BUILSA COMMUNITY VULNERABILITY AND CAPACITY ASSESSMENT IN THE UPPER EAST REGION OF GHANA

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Abstract

Research into disaster management through out the world has not been able to catch up with the frequency and scale of disaster events. Even though the developed countries have made tremendous advances in the improvement of disaster management, the same cannot be said of the underdeveloped world and Ghana particularly the Builsa District. Most of the time, when disasters occur, victims try to manage them from within their communities based on existing capacities while efforts are made to seek external assistance. The Builsa Community Vulnerabilities and Capacity Assessment (VCAs) therefore aimed at co-documentation and re-invigoration of community knowledge and experiences in disaster management and building the capacity of communities to address the most urgent situations of vulnerability.

VCAs were held in five communities that were most affected by the 2007 drought and floods. The exercise involved community analysis of their disaster hazard experiences, disaster trends, traditional coping strategies and the identification of the most vulnerable groups in each disaster hazard scenario.

The study adopted a qualitative approach, which involved a triangulation of trend analysis, ranking and scoring, community mapping, wealth ranking, focus group discussions and direct observation among others. District Key Informant interviews were also conducted at the District Health Directorate, District Directorate of Food and Agriculture and the District Offices of the National Disaster Management Organisation. This was done to obtain much detail information regarding these organisations' capacity to respond to emergency situations including disasters.

The exercise revealed clearly that the Builsa community is not well prepared for any type of disaster given its very low response and recovery capacity. The exercise, however, indicated victims of various disaster hazards and disaster events have always made strenuous efforts to cope with to the immediate effects of climate variability by relying greatly on their social capital and limited available local resources while seeking external support in the long term.
The study recommended that resources need to be marshaled at the local, regional and national level to ensure that the activities planned to reduce vulnerabilities in the District are implemented to the letter.

Keywords: Local Community, Climate Change, Vulnerability and Capacity Assessment

Background

The world's climate has been changing by 0.7^{o} Celsius every decade. Drier climates are experienced in the north and south with wetter climates in the tropics, although there are regional variations. Climate variability, frequency and intensity of severe weather events as well as sea level rise have increased (United Nations Development Programme 2007 p.26).

The UNDP also indicated that 11% of people exposed to climatic hazards live in less developed countries including those in Africa yet they account for 53% of those killed. Two-thirds of rural and a quarter of urban populations in Africa lack access to safe drinking water and the numbers are increasing rapidly. In addition, the Sahel has experienced on average 25% decrease in rainfall over the past 30 years. It has been estimated that a 2^{o} Celsius rise in temperature in the Sahel, could result in a 20-30% decrease in water availability in vulnerable regions, while a 4^{o} Celsius rise could decrease the water availability by as much as 30-50% (United Nations Development Programme 2007 p.30 and 92).

In Ghana, the impact of climate change is very evident and will be associated with an average increase in temperature of about 0.6°Celcius, 2.0°Celcius and 3.9°Celcius by 2020, 2050 and 2080 respectively while rainfall is expected to decrease by an average of 2.8 percent, 10.9 percent and 18.6 percent by 2020, 2050 and 2080 respectively. Sea level rise on the other hand following rising levels of temperature is expected to average 5.8 cm, 16.5 cm and 34.5 cm by 2020, 2050 and 2080, based on 1990 levels (EPA, 2007:7–8). The effects of sea level rise are already being experienced in the coastal parts of the Volta Region. Coastal erosion is being experienced along all the major beaches in Ghana while it has been most severe around the Keta area. In northern Ghana, particularly in the Upper East region of which Builsa is district; a creeping tendency of desertification is being

experienced. Vast stretches of the land have been deforested and replaced by grassland. The situation is also characterised by the drying up of rivers, long spells of droughts marked by late start of the cultivation of crops while in some years, such as in 2007, torrential rainfall was experienced resulting in flooding. This situation has adversely affected bio-diversity and destroyed lives and property.

Rural communities may be bearing much of the brunt of climate change. Within these communities women, who constitute more than 45% of the food crop producers (Republic of Ghana, 1999) are particularly vulnerable to the impacts of climate change, both socially and economically. Other vulnerable groups include children, the disable, old people, and the landless and generally small-scale and peasant farmers.

The last decade (1986-1995) witnessed the most devastating rainfall events and a relatively high number of 24-hour maximum rainfall events. Increases in temperatures have also been observed. Increases in air temperature and evapo-transpiration resulted in frequent severe thunderstorms and floods in recent times. Since 1980, six major floods have been experienced in Northern Ghana – in 1985, 1988, 1993, 1998, 1999 and 2007 (Yengor, et al., 2010: 4). Between the months of April and August 2007, Northern Ghana experienced extremely erratic rainfall with less than 40% of normal rainfall arriving in that period in the Upper East regions. This compounded the problem of the three previous years' below average rainfall that left the region susceptible to famine because of inadequacy of food stored from previous harvests. The crops suffered heavily that year as they had not received sufficient rain to be able to mature; groundnuts were not cultivated and the maize crop failed completely. This period of dry spell was immediately followed by a week of torrential rainfall coupled with the opening of the flood gates of two major dams in neighbouring Burkina Faso resulting in a flash flood.

Oli and Alec (2008) indicated that the floods displaced approximately 285,000 people. But Ghana Government press releases indicated that more than 260,000 Ghanaians were adversely affected by the floods while twenty (20) people lost their lives. In the Builsa district of the Upper East Region, there was significant destruction with 5,052 homes destroyed leaving over 15,000 people homeless, 6,000 hectares of farmland were also destroyed, 2,180 tonnes of food was lost, and 15 schools, 21 roads and 27 bridges were damaged while 6 people died.

The Government of Ghana was deeply moved by the calamity and declared the flooding a national disaster. However, the management of such natural disaster in the past can be described as a knee-jerk approach in terms of comprehensive disaster planning and implementation. This has always left a lot to be desired.

The knowledge and capacity of local communities in the Builsa District of the Upper East region to manage natural disasters are largely not documented. This resulted in the neglect of such existing knowledge and capacity in medium term disaster planning and natural disaster management at all levels in Ghana. Local communities that have experienced natural disasters in the past have been regarded as helpless and are without home grown ideas as to how to deal with their own natural disaster problems (Comfort, 1999), while they look for external support for long term sustainable recovery and development.

According to Morrow (1999, p: 11), the identification and targeting of groups that are at risk does not mean that they are in a state of helplessness or that they cannot and are unwilling to play any meaningful role in the disaster management process. Perhaps if they are given the opportunity, they would demonstrate their capacity to contribute towards sustainable disaster management, as "... there are many notable examples of grassroots action on the part of poor, elderly, and/or minority communities ...and of women making a difference in post-disaster decisions and outcomes... Planners and managers who make full use of citizen expertise and energy will more effectively improve safety and survival chances of their communities". In the words of Few, et al. (2006), **"**efforts to forge greater capacity at the national scale have to be mirrored by work at the local scale to increase the ability of local institutions and communities to cope with present and future risks from climatic hazards".

The knowledge base and capacity of local communities in the Builsa area of the Upper East Region to manage natural disasters have largely been under researched, undocumented and normally relegated during District level medium term planning. As a result, the medium term development plans that are prepared are normally week in the area of natural disaster management. In the light of this the following questions will be asked thus:

1. What are the worldviews of local Builsa communities on natural disasters?

2. How did local Builsa communities and their institutions respond to natural disasters in the past?

3. What is the relationship between the worldviews of local Builsa communities on natural disasters and the coping and adaptation strategies that they adopted to manage the impacts of natural disasters?

4. What lessons can be learnt to enhance future disaster preparedness, prevention, mitigation, response and recovery planning and implementation?

The study therefore revolves around these questions posed.

Methodology

A Participatory research approach was adopted. This approach provided greater insight and enabled local communities themselves to find solutions to their own problems. The approach involved a triangulation of appropriate participatory tools of enquiry. Apart from secondary data, much of the primary data was qualitative.

Sample selection

The Builsa District is one of several districts in Northern Ghana that are inundated by floods in 2007. These districts even after 2007 still experience drought and floods. The District continues to experience flooding during the peak of annual rainy season. The 2007 flood was one of the most disastrous floods recorded in the area. The District was therefore purposively selected for this study. Five communities were selected for the natural disaster Vulnerability and Capacity Assessment (VCA) exercise. A total population of 3,632 people from 228 compounds participated in the study. The selected communities were Kanjarga Nyankpiensa, Gbedema Kunkwak, Kpandema, Kom and Kobdema. These communities were selected based on the criteria that they have been affected by a natural hazard of a disastrous scale in the past (including droughts and floods). At the district level, twenty-eight officials from fourteen institutions in addition to five District Assembly members participated in the VCA.

Some Theoretical Reflections

Climate Change

There is evidence to suggest that in many countries there has been an increase in the risk of natural disaster occurrence. Natural disasters are complex and multifaceted events resulting from mismanaged and unmanaged risks that reflect current conditions and historical factors (Alexander 2000). In the view of Comfort, (1999), disaster risk is collective in its origin and remains mainly a 'public,' shared risk that makes finding individual, and often community solutions, difficult. A disaster is said to take place precisely because the losses originated by a given event overwhelm the capacity of a population (local, regional or national) to respond and recover from it.

International consciousness about integrated disaster risk management (of which disaster risk mitigation is a part) was given a boost by the recently concluded United Nations International Decade for Natural Disaster Reduction. The World Food Summit in 1996 recommended 'support for disaster prevention and preparedness' as a priority area of intervention. It is within this context that increases in natural hazard risk are addressed, given that there is growing evidence of the urgent need to involve human

resources, local population groups and their organisations, in more vertically and horizontally integrated efforts at DRM.

Unsustainable development is the underlying cause of climate change. Many development practitioners view climate change as a long-term problem that does not compare with more urgent concerns such as food security, HIV/AIDS and pollution. Projections of sea level rise and the Global Circulation Model run for hundreds of years but most development scenarios and strategies are set for just a few years. An example is the MDGs that have been set to be achieved by the year 2015. Climate change science is continually improving whereas until recently, the literature could not confidently predict the likely impacts of climate change at the regional, country and local levels. Development work requires some degree of certainty at the local level so that plans and strategies can be fashioned out to effectively address the issues.

The 2002 World Summit on Sustainable Development brought a renewed interest on the climate change-development linkage. Following the summit, lobbying by NGOs and nation-states re-invigorated political interest on the international level. Developing pathways, particularly, in the world's poorest countries, can either increase or diminish the impacts of vulnerabilities of households and communities to climate change. Care must therefore be taken to ensure that pathways that have been adopted do not aggravate the resilience of these households and communities and their ability to adapt to future climate change. In this regard, there must be trade-offs between development pathways and future adaptability of communities to climate change. This is because certain development plans and strategies have the tendency of leaving communities worse off by further entrenching them in poverty and squalor (Ul Haq, et al., 2006; Sperling, 2003).

The conceptual and methodological underpinning of this study recognizes that the effectiveness of natural disaster risk management strategy will depend on the nature of the risks, the social and economic circumstance of the affected population and their numbers, their geographical conditions as well as the characteristics of local institutional mechanisms and the availability and range of risk management alternatives. In reference to local institutions, risk strategies are assessed considering the type of instruments used by the poor and near poor, the degree of formality or informality of these instruments, and the type of actors and institutions that have typically supplied or supported these instruments.

Disaster

A disaster is a serious disruption of the functioning of society, causing widespread human, material or environmental losses which exceed the ability of the effected people to cope using only its own resources.

Disasters are often classified according to their cause viz. natural or man-made. A disaster is any occurrence that causes damage, ecological disruption, loss of human life, or deterioration of health and health services on a scale sufficient to warrant an extraordinary response from outside the affected community or area (World Health Organization, 1995). From the perspective of this study, disaster is a serious disruption or set of disruptions to community life which threatens or causes death or injury in that community and/or damage to property which is beyond the day-to-day capacity of the prescribed statutory authorities and which requires special mobilization and organization of resources other than those normally available to those authorities (Natural Disasters Organization, 1987). It is conclusive that a standard definition of disaster is yet to be universally accepted and used. Nevertheless, at best, the universality of disaster as a social experience has generated interest among scholars and practitioners, and has emphasized the importance of further studying disasters, their relationship to people and societies, and how they could be prevented or mitigated.

Vulnerability And Capacity Assessment (Vca)

VCA is a process of data collecting and on-the spot analysis of such data to determine the extent of vulnerabilities of communities to climate hazards and how they are coping with such hazards. Vulnerability refers to the capacity of a person or group of persons to anticipate, prepare for, mitigate, cope with, respond to and recover from the impact of a shock; and "the likelihood that at a given time in the future an individual will have a level of welfare below some norm or benchmark" (Hoddinott, J. and Quisumbing, 2003). At the level of local communities, vulnerability is a difficult term to grasp. Instead, terms like 'weaknesses', 'problems' and 'constraints' are used. Alternatively, the term 'Capacities' refers to the level of a person or group of persons in terms of their ability to anticipate, prepare for, mitigate, cope with, respond to and recover from the impact of a shock.

Disaster Risk Management

Disasters occur when there are hazards and a degree of human vulnerability. Hazards may be socially induced or natural and may include disease epidemics and pandemics, fire outbreak, violent conflict, drought, flood, earthquake, volcanic eruption and insect pest invasion. A natural hazard will hence never result in a natural disaster in areas without vulnerability. This means that a severe flood in an uninhabited area that has not been put to any economic use cannot be described as a disaster. Disasters normally result in large scale losses by a non-resilient population due to the occurrence of a hazard. Natural disasters result when a natural hazard such as

floods, drought or pest negatively affect humans on a massive scale. The negative effects bring so much human suffering because of the vulnerability of the affected population, which is caused by the lack of appropriate emergency preparedness, response mechanisms, mitigation and recovery strategies, leading to social, economic and impacts. The resulting loss depends on the capacity of the population to support or resist the disaster: i.e. their resilience. The term 'natural' has consequently been disputed because disaster events are simply not hazards or disasters without direct or underlying human-related triggers.

Natural Hazards cannot be stopped, however measures can be taken to lessen their impact on the affected population. In order to achieve this, a thorough understanding of the processes involved for each type of event is required while emergency plans of action are a vital component. Disaster risk is usually conceptualised as being made up of two elements, hazard and vulnerability, which can be expressed in an equation: disaster risk = hazard x vulnerability. Risk is therefore dependent on the existence of a household's vulnerability to a natural event. Disaster Risk Mitigation (DRM) strategies refer to a household's or local institution's preparedness to reduce the impact of a risk event, either one that has already occurred or one that may occur in the future. Mitigation includes prevention and preparedness (WFP, 1998: 4).

The concept of Disaster risk management implies a notion of vulnerability, which is often said to contain a 'risk chain': the risk itself, the options for managing risk and the outcome – in terms of welfare loss, in the case of households, and of financial loss and adverse consequences for sustainability in the case of local institutions (Alwang et al. 2001).

A paper by the WFP (1998: 3) claims that "a review of donor practices and the literature reveals that there are no universally accepted definitions of the terms mitigation, prevention and preparedness. Moreover, the distinction of terms is often blurred. In one situation an activity may be considered to be an act of preparedness, and in another it is prevention. For this reason, many of the definitions found in the literature are vague and all-encompassing". Cardona, (2001), argued that disaster risk emerges from the interaction between a natural hazard (the external risk factor) and vulnerability (the internal risk factor). However, Franco et al. (2008), indicated that disaster management means "the process of individuals, communities, first responders, professional emergency managers, local and regional political leaders, regional and national agencies, and, at times, the highest levels of national governments acting to control the effects of a disaster". Few et al. (2006) viewed disaster management as a systematic process of using administrative decisions, organisation, operational skills and capacities to implement policies, strategies and coping capacities of the society and communities to lessen the impacts of natural hazards and related

environmental and technological disasters. This comprises all forms of activities, including structural and non-structural measures to avoid (prevention) or to limit (mitigation and preparedness) adverse effects of hazards.

Based on the two perspectives above, it can be concluded that the concept of disaster management encompasses all the processes involved in planning, organizing, directing and controlling as well as the resourcing and allocation of resources within and outside the affected community as a means of addressing the likely impacts of an emergency or in the advent of a disastrous event, dealing with the impacts. This normally involves many different phases with different activities, be it at the pre-emergency phase, emergency phase or post-emergency phase.

Local Community

According to Uphoff, (1986), the term 'local' includes three levels of society: the locality level, the community level and the group level. The locality level is a set of communities having cooperative/commercial relations while the community level is a relatively self-contained, socio-economic residential unit. The group level, however, is a self-identified set of persons having common interest; maybe a small residential group like a hamlet, or neighbourhood, an occupational group, or some ethnic, caste, age, sex or other grouping. The term 'local community' in the context of this study includes a set of non-urbanized group of people with a common identity, which may include their culture not excluding their language, beliefs, geographical location and social, economic, political and spiritual interests.

Background Of The Builsa District

Location and Size

The Builsa District covers an area of 2,220 square kilometres and is one of the eight districts of the Upper East Region of Ghana. The District is located between longitudes 1° 05" West and 1° 35" West and latitudes 10° 20" North and 10° 50" North. It is bounded on the North and East by the Kassena -Nankana District, on the west by the East Sissala District and on the south by the West Mamprussi District (Builsa District Medium Term Plan, 2005-2009).

Climate

Ghana has been divided according to the following agro-climatic zones: Sudan Savanna zone, the Guinea Savanna zone, the Transition Zone, the semi-Deciduous Rainforest zone and the High Rainforest Zone. The Upper East Region and Builsa District for that matter falls within the Sudan

Savannah climatic zone. The District has mean monthly temperatures ranging between 21.9°C and 34.1°C. The highest temperatures are recorded in March but can sometimes rise to 45°C, while the lowest temperatures are recorded in January. The Builsa area has a single rainfall regime, which starts in April, builds up in August and ends in mid-October. Like most districts in the Upper East Region, the Builsa District is water-deficient. Besides, the seasonal nature of rainfall increases the incidence of bushfires leading to the destruction of vegetation and food crops.

Vegetation

The vegetation of the district is savannah woodland consisting mostly of dispersed perennial grasses and shrubs. The tree population of the area is not very encouraging. These are basically made up of deciduous and drought resistant trees of varying sizes and density. As a result of increased human activity over the years, the woodland savannah had been reduced to barren land. Trees of economic value like baobab, acacia, shea nut and the dawadawa are common in the area.

Topography and river courses

The Builsa District has a topography that is characterised by gentle slopes ranging from 200m to 300m in the northern part and 150m to 200m at the valleys of Sissili, Kulpong and the White Volta area. Famous among the rivers and streams in the area are the tributaries of the White Volta including the Tono, Belikpien, Bukpegi, Asebelika and Sissili. In general, the low-lying nature of the land makes the greater part of the district liable to flooding in years of serious rainfalls especially between the months of July and August. The district capital is normally one of the flooded areas. The absence of storm water drainage tends to worsen Sandema's flooding situation.

Religious Composition

The dominant religion in the district is African traditional religion. For instance, in the 2000 Population and Housing Census Report, some 63.7% of the population is made up of traditional worshippers. The Christian religion that constitutes some 30.3% is second. Islam constitutes 3.4%, while those who reportedly indicated no religion make up the remainder (Republic of Ghana, 2001.

Poverty and Gender Disparities

Poverty in the Builsa District, as in other parts of Ghana, has important gender dimensions. The incidence of poverty is more striking among the women who constitute about 52% of the district population.

Women in the area tend to have heavier time burdens, lower rates of utilisation of productive resources and lower literacy rates than men.

Findings From Builsa Community Vulnerability And Capacity Assessment

The vulnerability of any community is greatly influenced by the prevailing social, economic, physical and environmental factors. The extent to which the vulnerable population could respond to exposure to risks (either man-made or those naturally occurring) also depends on the coping strategies that they are capable of adopting to recover. These strategies in one way or another are also likely to be conditioned by the location factors of the area and the degree of awareness and level of the community preparedness as well as existing institutional support mechanism to mitigate risks.

The Vulnerability and Capacity Assessment of Local communities of the Builsa District therefore involved an adoption of the PLA approach to support communities to analyse their experiences of disasters, how they were affected, the strategies they adopted to cope with each disaster scenario and the people in the community who were most affected. Each of the communities were then facilitated to generate action plans to deal with potential future hazards depending on a ranking of such hazards based on their degree of impact and the possibility of another occurrence in the future.

Builsa Communities Natural Disasters Worldviews

The respondents believed that God Almighty, the gods and their ancestors were responsible for natural calamities that are normally declared as natural disasters. According to them, God is a caring Supreme Being and would under normal circumstances make it possible for them to progress but through the wicked actions of individuals in the various communities, God uses natural disasters to either warn them or punish them for their bad deeds. As a result, when it either fails to rain or it rains unceasingly for several days, the soothsayers, rain-makers and diviners are consulted to find answers for the natural calamities. On the basis of the intensions of God, the gods and the ancestors, sacrifices are recommended to appease them for the wrongs of the living. The sacrifices are made to the gods and ancestors to intercede by pleading with God Almighty to.

Local Community Natural Hazard Experiences

Respondents identified drought as the most important hazard that affects them followed by floods, bush burning/desertification, human diseases such as malaria and CSM and Animal diseases such as anthrax, diarrhoea, new castle and sudden death as well as pest in order of priority.

Ranking of Hazards

The communities studied ranked floods first based on the degree of impact and the likelihood of future occurrence. This was followed by drought as indicated in the table below.

Table 1: Disaster Hazards ranked.

HAZARD	RANK
Floods	1st
Drought	2nd
Human diseases	3rd
Animal diseases	4th
Bush burning	5th
Storms	6th

Local Community Traditional Coping Strategies

Traditional coping strategies differed slightly from community to community. However, charcoal burning, gathering of firewood for sale, petty trading, gathering fruits and vegetables from the wild, extended family support and food aid were common strategies adopted by the communities in the case of drought and floods as highlighted in table 2.

Table 2: Disaster Hazard trends, causes, effects, traditional coping and adaptation strategies of Local Communities.

HAZARD	TRENDS	CAUSES	EFFECTS	TRADITIONAL COPING MECHANISMS
Floods	Normally occurs between July-August but so far had been most severe in 1999, 2004 & 2007	Natural causes (curse from God, ancestral gods	Hunger Loss of both human & animal lives Loss of crops Destruction of roads, bridges & houses	Construction of huts to live in Living with relatives & friends with stronger homes Petty trading Harvesting fruits & vegetables from the wild Sale of firewood Relief from NGOs as a last resort
Drought	Usually occurs from May to early July but so far, has been most severe in 1983/4 and 2007	Natural causes (curse from God, ancestral gods	Destruction of crops leading to hunger & poverty Animal disease & death Drying up of drinking water sources Human diseases e.g. CSM	Sale of firewood Harvesting of fruits /vegetables from the wild for food Migration in search of jobs Sale of animals Support from NGOs/Government

Source: Primary data

Respondents indicated that the floods and drought that were experienced could not have been avoided since only God has the power to decide to stop them. However, sacrifices and libations were occasionally made to God through their ancestors to ask for forgiveness for whatever omissions and commissions that residents of the various communities have been involved in to the displeasure of God.

Local Community Vulnerabilities

Even though it was very clear that abject poverty manifested itself in all the five communities, the poorest of the poor were regarded as the most vulnerable group of people. This comprised people without livestock, landless, widows, terminally sick people, children, the unemployed youth, the aged and the physically challenged. The wealth ranking exercise conducted revealed that over 74% of the households were considered very poor while less than 3% were ranked as not poor. The rest of the 13% of the households were ranked as averagely poor. It is also worth noting that of the74% considered very poor, food insecurity was a major factor. These households did not have adequate food to last more than six months after the major harvest.

Findings from District Level VCA

Vulnerabilities and Capacity Assessment is a continuous process and a single VCA at the community level alone does not fulfill the essence of conducting that activity. VCA is also a multi-stage activity with community level VCAs feeding into district level VCAs, regional level VCAs and ultimately national level VCAs. This is done to share results and ensure that efforts are made to bridge gaps identified at each level by the immediate higher level.

Basically, the Builsa District level VCA was conducted to achieve the following:

- increase the capacity of district government and non government agencies as well as civil society in general to address the most urgent situations of vulnerability in the district
- identify the existing capacity and gaps at the district level
- share VCA findings from the community level with district authorities and solicit their input and support as a means of fusing community knowledge into district wide disaster management efforts through comprehensive planning and implementation.

Participants of the district level VCA included officials from NADMO, Builsa District Assembly, Ghana Education Service, Ghana Fire Service, Ghana Police Service, Ministry of Agriculture, National Commission for Civic Education, Information Services Department,

Department of Social Welfare, Department of Community Development, District Disaster Committee, representatives of five communities, Assembly members of five communities, District Water and Sanitation Team and the Ghana Health Service.

Respondents Worldview of disasters

Respondents indicated that disasters are natural or man-made events that negatively affect the normal lives of communities. According to them, natural disasters are caused by nature e.g. floods, drought and wind storms while man-made disasters are induced by human activity e.g. civil conflicts, bushfires, accidents, bad construction of buildings and poverty. They however indicated that man-made and natural disasters reinforce each other. There is no disaster if there is no damage or loss. Damage or loss caused by disasters may be physical, economic, social, cultural, environmental and political.

Disasters affect people differently. Within the same affected community, some people may be more affected than others e.g. a blind person may be more affected by the impact of a flood than a normal person because he needs someone who can see to guide him or her. A person could be affected by a disaster if he/she is vulnerable and exposed to risks of a hazard. Exposure to risks of a hazard may be direct or indirect. Participants also noted that when a person is exposed to risks of a hazard, his level of vulnerability increases making him/her more susceptible to other risks. According to them, vulnerability refers to a person's or community's inability or lack of capacity to withstand a hazard. The lower that capacity, the more vulnerable the person or community is to the hazard.

Their consensus was that vulnerability may be social, economic or physical and normally the poorer a person is, the more vulnerable he/she becomes. The conclusion was that the poorest among the poor were the most vulnerable in most disaster situations and such people should be targeted for more support.

Strengths, weaknesses, opportunities and threats (SWOT) analysis of Builsa district response to Natural Disasters

A SWOT analysis of the 2007 flood and drought carried out by participants indicated that the two disasters (drought and flood) were poorly managed due to a general low capacity at the district level (as in table 3 1).

District Key informant Interviews

Interviews were also conducted at the following ministries/ departments in the District: Ghana Health Service, Ministry of Agriculture and the District Disaster Management Organisation (NADMO). This was

done to collect in-depth information about the capacity of these units to help the District respond to emergency situations timely. Results from the key informant interviews indicated that there is a generally inadequate capacity to plan and implement natural disaster related activities that would support vulnerable people in the local communities to effectively cope with natural disaster hazards.

Swot of Builsa District Nadmo

NADMO indicated that the rains destroyed roads and bridges at Doninga and Siniensa. Farmlands at Weisi have been flooded and over 144 maize and sorghum farms destroyed. These farms were on the banks of the Yagba River and tributaries of the White Volta. The affected families required food aid. The District NADMO office indicated that it was not always well equipped to respond to emergencies unless reports are first sent to the regional level for onwards communication to headquarters. What NADMO is able to do immediately is assessment of the extent of disaster impact and movement of affected people to safe places like schools. NADMO has also been educating people on disasters but people are not changing their attitudes like farming along river banks.

Table 3: Strengths, Weaknesses, Opportunities and Threats of Builsa District NADMO

STRENGTHS	WEAKNESSES
1. Poor staffing capacity (4 Staff at the District office and 7 zonal officers). 2. Limited operational funds from the Regional office.	1. District Administration fails to involve NADMO in its activities 2. NADMO does not submit monthly reports to the District Assembly 3. Lack of transport and funds for outreach activities 4. Lack of office equipment to process data collected from the field 5. Inadequate staff Inadequate staff capacity building
OPPORTUNITIES	**THREATS**
➢ Existence of Disaster Volunteer Groups ➢ Existence of viable women groups ➢ Support from NGOs	Staff job insecurity The District has very little capacity to respond to emergencies

The NADMO District office indicated that there is the need to

- Establish grain banks as a precautionary measure against droughts
- District Assembly should stock pile food items. This should be done in consultation with MoFA and NADMO
- Reconstitute the District Disaster Response Committee to make it more vibrant
- Resource NADMO to enable it live up to expectation

Based on the responses from the District level VCA, it is conclusive that the strategies adopted by natural disaster managers at the district level were at variance from those adopted at the community level. For instance, it was indicated that food supplies were stock-piled at the district capital but it was difficult distributing the food to communities that needed it urgently to survive due to bad roads and bureaucratic practices. Perhaps, if local communities were actively involved in planning, they could have promptly given early warnings signals concerning the disaster and even suggest better ways of stock-piling food closer to them.

Builsa District Disaster Preparedness and Risks Mitigation and Recovery Action Planning

It is an established fact that even though 5% of the District Assemblies Common Fund has been set aside to cater for disaster prevention and management, most districts use these funds for other purposes. This, to a large extent, is attributed to lack of comprehensive disaster scenario and contingency planning at the district level. Builsa district is of no exception. As a result, the disaster planning exercise was conducted to enable the district prepare its own comprehensive disaster scenario and contingency plan, the effective implementation of which would ensure that disaster risk are mitigated while recovery from disasters will also be enhanced.

Bush fires

It was recognized that bushfires, which occur in the District specifically in the latter part of the farming season and generally in the dry season caused by human activity. These fires destroy crops yet to be harvested as well as the biological diversity. The devastating effects of these fires are normally to a large extent difficult to remedy and in some instances, regeneration of the environment takes a very long time. The social, economic and environmental costs of bushfires in the District are therefore immeasurable.

Droughts

On the average a serious drought occurs in the District within a range of three and five years. These droughts seriously affect household food security leading child and adult malnutrition, human deaths, drying up of water resources, death of livestock and migration of the youth to towns and cities in southern Ghana to seek non-existent jobs. The District's drought preparedness measures include community sensitization on the effects of droughts, construction of dugouts and small scale irrigation dams, provision of micro credit while encouraging farmers to go into irrigation farming. In the event of a drought, the District Disaster and Emergency Response

Committee under the leadership of NADMO and the Builsa District Assembly and with the support of NGOs would conduct rapid impact assessment of the situation and respond with food aid to mitigate risks of malnutrition and possible deaths. As a long term measure, efforts would be made to open up more virgin lands in the Fumbisi and Gbedembilsi valleys and facilitate farmers to gain access to production resources such as micro credit, agric extension services such as education on alternative techniques of productive farming.

Floods

The physical location of the District coupled with lack of storm water drains makes it prone to perennial flooding. Devastating effects of these were show cases in 2007 when whole villages were submerged in flood water, buildings collapsed, potable water sources were polluted, farm produce were lost as well as human lives. However, in order to deal with such future occurrences comprehensively, the District Assembly together with NADMO and the Department of Town and Country Planning would sensitize communities on appropriate location of buildings and farms away from water courses and encourage the use of improved building materials and adoption of appropriate building techniques. Flood victims would be evacuated to safety in temporal shelter such as school buildings and churches. The impact of the disaster would be assessed life-saving emergency support such as food, blankets and mats as well as medical care would be provided. Efforts would be made treat polluted existing potable water sources. In the long term, efforts would be made to restore the livelihoods of victims of the floods and also provide training on alternative livelihoods to help them speed up and sustain their recovery.

Windstorms

The desertification in the Builsa district is alarming. The land is barren exposing both residential and public buildings to windstorms, which occur annually. To stem the destruction normally caused by windstorms, the District would embark on public education to encourage people to plant trees around their houses and at public places to serve as wind breaks. People would also be encouraged to use appropriate roofing materials. In the event of a windstorm leading to roofs of buildings being ripped off, the District Disaster and Emergency Response Committee, NADMO and the District Assembly would ensure that victims are evacuated to safety, temporal shelter is provided and any other relief assistance based on an assessment of the disaster would be extended to the victims to help them stabilize their situation.

Livestock Diseases

Livestock diseases tend to make farmers' livelihoods unproductive. This affects their ability to leap out of poverty. To address the situation, farmers would be encouraged to patronize available agric extension facilities to get their livestock vaccinated early. Farmers would be educated on the symptoms of diseases like anthrax. They would also be encourage to ensure regular cleaning of their kraals and report detection of symptoms of dangerous diseases such as anthrax, sudden death, swine fever, bird flu and New Castle early to the nearest MoFA office for attention. When a disease like anthrax is detected upon inspection and laboratory examination, the affected animals would be quarantined; carcasses would be destroyed while radio and public announcements would be made to ensure that infected meet is not consumed. Victims of such diseases would be screened at the health facilities and treated.

Conclusion And Recommendation

Conclusion

Working to support communities to develop without factoring in the effects of climate change is dangerous. This is because natural disasters of the kind that hit the three northern regions in 2007 are likely to recur. The fact remains that the Builsa District has very low capacity to manage disasters. NADMO is not well resourced and also lacks the technical capacity to manage disasters in the District. The District Disaster and Emergency Committee is also not well represented while local communities' knowledge on disaster management is completely not factored into district level disaster management strategies.

The community level VCAs established clearly the importance of the participatory learning and action approach to community development. Residents of the communities demonstrated through their comments that the strategies that they adopt to adapt with climate change events does not whole depend on their worldview of disasters as events that are dictated by a supreme God. The communities therefore dispassionately discussed development issues bordering them and made practical suggestions as to how they want their communities to move from a level of serious vulnerability to natural disaster hazards to a level of resilience. Some of the local communities that participated in the VCA have demonstrated that even when they were cut off from the rest of the district and could not have access to food aid and medicine, they survived by resorting to their communal spirit to mobilize food for the most vulnerable and got remedial treatment from their healers and herbalists. In spite of the level of poverty in all the communities, the people were enthusiastic about finding alternative livelihood activities that could make them more resilient to future hazards. They outlined a

number of activities that they hope to implement. This provided the justification to debunk the generalized claim that communities affected by natural disasters are helpless and always require external aid.

The District level VCA exercise also afforded stakeholders at that level an opportunity to discuss with a high degree of openness issues regarding the District's response to the 2007 drought and flood. It was a consensus that poor co-ordination of response activities resulted in duplication of efforts and wrong targeting of the vulnerable groups. Participants did not mince words when they indicated that because of NADMO's lack of technical, logistical, financial and staff capacity to manage disasters in the District, distribution of relief items was not according to world acclaimed minimum standards. Participants concluded that there were a number of instances where the distribution of relief items was driven by political coloration and theft. It must in this regard be pointed out that from the Rights Based Approach, the two major duty bearers in the 2007 drought and flood response in the Builsa District (NADMO and the District Assembly) failed the victims. It is based on these community and District level VCAs' revelations that the author makes the following recommendations.

Recommendations

In the course of the assessments, it became apparent that various dimensions of poverty manifested in the communities. For instance, at Kpandema, it was common to observe malnourished school children. Some of the children actually brought along to school millet flour, which served as their breakfast. Other school pupils actually took the flour raw. It is therefore recommended that in the medium to long term, the school feeding programme could be given the necessary material support and extended to all schools to help reduce malnutrition. It is also recommended that conscious efforts be made by all stakeholders particularly Civil Society to advocate for Government agencies to consciously bring on board local communities time-test knowledge in planning for disaster mitigation and also ensure a well co-ordinated rapid response. NADMO's staff must be re-oriented to imbibe integrated disaster management and technical capacity built to enable them play a leading role in disaster management in the Builsa District.

It is nonetheless important that all agencies including MoFA, DHMT, GNFS, GPS, NCCE and Information Services be well represented on the District Disaster and Emergency Committee to ensure that disaster management in Builsa is well co-ordinated.

Recommendation targeted at District Assembly, Regional Administration and Central Government

- Increase settlement planning in the District especially the District capital and construct storm water drainage.
- Reconstruct the broken bridges and link roads washed away by the floods.
- Extend the school feeding programme to cover all basic schools in the district.
- Promote school gardening to prepare pupils for life based on the life skills curriculum
- Increase funding for disaster related activities and ensure strictly the use of funds budgeted for disaster and emergency activities.
- Reconstitute the District Emergency Response Committee to be more representative, effective and efficient

Recommendations

- Support the vulnerable communities to restore their livelihoods and adopt alternative livelihood strategies identified.
- Government needs to make strenuous efforts to build the technical capacity of NADMO to play a leading role in district disaster management.
- Civil society groups need to advocate Government for increased DACF budgetary allocation for district disaster preparedness activities.
- District Assemblies need to mainstream the interest of the local communities and the vulnerable groups in their budget lines and ensure that the values of transparency and accountability of programmes for sustainable development are upheld.

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