

ASSESSING CLIMATE CHANGE RELATED EVENTS ON THE RIGHTS OF SUBSISTENCE IN THE RURAL COASTAL COMMUNITIES OF GHANA

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ABSTRACT: *From the perspective of international human rights law, people are in no case be deprived of their own means of subsistence. However, weather and anthropogenic climate change pose both direct and indirect threat to a wide range of universally recognised human rights, by depriving millions of people of their rights of subsistence. This study looks at climate change and its effects on rights of subsistence in the rural coastal communities. The following research questions guided the study: (1) what are the climate change related effects on the right to adequate clean water?; (2) what are the climate change related effects on the right to food?; and (3) what are the climate related effects on the right to adequate housing? The population for this study included the residents in the two coastal communities, namely, Ampenyi in the Central Region and Anlo Beach, close to Shama in the Western Region. Mixed method approach with a sequential design was employed. Triangulation was used to test the consistency of findings obtained through different instruments used. Purposive sampling technique was employed in selecting the two communities and the respondents. Instruments for the data collection were questionnaire, interviews and observation. The quantitative data was analysed into simple percentages, whilst the qualitative data was done by interpretative technique whereby the outcomes were put into thematic areas based on the research questions. It was revealed from the study that, climate change related events have directly or indirectly affected rights of subsistence of the residents in the study areas. The study therefore, recommended that, rights-based approach should be applied in effective coastal planning and resiliency building to help the affected communities cope and adapt to living in a dynamic climatic environment.*

KEYWORDS: Climate Change, Coastal Communities, Rights of Subsistence, Rural Coastal Communities.

INTRODUCTION

The socio-economic impact of climate change, resulting from anthropogenic activities is a major concern for the international community and governments as it has emerged as a key human rights violation, global security issue and socio-economic development threat for many countries of the world. Climate change is a situation where climatic variations or fluctuation over a long period of time occur to produce a shift or a change in the type of climate prevailing over an area. In other words, climate change represents a significant difference between two mean climatic states or climatic normal with a significant impact on the ecosystem (Ayoade, 2003; Smith, 1996). Global climate is a continuous changing phenomenon that influences the frequency of heat waves, floods and storms as well as the transmission of infectious diseases (Haque, Yamamoto, Ahmad & Sauerborn, 2012).

The impact of climate change as noted by UNICEF (2011) can be felt both directly and indirectly when it interacts with other development pressures. Climate change, biodiversity loss, deforestation, desertification, poverty, no or limited access to safe drinking water, lack of basic sanitation and healthcare, food insecurity are expected to become ever more prevalent, despite international commitments to tackle these problems (such as the millennium development goals) (Waas, & Hugé, 2012). The dramatic state of the environment and its vast and threatening impact on human well-being is firmly stated by the United Nations Environment Programme (UNEP):

Imagine a world in which environmental change threatens people's health, physical security, material needs and social cohesion (...). Some people experience extensive flooding, while others endure intense droughts. Species extinction occurs at rates never before witnessed. Safe water is increasingly limited, hindering economic activity. Land degradation endangers the lives of millions of people. This is the world today (UNEP, 2007).

Frequency of extreme weather events and natural disasters, rising sea-levels, floods, heat waves, droughts, desertification, water shortages, and the spread of tropical and vector-borne diseases are some of the adverse impacts of climate change (Huq & Hugé, 2010; Intergovernmental Panel on Climate Change [IPCC], 2012; IPCC, 2014). It has become a known fact that, shifts in climate will bring different changes to different regions and results in prolonged floods and severe drought in many parts of the world (United Nations Development Programme [UNDP], 2008). Some areas may see greater natural resources because of increased rainfall, for example. But on a balance, the poorest regions are most likely to suffer because they are least able to adjust to new conditions.

In February 2007, the Intergovernmental Panel on Climate Change (IPCC), a panel of international experts assessing the current scientific knowledge on climate asserted that, warming of the earth's climate system is "unequivocal" (IPCC, 2007). Similarly, in its 5th Assessment Report, the Intergovernmental Panel on Climate Change (IPCC, 2014), unequivocally confirmed that climate change is real and that human-made greenhouse gas emissions are its primary cause.

The Global Humanitarian Forum, founded by former UN Secretary General Kofi Annan, published a study in 2009 which estimates that the effects of climate change are resulting in 300.000 deaths each year in the world's poorer regions with a further 300 million people directly affected in some way. The report predicts that, four billion people are vulnerable to the effects of climate change and 500 million at extreme risk. Klein and Amanatidis (2004) also state that, the effects of climate change on coastal zones include increased flood risk and storm damage, loss of low-lying land and coastal wetlands, increased erosion, and intrusion of salt water into coastal freshwater resources.

Geographically, Africa is said to be vulnerable to a multitude of adverse effects of climate change as a result of its location in the tropics, low-lying topography and susceptible geographical locations, extreme poverty and low adaptive capacity (Jegede, 2016). Consequently, it is commonly identified as a region highly vulnerable to climate change FAO (2005) and projections indicate warming will be greater than global annual mean, with an average increase of 3-4°C over the next century (Boko et al., 2007). This implies that Africa

in particular becomes one of the main regions where the effects of climate change are being, or will be, felt hard. Indeed, African countries, including Ghana, are among the most vulnerable to the impacts of climate change due to inadequate adaptation capacities, slow economic development, and low institutional capacity (IPCC, 2007). Studies projected that up to 150 million people could be permanently displaced in Africa as a result of climate change by the middle of this century (Black, 2017). In Nigeria, for example, the problem of beach erosion is said to be aggravated by periodic storm surges, which are accompanied by plunging waves causing the offshore transport of Victoria beach's remaining sediments (Awosika, Dublin-Green & Folorunsho, 2002).

In the context of Ghana, there are evidences of anthropogenic climate change effect on coastal communities. For instance, it is estimated that the recession rate in the Keta in the Volta Region, area has increased from 4m/year before the construction of the dam on the Volta River in 1965 to 8m/year after the dam construction (Apeaning-Addo, 2011). Meanwhile, the country's National Climate Change Adaptation Strategy do not come out with human right dimension to the phenomenon, but solely focused on the following: (i) Ensure a consistent, comprehensive and a targeted approach to increasing climate resilience and decrease vulnerability of the populace; (ii) Deepen awareness and sensitisation for the general populace particularly policy makers about the critical role of adaptation in national development efforts; (iii) Position Ghana to draw funding for meeting her national adaptation needs; (iv) Strengthen International recognition to facilitate action; and (v) Facilitate the mainstreaming of Climate change and disaster risk reduction into national development.

The current scientific consensus, however, is that climate change poses a serious threat to the full enjoyment of a broad array of human rights, including right to life, right to health, right to adequate food, right to adequate housing and right to adequate water (Human Rights and Equal Opportunity Commission [HREOC], 2008). The range of these threats is summarised by research reports (Alam, Bhatia & Mawby, 2015). The Office of the UN High Commissioner for Human Rights (OHCHR), in its examination of the relationship between climate change and human rights, concludes that climate change poses a threat to human rights. The UN Human Rights Council Resolution 10/4 (2009) on Human Rights and Climate Change, for instance, note that:

... climate change-related impacts have a range of implications, both direct and indirect, for the effective enjoyment of human rights including, inter alia, the right to life, the right to adequate food, the right to the highest attainable standard of health, the right to adequate housing, the right to subsistence etc. (see Table 1).

Table 1: How climate changes undermine human rights

Human-rights norms in international law	Current and projected impacts of climate change upon human rights
The Right to Food 'The State Parties to the present Covenant, recognize the fundamental right of everyone to be free from hunger.....(ICESCR, Article 11)	<ul style="list-style-type: none"> • Future climate change is expected to put close to 50 million more people at risk of hunger by 2020, and additional 132 million people by 2050. • In Africa, shrinking arable land, shorter growing seasons, and lower crop yields will exacerbate mal nutrition. In some countries, yields from rain-fed agriculture could fall by 50 percent as soon as 2020. • In parts of Asia, food security will be threatened due to water shortages and rising temperatures. Crop yields could fail by up to 30 percent in Central and South Asia by 2050.
The Right to Subsistence 'Everyone has the right to a standard of living adequate for the health and well-being of himself and his family, including food, clothing, housing.... (UDHR, Article 25).' 'In no case may a people be deprived of its own means of subsistence.' '(ICCPR, Article 1.2 and ICESCR, Article 1.2).	<ul style="list-style-type: none"> • Water: By 2020, between 75 million and 250 million people in Africa are likely to face grater water stress due to climate change. Reduced water flow from mountain glaciers could affect up to one billion people in Asia by the 2050s. • Natural resources: Approximately 20-30 percent of plant and animal species assessed so far are likely to be at increased risk of extinction if average global temperatures rise more than 1.5-2.50C. Coral bleaching and coastal erosion will affect fish stocks – currently the primary source of animal protein for one billion people. • Property and Shelter: Millions more people risk facing annual floods due to sea-level rise by the 2080s, mostly in the mega-deltas of Asia and Africa. On small islands, too, sea-level rise is expected to exacerbate inundation storm surge, and erosion, threatening vital infrastructure, settlements, and facilities that support the livelihoods of island communities

Source: Adapted from the Intergovernmental Panel on climate change ([IPCC], 2007)

From Table 1, climate change could directly and indirectly threaten the full and effective enjoyment of a range of human rights, including the rights to water and sanitation, food, housing and many others.

Humphreys (2011) asserts that marginalised people often live in greater poverty, resulting in less monetary capacity to deal with challenges posed by changing environments. In Ghana, rural coastal communities often suffer from poverty and marginalisation (Golo, Odumah, Adzahlie-Mensah, & Agblorti, 2015). Yet, there is paucity of data concerning the effect of climate change on these communities. This paper therefore identifies and assesses the effects of human-induced climate change from the lens of human right on the selected coastal communities in the country. Specifically, this article assess the ways in which climate change implicates the right to adequate water, the right to adequate food and the right to housing in the rural coastal communities of Ghana. This paper also suggests the employment of the human rights-based approach in dealing with the challenge.

LITERATURE REVIEW

The discourse of climate change centres on a multilevel perspective, however, this paper focuses on the nexus of human rights and climate change; right to water; right to adequate food; and the right to adequate housing.

The nexus of human rights and climate change

The 5th Assessment Report of the Intergovernmental Panel on Climate Change (IPCC, 2014), identified the increasing frequency of extreme weather events and natural disasters, rising sea-levels, floods, heat waves, droughts, desertification, water shortages, and the spread of

tropical and vector-borne diseases as some of the adverse impacts of climate change. These phenomena directly and indirectly threaten the full and effective enjoyment of a range of human rights by people throughout the world. The nexus of human rights and climate change is shown in Table 2.

Table 2: The nexus of human rights and climate change

Climate Impact	Human Impact	Rights Implicated
Sea Level Rise <ul style="list-style-type: none"> Flooding Sea surges Salination of land and water 	<ul style="list-style-type: none"> Loss of land Drowning, Injury Lack of clean water, diseases Damage to coastal infrastructure, homes, and property Loss of agricultural lands Threat to tourism, loss beaches 	<ul style="list-style-type: none"> Self-determination (ICCPR; ICESCR, 1) Life (ICCPR, 6) Health (ICESCR, 12) Water (CEDAW, 14; ICRC, 24) Means of Subsistence (ICESCR, 1) Standard of Living (ICESCR, 12) Adequate housing (ICESCR, 12) Culture (ICCPR, 27) Property (UDHR, 17)
Temperature Increase <ul style="list-style-type: none"> Change in disease vectors Coral bleaching Impact on Fisheries 	<ul style="list-style-type: none"> Spread of disease Changes in traditional fishing livelihood and commercial fishing Threat to tourism, lost coral and fish diversity. 	<ul style="list-style-type: none"> Life (ICCPR, 6) Health (ICESCR, 12) Means of subsistence (ICESCR, 1) Adequate standard of living (ICESCR, 12)
Extreme Weather Events <ul style="list-style-type: none"> Higher intensity storms Sea Surges 	<ul style="list-style-type: none"> Dislocation of populations Contamination of water supply Damage to infrastructure; delays in medical treatment, food crisis Psychological distress Increases transmission of disease Damage to agricultural lands Disruption of educational services Damage to tourism sector Massive property damage 	<ul style="list-style-type: none"> Life (ICCPR, 6) Health (ICESCR, 12) Water (CEDAW, 14; ICRC, 24) Means of Subsistence (ICESCR, 1) Adequate standard of living (ICESCR, 12) Adequate and secure housing (ICESCR, 12) Education (ICESCR, 13) Property (UDHR, 17)
Changes in Precipitation <ul style="list-style-type: none"> Change in disease vectors erosion 	<ul style="list-style-type: none"> Outbreak of disease Depletion of agricultural soils 	<ul style="list-style-type: none"> Life (ICCPR, 6) Health (ICESCR, 12) Means of subsistence (ICESCR, 1)

UDHR = Universal Declaration of Human Rights; **ICCPR** = International Covenant on Civil and Political Rights; **ICESCR** = International Covenant on Economic, Social and Cultural Rights; **CEDAW** = Convention on the Elimination of All Forms of Discrimination against Women; **ICRC** = International Convention on the Rights of the Child.

Source: Adapted from the Centre for International Environmental Law.

The nexus of human rights and climate change as indicated in Table 2 deals with climate impact, human impact and the rights implicated as a result of the phenomenon. This indicates that the negative impacts of climate change are disproportionately borne by persons and communities already in disadvantageous situations owing to geography, poverty, gender, age, disability, cultural or ethnic background, among others. In particular, persons and communities that occupy low-lying coastal lands and other delicate ecosystems are at risk of losing territories for their housing and subsistence as a result of climate change. This calls for States to effectively address climate change in order to honour their commitment to respect, protect and fulfil human rights for all in the areas of adequate water, food, housing and others.

The right to water and sanitation

Although the right to water is not explicitly recognised in the International Committee on Economic, Social and Cultural Rights (ICESCR), General Comment No. 15 of the Committee on Economic, Social and Cultural Rights articulates this right stating: “The human right to water entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses.” In its resolution 64/292, the General Assembly recognised “the right to safe and clean drinking water as a human right that is essential for the full enjoyment of life and all human rights.”

The right to water is also specifically articulated in the article 24 of the CRC. In 2002, the UN Committee on Economic, Social and Cultural Rights recognised that water itself is an independent right (UNCESCR, 2002). Drawing on a range of international treaties and declarations, it stated, “the right to water clearly falls within the category of guarantees essential for securing an adequate standard of living, particularly since it is one of the most fundamental conditions for survival” (UNCESCR, 2002).

The word ‘crisis’ is sometimes overused in the social dimension of development. But when it comes to water, there is a growing recognition that the world faces a crisis that, left unchecked, will derail progress towards the Millennium Development Goals (UN-DESA, 2008) and hold back human development. Throughout history, human progress has depended on access to clean water and on the ability of societies to harness the potential of water as a productive resource. Water for life in the household and water for livelihoods through production are two of the foundations for human development (UNDP, 2006). This implies that, water is probably the world’s most intensely contested natural resource.

It is, however, believed that by 2025 up to 3 billion people will be living in a water stress situation (UNDP, 2006). Climate change, the gravest threat for sustainable development, often exacerbates the water problems with possible multiplier negative impacts on lives and livelihoods. Climate change is arguably the most severe long-term threat to development, facing this and future generations. By altering the hydrological cycle, climate change will exacerbate the water management problems that countries already face (Bates, Kundzewicz, Wu & Palutikof, 2008).

Indeed, as the earth gets warmer, heat waves and water shortages will make it difficult to access safe drinking water and sanitation. There will be lower and more erratic rainfall in the tropical and sub-tropical areas (Dupont & Pearman, 2006). Violent conflicts over water are likely to become more severe and widespread (UNDP, 2007). The content of some of the key human rights affected by climate change are articulated in the General Comments of the UN human rights treaty bodies, which provide one basis for developing the standards and measures to apply when evaluating whether a particular policy meets its human rights requirements. To take but one example, in accordance with General Comment 15 of the UNCESCR, the relocation of a community would have to ensure that the minimum requirements of fresh water (currently calculated by the World Health Organisation at 7.5 litres per day) would be available to every adult and child. That water must be physically and financially accessible to all, without discrimination on the grounds of sex, age, or economic or social standing, and without threatening personal security when the water is obtained (UNCESCR, 2002).

However, according to the IPCC (2002) “climate change is projected to reduce renewable surface water and groundwater resources in most dry subtropical regions...intensifying competition for water.” The IPCC further found that climate change will likely increase the risk of water scarcity in urban areas and “rural areas are expected to experience major impacts on water availability and supply.” This shows the negative impact of climate change and the need for applying human right based approach in tackling the problem.

The right to adequate food

The right to adequate food is recognised in the Universal Declaration of Human Rights (UDHR) and the ICESCR and several other international instruments. Pursuant to article 11(1), state parties recognise “the right of everyone to an adequate standard of living for himself and his family, including adequate food (...) and to the continuous improvement of living conditions”, while pursuant to article 11(2) they recognise that more immediate and urgent steps may be needed to ensure “the fundamental right to freedom from hunger and malnutrition.” In the words of the UN Special Rapporteur:

The right to adequate food is a human right, inherent in all people, to have regular, permanent and unrestricted access, either directly or by means of financial purchases, to quantitatively and qualitatively adequate and sufficient food corresponding to the cultural traditions of people to which the consumer belongs, and which ensures a physical and mental, individual and collective fulfilling and dignified life free of fear (Ziegler, 2001).

There is little doubt that climate change will detrimentally affect the right to food in a significant way. Regional food production is likely to decline because of increased temperatures accelerating grain sterility; shift in rainfall patterns rendering previously productive land infertile, accelerating erosion, desertification and reducing crop and livestock yields; rising sea levels making coastal land unusable and causing fish species to migrate; and an increase in the frequency of extreme weather events disrupting agriculture (Dupont & Pearman, 2006).

The right to adequate housing

The right to adequate housing is protected under a range of international and regional human rights instruments. Among the recognised components of the right to an adequate standard of living in Article 11 of the ICESCR. The right to adequate housing is understood by the CESC as “the right to live somewhere in security, peace and dignity.” According to Article 11 of the ICESCR, all persons are entitled to an adequate standard of living for themselves and their families, including adequate housing. The scope and application of the right to housing is elaborated upon in General Comment No. 4 of the CESC, which states that “the human right to adequate housing...is of central importance for the enjoyment of all economic, social and cultural rights.”

Climate change may impact upon the right to housing in many ways, as the OHCHR report of 2009 observes:

Sea level rise and storm surges will have a direct impact on many coastal settlements. In the Arctic region and in low-lying Island States, such impacts have already led to the relocation of peoples and communities. Settlements in low-lying mega-deltas are

also particularly at risk, as evidenced by the millions of people and homes affected by flooding in recent years (OHCHR Report, 2009).

McAdam and Ben (2010) show that the number of people to be displaced by climate change is likely to range from 50 to 250 million by the year 2050. They further noted that those unable to move away from the negative effects of climate change, whether due to poverty, insecurity, disability, ill health or other factors - will find their right to adequate housing most acutely threatened (Ben & McAdam, 2010).

From the perspective of OHCHR report of 2009:

“Human rights guarantees in the context of climate change include: (a) adequate protection of housing from weather hazards (habitability of housing); (b) access to housing away from hazardous zones; (c) access to shelter and disaster preparedness in cases of displacement caused by extreme weather events; (d) protection of communities that are relocated away from hazardous zones, including protection against forced evictions without appropriate forms of legal or other protection, including adequate consultation with affected persons” (OHCHR, 2009).

The aim of this study was to gain a deeper understanding of the ways climate change has undermined the enjoyment of the rights of subsistence within rural coastal communities in the Central Region of Ghana.

METHODOLOGY AND BRIEF DESCRIPTION OF THE STUDY COMMUNITIES

This study looks at climate change and its effects on rights of subsistence in the rural coastal communities. Mixed method approach with a sequential design was employed. The population for this study included the residents in the two coastal communities, namely, Ampenyi in the Central Region and Anlo Beach, close to Shama in the Western Region. These communities almost have the same characteristics: they are fishing communities and almost sandwiched by two water bodies. Whilst Anlo Beach is almost surrounded by the sea and the Pra River, Ampenyi shares boundary with the sea and the Brenu lagoon at the southern and eastern ends respectively. Purposive sampling technique was employed in selecting the two communities and the respondents. Instruments for the data collection were questionnaire, interviews and observation.

The selection of the two communities and the respondents for the study was purposively done as a result of their unique characteristics, regarding the issues under investigation. Purposive sampling technique was employed in selecting 180 respondents.

Conveniently, 20 residents were further selected and interviewed from each of the two communities. The topography of the land and the livelihood activities were critically observed inline of the threat of individuals' universal rights to water, food and housing. These were done to ascertain the degree of debilitating effects of the remnants of climate change in the selected communities.

Thematically, based on the research questions, direct quotations and interpretative techniques were employed in analysing the qualitative data gathered from the in-depth interviews, whilst scene description (pertaining to the observed effects) were employed in analysing the

observational outcome of the effects of climate change on the rights of subsistence (water, food and housing) of the residents. The quantitative data were analysed into simple percentages, using SPSS analytical software.

Methods were combined both for triangulation and complementarity, where each method addressed a different aspect of the research question and for development where the qualitative component facilitated the analysis for the quantitative component. Triangulation was used to test the consistency of findings obtained through different instruments used, whilst complementarity clarifies and illustrates results from one method with the use of another method. Ethically, the real names of respondents were substituted with pseudonyms to conceal their identity.

FINDINGS AND DISCUSSIONS

Findings were discussed under the following thematic areas: (1) climate change related effects on the right to adequate clean water; (2) climate change related effects on the right to food; and (3) climate change related effects on the right to adequate housing.

Climate change related effects on the right to adequate clean water

This section reflects the happenings in the study communities about climate related events and how such events prevent the residents from realising their rights to adequate clean water. Observation, interview conducted and the outcome of the questionnaires administered indicated that there are clear changes in climate which affects residents living in the study communities. Evidences gathered indicate that, although there is pipe-borne water nowadays, at Ampenyi, its flow has been very erratic as compared to their erstwhile sources, which were free in terms of cost and readily accessible, whilst there is no pipe-borne water at Anlo Beach.

Respondents in the study location expressed their frustrations and difficulty in accessing adequate clean water for their daily use. This alarming results buttress the outcome of the interviews conducted. One respondent from Ampenyi reported that:

Nature was beautiful then. As a community before the coming of pipe-borne water, we were having two dams (called 'Afomuna') as sources of obtaining water for our daily use. One is situated in the eastern and the other far western part of the community. These dams could contain water for the greater number of months within the year. There were fresh water used for drinking, washing, bathing and other household chores. What makes it different from pipe borne water is that they are given for free by nature and were also accessible, unlike the former which can be erratic in flow and goes with a cost which myself and many others cannot always afford to pay for it. Now as I speak to you, these free sources of water are all almost dried up, but we were drawing water from them almost all year long. This clearly shows that there have been changes in season.

Of the 180 respondents who answered the questions on climate change related effects on adequate clean water, 157(87.2%) believe that their right to accessing adequate water has been affected as a result of climate change. This outcome shows the endemic nature of climate change on the right to clean adequate water in the study areas.

There is also a challenge to accessing clean and healthy water, as Kwame recounted:

As a community we don't have pipe-borne water. We draw water from dug out wells which were drinkable but now the same source is almost saline. I am sure it is because of drawing close of the ocean water. It has infiltrated into the water table thereby making this sources saline and undrinkable. It can be used for bathing and other household chores like cooking and washing, although it will not lather with soap. I buy drinkable water and it is too costly to my liking. This makes many of the residents to resorts to the wells and boreholes which at times become saline as drinkable water. This clearly shows that climate change is catching up with us. (Extract of interviews from Anlo Beach).

The findings indicate that climate change limits access to clean water. Resolution 64/292 of the General Assembly recognised "the right to safe and clean drinking water as a human right that is essential for the full enjoyment of life and all human rights." However, respondents in Anlo Beach in particular indicated that the current change in weather has hindered their access to potable water in the community. Members of the community rely on the unclean Pra River, which enters the sea at that enclave for domestic purposes. The above finding is in contrast with the ICESCR, General Comment No. 15, which state that: "The human right to water entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses." From a human rights view point, water must always be physically and financially accessible to all, without discrimination on the grounds of sex, age, or economic or social standing, and without threatening personal security when the water is obtained (UNCESCR, 2002).

Climate change related effects on the right to food

The study also explored how climatic change affect the inhabitants' access to adequate food. From observations, interviews and quantitative data, changes in climate hamper residents' access to adequate food for themselves and their dependants. A large number of respondents saw the change in climate and weather as the major factor that is hindering availability of food for their households. This is what, Kormla, a 45 year old fisher folk shared:

In this community, our main occupation has been fishing but the pattern of fishing has changed. Now we cannot even get bountiful harvest. In the past I could feed my immediate family from only fishing activities, but now I diversify into other ventures. This is because fishing is no more profitable. As for me I laughed anytime I listened to people that our minimal catch is as a result of a high population growth. The important reasons are that nowadays we don't even have landing beaches, and high tidal waves is preventing us from practising our fishing trade as we are fond of dragging seine nets. Now the tidal waves can break as far as the very places we stay as a result of the rise in volume of the sea. Things were not like this from the beginning. (Excerpt of interviews from Anlo Beach).

At Ampenyi, Maame Esi a fisher folk who doubled as a farmer during the lean fishing season by growing tiger nuts and groundnuts had this to say:

Currently, as a fishmonger I have realised that the business is not moneymaking. Even fishermen are not able to pay for the loans they take from us on the premise that their catch will be sold to us. Although, it is a habit that I grow tiger nuts and ground nuts

during the lean fishing season, harvest from farming too is not encouraging. The arable land that I use to cultivate on is now close to the sea and has become saline. The land is no more yielding better because of the floods from tidal waves.

This is what Fiifi stated:

In this day and age we could experience destructive high tidal waves that travel far inland destroying our livelihood. As a fisherman I have witnessed canoes, outboard motors and nets with some personal effects carried along by stormy tidal waves in this community. Some were anchored and berthed at the beach and others on the landing seashore. It has become a problem because the destructive tidal waves are impinging on our very essence of survival. Now we can't go to sea as planned and the catch are often not enough to feed oneself and family. Fishing from the Brenu lagoon using cast net is also not encouraging as a result of excessive pollution. These make it impossible for us to have enough food to feed ourselves and family. (Excerpt of interviews from Ampenyi).

The majority of the respondents had raised similar or same concern on the scarcity of food in the study locations, which they linked to the change in weather and climate. Out of the 180 respondents who answered the questions on climate change related effects on food, 141(78.3%) believe that their inability of accessing adequate food has been affected as a result of climate change. This outcome shows the prevalent nature of climate change on the right to adequate food in the study areas.

An assessment of the impact of climate change on food production of a 2020 perspective indicates that about two thirds of arable land in Africa is expected to be lost by 2025 due to decreased rainfall and reduce yields with an estimations of up to 50 percent in some Sub Saharan countries (Liliana, 2005). The right to adequate food is recognised in the UDHR and the ICESCR and several other international instruments. However, according to Intergovernmental Panel on Climate Change's (IPCC) Assessment Report (IPCC, 2007) in developing countries, including Sub Saharan Africa, agricultural productivity will decrease from 9-21% by 2080 due to climate change. Consequently, Article 11(1) of the ICESCR requires State Parties to recognise "the right of everyone to an adequate standard of living for himself and his family, including adequate food (...) and to the continuous improvement of living conditions", while pursuant to article 11(2) they should recognise that more immediate and urgent steps may be needed to ensure "the fundamental right to freedom from hunger and malnutrition." This calls for sensitisation on the need to incorporate human right-based approach in dealing with climate change. Human right-based obligations resting on governments have been specified in other General Comments in relation to the rights to food (UNCESCR, 1999).

Climate change related effects on the right to adequate housing

This section critically explores views from inhabitants and observation made on the environments about climate change related events and how such activities are preventing the residents from realising their rights to adequate housing. The study areas revealed climate change related effects on the right to adequate housing.

Observation, interview conducted and the outcome of the questionnaires administered indicated that a change in climate limit access to adequate housing among residents of

Ampenyi and Anlo Beach. Indeed, a large number of respondents in the study areas, especially during the interview, recounted how flooding cause by tidal waves swept their houses away, by rendering them homeless. Residents of Anlo Beach were highly affected in accessing their right to adequate housing as compared to the residents of Ampenyi. This is what Kwamena, for example, had to say during the interview on climate change related effects on the right to adequate housing:

Let me tell you my family house and many other important houses which were far off from the shoreline are gone as a result of the increase in volume of the sea and ravaging tidal waves. The remnants are there visibly for you to see. Structures are now found in the sea as I speak. As a community we were having communal bath houses built with concrete blocks at the shores so that one can wash down after coming from sea expedition. Now they are all washed away. So I cannot understand people now when they say our environment is now better off than yesteryears. There are great negative changes now. If there are not how come that all these building I have mentioned cannot be found any longer. Some are now even in the sea. (Excerpt of interviews from Ampenyi).

To strengthen the above views, Efo Etonam had this to say:

I am 79 years old and quite remember at my tender age anytime my parents asked me to go and fetched sea water for any household chores I grumble deep within myself. The reason was I had to trek long distance before I could access the sea. This is because my big family house was far from the sea. Now the very house is now closed to the sea and is almost inhabitable. Nowadays, anytime we experienced high tide, the sea water could travel to the family house and flood our rooms. Some family members have now deserted the house because of the troubling sea to save them from losing valuable items. Recently, several houses have been swept away by the damaging tidal waves. The issue of flooding cause by tidal waves and its accompanying destruction of life and property are perennial challenges and we have been coping with it just that nowadays it is very severe when it occurs. Some residents who can afford to buy land from the Shama community are now moving to Cran, a hilly community which is not far from Anlo Beach. (Extract of interviews from Anlo Beach).

Kuukua also said this:

As a practising Muslim we were having a beautiful place of worship (mosque) situated far off from the contact of the sea. This mosque was very close to the family house because of that fellow Muslims were coming to my house for water for ablution which is seen as one of religious rite performed by my faith. It was a place of worship for my parents, other Muslims and as refuge for strangers in the 1980s, but now tidal waves has destroyed this magnificent edifice in the community. Now I have to walk more than thirty minutes before I can access the new mosque built. (Extract of interviews from Ampenyi).

The interviews are supported by the following pictures:



Picture 1: Flooded house with sand at Anlo Beach

Source: citifmonline.com



Picture 2: Tidal flooded beach and house at Anlo Beach

Source: citifmonline.com



Picture 3: Tidal flooded house at Anlo Beach

Source: citifmonline.com

Out of the 180 respondents who answered the questions on climate change related effects on the right to adequate housing, 128 (71.1%) indicated that their right to accessing adequate water has been undermined as a result of climate change. Majority out of the 128 respondents, 80 (62.5%) from Anlo Beach asserted that climate is affecting their right to adequate housing, while the remaining 48 (37.5%) of the respondents came from Ampenyi.

Among the recognised components of the right to an adequate standard of living in Article 11 of the ICESCR, the right to adequate housing is “the right to live somewhere in security, peace and dignity.” Deducing from the views shared and the observation carried out indicate that, climate change is affecting residents’ access to adequate housing, especially those living in the low lying areas in the study communities. There were evidences of abandoned and dilapidated structures as a result of the rise in sea level, ravaging tidal waves and anthropogenic activities like sand winning carried out by residents. Article 11 of the ICESCR entitled all persons to an adequate standard of living for themselves and their families including adequate housing. On the contrary, it is evident in this study that changes in climate and weather undermine the enjoyment of the right to adequate housing and standard of living in the study communities in many ways.

The findings in this study are echoed in many reports and studies. The outcome support the OHCHR report of 2009, which observes, drawing from the UNDP and IPCC assessments that, sea level rise and storm surges will have a direct impact on many coastal settlements. In the Arctic region and in low-lying island States such impacts have already led to the relocation of peoples and communities. Settlements in low-lying mega-deltas are also particularly at risk, as evidenced by the millions of people and homes affected by flooding in recent years (OHCHR Report, 2009). Those unable to move away from the negative effects of climate change, whether due to poverty, insecurity, disability, ill health or other factors - will find their right to adequate housing most acutely threatened (Ben & McAdam, 2010). This has necessitated the need for applying the human right-based approach in dealing with the rights of the vulnerable to adequate housing.

CONCLUSIONS AND RECOMMENDATIONS

Tidal wave engineered coastal erosion and flooding is common phenomenon in the study areas as climate change brings with it a rise in sea level which is seriously affecting the low-lying coastline. Climate change related events are directly or indirectly affecting residents’ rights of subsistence in the study communities. Residents’ enjoyment of rights to adequate water, food and housing are seriously undermined as a result of the harsh outcome of the phenomenon exerting on their livelihood.

Climate change has resulted in displacement of residents, livelihood and sustenance. This was as a result of long-term environmental deterioration due to the rise in sea levels, increase in the strength of tidal erosion and flooding. This has resulted in increasing vulnerability to poverty and social deprivation as residents manage to compete and survive over diminishing resources in the communities.

Climate change is having immediate, direct and indirect negative effects on the already poor and vulnerable in the study communities. Those who are already in a situation of vulnerability because of factors such as age, gender, and socio-economic status, are adversely affected. If unchecked, the impact will risk the non-poor individuals to become vulnerable and thus, fall into poverty bracket.

It is recommended in this study that a human rights-based approach be employed in tackling climate change effects in rural coastal communities. A human rights-based approach is a conceptual framework for the process of human development that is normatively based on

international human rights standards. The approach is operationally directed to promoting and protecting human rights. Therefore, it should be employed in preventing and responding to the effects of climate change in Ampenyi and Anlo Beach in particular and other coastal communities whose rights of subsistence are deprived or violated due to anthropogenic climate change.

Firstly, from the perspective of the international human rights regime and the principle of the inherent dignity of the human person, which implies that each and every person, family and community that is forced from their homes, lack adequate food and water, in these volatile coastal communities studied must have access to some form of remedy. This should come from the government and other stakeholders - both substantive and procedural - which respects their rights, protects their rights and, if necessary, fulfils their rights as recognised under international human rights law.

Secondly, in terms of human rights law, every citizen and resident of every country should have direct and sustained access to the full realization of the entire spectrum of adequate housing, adequate food and adequate water. Consequently, the government of Ghana and other stakeholders need to build an effective legal, policy and institutional frameworks required to provide rights based durable solutions to the human rights violation caused by anthropogenic climate change in the country. Government as a duty-bearer therefore needs to provide adequate and affordable home with access to all basic services, including the provision of water to individuals and communities who have been deprived of their right due to climate change.

Finally, to promote the rights of coastal communities that are more vulnerable to the devastating effect of human-induced climate change, the government and other stakeholders should adopt targeted measures and strategies that explicitly define the objectives for the development of these communities, identify and utilize resources available in the most cost-effective way. This should be implemented in a genuine consultation with and participation by the members of the affected communities.

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