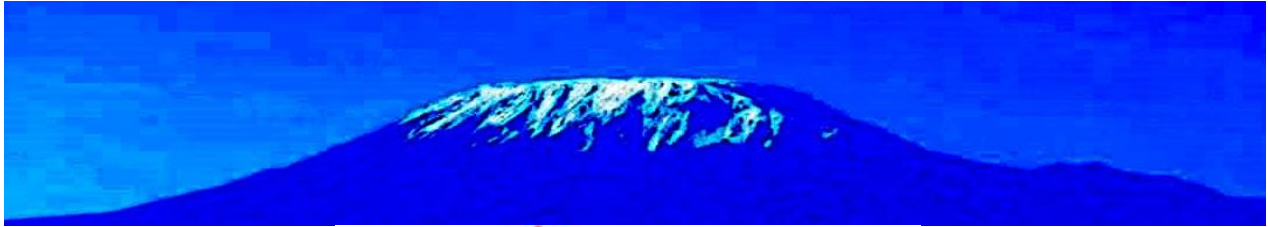


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Designing Disaster Risk Reduction Strategies in Zimbabwe: Perceptions of Mhondoro-Ngezi Rural Communities

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Abstract

This paper highlights the opinions of Mhondoro-Ngezi rural communities regarding designing disaster risk reduction strategies. The study was conducted in a rural community of Zimbabwe. A random sample of 192 participants from a district population of 102, 342 took part in the study. A purposive sample of 6 key informants was selected for interviews. Three focus group discussions from 24 respondents were purposively selected. Results showed that there are important factors and procedures that should be considered when designing disaster risk reduction strategies. Benefits of the strategies to the people and its feasibility were considered important. The study recommends that the government should invest in resources mainly for Disaster Risk Reduction (DRR) activities to build community resilience for current and frequent risks. Communities should be assisted by government in their effort to use homegrown approaches to disaster risk reduction. The study would help rural disaster risk reduction stakeholders, planners and decision makers to make informed decisions and policies in designing disaster risk reduction strategies to improve community well-being. More importantly, it will add more on the existing body of knowledge regarding issues to do with disaster risk reduction strategies.

Introduction

Designing community Disaster Risk Reduction (DRR) strategies is the bedrock of disaster management. When designing community Disaster Risk Reduction (DRR) strategies, there are factors and procedures that should be taken into consideration. First and foremost, there is need to identify priority strategies for building resilient livelihoods at community level (Musevenzi, 2012). Communities should have a wide range of options and strategies available to them for sustainable livelihoods under difficult conditions (Sharma, 2010). Uganai *et al.* (2012) affirm that at the community level, key DRR considerations should ensure that target vulnerable people have reserves of food, water and agricultural inputs in times of crisis. Protection of key assets such as shelter, livestock and food reserves can greatly reduce the impact of natural hazards in most rural areas (Musevenzi, 2012). Furthermore, the development and implementation of disaster risk reduction plans at community level, can facilitate a coordinated approach to preparing for and responding to hazards (Mushongah, 2012).

When dealing with disaster risks, there is need to monitor hazard threats and disseminate information on disaster risks through early warning systems (Uganai *et al.*, 2012). It calls for communication and coordination within those most “at risk” (Weichselgartner and Obersteiner, 2012). The vulnerable individuals and communities should be empowered to identify appropriate DRR strategies and utilize their knowledge for the betterment of their lives (Niboye and Ngwaru, 2020). One of the major factors to consider is to make local knowledge tangible and credible to community members (Mercer, 2012). This helps in identifying the level of vulnerability and capacities which are readily available to them. There is need for full participation and dialogue within local communities. These should include among others; the most marginalized and

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vulnerable people, including the illiterate who may have limited knowledge of designing DRR strategies (Rakodi, 2014).

White *et al* (2001) opine that local knowledge on DRR strategies at the community level needs to be listened to and respected. Community stakeholders should go beyond rhetoric and commit themselves to actual results, especially in terms of communities' participation in DRR programs (Cooke and Kothari, 2011). DRR practices should be embedded in local culture as well as social and economic contexts (Niboye and Ngwaru, 2020). Hence, there is need for a dialogue among community leaders in the processes towards designing disaster risk reduction strategies to reduce local community disaster risks.

Theoretical Underpinnings of the Study

The study is guided by the Actor Oriented Approach (AOA). The theory was developed by Long (2001). The Actor Oriented Approach is based on the simple recognition that even under similar conditions social life contains a variety of social and cultural forms (Harberecht, 2009). It contradicts structural models that view social change and development as resulting from external forces, state interventions or development agencies. The Actor Oriented Approach is concerned about how different individuals and social groups interact and develop strategies for dealing with social change and how they negotiate over resources.

The Actor Oriented Approach argues that under certain circumstances “less powerful” actors can make their voices be heard and thereby change the course of events (Harberecht, 2009). Long (2001) argues that various local actors are not depicted as simply passive recipients who process no information. Rather, they are active participants who strategize their dealings with other local actors, as well as with outside institutions (Long, 2001). The Actor Oriented Approach takes into account conditions in the social structure that can constrain actors' choices and strategies. It notes that actors react to social conditions differently and develop diverse strategies to adapt and cope, particularly in the case of DRR strategies and livelihoods diversification.

The Actor Oriented Approach is useful for this study as it outlines and emphasises on the detailed analysis of the struggles within and between specific social groups. It addresses how rural communities diversify livelihoods and respond to external interventions. The Actor Oriented Approach gives explanations about the conditions under which these actors are self-organised and consolidated around a particular challenge, the strategies they use, the rationale for their actions and their effectiveness (Musevenzi, 2012). As noted by Knap and Rusyn (2016), the notion of social actors is that they possess the knowledge and ability to assess problematic situations and organise appropriate responses. These actors may be in the form of individual persons, households or communities. Hence, applying the concepts of the approach to the actors involved in livelihood diversification allows a particular understanding of the role of actors and their coping strategy. It is an approach that aims at empowering the poor and marginalised communities like Mhondoro-Ngezi District.

Methodology

Research Design

A descriptive survey design was adopted for this study because it provided room for the researcher to observe phenomena in the participants' natural and unchanged environment (Kombo and Tromp, 2006). This is consistent with the Actor Oriented Approach which encourages communities to define their own vulnerabilities and capabilities, not outsiders. It was also preferred for this study since detailed descriptive information was needed as a basis for a better understanding of perceptions of Mhondoro-Ngezi rural communities on issues to consider when designing disaster risk reduction strategies. A descriptive survey design was chosen because it can be applied in collecting data on people's beliefs, attitudes, behaviours and habits or any other social issue like the targeted community's perceptions on designing disaster risk reduction strategies. It was deemed suitable for this study as it gave an opportunity for the researcher to integrate qualitative and quantitative data collection methods. This approach provides a flexible method of collecting data using both the qualitative interview guide and quantitative questionnaires as data collection tools (Carter and Negatu, 2014).

Sample Frame and Size

A sampling frame is an objective list of the population from which research participants can be selected (Denscombe, 2007). The District Administrator's office register of key political, social, religious, NGOs and government figures was used as a sampling frame. A sample size of 384 was calculated using Cothran (1977)'s formula: $n = Z^2 \times p \times (1-p) / M^2$ with 95% confidence level, 0.5 standard deviation and a margin of error (confidence interval) of +/- 5%, from the total district population of 104, 342.

n = Sample Size

Z = Z value (e.g. 1.96 for 95% confidence level)

P = population proportion (expressed as decimal) (assumed to be 0.5 (50%))

M = Margin of Error (or confidence intervals) at 5% (0.05)

$((1.96)^2 \times .5(.5)) / (.05)^2$

$(3.3416 \times .25) / .0025$

$.9604 / .0025$

384.16

Sample size= 384 respondents

Sampling Procedures

A systematic random sampling technique was used to select three hundred and eighty-four (384) respondents (that is 24 respondents from each of the 16 wards in the district) to answer the questionnaire. Community members were selected according to households. A list of all households was obtained from the ward councillors for each ward in the district to give each household an equal chance of being selected to participate in the study (Creswell, 2014). Each household was assigned a number from 1 to the last number in the ward. The sampling interval was calculated by dividing the total number of households in the population (ward) by the number needed in the sample from each ward. A random start number between 1 and sampling interval was selected. The sampling interval was repeatedly added to select subsequent households. The surveys targeted the household member who was present at that particular time.

In addition, a total of 3 FGDs each comprising 8 members was carried out. They were purposively selected from the list that was obtained from the local District Administration offices with the help of local leaders who located them. The representativeness (social or religious) of the individual relative to society was considered in making judgments about the suitability of FGDs participants. It was ensured that all interest groups were represented and the gender

dimension was taken into consideration, thus, four females and four males participated in each of the four FGDs. FGDs were organized in terms of age group mix from eighteen years and above to ensure maximization of freedom of expression. The groups were homogeneous to ensure bias minimization and response maximization.

On the other hand, 6 key informant interviewees were selected based on their positions in the community and having attributes that might come from direct experience or the nature of from their duties in the constituency. These were purposively chosen based on their positions in the community or district which make them to be involved in designing of disaster risk reduction activities in the area, making them rich sources of information. They were drawn from members of parliament and senate, government workers at district level, local government officials, traditional leaders, religious leaders, community leaders, traditional healers and representatives of Non-governmental organizations working in the district. A snowballing procedure was utilized to locate key informants. Special consideration to balance gender was upheld. Each of them was interviewed individually using a pre-developed interview schedule and guide. Qualitative data collected through key informant interview methods were used to gather more in-depth information as well as create a more reliable and valid research outcome. They were employed to supplement and complement information gathered from quantitative data collection methods (Kombo and Tromp, 2006).

Data Presentation and Analysis

Data analysis is a crucial step in conducting research because it is a transformative process which changes raw data into interpretable findings (Lofland *et al.*, 2006). Data analysis, therefore, brings order, structure and meaning to the mass of collected data. In this study, qualitative data was grouped, processed, analysed and presented according to emerging themes. For quantitative data analysis, the Statistical Package for Social Sciences (SPSS) was used because it allowed easy presentation of data for the reader to quickly comprehend. Each presentation of data provided an indication of numerical scores and percentages according to related categories. Secondly, the visual presentation of data (tables, charts, and graphs) in numbers and percentages offered an analytical description and interpretation of data using descriptive statistical procedures.

Thematic analysis was employed to analyse qualitative data from Key Informant interviews and Focus Group Discussions (FGDs). After collecting the data, time was taken to read through interview notes and FGDs as well as listen to audio recordings. This was done repeatedly until a stage when the researcher became familiar with the contents of the information at hand. The process also included transcription of recorded interviews and FGDs data into discernible facts on hard copy.

Codes were generated and under them data were grouped. This was done to separate ideas, in order that themes pertinent to the research questions were identified. The process of coding was part of the analysis that involved organizing data into meaningful groups. After that, different codes were sorted into potential themes which were then collated into identified sub-themes. At this stage, it was considered how different codes were combined to form one or how some needed to be expanded. Subsequent to devising a set of candidate themes, focus was on reviewing and refining the themes. During this process, some candidate themes did not possess enough data to support them, or the data were too diverse, while others collapsed into each other. Some themes were broken down into separate themes while others were merged as supported by (Mason, 2010).

This was followed by defining and naming the subject matter. The themes that were used for analysis were defined and further refined. The process involved identifying the essence of what each theme was all about, as well as determining what aspect of the data each theme captured. For each individual theme, a detailed analysis was conducted and results were compiled in this study. It also involved identifying the story that each theme told and how such themes fitted into the broader overall story as defined by the objectives of the study (Braun and Clarke, 2006). The last phase which was production of a report began when there was a set of fully worked-out themes. This stage involved the final analysis and write-up of the report.

Validity and reliability

Validity refers to the trustworthiness and accuracy of instruments and findings in research. Reliability has to do with replicability and consistency over time. Combining Key Informant Interviews and Focus Group Discussions (FGDs) enhanced the validity of the generated data as the strength of one method compensated for the weaknesses of another (Kombo and Tromp, 2006). The FGDs and interviews were tape-recorded so as to capture the exact words of the research respondents. Review of relevant literature was done to verify uncommon data as to verify trends. If it happens to have some differences with the prevailing literature trends some of the participants were revisited for confirmation and data verification.

This article is based on a study that was carried out in Mhondoro-Ngezi District, in Mashonaland West Province of Zimbabwe. The district has a population of around 104,342 and covers about 9327.41 square kilometres (Niboye and Ngwaru, 2020). It has 16 wards with approximately 23,630 households (Zimbabwe National Statistics Agency, 2016).

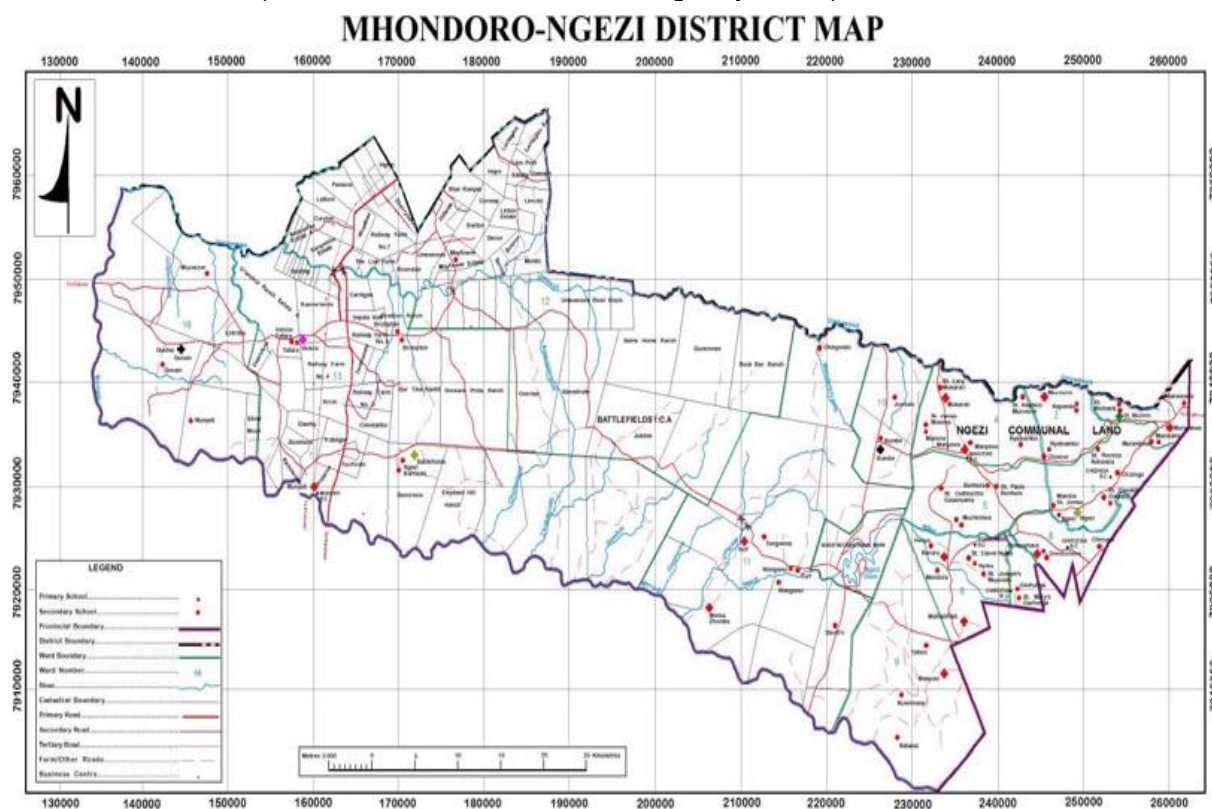


Figure 3.1: Map of Mhondoro-Ngezi District Showing Various Wards
Source: Surveyor General (2017)

The study focused on Mhondoro-Ngezi District because it was expected that due to severe weather hazards such as droughts and floods, the local communities should be in a position to design disaster risk reduction strategies so as to reduce their vulnerability to hazards and improve their livelihoods. This is premised on the fact that due to persistent susceptibility of the rural communities to natural calamities, it is important that individuals should endeavor to engage each other in designing disaster risk reduction strategies order to improve their livelihoods and wellbeing.

Findings

The chapter presents an overview of the key findings of the study. It consists of two sections. Section one highlights the factors and procedures to be taken into consideration when designing Disaster Risk Reduction (DRR) strategies. Section two looks at hurdles to the procedures in designing disaster risk reduction activities.

Factors and Procedures to be considered when designing Disaster Risk Reduction Strategies
The research findings from the survey analysis showed that when designing disaster risk reduction strategies it was important to consider their feasibility (17.3%), its benefits to the affected people (23.4%) and the risk associated with the strategy (13.2%). As such, designing disaster risk reduction strategies help at- risk communities consider their emergency response activities in light of existing and new hazard risks. This enables them to design sustainable strategies or adjust their DRR activities so that they become safer and more disaster-resilient. Designing DRR strategies safeguard individual and community efforts to create and expand enabling conditions for sustainable livelihoods and community development.

Table 1: Factors and Procedures to be considered when designing Disaster Risk Reduction Strategies

Factors to be considered when designing Disaster Risk Reduction Strategies	Frequency	Percentage
Benefits of the strategies to the people	89.9	23.4
Feasibility of the strategies	66.4	17.3
Risks associated with the strategy	50.7	13.2
Reliability of the strategy	38.8	10.1
Its effectiveness to the people concerned	43.4	11.3
Relevance of the strategies in the area concerned	33.4	8.7
Applicability of the strategies	20.4	5.3
Level of acceptance by the people concerned	16.8	4.4
Local cultures (values, norms and attitudes)	11.9	3.1
Sustainability of the strategy	9.2	2.4
Others (Specify)	3.1	0.8
Total	384	100
Procedures to be considered when designing Disaster Risk Reduction Strategies		
Procedures to be considered when designing Disaster Risk Reduction Strategies	Frequency	Percentage
Do an audit of past events classified as disasters	31.9	8.3
Consult with the affected people	84.8	22.1
Identify local knowledge of local hazards	103.3	26.9
Consult with community members and traditional leaders	73.7	19.2
Understand local community and national disaster risk reduction systems	44.9	11.7

Involve all gate- keepers to get their approval	24.7	6.4
Do an environmental impact assessment	13.8	3.6
Others (Specify)	6.9	1.8
Total	384	100

Source: Survey Data (2021)

It was noted from the survey analysis that designed DRR strategies should be reliable (10.1%) and applicable (5.3%) so that they avoid rebuilding the vulnerabilities that make people prone to similar disasters. DRR should provide valuable insights with regards to risks associated with the strategies to avoid the underlying factors of vulnerability to hazards and the features of those hazards. It helps communities identify and map local capacities to cope with hazards. The effectiveness of the strategies to the people concerned (11.3%) was considered important as it helps Mhondoro-Ngezi communities conduct effective disaster response while reducing risks that similar disasters will reoccur. FGD participants mentioned the sustainability of the strategy as a factor to consider when designing community and national DRR strategies so that people's emergency response does not create other critical vulnerabilities. DRR strategies and activities should be designed to increase the resilience of individuals, households and communities so that they will be able to resist and recover from and improve their wellbeing in the face of natural hazards. It was revealed through the Key Informant interviews (KIIs) that successful DRR results from its applicability and flexibility to combine top-down strategies with bottom-up local community-based approaches. Activities for reducing and managing risks should provide a way for building resilience to other risks.

From the survey analysis, it was found out that the relevance of the strategy in the area concerned (8.7%) was considered critical because investing in relevant disaster risk reduction strategy not only protects lives and assets, but can also yield additional benefits of enhancing the wellbeing and resilience of individuals and communities. The level of acceptance by the people concerned (4.4%) was deemed important in that the more the affected local communities know about their risks through risk assessment and evaluation, the more they can learn more about what they can do to protect themselves from natural hazards. They would then have a better chance of reducing disaster risks, loss and damage of property and the recovery period will be used as an opportunity to create a more stronger and resilient community. A key prerequisite for resilience is that a DRR good practice must be attuned to the livelihood strategies and local cultural contexts (3.1%) of the people who will be using them. Hence, the Actor Oriented Approach acknowledges the different cultural situations that make special populations either vulnerable or resilient to natural hazards.

Data analysis from the survey suggested that it was imperative that programmers consider and identify local knowledge regarding prevention of natural hazards (26.9%). In addition, respondents encouraged programmers to consult with the community members and traditional leaders (19.2%) while a further 22.1% were of the opinion that those that are affected need to be consulted at all times (Table 1). One of the religious leaders pointed out that:

"I hope the Government and the Mhondoro- Ngezi Rural District Council will allow us to be more involved in improving our communities. They should involve us in planning for the development of our communities. All vulnerable individuals and households should be engaged and consulted at all times so that

they share their ideas, knowledge and experiences in as far as designing disaster risk reduction strategies are concerned”.

Evidence to support the need for strong social synergies is provided by Manyena *et al.* (2013) who suggest that Zimbabwe needs to move from policy to practical action that brings all stakeholders together to prevent avoidable disasters. As a result, it would be ideal for the communities in Mhondoro-Ngezi District to shift from focusing on the hazard event to processes that create susceptibility and loss of resilience to hazards.

However, secondary data sources show that disaster legislation in Zimbabwe appears to focus much on response giving less attention on the courses of action that ease vulnerability and improve the resilience of communities. Interviews from Key Informant interviewees showed that residents of Mhondoro-Ngezi District seemed quite enlightened on what needed to be done in their communities. Perhaps, the call for government would be to capitalise on this knowledge base and consider the role of local traditional leadership in building resilience for the local communities. Similar approaches are recommended by Madamombe (2014) who aptly suggests that the indigenous institution of chieftaincy in many parts of Africa could potentially offer lessons in the theory and practice of resilience to disasters. Hence, local leadership, particularly chieftaincy, is thus viewed as a real example of a resilient institution from which designing of disaster resilience could be learnt.

Hurdles to the Factors and Procedures in Disaster Risk Reduction Activities

In all social development programming efforts, there will always be challenges. The same applies to DRR designing endeavours. This was found to be true for DRR activities in Mhondoro-Ngezi District. The FGDs revealed several issues which ranged from the need to ensure availability of resources for use in disaster risk reduction activities, poor use of home-grown approaches to disaster risk reduction and lack of community involvement in decision making.

The Need to Design Strategies to Ensure Availability of Resources for use in Disaster Risk Reduction Activities

It is the responsibility of the government to invest in resources mainly for Disaster Risk Reduction (DRR) activities. Providing enough resources to DRR activities is essential for building community resilience as well as building a platform for dealing with recent and persistent risks. Such resources would assist in putting up an important base for proficient risk management and prevention of new risks, leading to safer rural communities. There is need for structural mechanisms from national to community levels that strengthen appropriate resource mobilization and allocation that would then help to positively influence DRR initiatives. Financial, material and human capital insufficiency in Zimbabwe has affected rural communities and made them more vulnerable to the impact of natural hazards (Ndlovu, 2016). Study findings from Key Informant interviews showed that resilient communities are those empowered with appropriate resources necessary to reduce their vulnerability to disasters. This is supported by the Actor Oriented Approach that advocates for empowering the poor and marginalised communities like Mhondoro-Ngezi District. The findings point to the need for enhanced resources for DRR in rural communities so as to develop disaster risk reduction strategies suitable for different communities. The District Administrator was quoted saying;

“I understand the concerns that maybe we are not doing enough to involve the communities in disaster preparedness. The truth is that from my observation, there are no financial resources to carry out these consultations. Even the issue of rehearsal for disaster response, the money is simply not there. The best we have been able to do so far is to ask teachers in our schools to help

disseminate information about disaster prevention through school children. This way, we hope the message will get to the communities”.

True to the assertion, lack of resources has impeded disaster preparedness for communities in Mhondoro – Ngezi District. One of the traditional leaders indicated that:

“The government is committed to effective disaster risk reduction. At least from the indications I have seen. What I am not sure of is the political will. Most of the times we are informed that there are no resources, but all the time you see government officials moving around in brand new cars. So, as long as there are no resources for use, you will continue to observe that there are no activities taking place until droughts, lightning or flooding occur”.

According to the Mhondoro – Ngezi District Administrator, the district has been facing serious economic challenges for the past decade, with the government struggling to fund most of its basic obligations. It is thus not surprising that the lack of political will and resources for use in DRR was mentioned as some of the challenges that make it difficult to integrate community efforts and the broader government strategies. This situation exists despite the Sendai Framework for Disaster Risk Reduction (2015–2030), compelling member states to design strategies that will ensure resources availability for DRR activities at all levels (Wilkinson *et al.*, 2019).

Poor Use of Home-grown Approaches to Disaster Risk Reduction

The study findings from FGDs indicated that some of the ways of dealing with disasters were not new to communities’ expectations and experiences. The FGDs respondents believed that it was expensive compared to the use of locally available ways of dealing with such challenges. One of the agricultural extension officers remarked;

“One of the observations I have made is that some key community members are not happy with us imposing our own ways of dealing with natural hazards in Mhondoro-Ngezi District. In the cases we have encouraged members of the community to adopt the most modern ways of farming; these are often frowned upon as expensive. Some members of the community believe that the recurrent droughts experienced in this area are a result of the use of fertilizers and chemicals in their fields”.

From the FGDs, it is conceivable that the lack of food security in Mhondoro-Ngezi District could be attributed to droughts. Hence, the farming methods have to be looked into. This was supported by the District Administrator (DA) who argued that poor harvests that contributed to inadequate food resources made communities even more vulnerable than they would be if they had enough food and water resources. Interviews with community leaders showed that Mhondoro-Ngezi communities always had their own way of dealing with their challenges, such as droughts and flooding. Members of Zimbabwe National Traditional Healers Association (ZINATHA) argue;

“While we agree that government has the know-how and the expertise to help us deal with droughts and other problems in this area, we think that our traditional approaches are equally important. For us to ignore that and then adopt new ways of doing things is an insult to our ancestors”.

The interviewees understood the link between communities in Mhondoro- Ngezi district and their important traditions. As a result, important issues were brought up that could determine the success or failure of community interventions to disaster management. Risk perception towards a disaster does not only depend on the danger it could create but also on the behaviour of the individuals and communities governed by their culture (Mavhura *et al.*, 2014). The same applies to communities that are rarely consulted on issues that affect them, especially when specialists come and impose interventions on them without considering their culture. However, the Agricultural Technical and Extension (AGRITEX) official indicated that not all traditions were important in building resilience against disasters as some practices such as stream bank cultivation increase vulnerability to natural hazards such as soil erosion and siltation.

Lack of Community Involvement in Decision Making

Interviews with community leaders indicated that in most cases, the authorities from the government offices made the decisions about what should be done and what should not in as far as DRR issues was concerned. The FGDs established that usually, members of the community would be called in to take part in activities that they did not understand. One key informant claimed that:

“Most of the time, when there are floods, we see government employees who come to tell us that floods are coming. They then advise us to relocate to higher areas. When there are droughts, they always bring experts who teach us how to preserve water when watering our gardens. The problem is that they always work with the councillor and rarely ask us about our opinions. We are grateful for the help the government provides us, but sometimes we also want to know the reason why we have to do some of these things”.

This showed that in designing and programming for DRR activities in Mhondoro-Ngezi District, there could be a lack of consultation with the local communities. Lack of consultation and involvement often makes any community intervention a foreign idea, and this might limit the acceptance of such ideas by individuals and communities. It leads to apathy and lack of ownership of the projects. Mudavanhu (2015) posits that despite evidence of the potential positive impact that rural communities can have on the effectiveness of DRR planning, their involvement in designing disaster risk reduction strategies remain significant. During an interview with one of the local chiefs, it was discovered that Mhondoro-Ngezi communities benefited from emergency preparedness interventions such as how to build more safe houses, deal with water scarcity and contamination of wells after flooding. The local chief remarked;

“When disasters occur in our area, there is often no time to gather people and offer them education. It will be an emergency situation. As a result, the government just informs us to gather the villagers to safe places to ensure their safety”.

The above contribution could be an indicator of the problems associated with DRR activities in Mhondoro-Ngezi District. The Key Informant Interviewees revealed that in the area DRR activities were reactive rather than proactive. This is usually the case in resource strained communities, as pointed out by Mushongah (2012), with most of the available resources being channelled towards the primary needs of food and shelter. While this could be understandable, the challenges still come when a disaster occurs. The Member of Parliament for Mhondoro-Ngezi District observed that lack of resources and preparedness made the communities even

more vulnerable, and it was often difficult to help such communities recover from food crisis and disaster situations.

Discussion

The study results show that there could be a lack in terms of the bottom-up approach to DRR in Mhondoro-Ngezi District. As noted during the field survey that disaster risk reduction programmers should consult those affected including local leadership. They should be involved from the planning through to the implementation and review stages. Accordingly, the Actor Oriented Approach argues that rural communities (social actors) should not be portrayed as inactive beneficiaries who are not informed in terms of designing and their survival strategies. They should be viewed as active participants who can design, strategize and network with other local actors, as well as with outside institutions (Long, 2001). The vulnerable populations should be given the platform to determine their future (Mugumbate, 2014). They should be given the chance to shape the style of their future. By so doing, they will become active participants and owners in disaster risk reduction activities and community developmental projects. Communities should play an active role in DRR so that they design and build their skills in projects that militate against natural hazards thereby enhancing sustainable livelihoods in their regions. There is need to consult Mhondoro-Ngezi communities about their previous experiences with natural hazards so that they advise on how they have managed to deal with such disaster risks. Hence, and the planning and designing of disaster risk reduction strategies by local communities should be emphasized.

Those involved in the designing, programming and planning of DRR strategies should consult the vulnerable communities so that they identify their needs. Hence, it was imperative that programmers consider and identify local knowledge regarding prevention of natural hazards. In addition, programmers should be encouraged to consult with the community members and traditional leaders in the community. This is in support of the Sendai Framework for Disaster Risk Reduction (SFFDRR) which suggests that local knowledge be used to 'complement' scientific knowledge 'where necessary' (Wilkinson *et al.*, 2019). Those who are affected need to be consulted at all times and DRR strategies should be designed in such a way that it involve consulting local leadership as they were viewed as a good example where disaster resilience could be learnt (Madamombe, 2014). Further evidence of the state of DRR in Mhondoro-Ngezi District confirmed that the shortage of resources was a great obstacle to the DRR efforts. This was in addition to failure by programmers to design home-grown solutions and indigenous knowledge in DRR activities, a situation that was observed to proffer no solutions to rural communities.

Conclusions and Recommendations

Since most of the challenges to DRR programming in Mhondoro-Ngezi District are attributed to insufficient government designing strategies and support, the study concludes that it remains difficult for communities to coordinate such activities alone. This is based on the assumption that programming for DRR remains the responsibility of individuals and communities, which should then be assisted in designing and coordinating by government and private partners in the processes. It was established that Mhondoro-Ngezi communities view community participation as instrumental in designing effective DRR strategies in their district. This is in line with the Actor Oriented Approach which emphasises on active participation, capacity building and empowerment particularly on rural communities. As such, the communities in Mhondoro-Ngezi District were ready to design and participate in DRR activities and could only be waiting to be engaged by the government in order for DRR initiatives to bear fruits.

It was noted that the communities of Mhondoro-Ngezi District were well aware of their requirements when it comes to the designing and implementation of DRR strategies in the area.

The bottom-up approach to DRR programming would be well informed of these needs. That approach would help to make any such interventions relevant to the needs of the communities. Since DRR designing and activities were always linked to community livelihoods and wellbeing, the livelihoods approach to DRR in Mhondoro-Ngezi District was likely to be successful. This was because communities were likely to cooperate if they perceived the designing and interventions to be relevant to their livelihoods requirements.

The government support should be in line with the community's needs and culture, so that it would instigate unwarranted hazards. In addition to that, the government should endeavour to afford community DRR strategic alternatives that are financially realistic, friendly and viable. As Cole (2015) argues, the government support is needed to reinforce local knowledge and capacity. For community DRR strategies to be strengthened, it is imperative to align it with the national DRR policies and frameworks which must be oriented towards the context and needs of vulnerable communities. It is further recommended that, the central government should endeavour to create effective channels of communication from the grassroots upwards. Similarly, national policies and plans must cascade down to local levels to ensure that they are executed effectively and allow communities to respond to all matters that affect their day to day lives. Furthermore, the government should make it a policy that DRR activities adopt a participatory approach, with consultations at all levels of the DRR endeavours. This would ensure that all community members are involved in the designing and development of sustainable strategies for effective disaster risk reduction.

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POLICY BRIEF

Designing Disaster Risk Reduction Strategies in Zimbabwe: Perceptions of Mhondoro-Ngezi Rural Communities

When designing disaster risk reduction strategies there is need for local and national governments to identify priority strategies for building resilient livelihoods at community level. There is also need for national government to monitor hazard threats and disseminate information on disaster risks through early warning systems. It calls for communication and coordination within those most “at risk”. The government should empower the vulnerable individuals and communities so that they will be in a position to identify appropriate Disaster Risk Strategies (DRR) strategies and utilize their knowledge for the betterment of their lives.

Policy makers should make local knowledge on DRR strategies at the community level be listened to and respected. They should make sure that community stakeholders go beyond rhetoric and commit themselves to actual results, especially in terms of communities’ participation in disaster risk reduction initiatives. In addition, they should make sure that DRR practices be embedded in local culture as well as social and economic contexts. Hence, there is need for a dialogue among community leaders in the processes towards designing disaster risk reduction strategies so as to reduce local community disaster risks. The government should invest in resources mainly for Disaster Risk Reduction (DRR) activities. Providing enough resources to DRR activities is essential for building community resilience as well as building a platform for dealing with recent and persistent risks. Such resources would assist in putting up an important base for proficient risk management and prevention of new risks, leading to safer rural communities.

There should be structural mechanisms from national to community levels that strengthen appropriate resource mobilization and allocation that would then help to positively influence DRR initiatives. Resilient communities are those empowered with appropriate resources necessary to reduce their vulnerability to disasters. Hence, the poor and marginalised communities like Mhondoro-Ngezi District should be empowered. Resources for DRR in rural communities should be enhanced so as to develop disaster risk reduction strategies suitable for different communities.

The government support should be in line with the community’s needs and culture, so that it would instigate unwarranted hazards. In addition to that, the government should endeavour to afford community DRR strategic alternatives that are financially realistic, friendly and viable. The government support is needed to reinforce local knowledge and capacity. For community DRR strategies to be strengthened, it is imperative to align it with the national DRR policies and frameworks which must be oriented towards the context and needs of vulnerable communities. The central government should endeavour to create effective channels of communication from the grassroots upwards. Similarly, national policies and plans must cascade down to local levels to ensure that they are executed effectively and allow communities to respond to all matters that affect their day to day lives. Furthermore, the government should make it a policy that DRR activities adopt a participatory approach, with consultations at all levels of the DRR endeavours. This would ensure that all community members are involved in the designing and development of sustainable strategies for effective and sustainable disaster risk reduction.