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## Natural Disasters: Communal Traditional Coping Strategies among Members of Runnymede, South Africa

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### Abstract

The changing of global warming and the participation of human activities has seen the rise of disasters globally. In their nature, natural disasters leave vulnerable community members homeless and health challenges. As a result, those affected tend to be in serious need of counselling; that is where social workers get involved. On that note, this study aimed to explore and describe the communal traditional coping strategies used by Runnymede community members in the face of natural disasters. This study adopted a qualitative research approach using exploratory-descriptive research designs. The study was conducted at Runnymede Village, found in Tzaneen Municipality, Limpopo Province, South Africa. The researchers used a purposive sampling design to sample community members at Runnymede village who could shed light on the factors contributing to natural disasters and coping strategies. The researchers used individual semi-structured interviews to interview 9 participants in the study. The collected data was then analysed thematically using Thematic Content Analysis. The study found that socio-economic factors predispose community members to natural disasters. It further indicated that several strategies, that is, traditional practices and prayers, are adopted by community members to mitigate the effects of natural disasters. The study concludes that even though community members are exposed to the rampage

effects of natural disasters, they still use their indigenous knowledge to mitigate those effects.

**Keywords:** *Community members, Coping strategies, Indigenous knowledge, Natural disasters, Runnymede*

## **Introduction and Statement of the Problem**

Natural disasters are not a thing of today; they have been occurring throughout centuries. In the wake of disasters, some people are left homeless and have post-traumatic stress disorders (Morrison, & McIlduff, 2007; Taylor & Sharpe, 2008). All those affected are in serious need of counselling, and that is where social workers get involved. Social workers are seen as essential workers amid natural disasters, and due to their educational background, they are trained to prevent and protect community members against all challenges. Be that as it may, to address the ramifications of natural disasters, one needs to understand factors that contribute to disasters. On that note, Lewis (2017) has found that community members are susceptible to natural disasters due to their poor socio-economic status and corruption. However, those are not the only factors that expose community members to natural disasters. For instance, Llorente-Marrón, Díaz-Fernández, Méndez-Rodríguez and Gonzalez Arias (2020) opined that the vulnerability of community members to natural disasters depends on the gender difference of community members. In their findings, they discovered that due to femininity, women are more prone to natural disasters as compared to men. However, Baloyi (2008) blame culture and the patriarchal systems that hold the notion that women's role is in the kitchen. So when natural disasters occur, women find themselves trapped in rural areas with poor infrastructure. In that regard, Hamidazada, Cruz and Yokomatsu (2019) advanced the view that the vulnerability of community members, women included, result from a lack of early warning systems.

Given that natural disasters have been occurring throughout the generation, those vulnerable to natural disasters have adopted different coping strategies. As indicated that those in rural areas are disadvantaged by lack of resources, community members had to rely on the indigenous knowledge systems (Chanza, 2014; Tharakan, 2017). However, the knowledge is not universal as different communities use different knowledge to mitigate the effects of natural disasters. With that being said, researchers delimit natural disasters in this study to refer to drought

and floods. In the face of the mentioned natural disasters, time immemorial, people around the globe have relied on traditional practices and religious practices in addressing the issues of floods and drought (Turner & Clifton, 2009; Green & Raygorodetsky, 2010; Chanza, 2014; Tharakan, 2017). Nevertheless, this paper aimed to explore and describe the communal traditional coping strategies used by Runnymede community members in the face of natural disasters.

## **Research Methodology**

This study was empirical and adopted a qualitative research approach. Hence, Kumar (2011) asserted that a qualitative research approach is a holistic approach that involves collecting rich data from various participants to gain a deeper understanding of the phenomenon. Considering this, Lune and Berg (2017) underscored that the qualitative research approach allows the researcher to use inductive methods to attain first-hand in-depth information from participants. On that score, the researchers opted for this approach to explore in detail the contributing factors of natural disasters in Runnymede village and therefore describe the coping strategies adopted to mitigate the effects of natural disasters.

The researchers opted for exploratory-descriptive research designs. The exploratory research design was chosen to answer the ‘what’ question (Creswell & Creswell, 2018), in this instance, which factors expose community members to be vulnerable to natural disasters. Moreover, the descriptive research design was adopted to answer the ‘how’ question, in this instance, how community members use their indigenous knowledge systems to mitigate the effects of natural disasters (de Massis & Kotlar, 2014). The researchers used a purposive sampling design to sample eight community members at Runnymede village and one disaster management officer to shed light on the factors contributing to natural disasters. To de Massis and Kotlar (2014), exploratory design is useful when the researcher aims to understand how a phenomenon occurs. The researchers were interested in knowing which factors contribute to natural disasters in Runnymede Village with the study. Inclusion criteria included participants who possess indigenous knowledge, those practising small scale farming, Runnymede village residents, and a disaster management officer. The exclusion criteria included participants who did not possess an indigenous

knowledge system, did not practice farming and reside outside Runnymede village.

The researchers used individual semi-structured interview to collect data. The researchers opted for semi-structured interviews as they are not rigid and provide researchers with freedom to probe far beyond the provided response (Lune & Berg, 2017). Before collecting the data, the participants were provided with a consent form that explained the study purpose, estimated duration of the interview (a maximum of 45 minutes) and that participation is voluntary. As the study was conducted during the hardship of Covid-19, researchers adhered to all Covid-19 regulations by sanitising the venue for interviews, social distancing and making sure masks were available before the study. The collected data was then analysed thematically using Thematic Content Analysis (Braun & Clarke, 2006).

## **Theoretical Framework**

This paper used the combination of two theories, Vulnerability and Afrocentricity Theory, to explore and describe factors that predispose community members to natural disasters and their coping strategies to mitigate those disasters. At first, the authors use Vulnerability Theory to explain why a certain individual becomes susceptible to natural disasters and uses Afrocentric theory to explain the African or traditional knowledge of coping with those disasters.

## **Relevance of Vulnerability Theory to the Study**

The Vulnerability Theory provides an assessment of why certain individuals and communities are prone to disasters. Wisner, Blaikie, Cannon, and Davis (2004) state that vulnerability theory provides an understanding of the causal chains of natural disasters, that is, certain individuals and communities are more prone to natural disasters compared to others. For example, rural communities are vulnerable to natural disasters because of a lack of infrastructures such as good houses, community halls and/or poor technology devices for disaster preparedness, rescue, planning, and recovery. On that note, The Vulnerability Theory was used in this study to understand communities and individuals that were susceptible to disasters. According to McEntire (2005), the Vulnerability Theory can generalise the effects of

disasters regarding populations and socio-cultural contexts. Also, Zakour and Gillespie (2013:10) posit that “the emerging theory of vulnerability not only draws on traditional methods of disaster mitigation, preparedness, response, and recovery but also expands the boundary of disaster by fusing with other areas such as environmental sustainability, terrorism, and social development”. As a result, this theory acknowledges that indigenous knowledge should exist alongside western knowledge in mitigating the effect of natural disasters on vulnerable groups.

Wisner et al. (2004) postulate that the greater understandings of socio-environmental factors (as the risk factors to natural disasters’ reoccurrence) are the key components of vulnerability theory. In corroboration, Oliver-Smith (2004) and Zakour (2010) wrote that understanding the social, cultural, political and economic factors of disasters helps provides intervention strategies that could reduce the community’s vulnerability to disasters. On the same note, Zakour and Gillespie (2013) believe that people in a rural community might be unable to stop natural disasters from occurring, but they could reduce their vulnerability to the effects of natural disasters. Hence, Gillespie (2010) wrote that at the core of vulnerability theory is how to reduce a community’s likelihood of being vulnerable to disaster and foster the rapid recovery of communities after disasters. In other words, the understanding of the community that one serves helps identify and understand resources that are needed in the community and those that are available but not utilised. As such, the researchers believe that the ability of communities to reduce their vulnerability to disasters positions them to suffer the minimal loss of production and livelihood and increases their likelihood to recover rapidly after disasters.

### **Relevance of Afrocentricity Theory to the Study**

Natural disasters are not new phenomena and local people of ancient times have not been immune to them. Rather, they have relied on their traditional warning signs to prepare and respond to the rage of natural disasters. For this reason, in Africa, as Nyong, Adesina and Elasha (2007) observed, local communities use traditional knowledge for survival in the wake of natural disasters. This was broadened by Shaw, Sharma and Takeuchi (2009), who wrote that, indigenous people have been using their indigenous knowledge to sustain, manage and reduce

harm in their environment for centuries. Supporting the above authors' view, Hiwasaki, Luna and Syamsidik (2014) signposted that indigenous knowledge of indigenous communities can significantly reduce disaster risk and save human lives and property from the ramifications of natural disasters. In corroboration, Iloka (2016) and Rahman, Sakurai and Munadi (2017) reported that countries that adapt, resist, and recover from natural disasters have adopted indigenous strategies of local communities. For instance, local people relied on animals to predict natural disasters. In support, an earlier study by Kamara (2005) found that the change in bird's cries indicate the change in seasons, and high birds nests near a river predict floods. Over and above, the relevance of Afrocentricity theory in this study is justified by the fact that the most vulnerable to the impact of natural disasters are African in rural areas who lack access to modern infrastructure and technology (Noyoo, 2007; Maponya & Mpandeli, 2016; Nyahunda & Tirivangasi, 2019, Matlakala, Nyahunda & Makhubele, 2021). Moreover, the theory resonates well with this paper as the authors wanted to document the traditional methods used to cope with the rampage effects of natural disasters.

## **Findings**

### **Factors contributing to population's vulnerability to natural disasters**

There are many factors contributing to the population's vulnerability to disasters. Ultimately, disasters afflict human beings severely and range from geopolitical, structural, and historical to technological. In this study, participants indicated that socio-economic and corruption contributes to their vulnerability to disasters.

#### **Socio-economic factors**

Socio-economic factors challenge the species' survival on planet earth and predispose individuals' vulnerability to natural disasters. The social and economic factors, amongst others, include people's beliefs, practices, customs, norms, and survival strategies that have a bearing on the vulnerabilities to the sustainable livelihoods of individuals. In this study, the participants' vulnerability to natural disasters comes from occupying their ancestral land. Some of the participants echoed:

Listen to me carefully, my parents told me that almost three generations have been staying here, you see under that fig tree, there are graves of my family members, and that is where we venerate our ancestors. Relocating to a new area is not something I can think of. We grew up here, ploughed fields and getting water from this river. (Participant 1, community member)

Another participant echoed that:

Our parents taught us to predict weather patterns by looking at the stars and the moon. With the position of the moon (nwati) and stars called Soko ra nhwamba, we would know that we will have enough rain for ploughing our fields. (Participant 2, community member)

In corroboration, others stated that:

Whilst I was a child, my grandparents were forcefully relocated to this place by the apartheid regime, and we have been here for the past 70 years. I am the third generation, staying here with my children. We used to get water from this river, and this is the first time in my life that it swelled to this extent. (Participant 6, community member)

One of the key stakeholders interviewed indicated assertions that are in line with the above peroration:

We normally visit rural areas and check the kind of shelter people occupy as part of disaster preparedness. Most of the time, we find people residing in areas vulnerable to disasters. Those people do not even have a strong shelter to withstand strong wind, and they cannot move due to their inability to afford stands in areas that are less vulnerable to natural disasters. (Participant 9, Disaster Management Officer)

The above findings indicated that community members find themselves in a predicament wherein they have to move to a safe space and abide by their culture. As such, some end up occupying that disaster-prone area to save their heritage, while others cannot afford safer areas.

## **Corruption**

Rampant corruption is one factor that predisposes the underprivileged to the wrath of natural disasters. The topic might seem far-fetched, but research shows a link between corruption and vulnerability to natural disasters (National Research Council, 2006). Equally, in this study, the participants indicated that, they find themselves vulnerable to natural disasters due to corruption from the government. Some of the participants shared that:

Our government does not do anything, we were promised roads and bridges, and up till now, there is nothing constructed (Participant 4, community members)

In the same vein, another participant asserted that:

Our government only come to the area during the election period, they promise us heaven and earth, but we know they use the money for their gain. (Participant 7, community member)

One stakeholder stated that:

The ruling government cannot uproot corruption. The government promised to relocate and place people in areas less prone to natural disasters; to date, nothing has happened. Even here, we do not have sufficient vehicles and personnel to respond to disasters, and they tell us there is no money to employ and hire personnel to assist us. However, I believe that money is there and not used correctly. (Participant 9, Disaster Management Officer)

The above findings showcase that the government tend to channel the funds for maintenance and development for personal gains. As a result, those communities remain under-developed and susceptible to natural disasters as and when they occur.

## **Coping Strategies to Mitigate the Effects of Natural Disasters**

For ages, human beings have been exposed to the impact of natural disasters due to climate change. However, community members' indigenous coping strategies in the face of natural disasters remain



undocumented. Nevertheless, there are scientific weather models to predict weather variabilities and/or early warning systems. The challenge with the scientific weather models is that they are both expensive and difficult to interpret for community members. In support of the assertion, Mutasa (2010) noted that Zimbabwean farmers had no access to mass media and could not interpret the climate change model. On that score, some researchers have noted that scientific knowledge methods of addressing the climatic variabilities had some limitations (Turner & Clifton, 2009; Green & Raygorodetsky, 2010; Chanza, 2014). In light of that, this study documented some of the traditional coping mechanisms employed by community members in the wake of natural disasters. The indigenous people performed traditional practices whilst others performed spiritual practices for one noble cause to get rain or seek protection from gods and/or God.

### **Traditional and religious practices**

What should be underscored is that because of limited adaptive capacity to the rampage of natural disasters, particularly drought, community members opt for their traditional rituals to cause rain. However, it is worth noting that this traditional knowledge is not uniform, as the knowledge that prevailed at the study community (Runnymede Village) does not mean it might be applicable in another community. Since the indigenous knowledge is not documented, one of the community members recalled that:

When we were younger, during a drought season, we were told that the Modjadji Queendom would send delegates to the villages to hold a special ceremony/ritual. After that ceremony, we would smear cow dung on the floor of our huts, and it would rain in the evening.  
(Participant 7, community member)

The above finding depicts that community members have not forgotten their cultural rituals. During drought, community members used to send delegates to their Queen to perform a special ritual for the rain. That was not the only tradition that community members used; others used religious practice wherein they would pray to ask for the rain. The following are the sentiments shared during the interview:

Back in the days when we were hit by drought, we would gather as the community, find a place to talk to God, plead with Him to relieve us of the suffering caused by the drought and give us water. When we return to our homes, if God had heard our cries, either on the same evening or in a couple of days, it would rain to signify that our prayers were heard. (Participant 4, community member)

## **Discussion**

Community members in the Runnymede community are more prone to natural disasters as they reside in areas that predispose them to the rampage of disasters due to economic aspects. As a result of their fiscal deficit, some community members find themselves residing in an unsafe environment. According to the Vulnerability Theory, most rural people reside in unsafe areas that make them susceptible to natural disasters (Zakour & Gillespie, 2013). This is because their houses are built with poor materials that cannot withstand turbulent storms, torrential winds, and floods. Bin and Landry (2012) and Husby, de Groot, Hofkes, and Dröes (2014) also pointed out that the poor people in rural areas seek the land in areas prone to natural disaster to avoid high municipal tariffs. In this study, it was no different as other community members stated that they could not afford areas that are less prone to disasters due to the high municipal rate. Moreover, others indicated that they could not leave the land of their forefathers regardless of the susceptibility of their area. All they want is for the government to improve their infrastructure; however, the corruption from the government makes it difficult for them.

On that score, Escaleras, Anbarci and Register (2007) opined that countries that have corrupt government officials render community members vulnerable and, as a result, suffer a lot of natural disasters. Corrupt government, for instance, rather than using appropriated funds to build strong infrastructures, divert funds, receive kickbacks, and eventually leave rural communities with poor quality projects that leave communities underdeveloped. Taking a different angle, Leeson and Sobel (2008) reported that corrupt leaders see natural disasters as an opportunity to misuse funds, enrich themselves and wittingly or unwittingly leave the vulnerable group without aid from allocated funds. In support of the above facts, Chatiza (2019) found that funds were not adequately distributed before Cyclone Idai in March 2019 in Zimbabwe. As a result of politicians trying to enrich themselves, 340 Zimbabweans

lost their lives at Cyclone Idai. The impact could have been minimised if funds were correctly allocated and spent prudently on infrastructure.

It can be depicted that due to corruption, rural areas remain underdeveloped as political leaders channel funds meant for development to personal use, thus predisposing community members to be vulnerable to natural disasters. Corruption results in the backlash of failure to mitigate the occurrence and impacts of disasters and embezzlement of resources leave rural communities' underdeveloped, lacking early disaster warning systems and disaster relief measures. Due to globalisation, developments in education and other spheres of life, and acculturation by Africans to western cultural norms, practices, and values, the bedrock of togetherness and communalism of Ubuntu philosophy have been eroded. The spirit of individualism and wealth accumulation has taken space of the 'I exist because he exists' mantra – a situation under which corruption. Corruption is foreign to African culture. This gives credence to the underpinnings of the Vulnerability Theory that vulnerability to natural disasters is an interplay of lack of adaptive capacity stemming from resource and information deficiencies (Bankoff, Frerks, & Hilhorst, 2013). The researcher inferred that the lack of resources and information to enhance adaptive capacity in South Africa's rural communities resulted from corruption and misplaced priorities amongst those in the corridors of power.

Even when the government fail to provide sufficient support to community members to cope with disasters, local people have adopted their traditional knowledge globally. For instance, in Japan, it was indicated that the Japanese looked at insects such as fleas, cockroaches and spiders to predict the rainy season (Dube & Munsaka, 2018). Likewise, in Tanzania, the Tanzanians know that the swarms of red ants in September prepare local people for the heavy rainfall, while in Uganda, the kneeling down of animals informs the local people of the upcoming drought in their community. However, this does not mean the traditional knowledge is confined only to observing animal behaviours. Other community members observe the moon and/or plants to prepare themselves for natural disasters (Dube & Munsaka, 2018). In addition to these, after observing signs from animals to predict drought, community members will perform rituals to make it rain. But it should not be forgotten that traditional knowledge differs from community to community, and so are the traditional practices. However, in this paper, it has been highlighted that Runnymede community

members have adopted a similar practice as those of the Pedi tribe. According to Semenya (2013), during drought, the Chief of the Pedi tribe would have a meeting with his adviser (*batseta* – right-hand-man) to discuss the possibility of calling *Moroka* (raining making traditional doctor) to make it rain. *Moroka* will ask for a certain fee and/or a sacrifice like a sheep, goat, or cow and after the sacrifice, the community would have the rain. While at Runnymede, community member visits their Queen to perform a ceremony for rain.

While others believe in traditional ceremonies, other participants have stood with their religious beliefs. According to Colson (2006), Murphy, Tembo, Phiri, Yerokun, and Grummell (2016), McPherson et al. (2016), community members rely on their gods and plead to God for rain during a drought. Equally in this, community members in Runnymede have indicated that they believe in their God amid challenges, in this case, disasters. To be precise, it was found that participants perceive prayer as an integral part of their survival during droughts. In light of that, community members draw their strengths from the book of Zechariah 10:1, which reads thus “ask the Lord for rain in the time of the latter rain. The Lord will make flashing clouds; He will give them showers of rain, grass in the field for everyone.” Because of the quoted scripture, community members pray to God for rain. They unite because the book of Matthew 18:19,20 read thus “Again I say to you that if two of you agree on earth concerning anything that they ask, it will be done for them by My Father in heaven. For where two or three are gathered together in My name, I am there in the midst of them.” For those reasons, local people, community members included, spend days in forest worshipping, through dance and singing, and their tireless efforts will result in the rain (Chanza, 2014). This is because South Africa is a water-scarce country and community members rely on rain for irrigation since they cannot afford boreholes due to their poor socio-economic status. Hence, in the face of drought, community members resort to their spiritual practices.

## **Conclusion and Recommendation**

In this study, researchers have found that some community members reside in disaster-prone areas. Some of the reasons which were indicated included socio-economic status and corruption. In terms of socio-economic status, community members reside in susceptible areas as they

avoid areas with high municipal tariffs while others want to stay in their ancestral land. Even when the area is prone to disasters, community members believe that the government would attempt to provide them with resources to improve community. They expected the government to provide them with a proper drainage system, but that seems to be a far-fetched dream. This is because leaders tend to embezzle the funds allocated to develop rural communities.

This study found that in the wake of natural disasters such as floods and drought, community members have resorted to different coping mechanisms such as traditional and spiritual practices. These are informed by indigenous knowledge systems. In this study, it was indicated that due to limited adaptive capacity to the rampage of natural disasters, particularly drought, community members opted for their traditional rituals to make it rain. At Runnymede village, community members indicated that they observed signs from animals to predict drought, thereafter performed rituals to make it rain. On the same note, it should not be forgotten that traditional knowledge differs from community to community so are the traditional practices. To that end, the researchers conclude that community members relied on their traditional practices when they were faced with droughts. In light of that, it is recommended that future researchers look at different traditional practices used to address the impact of natural disasters. Again, the authors recommend that traditional knowledge be documented for future generations.

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