

# **CLIMATE CHANGE CRISIS IN NORTH-EAST GHANA**

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In 2007, unprecedented flooding over the White Volta catchment created a tragic situation for farming villagers. Livestock was swept away, millet crops spoiled and adobe huts destroyed. While the immediate impact on loss of life was relatively low, there were more than 30,000 people who lost their homes or who were left living in unsafe structures that could collapse at any time. The economic and social turmoil in the aftermath of the flooding created volatile conditions that sparked age old warfare between the Kusasi and the Mamprussi tribes. Further homes were destroyed in this fighting.

Over the past 30 years Ghana has established a remarkably stable democracy. In recent times it has made substantial progress in eradicating corruption and putting in place strong local governance. This disaster came at a time when significant progress was being made in addressing the UN Millennium Development Goals, including alleviation of poverty and reducing the gap in wealth between the north and south of the country. Unfortunately there is a likelihood that the present situation will exacerbate rural poverty and accelerate migration to urban squatter settlements.

The rains in 2007 arrived two months early, which caught farmers by surprise. Most waited until the usual planting time, and the immature plants were then subject to a huge deluge of rainfall in late August the like of which has not been recalled either in living memory or in stories of the past.

The White Volta broke its banks and in the first stages of the flood livestock was swept way from the low lying grazing lands. In the past farmers have been forewarned about the likelihood of any flooding of these lands and have been able to move their livestock to higher ground, but not this time. The deluge was such that waters from the Begre Dam in Burkina Fasso to the north had to be released, exacerbating the situation for people downstream.

The next stage of flooding was a steady rising of the water level to engulf the millet fields and adobe building complexes. The millet was spoiled, rising the prospect of regional food shortages over the next year. Some buildings collapsed immediately, leaving an estimated 15,000 people immediately homeless. Some had to be rescued after spending several days perched on the roofs of their homes.

As the flood waters receded the extent of human tragedy got steadily worse. Adobe structures that had been weakened by the soaking progressively collapsed, trapping the occupants. Residents attempted to prop up the huts that were still standing, so that they had some basic shelter to sleep in, but this strategy failed as the walls had been undermined. Several bridges also collapsed, leaving some communities isolated from possible sources of food supplies.

The local authorities swung into action to rescue people from collapsed buildings, and provide food and blankets to the homeless. Some people were accommodated in schools or churches, while others were taken in by neighbouring families. Migrants from this part of Ghana who were living in southern cities rallied together to raise funds to send to relatives, and the University in Kumasi mounted a relief effort of its own. If the scale of the tragedy was smaller, this self-help approach might have sufficed. However it is clear that the situation affects such a vast region (spreading across Africa from west to east) that an international effort is required.

The irony of the situation is that until recently this part of Ghana was regarded as the Sahel Region, experiencing prolonged drought and at risk of desertification. Significant community effort has been invested in tree planting to hold back the desert, and dam construction to ensure reliable sources of water for people, crops and livestock. Last year the whole region was an unbelievable green and blue landscape of flood waters and lush foliage.

After the immediate disaster, there was a considerable dilemma facing local farmers. Should they presume 2007 was an aberration never to be repeated, and simply rebuild their houses as before? Should they seek government assistance in purchasing cement to strengthen the building foundations, in case flood waters rose again. Should they look at complete relocation? And when should they plant their crops next year? The first of these questions has already been answered as the rains and flooding have returned in 2008. Unfortunately people were as ill-prepared as before, having largely rebuilt their houses in puddled mud without durable foundations.

An appropriate response to the situation needs to provide both short and medium term relief as well as longer term planning. The most immediate need was initially for food, bedding, tents and medical services. Immediate intervention was also required to ensure access to clean water and prevent the spread of water borne diseases, as the existing wells and pit toilets remained inundated. As the intertribal conflict flared up over resources and land, the need for conflict resolution became urgent, and there are already some community based initiatives in this direction.

Information from the Regional Administration of the Upper East Region, where the floods hit the hardest, indicate that over 12,000 hectares of productive farmland had been submerged in the flood waters, ruining an estimated 13M metric tonnes of various crops including rice, maize, millet, groundnuts, guinea corn, sweet potatoes and cowpeas. In addition over 10,000 domestic animals including goats, sheep, cattle and donkeys were either lost or washed away in the disaster. Altogether 39 dams were damaged as a result of the floods and 427km of roads were either washed away or partly damaged, together with numerous bridges. The health impacts of the floods are ongoing and yet to be assessed in statistical terms.

If an appropriate planning response is to be achieved, it is essential to make an assessment of how the crisis has arisen, with a view to avoiding such tragedies in the future. Initiatives could include:

- modelling weather patterns and identifying how such events might be predicted in the future
- modelling hydrology and identifying possible mitigation strategies (eg removal of blockages, spillage systems, catch dams)
- seeking intergovernmental protocols over release of dam waters from Burkina Faso
- establishing contour maps and aerial photography databases of the affected region to identify the most vulnerable areas and inhabitants
- establishing a community based monitoring and early warning system that can mobilise in the event of recurring floods.

In the event that monitoring of weather patterns reveals permanent climate change, as is suggested by the 2008 repetition of flooding, there will need to be a well planned long term response. This would involve changes to where people live (requiring new patterns of tenure and land administration), changes to methods of building construction and changes to farming practices (including what crops are grown and when). Achieving this without a loss of culture and consequent social breakdown presents a considerable challenge for the regional, national and international community.

The alternative to a planned response is clear. People who have been made homeless or who are frightened of further disaster in the future are likely to pack up and leave. This means an increasing drift of rural migrants to the southern cities of Kumasi or Accra, placing a burden on existing communities and services. The drift of farmers away from this region as well as uncertainty on the part of remaining farmers is likely to lead to reduced production of food from the critically important “bread basket” of Ghana, exacerbating food prices and shortages for the country as a whole. If planners are to prevent desertion of the region, they will need to act quickly.

This is not a case where paper plans will do the trick. What is needed is action planning, mobilising the resources for teams of people to work at the community level. Planners can assist local people to develop their own solutions, which will need to include innovation in where and how they occupy the land. They can then work with local administrations to facilitate the necessary reforms and create appropriate infrastructure.