

Developing Community Based Disaster Programmes and Resilient Strategies for South East District Disaster Management in Botswana

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ABSTRACT

Communities in Botswana have suffered from floods, drought, wild-land fires, windstorms, and heavy rains. The perpetual losses suffered by Botswana motivated the need for this research to identify and analyse factors that make communities vulnerable and non-resilient to disasters. The aim of the research is to investigate the resilience and adaptability of communities to disasters in the South East Administrative District, Botswana. This is achieved by undertaking a documented investigation and analysis of hazards and risks, vulnerabilities, and capacities prevalent in three communities (Ramotswa, Otse and Mogobane) and appraising the perceptions and conduct of exposed individuals and communities. The study is organized in two phases. The qualitative phase interviewed 88 participants, 6 (six) focus groups, and 26 key informants to assess their perception of hazards and risks, vulnerability, and resilience and their experiences of disasters. The quantitative phase covered 3567 (94%) of the total respondents who completed the questionnaire to establish the extent of the problem, its scope, and to describe prevalent resilience characteristics. A key result from the analysis is that communities are vulnerable and are constantly under disaster threat and that communities, families and individuals lack fundamental knowledge, skills, and techniques to enhance their resilience to disasters, hence the disaster management strategy.

Keywords: *Vulnerability, resilience, disaster management, community based programme*

INTRODUCTION

The community based programme/strategy was developed after a study on community resilience to disaster in the South East District Council was conducted in three communities. It is based on the background that Botswana is prone to persistent droughts, wild fires, floods, windstorms, HIV and AIDS, and animal diseases which the Government has combated for the past four decades. The National Policy on Disaster Management (1996) states that, from 1981 to 1987 and 1991- 1992, the country experienced inveterate and severe droughts. These episodes greatly affected communities dependent on subsistence agriculture particularly rain-fed agriculture and livestock. These are common experiences in Botswana (as in other southern African

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countries) during the dry period (Botswana Government, 2010). In periods of excessive rainfall, there has been massive destruction to the physical environment and houses, crops, and plants, as well as the rapid development of gullies (Botswana Press Agency (BOPA), 2009). Disasters, therefore, threaten the socio-economic and political progress of nations and communities and claim hundreds of lives of poor people. It is argued that natural disasters are one strand in a complex web of factors affecting economic development, community livelihoods, and conservation management strategies (UNISDR, 2005). Community and individual resilience is not only a necessary characteristic but an important attribute for survival during disasters or catastrophes. Rock and Corbin (2007) argue that major disasters cause multiplicity of social and economic problems and wreak havoc in the lives of individuals, families, and communities. As such, communities must take a deliberate action to prepare themselves for such eventualities for survival and sustenance. The challenge is that, developing countries lack adequate public health infrastructure and structural emergency planning, efficient communication and transportation system, and the human and material resources to militate against major disasters and/or ensure quick recovery (Tobin and Whiteford, 2002).

The radical social work perspective and professional emphasis on community development, accommodates community safety and resilience towards disaster as a well situated subject of study in the social work profession. It is indispensable for social workers to study factors that promote community safety and resilience, strengthen community preparedness capacity to bounce back, establish early warning systems, and monitor locally related hazards. It is also important for social workers to conduct on-going research in their communities to ascertain levels of resilience, safety and mitigation, and preparedness to respond to local disaster hazards.

Botswana communities' knowledge on how to systematically deal with hazards prevalent in their area is worrisome. Sometimes, communities are unwilling to cooperate with responders, relocate to places of safety, or change habits that make them vulnerable to disasters (Maripe and Maundeni, 2010). This complicates the generation of appropriate disaster strategies that would protect the key development sectors like agriculture, water, energy, transport, social services, and health (Hellmuth, Moorhead, Thomson and Williams, 2007). These communities which comprise predominantly of subsistence farmers have lost crops and livestock which are the very basis of their livelihood (NDMO, 2009). The loss of cattle and crops predisposes these subsistence farmers to poverty because many do not have alternative means of economic support (Harding, 2007; Maripe and Maundeni, 2010). The aim of this study is to investigate the resilience and adaptability to disasters of communities in the South East Administrative District, Botswana. Other objectives of the study are as follows:

- i To investigate community perception of hazards, vulnerability, and disaster risks in the South East District of Botswana.
- ii To determine community preparedness systems, measures and disaster risk reduction strategies in the study area.

- iii To identify community related disaster policies, legislation, and programmes in the district studied.
- iv To determine hazards and risks that are prevalent and pose high risk to communities in the South East District of Botswana.
- v To identify areas of high disaster risks and vulnerabilities in the three communities of the South East District of Botswana studied.
- vi To identify the role of social workers in enhancing community resilience to disasters?
- vii To design community based disaster resilience strategies for the South East District disaster committee.

Disaster Situational Analysis in Botswana

The participants of the community resilience to disasters in Botswana (2014) identify the following places in Ramotswa as high disaster risk zones that are seriously affected by floods: Taung, Ramotswa station, Goo-Dimpe, Goo-Moeng, Siga, Magope, and Morokologadi. These includes areas below the hills and mountains and streams as well as those nearer to bridges which include Nkaikela, Goo-Siko, while drought seriously affect the fields (*masimo*) and grazing areas. The predominant hazards with high risks for the Ramotswa community are floods, drought, heavy rains, and high temperatures (Maripe, 2014). In addition, the Otse participants identify locusts, poverty, hailstones, windstorms, veldt fire and earthquake as high risk hazards in their community. They affirmed that Tswapong, Rankoromane, Botshabelo (which lack a drainage system), and Bokaa wards, which are also nearer to the hills, and in particular, the homesteads are seriously affected by flash floods flowing down the hills. Drought and high temperature affects the entire community, while windstorms affect Ikageleng ward mostly because there are no trees to act as wind breakers (Maripe, 2014).

In Mogobane, the participants identify floods, drought, wild land fires, high temperatures, windstorms, torrential rains, and lightening as the major hazards with high damaging effect. The floods are rated at the top of the list, followed by drought, and lastly wild land fires. These are the three most troubling hazards for the community. The participants identified the wards that are affected mostly by these hazards as Rabadukane, Borotsi, lenganeng (which is near the dam), Mogobane, Thabantsho, Segorong, and fields and / or lands (*masimo*) (where floods erode the top soils), and Mojadife ward.

In terms of disaster preparedness and response policy, 78% of the respondents indicate that they do not have a community/district disaster policy derived from the National Policy on Disaster Management (Botswana Government, 1996). A disaster preparedness and response policy is an important document that states the intentions of the district about disasters and the related setbacks and define the actions of various stakeholders and community members, as well as the expectation from the district authorities (UNISDR, 2005). A policy serves several purposes one of which is to avoid duplication of efforts and provides for effective facilitation and coordination of

risk reduction related efforts. The district disaster policy will define the roles and responsibilities of the community, volunteers, and delegate authority and resources to appropriate community structures.

It was established that the south east district has not profiled prevalent disasters besides the national hazard and risks analysis conducted in 2008 by the national disaster management office. The non-existence of district and/community disaster profiling was confirmed by 82% of the respondents. Disaster profiling serves several purposes in the district/or community, particularly guides the design of appropriate strategies and contingency plans. The district or communities does not have a disaster strategy to deal with the impending hazard and related risks. It was confirmed further by 83% of the respondents that the district has not zoned high, medium, and low risk areas. The profiling of hazard is useful in designing evacuation plans, identifying routes, and safe sites for the district.

Community Capacities in DRR: The findings established that there are structures within the community that would be critical in the building of community resilience to disasters. The governing structure in the district constitute the local authority, that is, the Tribal Administration under the authority of the (*Kgosikgolo*) Chief and (*Mothusa Kgosikgolo*) Deputy Chief, and ward Headsmen as well as regiments; the District Council (Council Secretary); the District Administration (District Commissioner); and the Landboard (the Land Board Secretary). The key informants reported that the councilor, the Chief, the community leaders, the Police, disaster committee, neighbours, and District Commissioner's office, social workers, and ward Headsmen, and community members respond to disasters. In addition, the researcher found that the community members have capacity in the form of houses, boreholes, hospitals and clinics, Church structures and prayer conducted by Pastors for the afflicted, bridges, tarred road, and the Fire Department to strengthen the response to disasters. Furthermore, they also identified hills, culverts for storm water drainage, and supplementary feeds for cattle provided by the government, school buildings, and water harvesting tanks/ containers in the community as additional capacities to reduce risks (Maripe, 2014).

The main aim of the study is to design community based disaster programmes and resilient strategies for adoption by the South East District Disaster Management Committee, Social Workers, Communities, and Tribal Authorities in Botswana.

PROPOSED COMMUNITY BASED DISASTER PROGRAMME

Community based disaster preparedness: A disaster preparedness plan is an important document that defines the roles and responsibilities for different stakeholders which they should perform before, during, and after disaster. The South East District does not have a disaster preparedness plan that would guide the actions of social workers, tribal authorities, and communities towards protecting community members against adverse impacts of disasters. It was confirmed by 79% of the respondents that

they do not have a disaster preparedness plan for the district and communities. The disaster preparedness and response plan must be developed by the national disaster management office working with the district disaster management committee, tribal authorities, and community members (Maripe, 2014).

Community Disaster Action Teams: Disaster action teams are critical in community based disaster risk mitigation, prevention, and response and they play a major role in education and awareness programmes. Action teams can be established in different set ups to undertake various tasks and assignments. Disaster action teams refer to groups of people assigned to undertake a task in the community (first aid provision, erecting shelter, hazard monitoring, and dissemination of early warning information) (IFRC, 2010). Lorna (2008) argues that community action groups in disaster management are essential in sustaining the risk reduction process and enabling the community to meet its aims and targets. They play various roles to keep community members informed and ready to act in the advent of any hazard. Majority of the respondents (70%) confirm that they do not have both the district and community action teams. Action teams should comprise of community members, other volunteers working with traditional leaders in the wards, ward development committees, and interested stakeholders. The action teams should not leave out the police, the councilor, and some community leaders and others who may have assisted when there were disasters. The intention is to have systematically arranged community based structures to prepare, prevent, and respond to disasters and strengthening the work of the Police, Botswana Red Cross Society, Councilor, Village Development Committee, and the District Disaster Management Committee (Maripe, 2014).

Community disaster response: Community members are the first responders to disasters affecting them and have to be included when defining specific roles for different actors. Most often, the responders to disasters and those who mobilize donations from the sympathizers in the community comprise the district disaster management committee, village development committee, social workers, and the councilor. Twigg (2007) argues that DRR requires a coordinated and comprehensive approach in which progress in one area needs to be matched by comparative progress in others. It is essential that all actors should be acquainted with disaster response system and the manner by which it is activated or operationed. This reduces ambiguity, confusion and uncertainty as to what actions are appropriate before, during, and after disaster. The response protocols are called into play and each stakeholder knows his/ her roles and responsibilities, hence, clarity and effective action.

Community disaster early warning: The district does not have early warning systems that would process and forward disaster related information to community members in a language that they understand. UNISDR (2005) indicates that early warning systems should be people centered, timely and understandable to those at risk, and take into account demographic, gender, cultural and livelihood characteristics of the target audience, and guidance on how to act upon warning. Data designate that 74% of the

respondents have attested to the non-existence of early warning systems in the district. Early warning systems are instrumental in alerting the vulnerable members to take appropriate action to mitigate or escape from danger. Hellmuth, Moorhead, Thomson and Williams (2007) state that early warning system provides forecast of risks, detects and monitors hazard, and puts out warnings when necessary, paving the way for a coordinated response. Community-based early warning systems are important to keep the community members consciously prepared to deal with hazards in their community.

Relying on the weather information provided by the Department of Meteorological Services broadcast on television and radio Botswana is not sufficient, because not all community members have a television set, a radio, and are able to read the local newspaper, including the daily news. There should be a community based initiative to process the information, translate it to symbols understood by the community, and pass it to the household through volunteers. In addition, the disaster committee could hold workshops in and around the district to sensitize community members on what to do during floods and/or other hazards. The messages need to be further translated to address the realities of the community and guide the community to take appropriate actions. The design of messages should take seriously the indigenous early warning systems (signs), their interpretations, and systems of sharing information. The following steps will help.

1. Set up early warning action teams
2. Establish early warning information dissemination systems
3. Distribute early warning leaflets, brochures, and pamphlets
4. Ensure continuous public education on threatening hazards and risks
5. Incorporate indigenous early warning signs and symbols

Community Evacuation: The participants in Ramotswa, Otse, and Mogobane report that they do not have disaster evacuation plans besides relying on the Police, the Fire Department, and/or the Botswana Defense Force to evacuate the people with their helicopters and boats during floods. The evacuation processes which include evacuation routes, evacuation sites, and protocols are not developed. These are crucial to guide community members and simulation rehearsals before disaster to acquire the relevant knowledge and skills to apply them during and after disasters. As such, the following actions are very important and have to be undertaken by all the stakeholders for preparedness purposes:

Before disaster

- i Identify and mark evacuation routes / sites
- ii Develop evacuation protocols
- iii Establish evacuation action teams
- iv Train evacuation action teams
- v Prepare people in vulnerable areas for evacuation
- vi Undergo simulation exercises and rehearsals

During disaster

It is quite essential for community members to fully understand the evacuation process and related actions to avoid unnecessary consequences and losses. The findings show that the community members heavily rely on the Police, the Army (Botswana Defence Force), and the Fire Brigade service for evacuation during disasters. This may translate to huge losses with the changing pattern of hazards and risks in the future. Community pre and post evacuation planned activities should be paramount to the services offered by the government and other stakeholders. It is on this basis that the community evacuation teams should be established to work with the Army and Police to evacuate people during disasters. The following actions will be taken during disasters:

- i Identify the areas and people to be evacuated
- ii Activate the evacuation plan
- iii Prepare the evacuees for the time in the camp
- iv Evacuate people to marked sites

After disaster

It is practically important to provide information on a continual basis about the changing state of the hazard to the evacuees at the evacuation sites. The action teams must continue to assess the situation and give information to the evacuees on the possibilities of returning to their homes and the security of their property. The following actions must be taken by action teams:

- i Update information on the disaster situation
- ii Assist evacuees to return home safely
- iii Prepare evacuees about the life outside the camp
- iv Provide support to resettle in their homes
- v Link evacuees with District Council physical planners and other stakeholders

Disaster protocol: Community disaster protocols are essential communication and action tools required in the preparation and response to disasters. Some participants state that the district has disaster protocols which they could not produce as proof. They also confirm that they are dependent on the police officers to guide them during floods and on how to support school children as well as reporting any life threatening incident or missing person to the Police or Chief. The respondents also disclosed that they get information about disaster through self-reading (11%), media (10%), primary and secondary schools (4%), workshop (3%), and district disaster committee (1%). It is evident that disaster information is attained through self-reading and media than any other means. These two sources pass information to a wide category of audiences and can be strengthened for effective and efficient information sharing. The data show that district disaster management committee does not disseminate disaster information to communities (Maripe, 2014). It should be integrated in the roles and responsibilities of disaster management committees to disseminate information to communities for effective and efficient response. After disaster, the respondents' desire that communities must be involved in the rehabilitation and reconstruction work in their locality to fast

track the recovery process. The district and community disaster protocols should draw from the HFA (2005-2015), Sendai Framework (2015-2030) and the DRR frameworks. This is to ensure a strong:

- Public awareness and education on developed protocols
- Reference to international disaster frameworks, national policies, and strategies
- Continuous dialogue between the community, leaders, and action teams
- Media coverage of community disaster initiatives

The Role of Stakeholders

The stakeholders play an important role in disaster risk reduction by providing technical, financial, and material support to the district and the community. The stakeholders may comprise of the business community; Botswana Power Cooperation, Water Utilities Cooperation, Churches, Botswana Red Cross Society, National Disaster Management Office, Banks, Government sectors, and other community based Organizations (NDMO, 2009). These provide essential resources and services to the communities and they are not supposed to be left out in the pre and post disaster planning. Their supplies, technical ability, and services are needed before, during, and after disaster for interventions to run effectively and efficiently, their commitment is crucial. Twigg (2007) asserts that partnerships between different institutions and the collective application of different kinds of technical expertise are important to the success of DRR. Therefore, it is pivotal for the District Disaster Management Committee to work with stakeholders to:

- i Mobilize resource for the community/district
- i Support education and aware campaigns in the district
- iii Advocate for policy change and creation of an environment conducive for disaster resilience
- iv Participate in the development of guidelines, protocol for the pre, during, and post disaster activities

Role of Social Workers in DRR

The finding of the community resilience study (Maripe, 2014) shows the importance of social work intervention in disasters and in the design of measures intended to promote community resilience to future catastrophes. The participants and respondents are of the view that social workers should undertake the following roles:

Activities before disaster

- i Guide the development of information dissemination campaigns, leaflets, brochures, and booklets
- i Establish action teams in the community
- iii Assess and monitor potential hazards and risks in the community
- iv Organize and conduct disaster drills, simulations, and training
- v Mobilize resources and promote the stockpiling of relief material in communities
- vi Keep volunteers data

- vii Facilitate information dissemination on various hazards
- viii Hazard mapping and monitoring of the changing patterns of risks and vulnerabilities

Activities during disaster

- i Oversee the education and awareness
- i Damage assessment
- iii Relief provision and beneficiary selection
- iv Counseling to survivors
- v Oversee the evacuation process and the conditions of the evacuees

Activities after disaster

The social workers respondents attest that they possess adequate disaster knowledge to effectively discharge their roles and responsibilities. As such, they must undertake the following activities:

- i Oversee the counseling of survivors
- i Debriefing of action teams
- iii Supporting and facilitating the recovery and reconstruction process
- iv Compile report on the actions of the community for future reference

Role of Tribal Leadership/Authority

The Kgosikgolo (Chief) and her subordinates at the main *kgotla*, villages, and wards constituting the community should The respondents have identified three roles that tribal leaders, in particular the Chief (Kgosi) must undertake in DRR, these are:

Activities

- i Provide counseling to team and ward leaders
- i Coordination of community disaster initiative
- iii Mobilize community for action before, during, and after disasters
- iv Participate in the identification of the affected communities
- v Monitoring the provision of emergency relief, evacuation, and resettlement

Role of the Community

The community members must be involved at all the phases of the disaster cycle and their role must be specific to time, before, during, and after disaster:

Activities before disaster

- i Conduct community education and awareness
- i Form community action teams
- iii Community disaster trainings administered by volunteers
- iv Stockpiling resources in the community

Activities during disaster

- i Search and rescue of victims
- i Warning others of danger
- iii Evacuating the stranded during disasters

Activities after disaster

- i Assessing the damage
- ii Mobilizing community to reconstruct
- iii Visit the affected families/individuals
- iv Providing support and information on available assistance

In terms of responding to disaster, the respondents have suggested that communities should be trained and involved in the search and rescue of victims, warning others of danger, and evacuating the stranded during disasters (Maripe, 2014).

Community Disaster Risk Reduction Proposed Activities

The tribal administration has a disaster committee whose chairperson is a member of the District Disaster Management Committee which is only active during disasters and not inclusive of community members. The leadership suggested that the following should be included in the disaster risk reduction activities:

- i Outreach and education
- ii Kgotla meetings though the attendance is poor unlike in the past where the Chief (kgosi) had to take action against those who do not attend
- iii Training workshops for the community disaster committees
- iv Cattle and / or livestock management
- v Cover water drainage pits
- vi Conduct research to guide actions and solutions
- vii People should refrain from cutting down trees during the day and to follow the culture that prohibits the cutting of *mokgalo* and *mosetlha* tree
- viii Observing the ploughing times, and doing it in the morning rather than in the afternoon
- ix Roofing of houses should be done in the morning rather than in the afternoon.

To Design Community Based Disaster Programme For The South East District

The programme logframe below details the role and responsibilities of various actors in the community who will play an active role in disaster risk reduction. It is subject to modification by the communities so that it suits their socio-physical context. It is assumed that the activities proposed will rely much on the initiatives and willingness of the community members and resources within their context.

Main Objective	Activities	Stakeholders	Person responsible	Time
1. To improve community disaster preparedness	Establish various disaster action team for the district	Council Secretary District Commissioner BRCS	District Disaster Management Committee Social workers Tribal leaders	
-	Establish early warning systems for the district	Meteorological Dept NDMOBRCS	DDMC Tribal leaders Community members	
-	Establish evacuation sites, routes, and protocols	NDMO District Commissioner	DDMC Tribal leaders Community members	

-	Designing disaster protocol for action teams	NDMO BRCS	DDMC Social worker Community members
-	Stockpiling disaster relief material	NDMO Ministry of LG and RD	DDMC Social worker Community members
-	Training disaster various action teams		NDMO Tribal Authority Social worker
-	Designing disaster response protocols for the district		Social Worker Community members/ volunteers
-	Identifying and signing MoU's with suppliers of relief goods during disasters	NDMO Business community	DDMC Social worker Tribal leaders, VDMC
2. To strengthen community response to disasters			
Community response	Activation of response teams	NDMO	DDMC VDMC Tribal leaders Social worker
-	Assessment of situation and damage	NDMO BRCS	DDMC VDMC Volunteer action team Social worker
-	Identification and selection of beneficiaries	DDMC BRCS	Social worker Action team VDC
-	Evacuating the affected and their property to the camp sites	DDMC BDF	Action team Social worker Police, First aiders
-	Provision of relief goods to beneficiaries	NDMO DDMC VDC Business community	Social worker Action team
-	Search and rescue for the victims and survivors	NDMO BDF DDMC	Police Action team First aiders
-	Counseling of the affected and victims	Tribal leaders DDMC	Social workers Counselors Lay counselors
3. To establish community education and awareness systems			
Community disaster education	Providing information on common hazards and climate change	DDMC BRCS	Action teams Tribal leaders
-	Providing information on evacuation and identified sites	Social worker DDMC	Action teams VDMC
-	Providing information during disaster on health, security, and changing conditions	DDMC Community members Tribal leaders	Social workers Action teams VDMC
-	Providing information on impending disasters and action to be taken	NDMO DDMC Tribal leaders	Action teams Social workers VDMC
-	Providing information on climate change to communities	NDMO DDMC	Action teams Social workers VDMC
-	Translating and disseminating weather information to communities	DDMC Social worker	Action teams VDMC
-	Design and disseminating DRR IEC in the form brochures, leaflets, bulletins and news brief.	NDMO BRCS	Social worker VDMC Tribal leaders DDMC
4. To enhance community resilience to disasters			
1. Community disaster resilience	Activate the recovery process in the community	NDMO Tribal leaders	DDMC Action teams VDMC

-	Assessment of community reconstruction needs	External supporter Tribal leaders	Action teams DDMC Social worker
-	Identifying external supporter	NDMO	DDMC VDMC
-	Strengthen poverty reduction measures	Min of LG and RD	Social worker VDC Tribal leaders
-	Identify vulnerable groups, areas, and monitoring processes	DDMC	Social workers Action teams VDC
5. To strengthen the monitoring and evaluation of disaster resilience programmes			
1.	Monitoring and evaluation of Disaster risk reduction activities	Meeting monthly to assess progress in various areas of the strategy	NDMO BRCS Social workers Tribal authorities DDMC
-		Submission of monthly reports to the DDMC by VDMC	NDMO Social workers Team leaders Ward leaders
-		Meet twice a year to assess progress in the various aspects of the strategy	NDMO DDMC Social workers Team leaders Tribal Authority

CONCLUSION

The draft disaster strategy for the South East District in Botswana details the roles and responsibilities and activities that have to be performed by the proposed actors. It is a draft because it has not been adopted and approved officially by appropriate structures of government, district, and communities. It serves as a guide towards developing resilient communities to disasters by systematically engaging relevant players and the community to adapt and develop habits and routines that are geared towards enhancing community capacity and reducing vulnerability to disasters. The strategy is informed by the Hyogo Framework for Action, the Sendai Framework (2015-2030) and the National Policy on Disaster Management of 1996. It is crucial for social workers to establish active community and district monitoring systems to ensure that there is commitment to achieve desired goals and the framework to guide actions of various actors in this regard as well.

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