

POLICY BRIEF

Interrelationship Between Climate Knowledge and Climate Anxiety among Households in Urban and Peri-urban Ghana: The Case of Greater Accra Region



Intensifying storms in Accra, a sign of climate disruption.

KEY FINDINGS

- 88% of surveyed households were unaware of the Ghana Nationally Determined Contributions (GH-NDCs).
- 55% expressed climate-related worry, with 37% being “very worried.”
- Households with knowledge of GH-NDCs exhibited significantly higher anxiety.
- Climate anxiety is not associated with gender, age, or location, but correlated positively with higher education levels.

- Many households viewed government climate policy as limited to tree planting, indicating a gap in outreach and awareness

INTRODUCTION

Climate change, characterised by long shifts in weather patterns, is driven by human activities. Its effects – particularly changing temperatures and rainfall patterns – have heightened global vulnerability, with the World Health Organisation (2023) projecting up to 250,000 annual deaths between 2030 and

2050 due to climate-related health impacts. Recent global events, such as heatwaves in India, the USA, and Europe have heightened global concerns about the severe impacts of climate change. In Africa, extreme climate events like floods, droughts, and high temperatures are becoming more common, severely impacting food security and displacing populations. In this context, climate knowledge plays a vital role in both physical and psychological adaptation to climate change.

Research indicates that climate change has considerable psychological effects. For instance, Usher, Durkin, & Bhullar (2019) link extreme climate events with increased anxiety and stress. Studies have shown varying levels of anxiety among flood victims in Bangladesh and high rates of mental health issues among women in South Africa affected by flooding (Das et al., 2022; Nöthling, 2023). As climate change worsens, mental health challenges are expected to increase globally (Ramírez-López et al., 2023).

This policy brief, drawn from the Ghana Social Development Outlook 2024, explores the interrelationship between climate knowledge and anxiety among urban and peri-urban households in the Greater Accra, offering insights into the psychological dimensions of climate change and calling for responsive communication and policy strategies.

CONTEXT, FRAMEWORK, AND METHODOLOGY

Context

Two arguments have emerged regarding the relationship between climate knowledge and climate anxiety among households. The first asserts that exposure to climate-related news and extreme weather events heightens anxiety about climate change (Asgarizadeh et al., 2023; Soutar and Wand, 2022). The second suggests that climate knowledge can stimulate pro-environmental behaviours, encouraging households to take positive action rather than succumb to fear, panic, or anxiety (Ogunbode et al., 2022; Stanley et al., 2021; Innocenti et al., 2023).

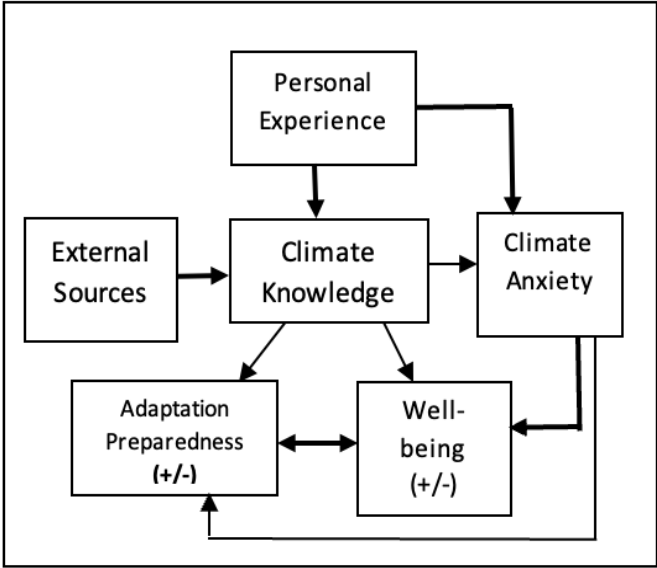
In this regard, acquiring meaningful knowledge about the climate may influence households to adopt different coping strategies or be better prepared for future climate-related events. Accordingly, this policy brief assesses the level of awareness of Ghana’s NDCs among urban and peri-urban households and the extent to which this knowledge correlates with climate anxiety.

Framework

Conceptually, this policy brief is grounded in an analytical framework that explores the interrelationships between climate knowledge, climate anxiety, adaptation preparedness, and the well-being of the household (Fig. 1). Climate knowledge, whether acquired through personal experiences or external information sources, can influence a household’s adaptation preparedness. Such knowledge may also directly affect household well-being, either positively or negatively. Positive outcomes of climate knowledge include enhanced adaptive capacity and resilience (e.g., planning ahead of extreme events), diversification of income sources, and better adaptation preparedness for climatic shocks, allowing for proactive adaptation strategies.

However, climate knowledge can also trigger climate anxiety, which may also impact well-being in either positive or negative ways.

Fig. 1: Framework of climate knowledge, anxiety, adaptation preparedness, and well-being connections



Source: Author’s construct

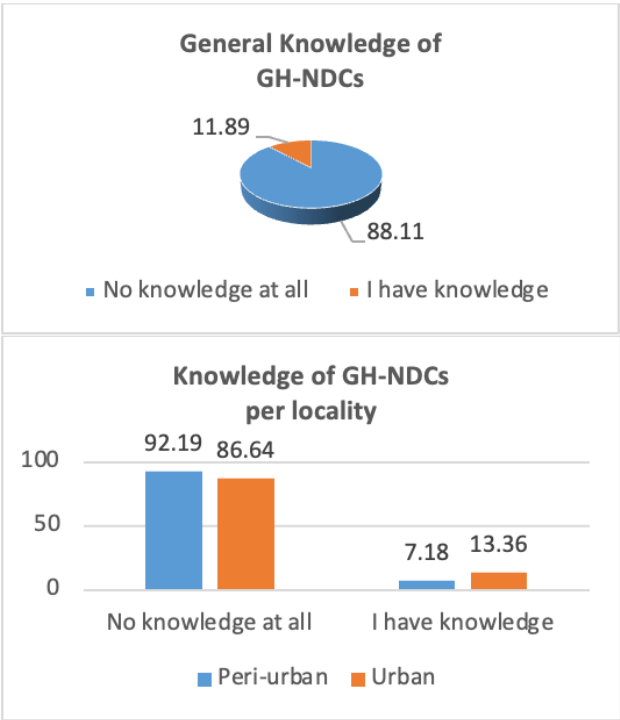
Methodology

The study employed a mixed-methods approach to examine the relationship between climate knowledge, climate anxiety, and adaptation preparedness among 1,203 households in urban and peri-urban communities within Adenta, Ga East, and Ga West municipalities of the Greater Accra Region. Quantitative data were collected using structured questionnaires administered using Computer-Assisted Personal Interviewing (CAPI). A stratified random sampling technique

was employed to ensure equitable representation across geographic areas. Data were analysed using descriptive statistics and chi-square tests to explore associations between climate knowledge, anxiety, and socio-demographic variables.

To complement the survey findings, qualitative data were gathered through focus group discussions (FGDs) conducted in each municipality. These engaged diverse groups of participants who shared their experiences with climate-related events and perceptions of government climate action. Direct quotations from participants were included to highlight the lived realities and emotional dimensions of the issues explored.

Fig. 2 Level of knowledge of GH-NDCS among household heads



Source: ISSER MECS Phase II Survey, 2023

KEY FINDINGS

Awareness of the existence of Ghana’s Nationally Determined Contributions (GH-NDCs)

The study found a low level of awareness of the GH-NDCs among respondents. Only 11% of household heads had any knowledge of these national climate policy measures. Urban residents were marginally more aware (13.4%) compared to peri-urban residents (7.2%). Among all the socio-economic variables, education attainment emerged as the strongest predictor of awareness; household heads with secondary or tertiary education were

more likely to know about the GH-NDCs than those with no formal education. Gender and age showed no statistically significant association with awareness levels. The study found no substantial difference in GH-NDCs awareness between urban and peri-urban respondents overall (Fig. 2).

Awareness of GH-NDC Adaptation Measures and Actions

Awareness of specific adaptation measures under the GH-NDCs was also notably limited. Only a small proportion of household heads could cite any specific adaptation strategy. The most commonly known measure was the management of climate-induced health risks, identified by 46% of respondents.

Awareness of other key adaptation strategies -- such as early warning systems, agricultural resilience building, and value addition to forest resources -- was significantly lower, with most cited by fewer than 30% of respondents. Urban households more frequently cited health risk management, whereas peri-urban respondents showed slightly greater familiarity with early warning systems and disaster prevention measures. Although educational level had some influence on respondents’ familiarity with adaptation strategies, overall awareness remained low.

Climate anxiety among urban and peri-urban households in the Greater Accra Region

The study found a high prevalence of climate anxiety among urban and peri-urban households in the Greater Accra Region. Over 55% of respondents reported feeling worried about ongoing climatic changes, with 37% indicating they were “very worried” (Fig. 3). Anxiety levels were generally similar across gender, age, and geographic location, although slightly more urban respondents reported being “very worried” compared to peri-urban residents. Importantly, education attainment emerged as a significant factor; respondents with higher levels of education were more likely to express concern about climate change. Focus group discussions echoed these findings, with many participants citing extreme weather events, flooding, and fears about the future as sources of distress.

Climate knowledge and anxiety nexus

The study revealed a significant link between climate knowledge and climate anxiety among households in the Greater Accra Region. Respondents who were aware of the GH-NDCs were more likely to report anxiety about climate

change. Specifically, 67% of those with knowledge of the GH-NDCs expressed concern, compared to 54% of those unaware. Notably, 51% of those who knew about the GH-NDCs identified as “very worried,” suggesting that greater awareness may intensify emotional responses to climate threats.

These findings support existing literature linking increased exposure to climate information with heightened anxiety.

“The climate change situation worries me. Whenever I am watching TV and see how some people are affected, I ask myself, ‘What if it’s me? What will I do?’ Some do not have a place to sleep, their belongings are outside, so it worries me”. (A 43-year-old female FGD participant in Ga West municipality, October 2023).

Fig.3 Extent of worry (%) by respondents about the present climatic changes in the world and Ghana.



Source: ISSER MECS Phase II Survey, 2023

CONCLUSION AND RECOMMENDATIONS

The findings from this study highlight a critical gap in Ghana’s climate response: although climate-related impacts anxiety are rising among urban and peri-urban households, public awareness of the national climate strategy, the GH-NDCs, remains very low. This disconnect points to the urgent need for more inclusive and effective public engagement with climate policy, particularly in ways that address both the informational and psychological dimensions of climate change.

Education and access to information are key drivers of climate knowledge, but they also correlate with anxiety, especially in urban settings. Without targeted communication, psychological support, and opportunities for citizen participation, there is a risk that growing awareness will lead to emotional paralysis rather than proactive adaptation. To mitigate the psychological impacts of climate change while building a more informed and resilient society, the following policy recommendations are proposed:

Enhance public awareness of the GH-NDCs: Use accessible language and relatable messaging through radio, television, community forums, and social media to increase national understanding of climate commitments and actions.

Decentralise climate communication: Tailor communication strategies to urban and peri-urban contexts, leveraging local government structures and community leaders to deliver targeted messages.

Integrate climate education into the school curriculum: Introduce climate change and sustainability topics at all educational levels to foster early awareness and long-term engagement.

Address climate anxiety through mental health support: Incorporate climate-related stress and anxiety into mental health policies, with specific interventions for communities experiencing repeated climate impacts.

Strengthen civic engagement and local participation: Create platforms for households and communities to contribute to local adaptation plans and climate policy dialogues.

Focus on vulnerable populations: Identify and prioritise support for groups most affected by climate change -- especially women, youth, and the elderly -- ensuring they have access to relevant information and coping resources.

Monitor and evaluate climate communication efforts: Establish feedback mechanisms and evaluation tools to assess the reach and effectiveness of climate communication initiatives, ensuring they are adaptable and responsive.

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