Case Study:
Gender, Human Security and Climate Change in Ghana

This chapter[1] is based on a Case Study conducted by Rose Mensah-Kutin from ABANTU for Development in Ghana. It provides an overview of climate change in Ghana and draws out implications for women's livelihood security and gender equality. The situation of women in Ghana is also discussed in terms of how they manage to cope with continued deprivation and poverty with specific reference to the consequences of climate change. Finally, national strategies and adaptation measures are reviewed from a gender perspective.

1. Climate change in Ghana

Administrative Map of Ghana
Source: www.lib.utexas.edu

Map showing Ecological Zones of Ghana

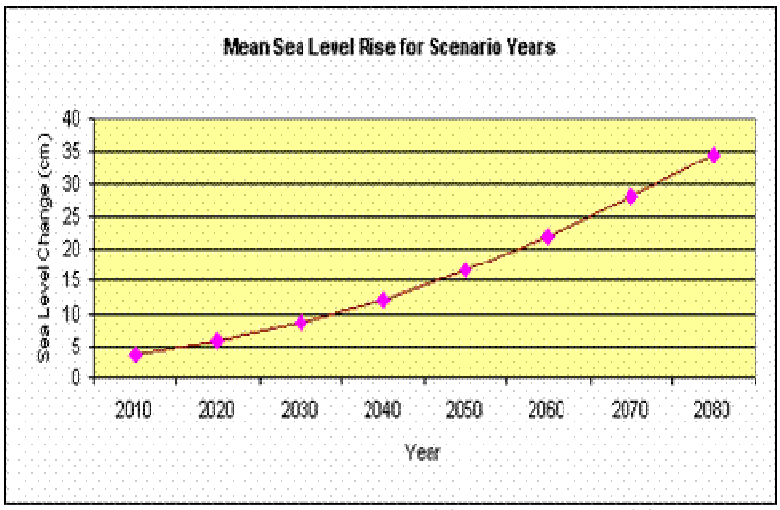
According to a newspaper report by the *Daily Graphic* on February 16, 2008, Ghana must prepare for the worst case climate change scenario this year. Torrential rains, excessive heat and severe dry winds are expected. This is in addition, to more floods and droughts. Similar to other countries in Africa, the sustainability of the country's ecosystems are at risk in areas such as terrestrial and aquatic ecosystems, habitats and wildlife. The Environmental Protection Agency (EPA), the institution that hosts the National Focal Point on climate change issues, also envisages adverse effects on soil, lands, coastal zones and tropical forests. Generally, national vulnerability assessments have established negative impacts around critical human security sectors such as agriculture, fisheries, water resources, land, health and energy (EPA, 2000)[2].

[1] **This chapter is excerpted from WEDO's study, *Gender, Climate Change and Human Security*, commissioned by the Greek chairmanship (2007-2008) of the Human Security Network. The report includes three country-specific case studies prepared by WEDO partners; the other country assessments are of Senegal and Bangladesh. Please see the full report for the references list.**

[2] The analysis focused on some specific issues in the various sectors identified. For example, one of the key focuses of the analysis on agriculture is on cereal production. This paper has therefore drawn on the specific components used in Ghana's Initial National Communication (GINC). For an elaboration see (EPA, 2000).

About 57 percent of the total land area of Ghana is suitable for agriculture (Damptey, 2007). Land problems include growing land scarcity, competition over land use, as well as environmental and land degradation. Projections by EPA indicate that if present trends in deforestation and climate change should continue, the natural forests in the managed and protected tropical forest reserves would decrease by 45,000 hectares. Total closed forests would decrease by 343,000 hectares, and natural savanna woodlands by about 600,000 hectares.

If the sea were to rise as projected below, low-lying sandy coastal areas in the country could be severely affected. According to the EPA (2000) about two-thirds of the total land area can be at risk as a consequence of the rise of the sea level in Ghana. According to the EPA's projections, a total of 1,110 km² of land area may be lost as a result of a one-meter rise in sea level (2000). When this happens, a total population of 132,000 mostly living within the East Coast area would be affected.



Scenario for Mean Sea Level Rise (Taking Present Trends into Account)
Source: Environmental Protection Agency, Accra (EPA, 2004)

Additionally, there would be direct inundation of low lying wetland and dryland areas and erosion of soft shores by increasing offshore loss of sediment. Other worrying effects that are likely include increases in salinity of estuaries and aquifers, raised coastal water tables, and exacerbated coastal flooding and storm damage (EPA, 2000). Such changes in the climate will be associated with grave human security and gender impacts as they would influence coastal habitats, biodiversity and a range of livelihood activities. Damptey and Mensah (2005) have noted, for example, that there would be changes in water quality which would negatively affect freshwater fish. Some of the facilities on the beaches would be threatened and some groundwater resources would be salinated. Valuable agricultural lands would also be inundated.

2. The situation for women in Ghana

It is important to examine the social, economic and political status of women in Ghana to determine whether their condition can provide a sense of well-being in light of the worrying projections about climate change.

Women's economic empowerment

In Ghana, years of colonial domination and poor economic policies since independence have made the country underdeveloped and poor. Women and men occupy distinct positions in the economy

largely as a result of a gender division of labor within households and the society at large. This allocates the bulk of reproductive activities to women, leaving men time to pursue more market-valued productive activities and resulting in extensive gender segregation in production and reproduction across different sectors of the economy (UNECA, 2004). Women's unpaid labor is critical for livelihoods and the security of household and family members. It involves repetitive and time-consuming tasks, such as collection of firewood, water fetching, childcare, sweeping, garbage disposal and cooking, as well as the reproduction of social relations in the household and the community. Ghanaian women spend more than two times as much time on domestic work as men (UNECA, 2004).

In agriculture, most women in the rural areas of the country are predominantly engaged in food crop cultivation and small scale trading, while their male counterparts are involved in both food and cash crop cultivation generally and on a relatively larger scale. It is estimated that women cultivate almost 40 percent of all land holdings under production in Ghana. In urban areas where women are predominantly found in the self-employed informal sectors of the economy, mainly in trading and other service activities, men have the majority share of the public and private formal sector wage jobs (Bortei-Doku Aryeetey et. al, 2000).

Structural Adjustment Policies (SAPs) privilege a small public sector and a large reserve army of labor in the informal sector. Generally, incomes and conditions of work in the informal sector are far less secure and stable, relative to formal sector employment. Workers in the informal sector are usually not protected by labor laws and conventions and have no basic rights such as minimum wage or health care. In addition to their lower levels of involvement in wage work, women as an economic category occupy lower positions in the formal labor sector and, therefore, earn much less money than men in waged work (WMC, 2004).

Women's experience of inequality is also expressed in their limited access to and control over resources. In Ghana, women's unequal land rights affect their access to other resources and their economic, social and political status. Ghana has a pluralistic system of land tenure which is a legacy of colonial rule and which has been characterized by the co-existence of British-derived land interests and customary land tenure interests, which have affected women's land interests (Kotey and Tsikata, 1998; Kasanga, 2002, WMC, 2004). Women's access to land is affected by tenurial arrangements, inheritance and land use patterns. Thus, although women have land usage rights, their access to the resource depends on its availability and the goodwill of men who control it (UNECA, 2004).

Years of Structural Adjustment Policies (SAPs) in the 1980s have created widespread poverty and insecurity, with particular ecological zones and social groups such as women and children suffering specific forms of hardships. Since 2000, a government decision to join the Highly Indebted Poor Countries (HIPC) initiative and the subsequent adoption of the Ghana Poverty Reduction Strategy (GPRS) has led to a continuation of the SAPs approach (WMC, 2004). Even though women in Ghana have been identified as a category that suffers disproportionately from poverty, the sectors where women are in the majority are not prioritized in both GPRS I & II. There are also no measures in place to address women's experience of poverty in a systematic way.[3]

[3] GPRS processes were highly contested by women's rights organizations for lack of gender sensitivity. In 2004, greater effort was made by the government to address the concerns of women. Thus, GPRS II is an improvement over the first one, in terms of responsiveness to gender issues (GPRS I & II, 2002, 2004).

Women and social policy

In Ghana, the overriding concern with macro-economic stability has relegated social welfare, social security and human development issues to the background. There is no social policy and no universal and equitable access to social services and public resources, so the delivery of an acceptable minimum level of service provision to promote human security is inadequate. Thus even in periods of economic growth, levels of poverty, disease and insecurity have increased affecting women the most (WMC, 2004).

Basic access to water and sanitation has been privatized in Ghana to ensure full cost recovery under World Bank policy frameworks. This has wide implications for women and girls because they have to walk long distances to fetch water with repercussions on their time and health. Related to this, in spite of their primary role as users of water, women are largely absent from critical decisions around water.

In the area of health, in spite of a 1999 Ministry of Health policy document for promoting gender equity in health, there is evidence that poor women's health needs are not guaranteed. The Demographic and Health Surveys indicate that chronic malnutrition, low weight and under-five mortality are higher in boys than in girls. Women also have a higher life expectancy than men, at a ratio of 60.3 years to 56.6 years, respectively (GSS, 2000). But women in Ghana are at a high risk of dying from pregnancy-related cases. Maternal Mortality Ratios (MMR) in Ghana is estimated at 214 per 100,000 live births compared with 10 per 100,000 live births in developed countries. The situation is worse in the three northern regions of the country where the experience of poverty is also highest.

With specific reference to the incidence of HIV/AIDS, prevalence rates bring the gender inequality dimension into clear focus. In Ghana more than 90 percent of all AIDS cases are found in sufferers between ages 15-49. Of this figure, three out of five or 61 percent of reported cases between 1986 and 2002 were female. Gender differentials in educational levels, women's poorer access to economic opportunities, resources, knowledge and reproductive health information put women at a higher risk than men (UNECA, 2004; WMC, 2004).

According to the Ghana Living Standards Survey, 44.1 percent of women as opposed to 21.1 percent of men have no formal education (GLSS2, 2000). This has implications for women's access to formal sector employment. Enrolment and retention figures are no better: at the basic school level, average enrolment rates for males are 66.2 percent and 58.2 percent for females. More girls than boys also drop out of school at all levels of the educational ladder. Factors such as poverty, early marriage and teenage pregnancy affect women's ability to study up to higher levels. There is however evidence that women's entrance into tertiary institutions is increasing over time (UNECA, 2004).

Women in politics and decision-making

Participation in politics and decision-making is also critical for women's ability to contribute to and benefit from climate change discussions, mitigation and adaptation measures. At the level of the legislative framework for participation in public affairs, there are no specific provisions to enhance gender equality, even though the national constitution generally accepts the equal rights of all citizens (1992). Within the local governance system, women's participation as elected members is extremely low and not proportional to them being of 51 percent of the population. Participation stands at a low of 10.1 percent even though representation has been increasing over time. In 2002, the National Association of Local Authorities in Ghana (NALAG) estimated that women constituted 35.5 percent of appointed members in 97 out of the then 110 districts.

In the current (2004-2008) parliament of 230 legislators, only 25 are women (or 10.8 percent). Women are also under-represented in almost all key public services and professional syndicates and civil society organizations in the country, from trade unions, employers associations, the judiciary, NGOs and CBOs. In the public service, women are found clustered in lower managerial and non-managerial positions and are mostly found in the health, education and social services sectors. Only 13 percent of senior civil servants are women (Allah-Mensah, 2004).

Beyond numbers, it is obvious that political participation has tended to ignore issues of gender relations and many public policy issues are handled from a gender neutral perspective.

Institutional mechanisms for women

Ghana established the National Council on Women and Development (NCWD) in 1975 as a response to the UN's mandate that member countries demonstrate commitment to the promotion of women's rights by setting up national machineries. In spite of the many challenges and obstacles that faced the NCWD, it succeeded in supporting women in a number of areas, such as providing micro-credit opportunities for income-generating activities, passing a number of laws such as the Intestate Succession Law (PNDC Law III) and the Law against Female Genital Mutilation, and building awareness and sensibilization.[4] The NCWD was transformed into the Ministry of Women and Children's Affairs (MOWAC) in 2001. In spite of contestation about the ideology, mandate, organizational character and form, the Ministry has managed to contribute to women's well-being along similar lines as the NCWD. In the area of legislation for example, it has supported the passage of the Trafficking Law (2006) and the Domestic Violence Law (2007). However, similar to the NCWD, MOWAC has not succeeded in articulating specific gender concerns in policy arenas. Even though it has actively participated in the Ghana Poverty Strategy Paper (GPRSP), as well as the Growth and Poverty Reduction Strategy (GPRSP II), the outcome documents have not sufficiently taken gender relations into account.

This is clearly exemplified by the treatment of environmental issues as gender neutral. Ghana has many laws, policies and programs aimed at preserving and protecting the quality of the environment. But gender responsiveness is woefully limited. At the level of conception, process or implementation, many of such policies have failed to sufficiently acknowledge and take into account women's multiple responsibilities, alternative uses of environmental resources or their vulnerabilities.

[4] Micro-credit is useful for women but it has proved led to any marked changes in women's experience of poverty and inequality. Even though women have been noted as reliable in paying back loans, the dynamics of gender relations in the household has tended to limit women's ability to control monies received. Some women in Ghana sometimes end up borrowing from other sources to pay back loans.

To a large extent therefore, many of the policies on the environment and their implementation overlook the distribution of power and environmental resource use between women and men.[5] The broader reason for this is that policy makers tend to see development in the restricted sense of economic growth, measured by gross national product, and so prescriptions for development are confined to an economic agenda involving investment, trade negotiations, and foreign aid. Issues of gender equality, affirmative action and environmental sustainability are treated as marginal when addressed at all (NETRIGHT, 2005).

3. Impacts of climate change on women

The changes in the climate coupled with the precarious socio-economic conditions of women in Ghana mean that any disaster is likely to have the worst impacts on women. As has been noted before, women are not sufficiently represented in high decision-making levels and structures. Their participation in the scientific disciplines and in the structures in place for environmental and climate change issues is also limited. This is likely to limit the ability of women to articulate their specific concerns to affect mitigation and adaptation measures.

Land and agriculture

> "*I am a blind widow with two young children: a girl and a boy…..As I am blind I did not farm and therefore could not have harvested anything even if the drought and floods had not destroyed people's farms. The looming hunger following the crop failure has had a disastrous impact on me because all those who used to support me have become as needy as me…Additionally, my children who would have helped me to move around are away trying to eke out a living for themselves.*" (Wombavuluma Dabong, 50 years; Wakii, Talensi-Nabdam District, Upper East Region – interviewed by CENSUDI)

Land relations are critical for women's rights in Ghana. This is because of the centrality of land as a resource for the livelihoods of the majority of the population (WMC, 2004).
Without secure land rights these climatic changes are likely to affect women's ability to use available land. In Ghana there are different categories of land users who face problems of access and control to land. Women are an especially vulnerable group in this regard and experience discriminatory cultural practices. Particularly in agriculture, women's contributions are devalued. Their interests in family lands are limited by marital residence. They are also often given land of poor quality and size. The clearing of land is customarily assigned to men. These practices afford men the opportunity to use and control land and has prevented the majority of women from securing control over virgin land belonging to their lineage (Kotey and Tsikata, 2000).

The unequal experience of women in relation to land comes into sharp focus when examining the productive activities of women in the wake of climate change conditions. An analysis of the impact of climate change on cereal production by the EPA indicates that both the maximum and minimum temperatures increased over the years in all the agro-climatic zones of Ghana[6] (EPA, 2000). Based on the findings of the study, it was projected that the percentage decreases in maize yield in the Transition Zone will range from 0.5 percent in the year 2000 to 6.9 percent in the year 2020. Millet yields will not be affected by the projected climate change, as millet, a major local staple in the three northern regions in the country, is more drought tolerant. The other aspect relates to vegetation cover which has been severely affected by human activities. Logging activities in the forest zones

[5] See footnote 15 about NETRIGHT.
[6] Ghana's Second National Communication is expected to be ready this year, 2008.

coupled with bushfires in the savannah region have tended to reduce the composition and density of vegetation with negative implications for widespread acceleration of erosion, reduced crop yields and desertification (EPA, 2000). These processes are increasing climate change with negative implications for women in terms of their productive efforts in the agricultural sector. Since socio-cultural and land tenure practices deny women sufficient access to fertile lands, their plots are the ones which tend to be affected primarily by climate change processes.

The *Ministry of Food and Agriculture* (MOFA) established the *Women in Agricultural Development* directorate in 1989 as a means of enhancing policy-making and implementation of gender sensitive measures to benefit women's agricultural productive activities. Even though MOFA has developed a gender strategy on agricultural development, the interventions outlined have not taken climate change impacts into account.

Fisheries

Fishing activities in Ghana are gendered. Men go out to sea while women and children are responsible for the negotiation, purchase, storage, processing and marketing of fish (Damptey and Mensah, 2005). Support to the fisheries sector by development planners has been particularly limited and gender specific measures and interventions have not been forthcoming. This is problematic given the extent of reliance by several groups of women on fish selling as an income generating activity. The majority of households in Ghana also rely on fish as a major source of protein. It has, for instance, been estimated that fish constitutes about 60 percent of animal protein in Ghana (DFID, 2004). Any semblance of support to the activities of women in the sector has come in the form of micro-credit facilities which are often given without a proper gender analysis of the social relationships between women and men in the fishing activities and the household.[7] To this end the sector is generally not re-generating itself and has not succeeded in addressing the gendered experiences of poverty of women and men. This situation can further be worsened by climate change impacts and leads to loss of income for poorer women, increases in the price of fish, and lower levels of protein in diets (Damptey and Mensah, 2005).

Water

Lack of good access to water has implications for women's experience of poverty and therefore their sense of social security. Water is not only a basic need, it is also critical for farming activities, especially in the rural areas of the northern region where small-scale irrigation systems and hand dug wells are used. The provision of water for households is the primary responsibility of women and girls in Ghana as it is in most parts of the world, especially Africa. Women usually spend long hours walking long distances to fetch and carry heavy loads of water every day. This has negative consequences for their time, energy and health. Because of its direct association with women, the provision of water for households is not considered a critical area for policy-makers (WMC, 2004).

It has been estimated that 70 percent of women and men living in rural communities in Ghana with populations between 500 and 5000 have no access to potable water (Ayensu, 1994). This situation has worsened since the year 2000 with the implementation of World Bank water privatization

[7] There is evidence that credit facilities given to women are sometimes controlled by men in their capacity as heads of households and husbands. Some alternative energy technologies have been promoted among women who smoke fish to reduce the drudgery of work involved in the activity. Energy and gender experts have consulted with both women and men in household relationships to promote acceptability and support (Mensah, Sabina, 2001).

measures to ensure full cost recovery. Such policies are also likely to limit access further and make water accessible to only those who can afford it. Women are mainly at a disadvantage as they are unable to pay for the cost of such basic services. Even though they are major providers and users of water, women are also not sufficiently consulted about such decision-making initiatives (WMC, 2004).

In assessing the impacts of climate change on water resources, three water systems were examined by the EPA. These were the Pra River from the South Western, Ayensu from the Coastal and the White Volta from the Volta systems in the country (2000). The major findings of these studies are critical for looking at climate change from a gender perspective. It was noted that change in precipitation or rise in temperature can cause a reduction in runoff and reductions in groundwater recharge of between 5 percent and 22 percent by the year 2020. These scenarios could have adverse effects on irrigation water demand as well as hydropower generation. There are additional socio-economic impacts on health, nutrition and energy-based industrial activities (EPA, 2000). These include lack of access to potable water, loss of income and status.

Energy

> "*I have seven children (4 boys and 3 girls)… The floods collapsed our three rooms and washed away our crops: maize and late millet. As a result, we harvested nothing. Hunger stared us straight in the face. I have been traveling long distances every morning to collect firewood for sale to feed my family. Getting firewood is now very difficult and most times I have to climb trees to check for dried branches to cut. Sometimes I do this with my 9 month old baby on my back*…. " (Atibzel Abaande, 45 years; Boya-Zooyanga, Bawku West District)

The bulk of Ghana's energy consumption is from biomass in the form of firewood and charcoal, which accounts for about 59 percent of total energy consumption. This is an indicator of extreme poverty and an obstacle to improved livelihood conditions. The household sector accounts for 52 percent of total energy consumption (Ministry of Energy, 2000). The energy sector has begun to show signs of being susceptible to climate change. In particular, the effect of highly variable precipitation, and increased temperatures in some areas, can lead to a reduction in biomass production resulting from water stress on woody plants and general land degradation. This will further increase the long hours women and girls spend every day collecting wood, agricultural residues and dung for use as fuel.[8]

Health

Extreme weather events such as heavy precipitation, floods and drought, which are attributable to climate change, could impact on the health of women and children and affect their socio-economic status and well-being. In Ghana, it is predicted that climate change can also create serious health problems associated with cardiovascular, respiratory and other diseases. In the event that climate change results in flooding, women and children would be most vulnerable to death and injury given their limited chance for involvement in planning for disaster preparedness.[9] Cases of cholera, diarrhea, malaria, malnutrition and heat related deaths may increase depending on varied climate scenarios. Pregnant women and children are particularly susceptible to malaria which also contributes to pre-natal mortality, low birth weight and maternal anemia (Damptey, 2007). Climate change could also affect the availability of certain plants needed for medicinal purposes with its

[8] See Mensah-Kutin (2007) in Karlsson, Gail (ed.) "Where Energy is Women's Business" (ENERGIA).
[9] See the case study on the Flood Disaster in the three Northern regions of the country under section 4.3.

intended effect on the health of the vast majority of women, especially rural poor women who rely on traditional medical plants for their health needs.

4. Women's strategies and adaptation to climate change

Given the reality of women's socio-economic position and the limited opportunities for obtaining support for their livelihoods, women have adopted various mechanisms to cope with any adverse impacts with which they may be confronted from time to time. Much evidence suggests that women have developed coping strategies for their own survival and for that of their families in crisis situations, including periods of economic crisis such as structural adjustment (Manuh, 1994). Women have also demonstrated initiatives in dealing with their vulnerability to climate change impacts, as presented in the examples below.

Strategies in the fisheries sector

One important example of how women cope with the impact of climate change in the fisheries sector has been documented by Damptey and Mensah in their study of women in the fish trade in villages in the Volta Region of Ghana (2005). Women who live in the Keta District along the coast are involved in fish processing. Some of the fish, namely shrimps and anchovies, are smoked; others are either salted or dried in the open sun. Women in this location have observed a dramatic change in the weather over the past ten years. Even though there is no accessible institutional mechanism or framework for the women to obtain formal knowledge and information about what may be happening, they have made some sense of the situation using their own historical and socio-cultural knowledge and awareness of the coastline and the behavioral characteristics of the fish. The women referred to the inadequate and erratic rainfall pattern, as well as the swift flow of current from the Volta River, which has also led to the deposition of a considerable amount of silt, making the beach very shallow and not favorable for fish to breed. Changing fishing practices, where fishermen use unapproved nets, also disturbs breeding grounds and destroys fingerlings.

In discussions with different groups of women, the researchers encountered similar reports: fish stocks are declining as a result of fishing activities by trawlers, pirate fish vessels and the use of unapproved nets by local fishermen. To come to terms with this situation, women have involved themselves in multiple economic activities in addition to the fish processing activity. Those who have had access to formal education up to the basic school level have had a chance to access credit to support their petty-trading activities. Some of them have also started daily savings practices with informal saving schemes. Other strategies include organizing themselves into co-operatives, financing fishing gear and providing money upfront for men to go to sea so they can have first access to the day's catch.

In spite of these measures, the effect of the dwindling fish stocks has affected the whole social structure of the communities and limited their ability to maintain the security of their families. Many of them complain about their inability to pay for school fees and medical bills.[10]

[10] There is currently a Schools Feeding Programme by the state targeting vulnerable groups. A National Insurance Scheme is also underway to minimize the cost of healthcare. Implementation of these policies is, however, slow. Sometimes also they do not reach those whose needs are a priority.

Strategies by women farmers

Photo 1: (left): Women resort to contaminated water in times of crisis. Photo 2: (right): Dry land caused by climatic changes, hindering sustainable farming. Photo Credit: Foundation for Female Photojournalists, Ghana

In the farming community known as Kwanyako, which lies within the Ayensu Basin in the Central Region of the country, land is becoming scarce due to seasonal flooding. The majority of the women in this community are engaged in mixed-crop farming on small plots. The crops are mainly maize, beans, cassava, yams and sweet potatoes. Engaging in the cultivation of long-term crops like oranges, cocoa and palm oil is one of the strategies being used by women to supplement their livelihoods. Some of the farm produce is sold and some processed into staple foods for sale, both within and outside of the community. Proceeds from these activities are used for daily subsistence, and many of the women are unable to save, limiting their ability to expand their farming activities or make any investment. The women in the community do not have access to extension services or access to credit facilities.

Disaster in Northern Ghana: strategies and measures [11]

Photo 3: The flood disaster in the northern sector of the country has affected families. Clearly, women's burdens have not decreased, as the man walks alone while the woman carries a baby and a head load! Photo Credit: AFP

[11] A telephone interview with staff of CENSUDI, one of the women's groups in the Upper East Region involved in managing the disaster, provided information for this section.

The three northern regions of the country, namely Northern, Upper West and Upper East, were devastated by a three-pronged disaster in September 2007. The disaster was the result of a combination of a series of weather events. First, the rains delayed the period for planting and therefore jeopardized the early harvesting of millet, a major staple. The delay in rainfall was followed by torrential rains which led to flooding that inundated farms, killed poultry and livestock, and collapsed houses and other infrastructure. Finally, an early dry season caused crops to wilt before maturity. A humanitarian crisis resulted from these weather events, the magnitude of which nearly ruined the safeguards which the communities had established to meet their livelihood needs. At least 20 people died and an estimated 400,000 were rendered homeless. Many of the houses in the area are built with mud and thatch and many of them simply washed away. In this situation, the most vulnerable groups were women and children.

In the midst of the crisis, women developed a number of coping strategies, including providing one meal a day to family members, selling the remaining livestock not washed away by the floods, sending young people to major towns in southern Ghana to work and send remittances back home, collecting twigs for firewood from long distances and berries for food. In the Bolgatanga area of the Upper East Region, women were willing to do any work for any wages to survive.

The magnitude of the disaster also required active state and NGO intervention. A women's rights organization, the Centre for Sustainable Development Initiative (CENSUDI), for example, worked to ensure that social inequalities were not widened as a result of the disaster and the national effort to address it. CENSUDI received donations from the Network for Women's Rights in Ghana (NETRIGHT), the Navrongo Campus and Northern Education Trust Fund (NETFUND) and individuals.[12] CENSUDI focused on meeting the immediate food needs of some of the most vulnerable women, men and children in each community whose coping capacities in times of crises had been jeopardized. Since many households are extremely poor and had low food stocks, CENSUDI, utilized the donations to buy dried anchovies, rice and pepper. The most vulnerable female and male disaster victims in nine project communities benefited from the initiative within a period of two months. Apart from food, CENSUDI also distributed blankets and mosquito nets to pregnant women, lactating mothers, the sick and the elderly. CENSUDI also worked with the disaster victims to identify the medium-to-long-term needs of agricultural recovery (dry season gardening and livestock and poultry rearing), shelter reconstruction, micro-credit for women and disaster risk reduction. This initiative is being supported by Care International and Christian Aid.

5. Policy framework in Ghana

In Ghana, a number of national institutions and private organizations exist whose mandates and activities relate to climate change issues. These include the Ministry of Environment, Science and Technology, the Meteorological Services Department, the Remote Sensing Applications Unit, the Council for Scientific and Industrial Research, Water Research Institute and the Environmental Protection Agency. But each of these institutions function as "pure scientific entities"; they do not prioritize a framework for building policies and actions from an overall social justice, human security and gender equality perspective.

[12] The Network for Women's Rights in Ghana (NETRIGHT) is a network of organizations and individuals established in 1995 to promote a gender perspective in economic and land rights in Ghana. In the wake of the disaster, it donated an amount of $1,000 to women through CENSUDI.

The establishment of the Ministry of Environment was a major outcome of the 1992 Earth Summit. The Ministry has an advisory committee with a secretariat to facilitate the implementation of Agenda 21. The membership is dominated by men from public and civil society institutions. Ghana also enacted the Environmental Protection Agency Act 1994 (Act 490) as a regulatory and enforcement agency, which makes non-compliance to environmental regulations criminal, liable on conviction to fines or to terms of imprisonment (EPA, 2000). The Act also ensures the application of a set of systematic measures to promote compliance in accordance with Environmental Impact Assessment procedures and measures.

A national Committee on Climate Change is hosted by the Ministry of Environment. This committee has the mandate of reviewing policies and programs to complement national priorities and contribute to reduction of greenhouse gas emissions and an increase in carbon sinks. The Ministry is the focal point for UNFCCC activities (Agyeman-Bonsu, 2007a).

Ghana signed the UNFCCC in June 1992 in Rio de Janeiro. The Convention entered into force globally on 21 March 1994 and specifically for Ghana on December 5, 1995, three months after Ghana ratified the Convention. In 2002, Ghana's Parliament passed a resolution to ratify the Kyoto Protocol (KP) and the KP entered into force globally on 16 February 2005 (Agyeman-Bonsu, 2007b).

As mentioned earlier, the Environmental Protection Agency (EPA) is the main Country Implementation Institution (CII) for the technical coordination of activities on climate change, the UNFCCC and other environmental conventions ratified by Ghana (EPA). A national climate change focal point is in place under the Conventions and Projects Implementation Department to act as the "desk" for the implementation of climate change-related issues. The "desk" coordinates the activities of working groups and climate change study teams to support the implementation of Climate Change Project activities.[13]

The Second National Communication (SNC) is under preparation and expected to be ready in late 2009 (Agyeman-Bonsu, 2007c). It is expected to provide an update on the greenhouse gas emissions inventory and include all sectoral vulnerability assessments, as well as climate change mitigation options in energy, waste, industry, agriculture and forestry. The technology needs for both climate change mitigation and adaptation is also to be assessed. With regard to the implementation of the Kyoto Protocol, the Environmental Protection Agency has been nominated as the Designated National Authority to access the Kyoto Protocol Clean Development Mechanism (CDM). National CDM approval guidelines have also been developed to assist in assessing how CDM projects contribute to sustainable development (Agyeman-Bonsu, 2007d).

It is clear that the government of Ghana views the issue of climate change as a critical one for policy-making, particularly in terms of how international commitments are translated into national measures and strategies for mitigation and adaptation. However, just as the efforts at the international level are limited, so are those in Ghana to incorporate gender concerns into the climate

[13] The 'desk' produced the Ghana Initial National Communication in 2000. It also covered the following: Greenhouse gas emissions (from 1990-1996); Vulnerability and adaptation assessment for water resources, coastal zone and agriculture (cereal production); Climate change mitigation options with energy and forestry sectors. Other initiatives include: Climate scenarios have been developed using base data 1960-2000 and projection up to 2080 for all agro-ecological zones; Climate change and poverty incidences.

change discourse and processes. Whereas there is clear evidence of a direct link between gender relations and adaptation to climate change, women's voices and participation in decision-making structures and processes is woefully inadequate. Even though National Adaptation Plans are in the process of being developed, gender issues and the involvement of women is limited.

"I have been contemplating leaving my village. But what keeps haunting me is what will happen to my family. I am grateful to CENSUDI for bringing me some rice and soup ingredients just after the floods. This was a real lifesaver because at the time my family had nothing to eat. CENSUDI is also giving my family food aid which hopefully will last for 6 months. My worry now is what will happen to us after this food aid ends…" (Atibzal Abaande, 45 years; Boya-Zooyanga, Bawku West District (Upper East Region) – interviewed by CENSUDI).