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O.R. tambo district municipality communities' perception of the municipal disaster management Centre services

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Abstract: Numerous disasters have occurred in the OR Tambo district municipality over the years, affecting the lives of those residing within the district. Heavy floods, storms, and droughts are just a few of these catastrophes. Despite ongoing efforts to extend essential services to impoverished urban and rural communities, many people live in conditions of chronic disaster vulnerability, in ecologically fragile or marginal areas, where they face recurrent natural disasters and other threats. This paper focuses on exploring community perceptions within the OR Tambo district municipality's Municipal Disaster Management Centre, utilizing constructionism theory and the new public management model to support the theoretical framework. Using a case study research design and a qualitative approach, the study employed purposive sampling to select 20 participants. Data was collected through detailed interviews and analyzed using thematic content analysis. Findings revealed that the OR Tambo District Municipality's Municipal Disaster Management Centre is neither effective nor efficient in its disaster response. The ineffectiveness was attributed to a generalized response approach rather than tailored strategies for different disasters, along with poor response times. The study recommends that the OR Tambo MDMC enhance its capacity during disasters by improving relationships with communities, enhancing communication, and collaborating with various stakeholders to improve service delivery to the people.

Keywords: *Community resilience, Disaster management, Emergency response, Municipal efficacy, New public management, Public Administration, Social constructionism.*

1. Introduction and Background

Globally, there has been an increase in severe climate-related catastrophes such as floods, storms, droughts, and heat waves, with global warming being the major contributing factor Thomas and López [1]. Shibru, et al. [2] define disaster as a single event or series of events that cause damage or loss of infrastructure, loss of property, essential services, or means of livelihood on a scale that exceeds the affected community's normal capacity to cope without assistance. In agreeing with Shibru, et al. [2] and Marion [3] argue that this event or series of events disrupt normal and accepted life patterns, necessitating extraordinary interventions to save human lives or the environment.

Studies indicate that Ethiopia has been facing recurrent droughts and land degradation for many years, which results in extreme poverty and humanitarian needs such as water, food, and health highly arise from natural disasters such as flooding and drought [4-7]. Madagascar, known for its diverse wildlife and biodiversity, is heavily impacted by the human-made climate crisis due to its dependence on agriculture and natural resources, with 2.6 million people affected by droughts and over 916,000 in immediate need of food assistance [5].

According to Ayompe, et al. [8] there is a discernible increase in the frequency of disasters in South Africa. These occurrences have a high intensity on the disaster risk index and cause severe harm to communities. These manifests include natural calamities and human-caused repercussions such as emissions, deforestation, and a general lack of governance [8].

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Most fire-related deaths and injuries (95 percent) occur in low- and middle-income countries, with the poorest socioeconomic groups escaping the worst effects [9]. While disasters affect everyone, the majority of those who suffer severe burns are the poor [10].

South Africa's Minister of Cooperative Governance, Dlamini-Zuma [11] highlighted the dysfunctional state of fire services in the country, citing inappropriate policies, legislative frameworks, and ambiguous roles across government spheres, which have weakened the state's ability to fulfil its legal mandate [10].

Jenna [12] points out that the Eastern Cape government declared the drought a disaster in the province in 2019, owing to the province's experience of varying levels of drought since 2015, with extremely low rainfall during rainy seasons, resulting in reduced water access by farmers for irrigation and water to care for their livestock and households.

Between 2015 and 2019, the Eastern Cape experienced the worst drought since 1926, and in 2019, due to unseasonal and varied climatic changes, the ORTDM experienced some of the worst floods, leaving many households across the district stranded [12]. The province experienced heavier rains the same year, with floods claiming ten lives and displacing thousands of people, with damage estimated at approximately R1.1 billion [13]. The OR Tambo district municipality communities, particularly the Port St. Johns local municipality, continue to be severely affected by flooding and heavy rains [14]. In O.R. Tambo, primarily a rural municipality, most families are poor and unable to build their own homes for various reasons [15].

Among the many causes, the area's propensity for natural disasters has a significant role in the number of homeless people who are impoverished and unable to construct their own homes [16].

South Africa is well-regulated in addressing disasters through the Constitution of the Republic of South Africa Act (105 of 1996), the State of Emergency Act (64 of 1997), the Disaster Management Act (57 of 2002), and the National Disaster Management Framework [17]. **Problem statement**

O.R. Tambo District Municipality in South Africa faces significant disaster management challenges due to inadequate infrastructure, limited resources, and poor maintenance, and it cannot withstand natural calamities like floods and storms [18]. Local communities frequently lack sufficient financial resources, trained personnel, and equipment to effectively manage disasters [19]. The district's high levels of poverty and unemployment make residents particularly vulnerable to the impacts of disasters since they have inadequate means to plan for, respond to, and recover from these catastrophes [20]. Furthermore, difficulties in coordination and communication among different levels of government, NGOs, and the community might impede efficient disaster response and recovery [21].

With the establishment of disaster management centres and volunteers across all three spheres of South African government. Internationally, this has placed South Africa at the forefront by integrating disaster risk reduction into all spheres of government with a decentralised approach. However, good policy and legislation do not necessarily translate into good practice. This article explored community perceptions of the effectiveness of the O.R. Tambo Municipal Disaster Management Centre. South African, African, and international studies were reviewed to investigate the available data on disasters and disaster management.

2. Theoretical Framework and Methodology

2.1. Social Constructionism

According to Tom [22] apart from the inherited and developmental aspects of humanity, social constructionism hypothesizes that all other aspects of humanity are created, maintained, and destroyed in our interactions with others over time. Galvin [23] attests that Social Constructionism, or the social construction of reality, is a theory of knowledge of sociology that examines the development of a jointly constructed understanding of the world. Social constructionism theory asserts that every meaning is socially constructed, as such, while social constructs may be ingrained so that they feel natural, but they are not real but instead are inventions of a given society, and thus they do not accurately reflect the realities [24]. Social constructionism theory in disaster management seeks to understand how social,

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cultural, and political factors influence disaster perception, interpretation, and reaction. This theoretical approach highlights that catastrophes are not only natural events but are generated by human activity, interactions, and interpretations [25, 26]. Social and political factors influence disaster characterization, prioritization, handling, media framing, governmental legislation, and political agendas' impact on disaster response and recovery activities [27].

Creating communication methods that appeal to different social and cultural groups helps boost public awareness and preparation while tailoring communications to match local values and concerns helps develop trust and encourages proactive behaviors [28]. Disaster management planning should be inclusive, incorporating a wide range of stakeholders, particularly those from vulnerable and marginalized communities. Participatory approaches ensure that all community members' voices are heard and considered [25]. This study's social construction theory was relevant as it relied on the views, perceptions, and experiences of various participants who shared their information based on their experiences, which could differ from community to community.

2.2. New Public Management Model

The New Public Management (NPM) model has influenced various sectors of public administration, including disaster management, by emphasizing efficiency, accountability, and decentralization [29]. Disaster management organizations can use NPM principles to maximize resource allocation by identifying cost-effective solutions, leveraging collaborations with the business and non-profit sectors, and reducing administrative processes to improve operational efficiency [30]. NPM emphasizes performance measurement through metrics and benchmarks, particularly in disaster management, aiming to establish measurable goals for preparedness, response time, and recovery outcomes Javernick-Will, et al. [31]. de Guzman, et al. [32] highlight that NPM prioritizes customer satisfaction and public response in disaster management, prioritizing community safety, effective communication, and accessible information during calamities. NPM encourages community engagement and participative decision-making in disaster management, enhancing resilience and responsiveness at the grassroots level through local community involvement in planning, preparedness, and recovery operations [33]. NPM advocates for the utilization of public-private partnerships to use private sector resources and experience in disaster management. This involves engaging with private enterprises for logistical support, emergency response services, or technology solutions supplementing government capabilities during disasters [34]. The new public management model used in this study was relevant to supporting the social constructionism theory because it encourages both officials and politicians to collaborate with people when providing services and making policies that directly respond to people's needs because of the existing relationship between the public and officials, politicians and officials, and politicians and the public.

3. Literature Review

Effective disaster management requires country-specific planning involving various stakeholders. Society must be prepared for natural disasters in a way that allows them to assist each other during disasters. To this end, government agencies can improve efficacy by gathering inputs from various segments of society for proper preparedness and relief activities [35].

While technology cannot avert disasters, it can be a helpful disaster preparedness tool for the prediction and early warning systems. In this context, the Internet of Things (IoT), a network of interconnected devices capable of communicating and sharing data, is identified to compensate for deficient infrastructure, frequently putting developing countries at risk. Internet-connected linked devices, such as sensors and smartphones, can significantly increase risk recognition and assessment for disaster management centres [36].

Mantzaris and Ngcamu [37] discovered in their study that some municipal disaster management centres, such as eThekwini Municipality, were not compliant with the Disaster Management Act, 2002 (No 57 of 2002) and were ineffective in their mitigation strategies during the coronavirus outbreak, with

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the leading cause being staff shortages and, in some cases, unqualified personnel to achieve the centre's objectives. Diedericks and van Riet [38] discovered in their study that some common key challenges for the ineffectiveness of disaster management centres stem from a lack of human, financial, and administrative resources and, to some extent, ignorance from senior officials.

While municipal disaster management centres play an essential role in disaster risk reduction (DRR), their efficacy varies, and in some instances, smaller municipalities have displayed better performance than the larger municipalities in the case of the Yucatan peninsula, Mexico [39].

Kameda [40] in their study examining the relationship between employees' sense of ownership and the effectiveness of disaster management, found that municipalities with a high sense of ownership among staff tended to exhibit greater effectiveness in disaster management.

Hirono and Nurdin [41] argue that, rather than solely focusing on traditional institutional and technological capacities, it is essential to integrate local cultural practices, social dynamics, and historical contexts to strengthen community resilience and improve response efforts during disasters.

Ikeda, et al. [42] emphasize that disaster management education programs targeting schoolchildren play a crucial role in enhancing effective disaster mitigation and response. These programs significantly improve individuals' disaster response behaviours by integrating such skills into their everyday lived experiences.

4. Research Methodology

This study used a qualitative research approach which allowed the researcher to interact directly with participants. Data was collected using an interview schedule. The study's population was the O.R. Tambo district municipality, and the sample size was 20 individuals. This study used purposive sampling. Purposive sampling was excellent for this study since it enabled the researcher to approach participants who were both interested in the topic and willing to participate. When conducting a qualitative study, the essential issue is the quality of data obtained, which depends on the method of data collection used [43]. Interviews are more appropriate for gathering thorough information about people's opinions, beliefs, experiences, and feelings [44].

Thematic Content Analysis (TCA) was used to analyse data. Thematic content analysis is a qualitative data analysis method that identifies, analyses, and reports repeated patterns across a data set, involving interpretation and code selection [45]. TCA helped the researcher to thoroughly analyse the shared experiences and perceptions of community members about the O.R. Tambo district municipality MDMC.

4.1. Ethical Considerations

This paper was conducted with the ethical clearance (certificate 21/50/NMD/AHM) granted by the Faculty of Commerce and Administration Research Ethics Committee of Walter Sisulu University to the Master of Public Administration research thesis titled: The efficacy of the Municipal Disaster Management Centre in the Eastern Cape: A Case Study of OR Tambo District Municipality. The O.R. Tambo district granted the district municipality approval through the municipal manager's office.

5. Research Findings

20 participants were engaged in the study comprising of the communities from the five local municipalities within the OR Tambo district municipality, responses were collected using an interview schedule. In terms of the demographic data study participants were both females and males with males making up 70 percent while females making up 30 percent. With age between 15-24 making 20 percent; 25-34 making 60 percent and 35 and above making 20 percent of the participants. Race representation, while all races were allowed to participate only two participated being 95 percent blacks and 5 percent Indians. The study also included both employed and unemployed participants. At the education level, the study participants were either undergraduates or postgraduates; although the study did not intentionally exclude other categories, these were the groups that took part in the study. Out of the

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total number of participants, 85 percent were postgraduates, and 15 percent were undergraduates, making postgraduates the study's most active participants.

6. Findings and Discussions

6.1. Effectiveness of the Municipal Disaster Management Centre

Participants in the study expressed varying views on the effectiveness of the Municipal Disaster Management Centre (MDMC). Some participants indicated that they believed centres were effective, while others believed they were ineffective. Some participants were unaware of the existence of these centres or what they were intended for.

"In my opinion, it is ineffective because the municipality takes years to respond to disasters and their immediate response is only to give victims blankets and sponges when victims frequently require shelter."
"We do not see them effective"
"It meets the minimum standards but like most of municipalities in the country it is underfunded, under-resourced and determined by political motivation rather than social and disaster management policies"
"Very effective"
"Late responses"
"I cannot say it is much effective because I have not witnessed its work in my area and surroundings during the recent storms that affected Mthatha and its surrounding areas"
"I would say so far so good as all disaster related issues that have arisen in my municipality have been dealt with properly"
"It is poor, for example they failed to effectively and efficiently administer the process of delivering food parcels in Ngangelizwe as one of the intervention measures introduced to deal with Covid-19 disaster"
"They are not productive in terms of preventing the risk of disasters, they are unable to manage the disasters"
"It is not effective because not so long ago at Rainy location in Libode we have experienced a disaster where people's houses were damaged, and a lot of people got injured but the municipality has not made means to check on the affected families".
"Not as efficient as one expects."
"Not sure because I never saw them operating."
"I do not even think it is there. I have never heard of it."

The study sought to determine whether community members in the OR Tambo district municipality considered disaster centres within their reach effective in carrying out their mandate. The study's findings revealed that centres are ineffective in carrying out their mandate. Participants' concerns about MDMC operations include late responses from the centres, politically motivated decisions rather than service delivery based on the welfare of the affected communities, and under-resourced centres.

According to research findings, the available centres frequently do not respond with the necessary aid when disasters strike specific areas. Participants described instances in which people were given blankets when the critical assistance required was shelter. In most cases, what is supposed to be provided as part of the disaster recovery response is provided years later, by which time communities have often already established means of survival. The study findings are supported by some of the studies on flood responses in West Africa, which indicated that damaged roads and difficulties in reaching rural regions resulted in delays in supplying crucial supplies and medical services [46]. Most disaster response centres in Sub-Saharan Africa function on shoestring budgets, are poorly staffed, and use outmoded equipment, making it difficult to respond swiftly when disasters hit [47].

6.2. Most Frequent Form of Assistance that is Readily Available

When disasters confront societies, it is expected that the government and other local, regional, national, and sometimes international actors will assist in rescuing communities or recovering from the

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disaster. Participants stated that they had received temporary shelter constructions as support. Some individuals stated that they were given food. Other participants reported being offered community halls and blankets as a temporary measure for shelter while permanent solutions were sought. Below are some of what the participants had to say:

"We were taken to the nearest community hall as a temporary shelter while permanent solutions were sought."
"Although I was not affected personally, people who had been affected in my community were provided with food parcels."
"We did not get any assistance instead, we had to make means to survive the storm."
"We never received any assistance."

The study sought to investigate what forms of assistance were provided to communities during disasters, and most participants indicated food parcels and shelters as the general form of assistance provided to the affected communities. In contrast, others indicated they had never received any form of assistance. Studies indicate that government response teams are usually the first on the scene, providing resources like tents, food packs, and medical teams to impacted communities, especially during floods and fires [48-50].

6.3. Municipal Disaster Management Centre Response Time

The study findings revealed that different experiences in terms of response time during disasters varied greatly from participant to participant. Some participants reported receiving assistance within 24 hours of a disaster. Others would receive assistance weeks or even years later, implying that communities had to rely on their resources to survive the disasters. In some communities, the response time is heavily influenced by who requests the intervention; for example, in areas where ordinary citizens request assistance, assistance takes longer than when influential members request it for the community.

"In my case, they took two days to come."
"We never saw them in our area even after reporting."
"It depends on who has requested assistance, they come early when called by influential individuals than when they are called by the ordinary citizens like us."
"It depends on the nature of the damage caused by the disaster."
"They respond within a day by evacuating people and organizing a place for people to sleep."
"In our case they took 4 days after disaster was reported in the news otherwise, they take years."
"It depends on pressure exerted by the community. Even through social media among other means."
"They do not come, let alone the time. We get help from community not government."
"They are very fast, but it sometimes depends on the circumstances."

The study aimed to get the experiences of disaster victims in terms of the response time they received from the centres during disasters, and the study findings revealed that response time varied among participants as some indicated that response time was within 24 hours, others indicating that response time was days and years after the disaster, some indicated that the response time was largely influenced by who requested assistance, while others reported having never received any response from the authorities. A global comparison study by United Nations Office for Disaster Risk Reduction (UNDRR) [51] demonstrated that the response time to disasters significantly changes depending on the region and the type of the disaster, from 6–12 hours for developed countries up to 24–48 hours for logistics-challenged underdeveloped countries. In most African regions, response ranges between 24-72 hours depending on the size/severity of the crisis and how fast/distant accessible suffering districts are [52]. The study by Pretorius, et al. [48] reported that the NDMC response time is between 12 to 24 hours, depending on the efficiency of early warning systems and available resources.

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6.4. Contributing Factors to the Challenges Facing O.R. Tambo District Municipality in Dealing with Disasters

When there are challenges in normal operations or operations do not meet the expected mandate, the assumption is that there must be factors contributing to such challenges, and the study here aimed to get participants responses on what they see as contributing factors for MDMC failing in performing its mandate to the satisfactory level as expected in the available legislations governing disaster management operations. Below is what the participants had to say:

"Lack of resources and budget constraints"
"Corruption"
"Political interference, lack of funding and lack of training of the professional staff"
"Poor planning and management"
"Lack of modern technology and equipment"
"Lack of public education"
"Environmental factors"
"Lack of willingness from the officials"
"Misuse of funds by the department of disaster"
"Lack of communication between communities and the municipalities"

Interacting with participants revealed that most of the contributing factors in the district municipality's challenges were corruption, misuse of funds, budget constraints, political interference, lack of public education, poor planning, and communication breakdown, among other factors. Konoorayar [53] identifies five elements as leading challenges, which participants also highlighted in this study, and these challenges are inadequate coordination among stakeholders, inconsistent or ambiguous government processes, bureaucratic stumbling blocks, a lack of accurate information, and a failure to execute available standards

Proper planning is crucial in local towns, particularly in disaster management, and some participants expressed concerns that municipalities do not have adequate disaster management plans. Santhia, et al. [54] state that *"if the international mandate of mainstreaming climate change into development and the drafting of detailed climate change adaptation response strategies are to be achieved at a municipal level, they need to be incorporated across all municipal Integrated Development Plans (IDPs). If climate change adaptation strategies are not mentioned in the IDP, no budget will be afforded to such a strategy. Therefore, planning is a crucial stage in adaptation responses and needs to be done comprehensively for the effective implementation of climate change adaptation strategies."*

District government's role in ensuring disasters is prevented and/or responded to.

The study aimed to uncover what participants understood to be the role of the government in ensuring that there are sound disaster prevention measures, and below are some of the research findings from the participants:

"Establishment of clear communication channels"
"Sufficient budgeting and setting up of effective financial control for proper finance management"
"Employment of qualified personnel and capacity building of municipal officials"
"Community engagements and good relations with community leaders, in particular with ward councillors"
"Building of proper infrastructures and maintenance of disaster facilities and equipment"
"Accessibility to information relating to disasters to all stakeholders"

According to the study's findings, communities considered, among other things, that the government should always ensure that everyone has access to disaster information to promote preparedness among all stakeholders. Employing trained employees and continual capacity-building programs would allow capacity development for officials to learn about new ideas being created over time to deal with various types of disasters. Clear and enhanced communication channels are critical for

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every organization's effective operation, and failing to sustain communication leads to difficulties that could have been avoided.

DCoG [55] underlines the need to establish an integrated and coordinated disaster management system that focuses on disaster prevention and mitigation by all state and community organs. As vital as it may sound, this coordination requires a coordinating structure, and it is the role of MDMC to guarantee that this coordination is well-planned.

7. Conclusion and Recommendations

The study revealed that the OR Tambo District Municipality's MDMC is widely perceived as ineffective by the community. Participants cited delayed responses, insufficient disaster support, and a general lack of understanding of the MDMC's existence and mission. This suggests that the MDMC is not meeting the community's needs or expectations in disaster management. The MDMC is underfunded and under-resourced, which limits its ability to respond effectively to disasters. A lack of competent workers, modern technology, and necessary equipment exacerbates inefficiency. Political interference and corruption hinder MDMC's success, leading to delays and unequal resource allocation due to decisions based on political objectives rather than community welfare.

A significant lack of communication between the MDMC and the community leads to delayed responses and inadequate disaster preparedness. The community is not well-informed about the MDMC's role, which diminishes trust and cooperation. The MDMC's reaction time varies substantially, with some places receiving relief within 24 hours and others waiting for days, weeks, or even years. This inconsistency is frequently driven by who seeks help, indicating a lack of equitable service delivery. Acquiring additional funds and resources is critical to enhance the MDMC's capability. This includes recruiting more skilled individuals, investing in contemporary technology, and procuring equipment required to improve disaster response efficacy.

MDMC staff should be given regular training to help them improve their disaster management skills and expertise. Establishing clear and dependable communication channels between the MDMC and the community is critical. This could include ongoing community outreach programs, disaster preparedness trainings, and the use of social media to keep the public informed and engaged.

Implementing stringent anti-corruption measures and ensuring that disaster management policies, rather than political objectives, guide decision-making is critical. This could be accomplished through increased openness and accountability procedures within the MDMC. The MDMC should create and implement disaster response plans tailored to the individual needs of each community within the district. This would entail consulting with local stakeholders to better understand their specific risks and capacities. Regular monitoring and evaluation of the MDMC's performance should be carried out to identify areas for development and verify that the centre is accomplishing its objectives.

Transparency:

The author confirms that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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