Agri-business as critical areas for growth (table 1). Jobs like solar panel installers, green business owners and sustainable finance advisors were frequently mentioned. Additionally, the availability of climate funding and finance through grants and financial support for curating mitigation and adaptation projects offers further employment and business opportunities, particularly in project management and environmental fund management.

Furthermore, research and education are seen as pivotal in addressing climate change, with new study and research opportunities for developing innovative solutions and educational programs aimed at teaching climate change and sustainability. Respondents also emphasized the importance of policy and governance. On that, roles in climate policy, climate negotiation and advocacy were underlined. The development of climate-resilient infrastructure and the promotion of eco-tourism and conservation were also noted as critical areas for sustainable development. Surprisingly, community and global cooperation emerged as significant, with many respondents pointing to the potential for local and international collaboration in climate action to enhance global inclusiveness and unity.

5.4. Implications for youth adaptation in Ghana

The survey on the impact of climate change on youth in Ghana highlights severe health, educational, economic and social challenges. For example, the increasing temperatures along with air pollution cause higher incidences of heat stress, respiratory conditions and heat-related illnesses, especially in Accra, while mental health is compromised by anxiety and trauma from the constant threat of extreme weather events. These trends reflect broader African patterns where climate change exacerbates health problems and intensifies mental health issues (Bikomeye et al., 2021; Negev et al., 2019). Educational disruptions are significant, with floods and storms damaging infrastructure and frequent school closures in many regions, which are further strained by redirected disaster recovery resources. Economically, unpredictable rainfall, prolonged droughts and extreme weather events devastate agriculture and fishing and result in significant income losses, higher food prices and increased food insecurity (Bandanaa et al., 2016; IPCC, 2022). Socially, displacement caused by rising sea levels and floods disrupts lives, education and even culture and heritage, increasing conflicts and social tensions and reflecting wider African issues of precarious agricultural livelihoods and economic losses due to climate change (Sanni et al., 2022). These harsh realities re-emphasize how young people are disproportionately more vulnerable to climate change, hence, the need for their targeted support and hastened climate adaptation.

But by their own initiative, Ghanaian youth (53%) are actively responding to climate change through various self-help strategies (e.g., individual and household actions, such as improving energy efficiency and adopting sustainable agricultural practices). There are community-based interventions through involvement in communal labor to desilt drains, tree-planting and building flood defenses. Economic and livelihood responses, like adopting greenhouse farming techniques, are also gaining popularity, especially in cities like Accra and Kumasi. These methods improve crop yields despite climate challenges, offering both adaptation and economic opportunities. The support of CSOs and NGOs has also been immense, whether through learning about improving energy efficiency or adopting sustainable agricultural practices. However, only 23% of youth receive support from national and local governments, indicating a significant gap in governmental support for youth to adequately adapt to climate change.

Despite this, most youths (80%) can appreciate the opportunities that emerge through climate change as well, particularly in innovation and technological development. There is recognition for the environmentally friendly products and green technologies that emerge with new job roles like product designers, renewable energy engineers and sustainability consultants. Economic opportunities in renewable energy, climate advocacy, green entrepreneurship and Agri-business are critical for growth, supported by climate funding and finance for mitigation and adaptation projects. Research and education also offer new avenues for developing innovative solutions and educational programs focused on sustainability, with roles in climate policy, negotiation and advocacy driving systemic change. The development of climate-resilient infrastructure and promotion of eco-tourism are essential for sustainable development (Kumi et al., 2018). Additionally, community and global cooperation, leveraging global youth networks and partnerships with NGOs and businesses, can enhance local and international climate action, fostering inclusiveness and unity. These reveal the awareness that young people have about the countless opportunities they can harness; however, they require dedicated financial and institutional support to take advantage and improve their resilience to climate change.

5.5. Take-away points

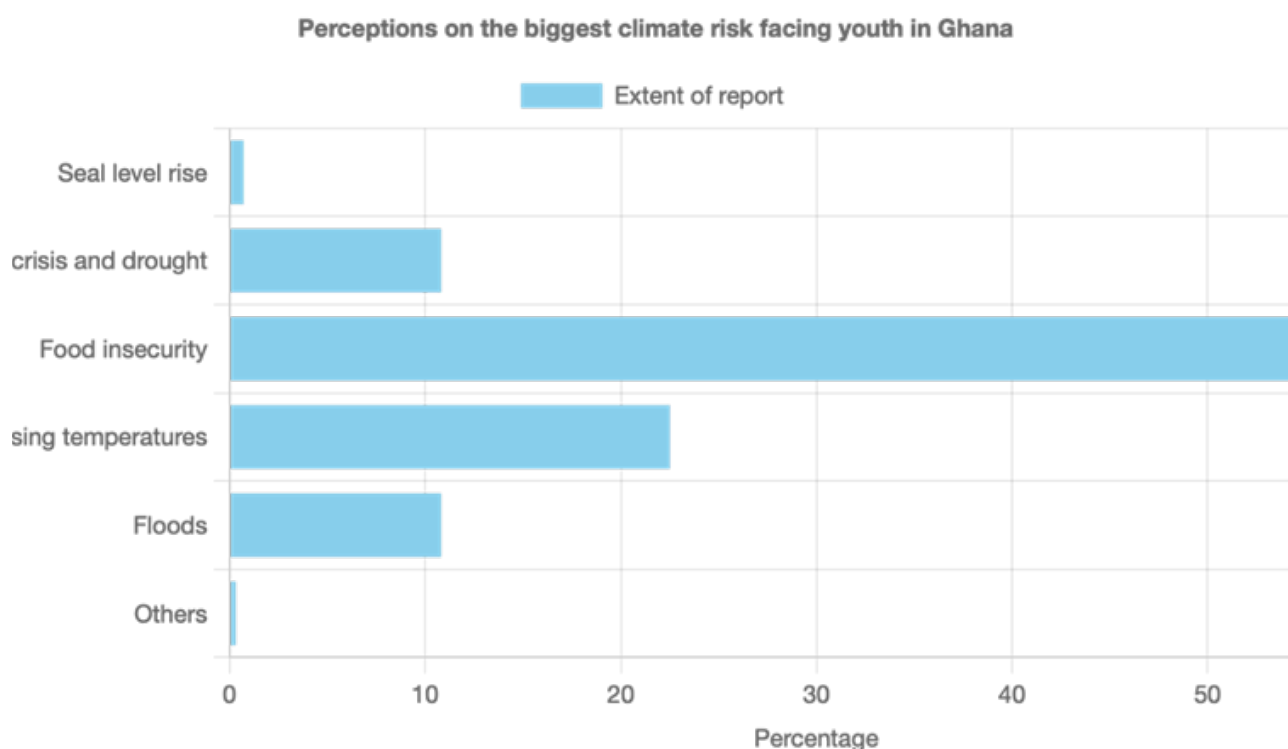
- Climate change is a current reality impacting Ghanaian youth on multiple fronts: health, education, economy, and social stability.
- Ghanaian youth are showing resilience and innovation in their responses to climate challenges.
- There is a pressing need for more robust and targeted governmental support to enhance youth-led climate adaptation efforts, which will significantly determine the future success of Ghanaian youth in adapting to climate change
- Ghanaian youth are generally aware and poised to harness the opportunities presented by climate change, such as green jobs, entrepreneurship and technological innovation to drive sustainable development and climate resilience.
- Enhancing global and local cooperation, including partnerships with NGOs and businesses, is crucial for effective climate action and inclusiveness, especially, funding.
- Ghanaian youth have the potential to become leaders in the global fight against climate change, provided they receive adequate support and resources.

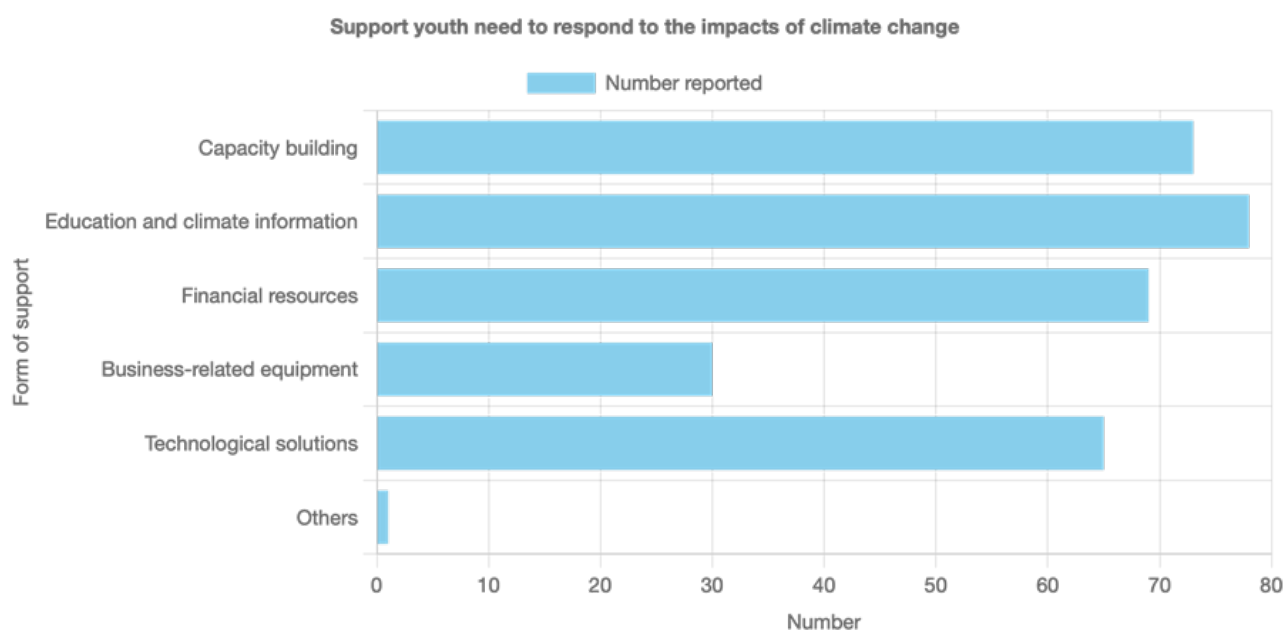
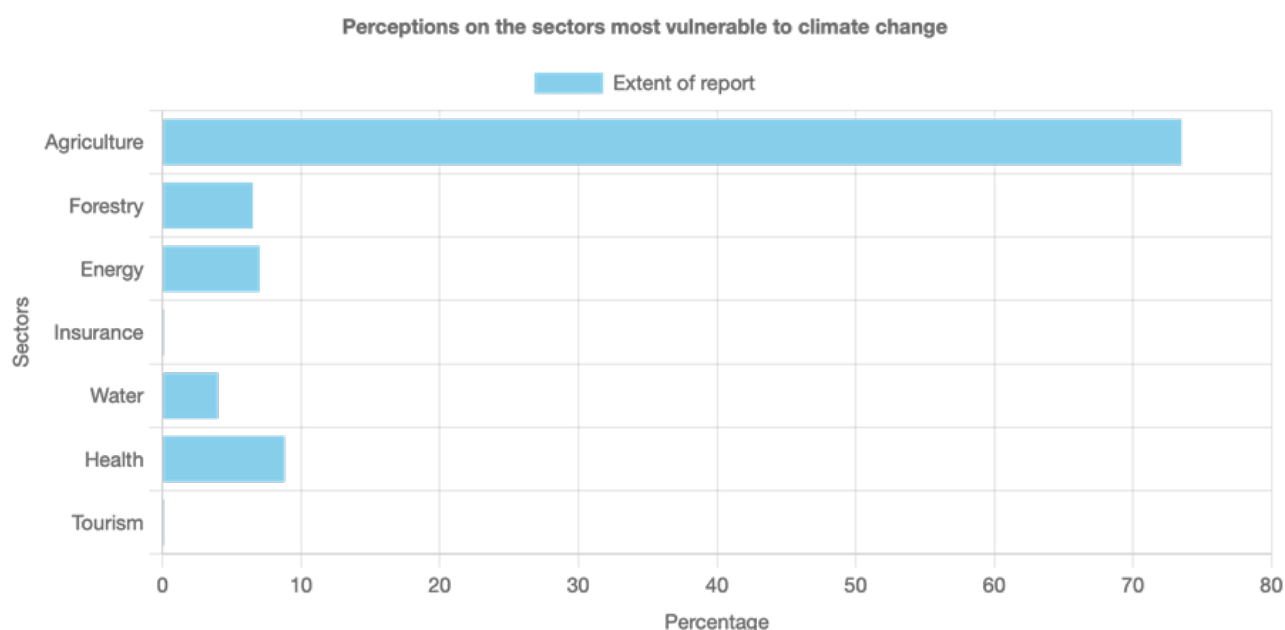
6. Adaptation priority areas

6.1. Priority areas

In identifying adaptation priority areas, 55% of young people in Ghana consider food insecurity as the biggest climate risk, with 74% considering the agricultural sector as the most vulnerable to climate change. This significant concern likely stems from agriculture being a cornerstone of Ghana's economy and the primary source of livelihood for the majority of the labor force, especially in rural communities. Impacts like unpredictable rainfall, prolonged droughts and extreme weather events directly threaten crop yields and food production, leading to increased food prices and widespread hunger. The agricultural sector's vulnerability is exacerbated by the reliance on rain-fed farming and small-holder farming on 0.5 to 2 hectares of lands or less. More broadly, this indicates a threat to job and livelihood security. Economic instability from reduced crop yields and declining fish stocks not only affects food availability but also leads to significant income losses, disproportionately impacting low-income families and exacerbating poverty. Respondents also highlight the need for education and climate information (77%), capacity building (72%), financial resources (68%), technological solutions (64%) and business-related equipment (29%) to effectively respond to climate change impacts (fig. 8). Health and job security are critical areas, as climate change intensifies health issues through higher temperatures and increased pollution, leading to respiratory problems, heat stress and the spread of vector-borne diseases like malaria. These health impacts are particularly severe for young people, many of whom already face limited access to proper healthcare. Prioritizing these areas is essential for building resilience and ensuring the well-being of Ghanaian youth against climate change.

Figure 8. Perceptions of youth on climate change (source: online survey)





6.2. Implications for policy and planning

The insights from the survey on the impact of climate change on youth in Ghana underscore the need for strategic planning and policy interventions that address both immediate and long-term challenges faced by young people. Recognizing the severe health, educational, economic and social impacts, it is crucial for policymakers to prioritize comprehensive climate adaptation and mitigation strategies that are inclusive and youth centered.

Firstly, planning and policy must focus on enhancing the resilience of the agricultural sector, given that the majority of young people identify it as the most vulnerable to climate change. Northern Ghana is particularly vulnerable due to extreme heat, water scarcity and high poverty rates. The regions in this part of the country require targeted interventions, such as investment in agroecology, climate-smart agriculture, promoting drought-resistant crops, and advanced irrigation systems. Supporting young farmers with training and resources to

adopt sustainable practices can mitigate income losses and boost agricultural productivity. Additionally, policies should promote green entrepreneurship in agriculture, including ventures like organic farming, aquaponics and agroforestry, which not only adapt to climate impacts but also create economic opportunities (Leakey, 2017). Successful case studies of these initiatives exist, and the focus should be on scaling them up.

Health and job security also emerge as critical areas, particularly in highly populated cities, such as Accra and Kumasi, where heat stress and respiratory conditions are prevalent (Desjonquieres et al., 2024). Policymakers need to address the direct health impacts of climate change by improving healthcare infrastructure and services in these areas. Mental health support systems should be strengthened to help young people cope with the anxiety and trauma associated with extreme weather events (Bikomeye et al., 2021). On the job front, fostering industries that offer green jobs, such as renewable energy and waste management, can provide stable employment while contributing to environmental sustainability. Government policies should incentivize the growth of these sectors through subsidies, tax breaks and grants, making it easier for young entrepreneurs to enter and thrive in these emerging markets (Kantis et al., 2020).

Educational resilience is also a priority for deepening self-help initiatives and young people's ability to better adapt to climate change. Integrating climate change education into curriculums at all educational levels and in non-environmental courses of study, including health, will equip young people with the knowledge and skills needed to navigate and address climate challenges (Manteaw et al., 2022). Enhancing research opportunities and supporting educational programs focused on sustainability can drive innovation and systemic change. This should also go beyond conventional classroom-based learning as climate change is place-based (Hess et al., 2008). Policies that promote interdisciplinary studies and research, including providing grants, fostering networking and organizing symposia for climate-related research will encourage young researchers to develop innovative solutions and contribute to global climate action (Hein et al., 2018).

Figure 9. Areas to prioritize based on the impacts of climate change in Ghana and youth vulnerabilities. (source: summarized based on data from Annual Household Income and Expenditure Survey (AHIES)) and (Desjonquieres et al., 2024).

Northern Ghana regions: Northern, North East, Savannah, and Upper West

Key vulnerabilities: Extreme heat, water scarcity, poverty, limited infrastructure and flood risks Highest unemployment among 25–32-year-olds

Southern Ghana regions: Greater Accra, Volta, Central, Western, and Ashanti regions

Key vulnerabilities: Flooding, rainfall variability, air pollution, extreme weather events and high dependency on agriculture

Highest unemployment among: 18–26-year-olds

Beyond self-help efforts, national and local governments must bridge the current support gap in practice, as only 23% of youth currently receive governmental assistance for climate adaptation. Strengthening collaborations with CSOs and NGOs can amplify efforts and resources available for youth-led initiatives. Additionally, fostering community and global cooperation is essential. Leveraging global youth networks and partnerships with international organizations can enhance knowledge sharing, capacity building and joint climate action to foster inclusiveness and unity. Furthermore, prioritizing regions and demographics based on a combined index of unemployment rates, reasons for unemployment and climate vulnerability (fig. 9) will ensure that the most affected youth receive the support they need to build resilient futures.

6.3. Take-away points

- Prioritize support for young farmers through agroecological entrepreneurship and climate-smart agriculture initiatives, especially in Northern Ghana to mitigate income losses and enhance productivity.
- As health risks are most prevalent in more populated cities (Accra and Kumasi), accessible healthcare infrastructure and green job industries should be prioritized in these areas.
- Climate change and sustainability education should be integrated into curriculums, including non-environmental programs, and efforts be made to enhance research opportunities to equip youth with skills for addressing climate challenges.
- Strengthening collaborations with CSOs, NGOs and global networks can help to optimize resources and knowledge for youth-led climate adaptation initiatives.

7. Policy framework for youth engagement

7.1. Existing framework for youth engagement

Ghana has several frameworks, policies and programs for engaging youth in various sectors, including education, employment and civic participation, for national development. Key among these is the National Youth Policy, initially introduced in 2010 and revised in 2022. The National Youth Policy aims to provide a framework that supports the development and empowerment of young people in Ghana. This includes empowering young people through education, skills development and creating opportunities for meaningful participation in governance and decision-making processes (Dadzie et al., 2020). The policy further aims to ensure that young people are actively involved in shaping national and local policies and programs, more so, those that affect their lives. There is also the National Youth Authority (NYA), which is the primary governmental body responsible for coordinating youth activities in Ghana pertaining to youth development programs, skills training, entrepreneurship and leadership initiatives. Moreover, Ghana is a signatory to the African Youth Charter (2006) which equally emphasizes the importance of active youth participation in all spheres of national governance. Additionally, various youth organizations and networks operate at local, regional and national levels to provide platforms for youth engagement in community development.

7.2. Existing framework for youth engagement on climate adaptation

Specific to climate change adaptation in Ghana, the National Adaptation Plan Framework (NAPF) acknowledges youth as important stakeholders and their critical role in building resilience and addressing climate impacts. Chapter 11 of the NAPF outlines the need for involving young people in the national adaptation planning process and identifies various ways to engage youth effectively. Despite this recognition, there are significant gaps in the implementation of these frameworks, such as

1. Low awareness and capacity on how to meaningfully participate in climate adaptation initiatives; hence, more comprehensive education and training programs are needed.
2. Inadequate financial support through the limited access to funding and resources, which hampers the ability of youth-led projects to scale and make a significant impact.
3. Limited representation through unequal access to decision-making spheres, with their participation being limited to ground-level activities rather than strategic planning and policy development.
4. Apathy and disengagement, including some youth showing apathy towards climate issues, often due to a lack of motivation or awareness of how the phenomenon affects them.

7.3. Best practices for youth climate engagement

Several countries have implemented successful frameworks for youth engagement in climate change adaptation, which Ghana can learn from. A few are spotlighted below.

1. Sweden: The Swedish Youth Climate Council was established in 2018 and provides a platform for young people to participate in national climate policymaking. The council is composed of youth representatives who engage directly with policymakers and government officials. They participate in discussions and decision-making processes, ensuring that youth perspectives are considered in national adaptation plans.
2. Germany: The German Federal Environment Ministry's Youth and Environment Program (Jugendprogramm), supports youth-led environmental projects with funding (about 4 million euros

annually), resources and mentorship. This program empowers young people to take on leadership roles in climate adaptation by providing them with the necessary tools and support to implement their projects (youth-led) effectively.

3. Kenya: Youth inclusion in the National Climate Change Action Plan includes specific provisions for youth engagement. The policy ensures that young people are engaged, and their perspectives are incorporated into climate policies and strategies. The policy promotes the inclusion of youth in the planning, implementation and monitoring of climate adaptation projects.
4. Australia: The Australian Youth Climate Coalition was started in 2006 and mobilizes young people across the country to campaign for climate justice and action. It provides training in leadership, advocacy and project management to equip young people with the skills needed for effective local climate action. The coalition also fosters a sense of community and collective action among young people.
5. Cambodia: Line ministries are required by law to integrate youth in their sectoral strategy and respective nationally determined contributions updates to.
6. Colombia: The ministry of environment has established a direct line of communication between the government and youth groups across the country, including in rural areas.
7. Global: The We Are Tmrw Global Partnership is an international initiative supported by the Netherlands that focuses on empowering young people around the world to actively participate in climate action and ensure their voices are heard in global climate dialogues. Efforts include providing resources, training and platforms for young people to engage policymakers and advocate for stronger and inclusive climate policies.

7.4. The Ghana NAP process and a proposed framework for adequate youth engagement in the process

Ghana's National Adaptation Plan (NAP) process aims to integrate climate adaptation considerations into national policy and planning across various sectors and local levels. Currently, Ghana employs a hybrid approach where adaptation is considered at the national level and within sector-specific planning. From the grassroot, the government proposes a more sectoral- and district-focused adaptation planning and mainstreaming process that is coordinated by the Environmental Protection Agency (EPA) and the National Development Planning Commission (NDPC). Key sectors such as agriculture, forestry, water, energy, gender and health have climate change vulnerability assessments to identify sectoral priorities, while district-level adaptation plans will be piloted based on climate change vulnerability and local contextual considerations. Mainstreaming adaptation into sectoral policies and district-level medium-term development plans, developed every four years, is a crucial component of the NAP process, with a long-term vision of developing stand-alone adaptation plans at both levels.

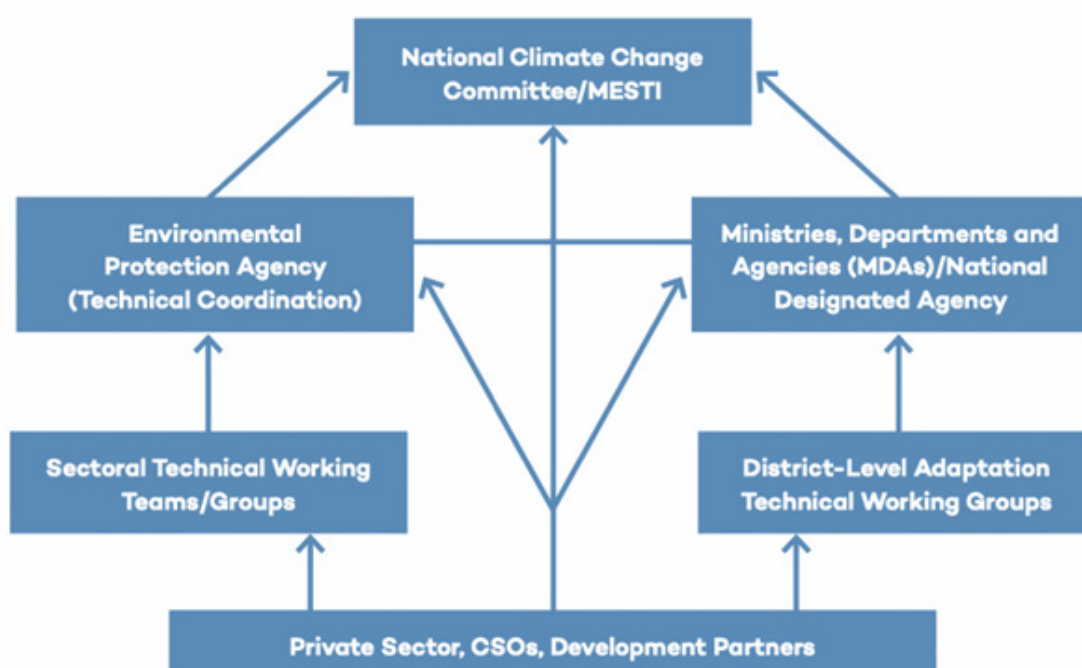
Improving youth participation in Ghana's NAP process requires engaging youth at every stage, sector and step of the adaptation planning and implementation process. This should follow Roger Hart's Ladder of Participation, which promotes increasing levels of youth involvement from merely being informed to being more involved in decision-making. Right from the beginning, like in identifying and assessing climate vulnerabilities and adaptation needs, youth should be involved. They can participate in climate change vulnerability assessments across key sectors like agriculture, forestry, water, energy, gender and health. Engaging existing or establishing youth advisory boards at the sectoral level, for instance, ensures that youth insights and feedback are incorporated (fig. 10).

Figure 10. Ways to engage young people for participation in local climate action.

Literate youth: • Youth advisory groups • Youth councils • Surveys • Youth newsletters Illiterate youth: • Youth consultations (e.g., community meetings for youth to share ideas with local leaders) • Youth-led campaigns (e.g., tree-planting initiatives) • Workshops (e.g., on sustainable farming)	Urban youth: • Climate summits • School clubs (e.g., collaborating with city) • Internships (e.g., on climate policies) • Social media Rural youth: • Youth mobilization campaigns • Workshops • Door-to-door consultations • Collaborative projects	15–24-year-olds: • School clubs • Youth newsletters (e.g., explaining how youth can participate in climate initiatives) • Youth councils • Workshops 25–35-year-olds: • Social media • Youth advisory groups • Internships • Youth-led campaigns
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The Ghana NAP process centers around developing sector-specific and district-level adaptation plans and acknowledges the need to maintain and deepen youth involvement (fig. 11). Platforms for youth participation in national and local climate forums will enable young people’s needs and experiences to be factored and also for possible solutions to be tabled and hence should be created. Including youth in decision-making bodies and policy committees, and engaging them in monitoring and evaluation, strives for the “Youth-Initiated, Shared Decisions with Adults” level in the Roger Hart’s Ladder of Participation, which reflect meaningful youth participation.

Figure 11. Institutional arrangement for Ghana’s NAP



In this vein, addressing pre-existing barriers to youth participation is essential for equitable engagement. Many young people face challenges like limited access to information, financial constraints and inadequate capacity for technical discussions that limit their capacity to participate in climate change planning and forums. Thus, they should be reached using targeted approaches, like organizing training programs and providing financial assistance and access to resources, which would help to achieve equity and justice. Special attention should be given to marginalized youth, including those from rural areas, women and persons with disabilities to ensure that their voices are heard.

Applying Roger Hart's Ladder of Participation transforms youth from passive recipients to active leaders in the NAP process. This approach harnesses their energy and creativity, ensuring robust, equitable and sustainable adaptation strategies. By supporting youth and facilitating their meaningful participation at every level, Ghana can enhance the effectiveness of its climate adaptation efforts and build a more resilient and just future.

7.5. Take-away points

- Youth should be deliberately engaged at every stage, in every sector and also every step of Ghana's NAP process, being guided by Roger Hart's Ladder of Participation to adequately represent youth interests.
- Youth should be included in climate change vulnerability assessments across key sectors and in district-level adaptation planning.
- There should be efforts to overcome barriers that impede youth participation, such as limited access to information, financial constraints and inadequate capacity, with targeted support like training programs and financial assistance.
- There should be specific initiatives and inclusive strategies targeting marginalized youth, including those from rural areas, women and persons with disabilities, to ensure their voices are heard and they can fully participate in climate adaptation efforts.

8. Youth engagement strategies for practice

This section presents a catalogue of strategies for improving youth capacities in practice (table 2).

8.1. Capacity building and knowledge sharing

The survey findings highlighted the urgent need for capacity building among Ghanaian youth to enhance their adaptive capacity to climate change, as highlighted by 72% of respondents. To operationalize this, workshops could be organized for government officials and educators to sensitize communities about climate change and integrate climate education into school curricula. Conducting seminars to update officials on current climate policies and practices and providing hands-on training through workshops and mentorship programs are also essential. International collaborations, like with the Climate and Development Knowledge Network (CDKN), can further facilitate knowledge exchange and support educational initiatives. Leadership and advocacy programs are also vital for empowering young people to take proactive roles in their communities and contribute to climate resilience efforts.

8.2. Inclusive policymaking and representation

Inclusive policymaking and representation are fundamental to ensuring that youth perspectives are integrated into climate action plans. Strategies for advancing this involve ensuring adequate youth inclusion in terms of stakeholder representation in climate-related decision-making and planning across various sectors (e.g., agriculture and health) and levels (e.g., national and local). This can be done by reaching out to existing youth networks like the Youth Climate Council (chapter 00) or establishing youth advisory boards where there is minimal representation including organizations with representatives of youth with disabilities.

8.3. Education and awareness

Education and awareness campaigns are critical, with 77% of young people pointing out the need for education and climate information to keep their cohorts well informed. Practical steps include integrating climate change topics into school curricula at all levels, and supporting youth-led NGOs that have established eco-clubs to enhance students' knowledge on climate change and environmental sustainability, such as the Youth-NREG Students Platform hosted by SYND and the GAYO Eco Clubs. These initiatives are essential for equipping young people with the knowledge needed to understand and address climate impacts effectively. Since examples of these initiatives already exist, providing support to scale them up will significantly enhance climate education among young people. Also, public engagement through user-friendly and accessible digital platforms, participatory methods like participatory video (PV) and social media can further amplify awareness and action among youth. These efforts promote accurate perceptions of climate change.

8.4. Funding and support for innovation

Funding and technological support are pivotal to driving on-the-ground implementation of climate-smart innovations. Providing grants and resources for youth-led climate projects, funding incubator programs for sustainable business ideas and supporting startups focusing on environmental solutions are practical strategies for promoting and upscaling innovations. Through their corporate social responsibility (CSR) initiatives, the private sector can also support youth-led projects locally. They can also offer internships in green industries to provide practical experience and mentorship for young people to enhance their ideas and skills for efficiency leading climate action. Access to innovative technologies and business-related equipment can further help young entrepreneurs to develop and sustain green businesses.

8.5. Community-based projects and access to technological solutions

Undertaking community-based initiatives that involve local youth can be crucial for building resilience. These could include radio sensitization programs, organizing conferences and forums to discuss climate issues and possible solutions and developing youth-led community engagement and environmental conservation projects. Attention can also be on providing access to technological tools and solutions, such as efficient irrigation systems and renewable energy technologies, which will support young people in achieving optimum efficiency in their local projects. Young entrepreneurs can be supported with the necessary equipment to start and sustain climate resilient businesses, especially in agriculture (e.g., farms implements and machinery), to further enhance community resilience.

8.6. Strategic partnerships for enhanced resilience

Strategic partnerships, such as collaborations between educational institutions and the private sector can help to align curricula with the needs of industries. Such partnerships can also promote training programs in green jobs to equip youth with relevant skills for the future. Creating employment opportunities in renewable energy and other green sectors through partnerships with industry can drive sustainable development. Increasing national and local government assistance and strengthening collaborations with CSOs and NGOs will provide additional support and resources for youth-led initiatives and operationalizing the framework for youth participation in climate action. Furthermore, leveraging global youth networks and forming partnerships with regional and international organizations will enhance knowledge sharing, capacity building and joint climate action efforts to promote inclusiveness and unity.

Table 2. Strategies for enhancing youth adaptive capacity to climate change

Category	Strategy	Details	Who Should Act	For Whom
Capacity building and knowledge sharing	Workshops for government staff	Organize workshops tailored to regional climate challenges in Ghana, focusing on local issues like coastal erosion and flooding in northern regions.	Government, CSOs	Government officials
	Training programs for teachers	Develop training programs that integrate local environmental issues into the curriculum, with interactive tools for student engagement.	Ministry of Education, NGOs	Teachers
	Seminars for officials	Conduct seminars focusing on local climate data and international agreements relevant to Ghana, keeping officials updated on best practices.	Government, international organizations	Government officials
	Hands-on training	Provide practical training in climate adaptation techniques, such as rainwater harvesting and flood management, with local NGO collaboration.	NGOs, CSOs, private sector	Youth

	International collaboration	Partner with international organizations to bring expertise on climate adaptation practices, adapted for Ghana's context.	Government, educational institutions	Youth, government officials
	Leadership and advocacy programs	Develop programs empowering youth to advocate for climate action at district and regional levels, focusing on waste management and land use.	NGOs, CSOs, government: NDPC, NYA, MMDAs, faith-based orgs	Youth
Inclusive policymaking and representation	Youth participation in policymaking	Establish youth climate councils at the district level to contribute to national policy discussions.	Government, CSOs	Youth
	Youth advisory boards	Create advisory boards where youth representatives work with local governments on climate decisions in areas impacted by climate change.	Government, CSOs	Youth
	Platforms for youth participation	Organize national and regional climate forums for youth to present ideas and collaborate with policymakers.	Government, NGOs, CSOs	Youth
	Youth representation in decision-making	Ensure youth are included in decision-making bodies, especially in areas vulnerable to climate impacts.	Government, CSOs	Youth
	Public awareness campaigns	Launch campaigns in local languages using media like radio and community theater to engage youth on climate issues.	Government, NGOs, media organizations	Youth, general public
	Collaborative projects	Initiate projects that involve government, businesses, and youth in addressing local climate issues like mangrove restoration and reforestation.	Government, private sector, NGOs	Youth
Education and awareness	School curricula	Incorporate locally relevant climate topics into curricula, such as the impact of climate change on cocoa production and fisheries.	Ministry of Education, educational institutions	Students, teachers
	Climate clubs and activities	Establish school climate clubs focused on activities like tree planting, water conservation, and community clean-ups.	Schools, NGOs, educational institutions	Students, teachers

	Educational resources	Provide schools with materials covering Ghana-specific climate challenges and solutions, such as manuals on sustainable farming.	Educational institutions, NGOs, government	Students, teachers, community members
	Participatory methods	Use participatory video projects where youth document climate impacts and share them with decision-makers.	NGOs, CSOs, media organizations	Youth
	Digital narratives	Engage youth in digital storytelling projects to share local climate resilience strategies, using platforms like Instagram and YouTube.	NGOs, media organizations	Youth
Funding and support for innovation	Grants and resources	Provide targeted grants for youth-led projects addressing local climate challenges, like innovative waste management solutions in urban areas.	Government, international donors, private sector	Youth
	Innovation and research	Support incubators focusing on climate-related startups, offering mentorship and funding for youth entrepreneurs in areas like solar energy.	Private sector, government, NGOs	Youth entrepreneurs
	Internship and mentorship programs	Create internships within government agencies and green industries for youth, focusing on renewable energy and sustainable agriculture.	Government, private sector, NGOs	Youth
	CSR sponsorship and support	Encourage companies to sponsor youth-led climate initiatives and provide technical expertise.	Private sector	Youth
	Internships in green industries	Facilitate internships in renewable energy and waste management sectors to give youth practical experience.	Private sector, government	Youth
Community-based projects and technological solutions	Community engagement	Implement climate projects that involve local youth, such as mangrove restoration or water conservation, to foster ownership and responsibility.	NGOs, CSOs, local governments, faith-based orgs	Youth, community members

	Radio sensitization programs	Use radio programs to reach youth and the general public with climate information and education, especially in rural areas.	Media organizations, NGOs	Youth, general public
	Conferences and forums	Host events to discuss climate issues and solutions, encouraging dialogue between youth, community members, and policymakers.	Government, NGOs, educational institutions	Youth, community members
	Technological solutions	Provide access to technological tools and solutions that help youth respond to climate impacts, like mobile apps for weather forecasting.	Government, private sector	Youth
	Business-related equipment	Support young entrepreneurs with the equipment needed to start and sustain climate-resilient businesses, such as solar panels for energy startups.	Private sector, government	Youth entrepreneurs
Strategic partnerships for enhancing resilience	Comprehensive climate education	Collaborate to develop and distribute educational resources covering a wide range of climate change topics relevant to Ghana.	Educational institutions, NGOs, government	Students, teachers
	Climate information systems	Partner to establish systems providing real-time climate information and forecasts to help communities and farmers adapt to changing conditions.	Government, research institutions	Youth, farmers, community members
	Skills development	Form alliances to offer training in green jobs, sustainable practices, and climate adaptation techniques, tailored to the needs of Ghanaian youth.	NGOs, educational institutions, private sector	Youth
	Capacity building for youth	Coordinate workshops, internships, and mentorship programs to build youth capacity in climate resilience and leadership.	NGOs, government, private sector	Youth
	Financial resources	Increase access to grants, loans, and financial resources for youth-led climate initiatives, supporting innovation and entrepreneurship.	Government, international donors, private sector	Youth entrepreneurs

	Innovative technologies	Partner to invest in developing and disseminating technologies that address climate change, such as drought-resistant crops and renewable energy.	Government, private sector	Youth, farmers, community members
	Green jobs	Work together to create employment opportunities in renewable energy, sustainable agriculture, and other green sectors.	Government, private sector	Youth
	Business development support	Collaborate to support young entrepreneurs in developing sustainable businesses, including market access and business development services.	Government, NGOs, private sector	Youth entrepreneurs

8.7. Take-away points

- Youth can be involved in policymaking in climate decisions through advisory boards and youth networks.
- In terms of practice, workshops, training and international collaboration can be feasible ways of promoting for skill development.
- Climate engagement and capacity building can be advanced through developing climate topics in schools, setting up climate and environmental clubs and using digital platforms.
- The private sector can offer grants (through their CSR) and internships in green industries to support youth-led projects and entrepreneurs.
- The state should collaborate with educational institutions, private sector and NGOs to align education with industry needs and create green jobs.
- Particular attention should be on scaling successful initiatives.

9. Conclusion

The Youth Adaptation Strategy was developed with the aim to identify the key climate risks and vulnerabilities affecting youth in Ghana and to develop strategies to enhance their adaptive capacity and resilience to the climate crisis. Regions in northern Ghana, including the Northern, North East, Savannah and the Upper West regions, are particularly the most vulnerable. There are severe vulnerabilities to extreme heat, water scarcity and high poverty rates, necessitating targeted interventions in agroecology and climate-smart agriculture to ensure food security and sustainable livelihoods. In highly populated cities, such as Accra and Kumasi, the prevalence of health issues, including heat stress and respiratory conditions underlines the need for improved healthcare infrastructure and the promotion of green job industries like renewable energy and waste management services that use the circular economy model. Additionally, integrating climate change education into curriculums at all educational levels and enhancing research opportunities focused on sustainability are also critical for equipping young people with the necessary knowledge and skills to navigate and address climate challenges in the present and in future. Furthermore, there is a real need to strengthen collaborations with CSOs, NGOs and global (youth) networks to amplify efforts and resources for youth-led climate adaptation initiatives. Based on youth unemployment rates and climate vulnerabilities, this strategy proposes that the most affected youth (25–32-year-olds in Northern Ghana and 18–26-year-olds in Southern Ghana) are prioritized for attention with targeted support to build resilient futures, ultimately achieving the objectives of enhancing youth adaptive capacity and strengthening resilience against climate change.

References

1. Adams, E. A., & Nyantakyi-Frimpong, H. (2021). Stressed, anxious, and sick from the floods: A photovoice study of climate extremes, differentiated vulnerabilities, and health in Old Fadama, Accra, Ghana. *Health & Place*, 67, 102500.
2. Akazili, J., Chatio, S., Ataguba, J. E.-O., Agorinya, I., Kanmiki, E. W., Sankoh, O., & Oduro, A. (2018). Informal workers' access to health care services: Findings from a qualitative study in the Kassena-Nankana districts of Northern Ghana. *BMC International Health and Human Rights*, 18, 1–9.
3. Amponsem, J., Kemeh, S., Doshi, D., Schudel, L., & Salazar Toledo, A. I. (2019). Adapt for Our Future: A Background Paper on Youth and Climate Change Adaptation. <https://doi.org/10.13140/RG.2.2.20718.97606>
4. Anderson, C. C., Renaud, F. G., Hanscomb, S., Munro, K. E., Gonzalez-Ollauri, A., Thomson, C. S., Pouta, E., Soini, K., Loupis, M., & Panga, D. (2021). Public acceptance of nature-based solutions for natural hazard risk reduction: Survey findings from three study sites in Europe. *Frontiers in Environmental Science*, 9, 678938.
5. Asare-Nuamah, P., & Botchway, E. (2019). Comparing smallholder farmers' climate change perception with climate data: The case of Adansi North District of Ghana. *Heliyon*, 5(12), e03065.
6. Assan, E., Suvedi, M., Schmitt Olabisi, L., & Bansah, K. J. (2020). Climate change perceptions and challenges to adaptation among smallholder farmers in semi-arid Ghana: A gender analysis. *Journal of Arid Environments*, 182, 104247–104247. <https://doi.org/10.1016/j.jaridenv.2020.104247>
7. Bandanaa, J., Egyir, I. S., & Asante, I. (2016). Cocoa farming households in Ghana consider organic practices as climate smart and livelihoods enhancer. *Agriculture and Food Security*, 5(1), 1–9. <https://doi.org/10.1186/s40066-016-0077-1>
8. Bikomeye, J. C., Rublee, C. S., & Beyer, K. M. (2021). Positive Externalities of Climate Change Mitigation and Adaptation for Human Health: A Review and Conceptual Framework for Public Health Research. *International Journal of Environmental Research and Public Health*, 18(5), 2481.
9. Brundtland, G. H. (1989). Global change and our common future. *Environment: Science and Policy for Sustainable Development*, 31(5), 16–43.
10. Caminiti, M. (2024). Breaking Down Barriers to Work for Youth with Disabilities. Save the Children. <https://www.savethechildren.org/us/charity-stories/breaking-down-barriers-to-work-for-youth-with-disabilities>
11. Cortés-Ramos, A., Torrecilla García, J. A., Landa-Blanco, M., Poleo Gutiérrez, F. J., & Castilla Mesa, M. T. (2021).
12. Activism and social media: Youth participation and communication. *Sustainability*, 13(18), 10485.
13. Dadzie, C., Fumey, M., & Namara, S. (2020). Youth employment programs in Ghana: Options for effective policy making and implementation. World Bank Publications.
14. Davies, A. R., & Hügel, S. (2021). Just adapt: Engaging disadvantaged young people in planning for climate adaptation. *Politics and Governance*, 9(2), 100–111.
15. Desjonqueres, C., Zhao, H., Kosmidou-Bradley, W., & Corral, P. (2024). Ghana's climate vulnerability profile. Frank, K. I. (2006). The potential of youth participation in planning. *Journal of Planning Literature*, 20(4), 351–371.

16. Han, H., & Ahn, S. W. (2020). Youth mobilization to stop global climate change: Narratives and impact. *Sustainability*, 12(10), 4127.
17. Hein, C. J., Ten Hoeve, J. E., Gopalakrishnan, S., Livneh, B., Adams, H. D., Marino, E. K., & Susan Weiler, C. (2018). Overcoming early career barriers to interdisciplinary climate change research. *Wiley Interdisciplinary Reviews: Climate Change*, 9(5), e530.
18. Hess, J. J., Malilay, J. N., & Parkinson, A. J. (2008). Climate change: The importance of place. *American Journal of Preventive Medicine*, 35(5), 468–478.
19. Heuschen, A.-K., Abdul-Mumin, A., Adokiya, M., Lu, G., Jahn, A., Razum, O., Winkler, V., & Müller, O. (2022). Impact of the COVID-19 pandemic on malaria cases in health facilities in northern Ghana: A retrospective analysis of routine surveillance data. *Malaria Journal*, 21(1), 1–8.
20. IPCC. (2022). *Climate change 2022: Impacts, adaptation and vulnerability*. Cambridge University Press. Cambridge University Press, Cambridge, UK and New York, NY, USA, Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)], 3056. <https://doi.org/doi:10.1017/9781009325844>
21. Kantis, H. D., Federico, J. S., & García, S. I. (2020). Entrepreneurship policy and systemic conditions: Evidence-based implications and recommendations for emerging countries. *Socio-Economic Planning Sciences*, 72, 100872.
22. Kumar, A. (2023). Promoting Youth Involvement in Environmental Sustainability for a Sustainable Future. *Edumania-An International Multidisciplinary Journal*, 1(03), 261–278.
23. Kumi, J.-N., Kumah, M. S., & Kwaku, S. (2018). Ecotourism, participation and benefits in Ghana: A case study of local residents of Wli. *IJAR*, 4(11), 133–139.
24. Lamptey, Y. A., & Debrah, Y. A. (2018). Skills training in the informal sector: Perspectives from Ghana. *African Journal of Employee Relations*, 42(1), 1–16.
25. Leakey, R. R. B. (2017). Chapter 4—Agroforestry and the Mitigation of Land Degradation in the Humid and Sub-Humid Tropics of Africa: This chapter was previously published in Cooper, P.J.M., Leakey, R.R.B., Rao, M.R., Reynolds, L., 1996. *Experimental Agriculture*, 32, 235–290, with permission of Cambridge University Press. In R. R. B. Leakey (Ed.), *Multifunctional Agriculture* (pp. 23–56). Academic Press. <https://doi.org/10.1016/B978-0-12-805356-0.00004-0>
26. Lwasa, S., Mugagga, F., Wahab, B., Simon, D., Connors, J., & Griffith, C. (2014). Urban and peri-urban
27. agriculture and forestry: Transcending poverty alleviation to climate change mitigation and adaptation. *Urban Climate*, 7, 92–106.
28. Mackey, G. (2012). To know, to decide, to act: The young child's right to participate in action for the environment. *Environmental Education Research*, 18(4), 473–484.
29. Mafileo, T., & Api, U. (2009). Enhancing youth resilience: What can government, schools, communities and youth do together?
30. Manteaw, B., Amoah, A. B., Ayittah, B., & Enu, K. B. (2022). Climate-Informed Decision-Making in Data-Poor Environments: Managing Climate Risk Through Citizen Science Networks. *Frontiers in Climate*, 55. <https://doi.org/10.3389/fclim.2022.835768>

31. Mburu, M., & Makori, M. (2015). Management challenges facing the implementation of youth development projects in Kenya. A case study of youth enterprise funded projects in Nairobi County. *Strategic Journal of Business Change and Management*, 2(34), 636–661.
32. Mo Ibrahim Foundation. (2019). Africa's Youth: Jobs or Migration. Demography, economic prospects and mobility (pp. 26–27) [Ibrahim Forum Report]. Mo Ibrahim Foundation. https://mo.ibrahim.foundation/sites/default/files/2020-01/2019_Forum_Report_2.pdf
33. Narksompong, J., & Limjirakan, S. (2015). Youth participation in climate change for sustainable engagement. *Review of European, Comparative & International Environmental Law*, 24(2), 171–181.
34. Negev, M., Rosenthal, A., Levine, H., & Lew-levy, C. (2019). International Journal of Hygiene and Adaptation of health systems to climate-related migration in Sub-Saharan Africa: Closing the gap. *International Journal of Hygiene and Environmental Health*, 222(2), 311–314. <https://doi.org/10.1016/j.ijheh.2018.10.004>
35. Sanni, O., Salami, B., Oluwasina, F., Ojo, F., & Kennedy, M. (2022). Climate change and African migrant health. *International Journal of Environmental Research and Public Health*, 19(24), 16867.
36. Santoro, S., Pluchinotta, I., Pagano, A., Pengal, P., Cokan, B., & Giordano, R. (2019). Assessing stakeholders' risk perception to promote Nature Based Solutions as flood protection strategies: The case of the Glinščica river (Slovenia). *Science of the Total Environment*, 655, 188–201.
37. Stuart, E., & Woodroffe, J. (2016). Leaving no-one behind: Can the sustainable development goals succeed where the millennium development goals lacked? *Gender & Development*, 24(1), 69–81.
38. UNDP. (2024). The Future Value of Work in Ghana: Pathways to Sustainable Jobs. United Nations Development Programme. https://www.undp.org/sites/g/files/zskgke326/files/2024-06/the_2023_ghana_national_human_development_report.pdf
39. Yeboah, T., Owusu, L., Arhin, A. A., & Kumi, E. (2015). Fighting poverty from the street: Perspectives of some female informal sector workers on gendered poverty and livelihood portfolios in Southern Ghana. *Journal of Economic and Social Studies*, 5(1), 239.

