Prioritizing Disaster Risk Reduction in Community Development: A Challenge for Social Workers in Botswana

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ABSTRACT

Communities in Africa suffer considerable losses from windstorms and floods every rainy season. These disasters are complicated by other hazards such as heavy rains, soil erosion, wars, corruption, and climate change which make developing nations vulnerable. Windstorms such as hurricanes, cyclones, and dust-storms cause mass damage in southern African countries. This paper explores how social workers mainstream disaster risk reduction in community development in the Southern African country of Botswana seeks to provide a cushion against the adverse effects of windstorms. The main contention is that communities in Botswana are not adequately prepared to prevent, respond to, and recover from, the effects of windstorms. Evidence from the authors' work in the area of disasters in Botswana as well as existing literature is used to support the argument. As one of the measures to tackle the menace, local authorities will need training in windstorm risk reduction and developing building codes for the construction of storm resistant houses.

Keywords: *Windstorms, Floods, Disaster Risk Reduction, Community Development, Climate Change*

INTRODUCTION

Community safety and resilience to windstorms is central to sustainable development for cosmopolitan societies. A windstorm is generally described as a short duration event involving straight line winds and/or gusts in excess of 50 mph (University of Oregon, 2011). Windstorms include cyclones, hurricanes, tornadoes, and thunderstorms. The responsibility to build safe and resilient communities must not only be borne by national leaders but communities, families, and individuals should actively participate. Community development must be construed as movement from vulnerability to safety and resilience (Maripe and Maundeni, 2010). Therefore, there is need to define functional windstorm risk reduction roles for communities while assessing current weaknesses, strengths, and the extent of vulnerability. The intention must be to strengthen risk reduction measures to advance community developmental goals.

Windstorms should not only be a cause for concern for disaster practitioners but also for physical planners, community developers, and leaders. This study assesses the extent to which communities in Botswana have prioritized windstorm risk reduction in their development plans. The word community, therefore, will refer to a group of individuals and households living in the same location, having the same hazard exposure, and who can share the same objectives and goals in disaster risk reduction with specific reference to windstorms (Victoria, 2008).

The Impact of Windstorms: A Global Perspective

Windstorms are catastrophic globally and are some of the natural disasters associated with greatest damage to infrastructure. They vary according to speed, magnitude, and impact on communities and the associated catastrophes have increased over the years. European windstorms are common around the winter months and are severe cyclonic windstorms associated with low pressure that track across the north Atlantic towards Northwestern Europe. These windstorms have affected England, Ireland, Scotland, Norway, and Iceland causing economic damage of •1.9 billion (South Africa Weather Service, 2003; OCHA, 2009). Countries in Africa and the United States of America have suffered economic losses as a result of windstorm disasters (International Federation of the Red Cross and Red Crescent Societies (IFRC), 2004).

Tsunamis and earthquakes have frequented Japan while hurricanes, lightening, cyclones and floods were more common in America, South Africa, and Europe. In 2008, Cyclone Jokwe was the third cyclone to hit the north of Madagascar killing 400 people and destroying 44 houses (OCHA, 2009). The complexity of windstorm disasters is compounded further by climate change that presents with unpredictable weather patterns. As such, changes in weather patterns make community preparedness to disaster a complex process, speeding up environmental degradation. The World Conference on Natural Disaster Reduction (WCNDR, 2005) indicates that 2/3 of all disasters are climate or weather related. The impact of these disasters is multifaceted, complex, and, most importantly, has serious effects on development (Guo Qisheng, Wang Yuquan, Xue Qing Yang, and Ligong Wang Jingye,1999). For example, windstorms caused economic losses of thousands of pula for Botswana communities in various districts in 2006 (UNDP, 2008).

Due to the escalation in costs of damage, response, and reconstruction, windstorm disasters are a concern for several quaters including the World Bank, Inter American and Asian Development Bank, UNDP, and Germany's GTZ (Inter American Development Bank, 2007). For example, in the United States of America windstorms (hurricanes, tornadoes, and cyclones) cause

massive destruction to roads, telecommunication facilities, buildings and bridges, and are responsible for high mortality and injury rates consuming billions of dollars in humanitarian response. Windstorm disasters often result in disease, damage to property, disability, and loss of life. The Federal Emergency Management Agency (FEMA, 2001) states that, in the United States, average of 300 people are injured and 80 killed each year by lightning and thunderstorms. Although most victims survive, people struck by lightning often report a variety of long-term debilitating symptoms.

Other associated dangers of thunderstorms include tornadoes, strong winds, hail, and flash flooding. Oregon State is reported to be entirely affected by tornadoes and hurricanes which can be especially dangerous in those areas with significant tree stands, exposed property, major infrastructure, and above ground utility works (University of Oregon, 2011). A tornado is described as a violently rotating column of air, pendant from cumuliform cloud and often (but not always) visible as a funnel cloud (FEMA, 2001). The South Africa Weather Service (2003) states that thunderstorms (identified by their thunder and lightning) can generate four dangerous types of weather, lightening, wind gusts (squalls), hail and tornadoes. In Botswana, thunderstorms have killed and injured livestock, cattle, and people and burned houses and/or forests.

Flash flooding that result from windstorms is responsible for excess of 140 fatalities annually and more than any other thunderstorm associated hazard (Maripe and Maundeni, 2010). It is reported that cyclone Jade in 2009 killed 6 people, left 4000 without shelter, and damaged 5628 homes in Madagascar (OCHA, 2009). Casualties from disasters are associated with poverty and low socio-economic background both at individual and community levels. The Global Facility for Disaster Reduction and Recovery (GFDRR, 2007) declares that the poverty gap is accentuated by natural disasters and that the Millennium Development Goals have to address areas linked to vulnerability to natural hazards. UNDP (2008) states that 220 million people in Africa are exposed annually to natural disasters and have the highest vulnerability to windstorms.

Botswana has, for a considerable period of time, been responding to the challenges of windstorms which depleted the socio-economic base of rural communities. Sometimes, rain and windstorms come after a prolonged period of drought and famine and devastate millions of poor people around the world (IFRC, 2007). WCNDR (2005) reports that the impact of windstorms is severe for those who already suffer the consequences of poverty and disease. This implies that African countries, Botswana included, have to work towards building community safety and resilience to windstorms. Windstorms also lead to experiences of trauma, sadness, depression, and confusion because displaced survivors mourn the destruction of their homes and the heavy losses or severe

damage to property. These feelings are compounded by the fact that some survivors are economically challenged to insure their property as the damage and loss of property that accompanies windstorms are not compensated (Maripe, 2010). In such instances, recovery, preparedness, and response to the effects of windstorm disasters are complex especially when accompanied by other human induced threats like civil war and social instability as in Somalia, Ethiopia, Kenya and Iraq (Maripe, 2011).

Additionally, corruption of some African government officials and political leaders is one major promoter of vulnerability to natural disasters. The United Nations International Strategy for Disaster Reduction (UNISDR, 2005) attests to thre fact that corruption is a hindrance to disaster risk reduction and the elimination of poverty. Lavell (1999) argues that although poverty and vulnerability are not themselves synonymous, it is generally accepted that poverty explains a significant part of the vulnerability that affects the vast majority of the population of developing countries. As such, to deal with disaster risk reduction there must be commitment to good governance by those in authority. This should be enriched by transparency and accountability amongst elected officials, bureaucrats, and civil servants, as well as the elimination of practices that are a source of corruption. Acknowledging that windstorms add an extra burden to existing vulnerabilities is fundamental to risk reduction and sustainable development.

The Relationship between Disasters and Development

Development, whether technological, economic and/or physical, has related threats and risks. These economic, infrastructural, and/or technological threats must be identified and risk mitigated prior to eventualities. UNDP (2008) states that disasters should be construed as necessary and inevitable results of development. They are built into the process and are the price to pay for the gains achieved by following a dominant growth model that guarantees development for some and poverty and vulnerability for the majority. The UNDP advocates for fundamental changes in growth development models because development project expansion targets areas occupied by the poor, despite efforts to eradicate poverty. It is argued that disasters in developing countries reveal greater vulnerability of poor and disadvantaged peoples and are a relative indicator of underdevelopment (UNDP, 2008). In Botswana, the construction of roads in the districts and towns and selection and development of garbage dumping sites, sewage ponds, and shopping centres have increased the vulnerability of poor communities to windstorms through bush clearance (Maripe, 2011).

Global Actions Against Disasters

Due to challenges presented by windstorms globally, humanitarian actors, institutions, professionals and national governments have worked tirelessly to design strategies and identify key priority areas and appropriate measures to identify hazards and reduce risks. The United Nations resolved that to meet poverty objectives, it is necessary that potential hazard risks are determined and risk management approaches taken into account while designing poverty reduction strategies or socio-economic development plans (GFDRR, 2007).

International world conferences held from the early 1990s until 2004 constitute some of the efforts to identify mitigation and preventive strategies to windstorms and other hazards. In 2004, the Hyogo Framework of Action (HFA) was developed by disaster experts and world leaders to improve on strategic frameworks advanced in the Yokohoma disaster strategy. The framework is meant to guide governments, humanitarian actors, social workers, and communities in mainstreaming disaster risk reduction in development planning. The framework articulates the complexity and multifaceted nature of disaster and the approaches that would be appropriate. As such, windstorms should be the concern, not of government alone, but of every institution, individual, and community.

Existing Efforts to address Windstorms in Botswana

Botswana is a landlocked country which is seriously affected by windstorms, floods, and animal diseases as are South Africa, Angola, Namibia, Zimbabwe, and Zambia. It is also prone to periodic droughts, veld fires, lightening, and human related diseases. As such, in 1997 the Government of Botswana developed a long term vision guided by seven pillars towards prosperity for all citizens by 2016 (Presidential Task Group, 1997). The pillars are as follows: an educated, informed nation; a prosperous, productive, and innovative nation; a compassionate, just, and caring nation; a safe and secure nation; an open democratic and accountable nation; a moral and tolerant nation; and a united and proud nation.

These pillars are interrelated and interdependent and aimed at prosperity for communities and the nation and a commitment towards sustainable development. The fourth pillar envisions Botswana with established functional, efficient, and effective risk reduction systems against windstorms and other natural hazards by 2016. This dream aligns with the disaster risk reduction strategy and, in particular, the Hyogo Framework of Action 2005-2015 (UNDP, 2008). In a bid to build a safe and secure nation, the National Disaster Policy (1996) identifies droughts, floods, windstorms, and veld fires as prevalent natural hazards that afflict the country. Section 12 of the policy

states that each agency (government and non-governmental) is responsible for developing its own internal disaster plan detailing internal mechanisms necessary for the definition of ministerial responsibilities at national, district, and local levels. It is assumed that ministries and/or agencies in Botswana possess disaster management technical knowledge and skills, which are a prerequisite to designing the disaster risk reduction measures for windstorms. Section 18 of the disaster policy asserts that the implementation of disaster management projects and programmes rests chiefly with line ministries at national and district level because the necessary sectoral skills and expertise are housed within those ministries. This kind of thinking may perpetuate vulnerability to windstorms because the technical disaster experts failed to proactively guide communities before, during, and after emergencies (Maripe, 2011).

The National Disaster Policy (1996) establishes District Disaster Committees comprising all heads of department and coordinated by the District Commissioner and Village Disaster Committees headed by traditional leaders. Despite the presence of committees, the districts and villages suffer more from frequent and destructive windstorms and floods and community members, who are the first to respond to catastrophic events, do so without prior training, knowledge, and appropriate techniques. It is crucial for community developers in the disaster field to recognize that community composition and structures are not homogeneous. Membership comprises the elderly, the young, the sick, those living with disabilities, and pregnant women whose full capacity may be constrained due to their limited mobility and weak socio-economic support base. The key questions therefore are: who should ensure that these communities are organized, trained, and equipped to reduce windstorm associated risk and how can this be done?

Proposed Community based Approaches

The SADC Disaster Management Steering Committee (2001) states that, as far as preparedness measures are concerned, a bottom-up approach must be followed. When a disaster affects the community, the initial response is normally provided by the statutory emergency services of the affected local authority. The underlying principle behind this approach is that the local authority is responsible for disaster risk management and must address the pre-disaster risk reduction to the post-disaster recovery phase. This process for Botswana has led to increased vulnerability, number of casualties, and unnecessary expenditure for communities. It views communities as victims and beneficiaries rather than active soldiers and partners in risk reduction. Social workers in local authorities must be equipped sufficiently with knowledge, skills, and techniques to conduct vulnerability assessments; develop contingency plans;

design institutional frameworks for risk reduction, preparedness, and response; and establish, locally, relevant early warning systems and recovery mechanisms. Successful interventions in pre-windstorm periods and during and post windstorm occurrences are dependent on the readiness of local communities. Efforts should be directed towards reducing further risks and threats while the process follows democratic ideals with defined roles and responsibilities for all members of the community. It should be all encompassing including children, adults, families, groups, local leaders, institutions, and external actors. There is need for interventions that target various groups in the community such as the young, adults, the elderly, people living with disabilities, village development committee members, chiefs, and professionals.

The Global Facility for Disaster Risk Reduction (GFDRR, 2006) recommended that nations and communities integrate disaster risk reduction into development assistance frameworks and poverty reduction strategies. The key factors for consideration are the development and implementation of hazard resistant building codes and standards; training programmes on risk reduction and mitigation for communities and civil servants; and operational guidelines and policies for international and national finance institutions. The hazard risk assessment should include hazard mapping, building systematic inventories of housing and infrastructure stocks, and tracking social and economic losses caused by disasters (http://www.gfdrr.org). There are six recommended steps towards increasing community resilience. These are community oriented and designed to promote a collaborative and collective effort to reduce risk.

Partnership with municipal and provincial government units: It is imperative from the beginning to ensure collaboration with local authorities in order to ground the preparedness concept firmly in local planning and to gain technical and financial support for implementing mitigation measures and ensure long term sustainability.

Disaster Action Team (DAT) formation and training: At the heart of the programme is the group of community volunteers who receive training in hazard management, distribute information, and work with the whole community to prepare action plans for windstorms, which is the basis for deciding how to improve the safety of community resources.

Risk and resource mapping: It is necessary to map windstorms and types, showing who and what they are jeopardizing. The maps are used to determine suitable mitigation measures to protect the community and also as land use planning tools for local family units.

Community mitigation measures: Based on the disaster action plan, the community establishes mitigation measures to reduce the impact from windstorms.

Training and education: It is important to provide DAT training, to raise awareness of the hazard within the whole community, and to train and educate members on how to minimize the risk.

Sustainability: This includes taking windstorm preparedness into account and incorporating the main disaster action plan recommendations into local government units, land use planning, and annual budgeting.

The approach is premised on the realization that communities must participate in reversing the worldwide trend of exponential increase in disaster occurrence and loss from small and medium scale disasters. The community becomes the primary focus of attention as it is the common unit which is affected by windstorms. More importantly it responds to the event because members are interested in protecting themselves from danger and harm (Brueggemann, 2006). The community based approach should correct the defects of the top-down approach in development planning and disaster management which fails to address local needs, and ignores the potential of indigenous resources and capacities, and increased people's vulnerability (Kirst-Ashman, 2010). It will ensure that appropriate and effective action is taken during emergencies such as setting up early warning systems and coordinating institutional arrangements such as evacuation and emergency operations management, public awareness, disaster and evacuation drills, and stockpiling.

Community based disaster management aims at reducing vulnerability and increasing capacity of vulnerable groups and communities to cope with, prevent or minimize loss and damage to life, property, and the environment, and to minimize human suffering and hasten recovery. Prevention aspects cover measures to provide permanent protection from disasters or reduce the intensity/ frequency of a hazardous event so that it does not become a disaster. The key indicators of resilience are safety, livelihood security, and sustainable economic, social, and physical development (Victoria, 2008; Department of Social Services, 2010).

Social workers involved in community development and individual and/ or group work are better placed to address disaster risk reduction at those levels. They are confronted and respond daily to situations that contribute to human vulnerability like poverty and increased population density (Kirst-Ashman, 2010). As such, it is fundamental for social workers to acquire knowledge, techniques, and skills in disaster risk reduction in addition to community mobilization (UN, 2005). These will enable social workers to interact effectively with communities in hazard identification, mapping, and determining strategies for risk reduction. The purpose of social work, through its very definition as a profession, is premised on the context of risk reduction. Social work's positive contribution to risk reduction strategy will strengthen

Botswana's commitment to the millennium development goals of poverty reduction by 2015. These goals are in harmony with the Botswana national vision 2016 that envisions a healthy and secure nation by the year 2016 (Presidential Task Group, 1997; UN, 2005).

CONCLUSION

Communities in Botswana need deliberate guidance to protect themselves against windstorms which could reverse the progress of many years. This will be made possible by implementing community based disaster risk reduction measures which should be pioneered by social workers employed by local authorities to intervene in community related problems and situations that increase vulnerability. Social workers have been trained to work with individuals, groups, and communities, to assess and analyze problems and intervene in an appropriate manner. The poor who are the most vulnerable to windstorms and other hazards are a priority group in social work intervention.

Therefore, the establishments of disaster action teams will enable communities to set up early warning systems, provide on-going surveillance, conduct educational and awareness campaigns, and monitor hazard risks. Local authorities will need training in windstorm risk reduction and developing building codes for the construction of storm resistant houses. They will also supervise the construction of roads and drainage systems and ensure that builders observe the relevant specifications. Appropriate technology should be utilized by local authorities in line with climate and environmental conditions. It is critical to mainstream windstorm risk reduction in all development projects to ensure sustainability and continuity.

At community level, social workers will be the key players in development and empowerment of residents and they should mobilize and ensure that disaster teams are established, trained, and function effectively. They should identify the vulnerable wards, population groups, and resources that are needed to strengthen community capacities. Social workers should draw a budget against disaster risk in the community to build resilience to windstorms. Ministries or agencies may not consider windstorms as their mandate and their professional expertise may not be in disaster risk management. It is, therefore, apparent that, a single government ministry cannot deal with windstorms on its own because of the multiple factors involved. In this regard, it is appropriate to adopt a multifaceted approach where each actor defines what to deal with specifically in the areas of specialty before, during, and after windstorms.

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