

# THE IMPACT OF CLIMATE CHANGE ON THE HEALTH OF VULNERABLE POPULATIONS: A PILOT STUDY IN A LAST MILE DISTRICT OF RURAL GHANA

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## BACKGROUND

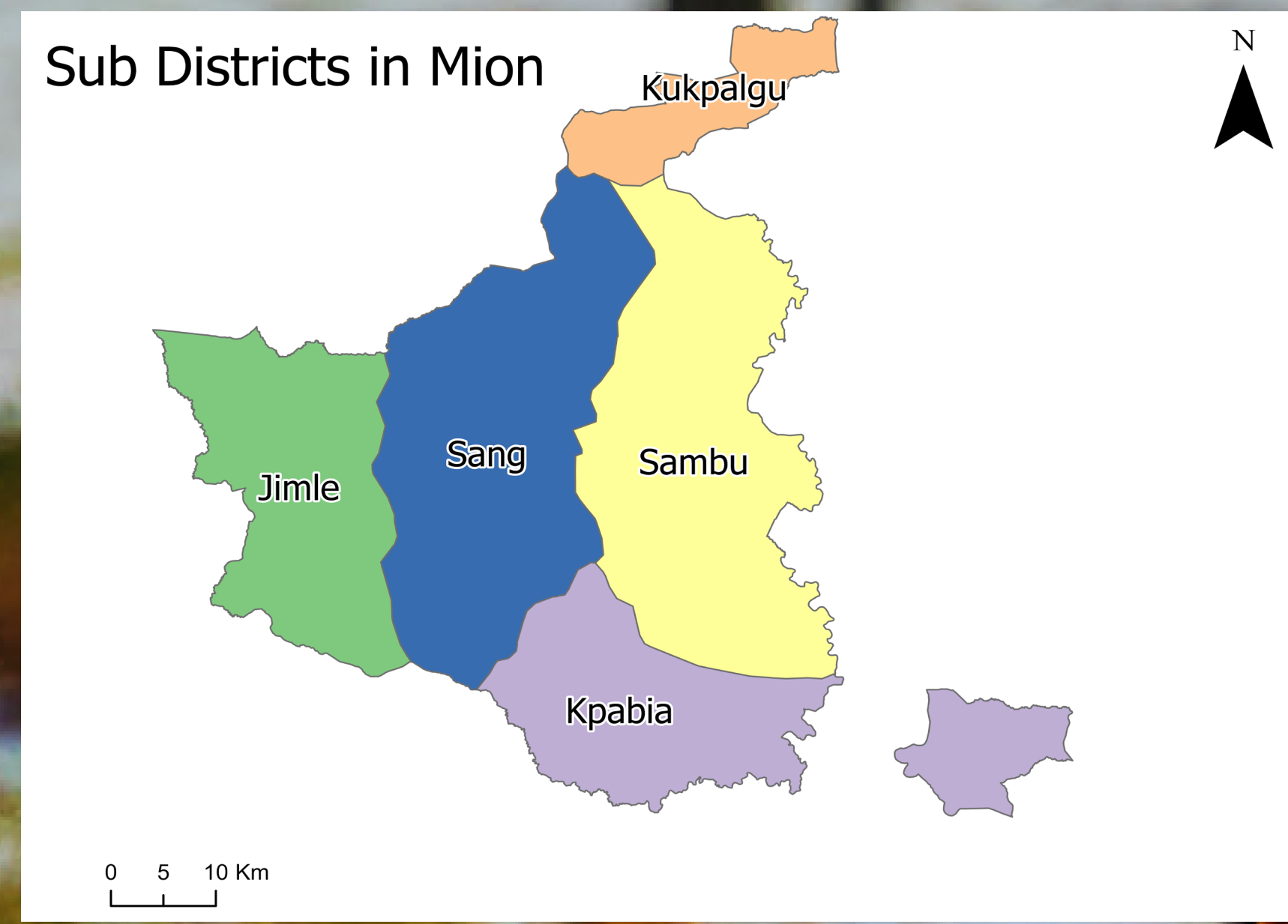
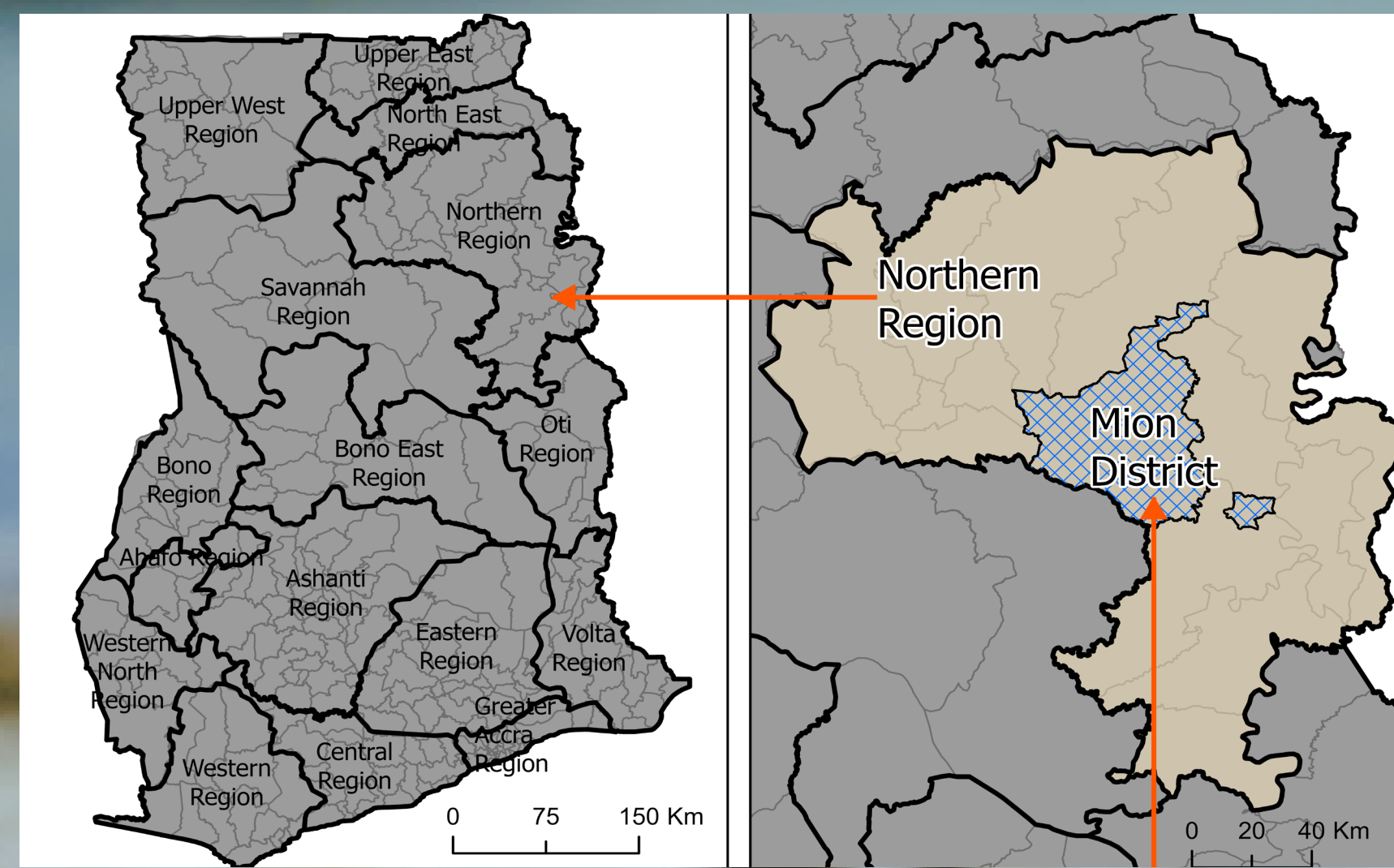
- Climate change will exacerbate existing inequalities, with greatest impact seen in rural populations across sub-Saharan Africa.
- Ghana's dependence on agriculture means that climate change is likely to bring many socio-economic disruptions, for instance via seasonal issues, such as flooding.
- A breadth of health conditions will be negatively impacted by climate change: yellow fever and skin Neglected Tropical Diseases, which are a WHO-defined group of diseases including mosquito-driven diseases, which are known to be prevalent in rural Ghana.

## AIM

To assess local knowledge, attitudes, practice and skepticism around climate change and health

### Key research questions

- What are residents' knowledge, attitudes and practices (KAP) around climate change, food security, nutrition and impact on in Mion district, Northern Region, rural Ghana?
- What are the community leaders' knowledge and perceptions on their, and their community, viewpoints on climate change?
- How best can community insight be taken to decision-makers who create policies in these areas?



**Figure 1.** Mion, Northern Region with district and sub-district boundaries defined, created by Dr Winfred Dotse-Gborgeborsti.



## METHODS

- A community survey took place in Mion (see Figure 1), a district in the Northern Region of Ghana.
- Data were collected by trained local residents, who carried out the survey within their own communities (Figure 2). This approach increases acceptability and increases local research capacity.
- The survey determined KAP on climate change; seasonal issues such as behaviours around mosquito exposure (e.g. bed net use); healthcare access; scepticism; nutrition & food security.
- Community champions are respected figures in the community, such as religious leaders, teachers or healthcare workers.
- Mion communities were randomly selected, and household selection used the random-walk method.
- Two focus groups have also been conducted, each with ~10-12 purposively selected community leaders: pastors, healthcare workers, tribal Chiefs.
- UoS team conducted a facilitated modelling session with policymakers to explore perception of health and climate change and assess how best to integrate findings into policy & practice (shown in Figures 3 & 4).



**Figure 2.** Members of UDS research team training local data collectors in Mion.



**Figure 3.** Facilitated modelling workshop taking place in Tamale, Northern Ghana with a variety of stakeholders in the pilot study. This includes representatives from NGOs, University for Development Studies, Regional Health Directorate, and Municipal Health Directorate.



**Figure 4.** Participants of the facilitated modelling workshop demonstrating the results from their discussion.

## RESULTS & FUTURE PLANS

- There were 402 respondents for the community survey and the focus groups and facilitated modelling workshop have now taken place.
- Early analysis suggests a high level of food insecurity, with 56% of survey participants indicating that their household ran out of food within the last 12 months.
- 21% of participants have experienced severe food insecurity over the last 12 months; 100% have experienced some level of food insecurity. For comparison, globally 1 in 3 have moderate/high insecurity according to the Food and Agriculture Organisation.
- It seems that climate change has had an effect on crop yields (96% said they were decreasing as a result) and varieties of food able to be grown.
- 94% of respondents believe that climate change has an effect on their health/wellbeing with 99% of the survey population noticing an increased number of mosquito or fly populations within the last 5 years.
- 86% shared concerns about their water security in the last 12 months.
- Results from the focus group will describe approaches around how best to integrate new community knowledge within health policy to support development.
- This project forms part of ongoing research and further results will be shared in due course.
- Results are being disseminated across Ghana Health Service at district, regional and national level, as well as Ghana Ministry of Health and WHO country office.
- We have been awarded funding for an intervention study to build upon the findings from this pilot study.