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EFFECTIVENESS OF MULTI-LEVEL GOVERNANCE IN URBAN CLIMATE RESILIENCE BUILDING IN ZIMBABWE

By M. Kurehwatira, A. Kamuzhanje, G. Chihota, K. Twinamatsiko and J. Kamuzhanje

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ABSTRACT

Urban areas are progressively becoming vulnerable to the impacts of climate change, necessitating robust and integrated climate resilience strategies. Zimbabwe's urban centres are confronted by poly-crises, including climate challenges. Multi-level governance (MLG) has emerged as a crucial framework for addressing the complex, multi-dimensional challenges of urban climate resilience. MLG ensures that urban areas can better adapt to and mitigate the impacts of climate change. While there is ample research on the importance of multi-level governance in building urban climate resilience, the nature and extent of coordination between different governance levels in addressing climate change impacts in Zimbabwe remains to be elucidated. Therefore, this paper explores the effectiveness of MLG in enhancing urban climate resilience by examining the interactions between local, regional, and national governance levels and the non-state actors. This research utilised a targeted and systematic search strategy to identify relevant documents from academic databases and institutional repositories. Electronic search was conducted on the Research4Life and JSTOR platforms. The selected literature was analysed through thematic content analysis. The paper identifies key challenges, including fragmented policy frameworks, limited financial resources, and capacity gaps, which hinder the effective implementation of urban resilience-building strategies. It also highlights opportunities for improving coordination, increasing stakeholder participation, and ensuring equitable access to resources. This research aims to provide insights into the strengths and weaknesses of MLG in fostering urban climate resilience and recommends strategies for enhancing governance structures to better address climate change challenges. The findings underscore the importance of multi-level collaboration, integrated planning, and inclusive decision-making processes to build sustainable and resilient urban environments.

KEY WORDS Resilience, climate change, governance, policy frameworks

1. Munashe Kurehwatira, Africa University, Mutare, Zimbabwe kurehwatiram@africau.edu
2. Ashleigh Kamuzhanje, Centre for Women Empowerment, Masvingo Zimbabwe, akamuzhanje.ak@gmail.com
3. Grace Chihota, Lupane State University, Lupane, Zimbabwe, gracechihota@gmail.com
4. Kellen Twinamatsiko, Rwanda Development Board, Kigali, Rwanda, kellentwine@gmail.com
5. Joseph Kamuzhanje, Cooper Zimbabwe, Msasa, Harare, Zimbabwe, josephkamuzhanje1@gmail.com

1. INTRODUCTION

Globally, urban areas are experiencing significant growth, with 55% of the world's population now residing in cities, and according to the World Cities Report, 2020, projections indicate this trend will continue. More than 68% of the global population expected to live in urban areas by 2050 and close to 90% of this increase taking place in Asia and Africa, (UN-Habitat, 2020). Currently, 43% of Africa's population is living in urban areas while 38.6% of the population in Zimbabwe live in urban areas, (ZIMSTATS, 2022). As the world continues to urbanise, many countries are confronted with multiple environmental, social, and economic challenges including, environmental degradation, resource scarcity, social inequalities, and strain on infrastructure, (Kuddus, Tynan and McBryde, 2020; Gutu Sakketa, 2023).

The challenges facing urban areas in Zimbabwe are complex, interconnected and interrelated requiring a holistic approach that integrates sustainability, social equity, technological innovation, and effective governance, (UN-Habitat, 2020; Kapucu et al., 2024; Abujder Ochoa et al., 2025). Urban resilience has attracted attention as a key attribute as urban areas globally deal with these complex challenges including climate change, (Kapucu et al., 2024; Maphosa and Moyo, 2024a; Abujder Ochoa et al., 2025). Urban resilience refers to the capacity of urban systems, communities, and individuals to anticipate, survive, adapt, and thrive despite chronic stresses and acute shocks (Kapucu et al., 2024). Tyler and Moench, 2012 and Maphosa and Moyo, 2024, defined urban climate resilience as the ability of a system, whether it is a community, city, ecosystem, or even a country to anticipate, prepare for, respond to, and recover from the adverse impacts of climate change. It involves strategies and actions aimed at reducing vulnerability to climate-related risks and enhancing the ability to adapt to changing conditions. Climate resilience is not just about surviving climate change; it is about thriving in a changing world by building systems and communities that can withstand, adapt to, and recover from climate impacts, (Tyler and Moench, 2012; Kapucu et al., 2024; Maphosa and Moyo, 2024a). It is an ongoing process that involves the collaboration of governments, businesses, communities, and individuals to reduce vulnerabilities and enhance the capacity to adapt to a changing climate.

Building urban climate resilience involves a multi-faceted approach that integrates policies, infrastructure, and community engagement across different levels of governance, (Kapucu et al., 2024; Abujder Ochoa et al., 2025). The process requires coordinated efforts from local, regional, national, and sometimes global actors to ensure cities are better prepared for the impacts of climate change. Building climate resilience is crucial for ensuring a sustainable, equitable, and prosperous future, particularly for those most vulnerable to the effects of climate change. In the context of urban development, climate resilience is essential for creating cities that are not only able to withstand the impacts of climate change but also thrive in the face of these challenges, (Wardekker, 2021). As cities grow and urbanisation accelerates, building climate resilience in urban development becomes crucial for ensuring sustainable and liveable urban environments. Integrating resilience measures into urban planning ensures that cities can safeguard public health, economic stability, environmental sustainability, and social equity in a rapidly changing climate, (Satterthwaite et al., 2020; Zeng et al., 2022; Ugochukwu Kanayo Ashinze et al., 2024).

Climate-resilient cities like Rotterdam and Copenhagen are better equipped to face future uncertainties, improve the quality of life for residents, and contribute to global efforts in combating climate change, (Negrello, 2023; Llancce et al., 2025). Building urban climate resilience requires multifaceted strategies that include incorporating mitigation and adaptation strategies for climate change into policies, infrastructure, and urban planning. It also entails encouraging cooperation and coordination amongst various levels of governance, including local, regional, national, and international actors. Multi-Level Governance (MLG) is one such concept that involves the interaction and cooperation between various levels of government local, regional, national, and even global in addressing complex issues, (Stephenson, 2013; Jänicke, 2017; Allain-Dupré, 2020). It emphasises the idea that governance processes are not confined to a single level of authority, but instead involve multiple layers of government, institutions, stakeholders, and sometimes even non-governmental actors working together to solve issues that span different jurisdictions and scales.

Multi-level governance is a powerful and necessary approach to building urban climate resilience, (UN-Habitat, 2022a). Urban areas in Zimbabwe, due to their rapid growth, complexity, and high vulnerability to climate impacts, require coordinated efforts across multiple levels of governance to build resilience to climate change. As cities are often at the forefront of climate impacts, they need integrated and flexible solutions that address these challenges at multiple scales. MLG is crucial for enhancing urban climate resilience as it enables coordinated, inclusive, and adaptable responses to climate change challenges, which is aligned with the UN's 11th Sustainable Development Goal to "make cities inclusive, safe, resilient, and sustainable." Given the complex and multi-dimensional nature of urban climate challenges, MLG enables cities to harness the strengths of different governance levels, facilitate the exchange of knowledge and resources, and ensure that climate resilience efforts are both context-specific and aligned with broader national and global goals, (Jänicke, 2017; Tønnesen *et al.*, 2022; UN-Habitat, 2022a). As cities like Harare, Bulawayo and Mutare in Zimbabwe continue to face the growing threats of climate change, MLG will be crucial in fostering collaborative solutions that

create more resilient, sustainable, and equitable urban environments. In particular, when there is a disconnection between policy formulation and on-the-ground implementation that results in ineffective responses and missed opportunities for localised, context-sensitive adaptation (UNDP, 2019 and Mutambisi and Chavunduka, 2024).

While there is ample research on the importance of multi-level governance in building urban climate resilience, the nature and extent of coordination between different governance levels in addressing climate change impacts in Zimbabwe remains to be elucidated, (UNDP, 2019b; Mutambisi and Chavunduka, 2024). Therefore, this paper explores the effectiveness of MLG in enhancing urban climate resilience by examining the governance levels and the non-state actors working on building urban climate resilience. Understanding the roles of different governance levels in addressing climate challenges in Zimbabwe is vital for fostering effective, integrated, and sustainable climate resilience strategies. MLG ensures that policies are aligned, resources are appropriately allocated, and communities are engaged in building urban climate resilience. By recognising the significance of MLG, stakeholders can develop tailored solutions, build institutional capacity, and foster collaboration that addresses urban contexts' unique climate vulnerabilities and promotes long-term sustainability.

The paper also identifies key challenges, including fragmented policy frameworks, limited financial resources, and capacity gaps, which hinder the effective implementation of resilience-building strategies. It also highlights opportunities for improving coordination, increasing stakeholder participation, and ensuring equitable access to resources.

2. LITERATURE REVIEW

2.1. Multi-Level Governance

The concept of MLG has sparked extensive research, especially in the past 30 years and has evolved due to the growing recognition of the importance of inclusive and participatory approaches, (Stephenson, 2013; Jänicke, 2017). MLG supports policy and decision-making among national, regional, and local governments. According to Jänicke (2017), MLG initially emerged as a concept used to characterise the European Union's governance structure and has been widely applied in various contexts. This research was guided by the Organisation for Economic Co-operation and Development (OECD)'s three dimensions of MLG that highlights the interaction between different levels of government and the involvement of various stakeholders in the decision-making process. The OECD's multi-level governance framework underscores the importance of coordinated policy and decision-making across national, regional, and local governments, (CDDG, 2023). This approach ensures that policies are more effective and tailored to the specific needs of different regions, fostering balanced development and efficient public service delivery.

The OECD's multi-level governance framework highlights the necessity for coordinated efforts among various government levels to enhance policy effectiveness and regional development. The three MLG dimensions proposed by the OECD and illustrated in Figure 1 are a result of the necessity to confront the difficulties of regulating a typically complicated range of public affairs and the realization that many policy concerns cannot be adequately handled by only one government or organization alone, (CDDG, 2023). This has become particularly evident in a context of increasing globalisation and interactions within and between national systems and actors, as well as in relation to crises and emergencies.

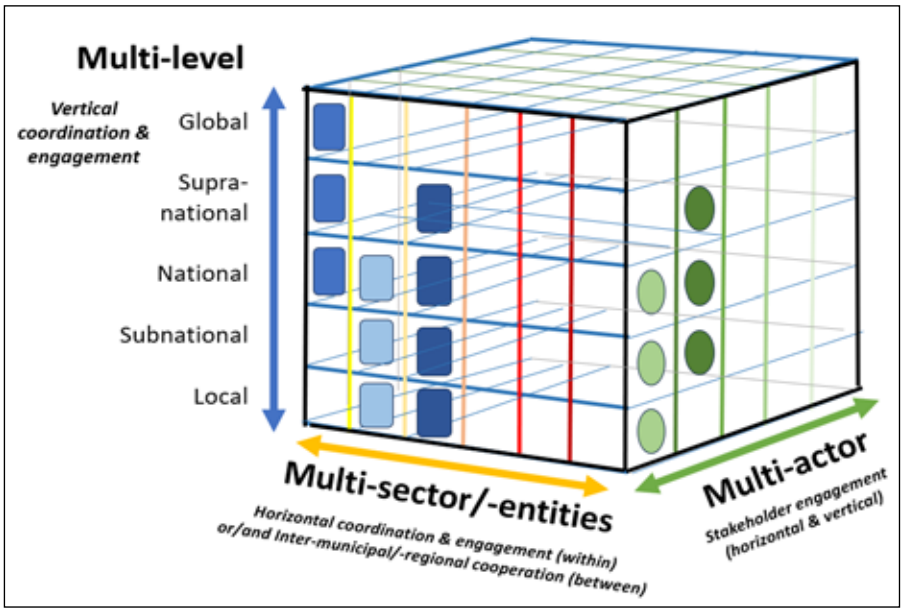

Figure 1: OECD's three dimensions of MLG, (CDDG, 2023)

MLG's application in urban climate governance has produced noteworthy results on a global scale. For instance, water resilience planning in the Netherlands promotes a coordinated flood management system that is community-sensitive and flexible by bringing together national ministries, regional water boards, and local municipalities under a common vision (OECD, 2014; Avoyan and Meijerink, 2021). Similarly, by encouraging both vertical and horizontal coordination among governmental levels, South Africa's Integrated Urban Development Framework demonstrates MLG

principles and results in more cohesive urban resilience policies in areas like Cape Town and Durban (van der Berg, 2017; Eqan and Wan, 2024). Federal and local authorities in Germany collaborate to develop climate adaptation plans, and local governments are given financial and technical assistance to execute context-specific solutions (King, 2022; Riach and Glaser, 2024). These examples demonstrate how, when used properly, MLG may close the crucial implementation gap by coordinating strategic oversight with local needs.

3. CLIMATE CHALLENGES IN ZIMBABWE

Zimbabwe is a lower middle-income country with an abundance of natural resources and opportunity to grow. Historical data shows that Zimbabwe has endured various natural hazards, including droughts, floods, and storms, which have resulted in significant economic losses and affected millions of people, (World Bank, 2021). Zimbabwe is highly vulnerable, especially the poor to climate change due to its geographical location, socio-economic conditions, and reliance on climate-sensitive sectors such as agriculture, (World Bank, 2024). Over the past century, The country has seen a number of natural disasters, such as floods, storms, pandemic diseases, and droughts which have had significant impacts on its rural and urban population and economy (Mhlanga, Muzingili and Mpambela, 2019; Samu and Akıntuğ, 2020; World Bank, 2021). Between 1900 and 2017, Zimbabwe witnessed seven drought episodes, twenty-two epidemic episodes, and five storms, resulting in around 7000 fatalities, over 20 million people impacted, and $950 million in total damage. Over 300,000 people were impacted by nine riverine floods during that time, which also caused over $270 million in financial losses and over 270 fatalities, (World Bank, 2021).

Droughts are one of the most frequent and severe climate-related hazards in Zimbabwe, (Mhlanga, Muzingili and Mpambela, 2019; World Bank, 2021; Bank, 2024). Since 1980, there have been at least nine drought spells in country, punctuated by sporadic but intense storms. Droughts have led to water shortages, reduced agricultural productivity, and increased food insecurity. In addition, droughts have been found to significantly increase both the overall number of impacted individuals and the economic losses they inflict,(Brown, Dodman and Zvigadza, 2013; World Bank, 2024). Agricultural sector is highly vulnerable to climate change, with droughts and floods leading to reduced crop yields and food shortages. This has significant implications for food security and rural livelihoods. Zimbabwe's periodic droughts and ongoing food hunger are mostly addressed by humanitarian organisations supported by annual emergency appeals, a strategy that has proven to be unsustainable.

While both rural and urban areas in Zimbabwe face significant climate change impacts, their vulnerabilities and the ways they are affected differ greatly, (Maphosa and Moyo, 2024a). Rural areas are primarily vulnerable through agriculture, food security, and direct exposure to environmental changes like droughts or floods, while urban areas face the compounded challenges of infrastructure strain, social inequality, and environmental degradation, with a focus on health risks and economic disruption. Addressing climate resilience requires tailored strategies for both rural and urban settings, considering their unique characteristics and needs, (Cortekar et al., 2016; Spaans and Waterhout, 2017; Rezvani, de Almeida and Falcão, 2023; Lv and Sarker, 2024).

Urban climate challenges in Zimbabwe are diverse and multifaceted, influenced by rapid urbanisation, climate change, and socio-economic factors, (Brown, Dodman and Zvigadza, 2013; Government of Zimbabwe, 2016; Ziti, Chapungu and Nhamo, 2024). As urban areas in Zimbabwe grow, they face a range of issues related to climate resilience, sustainability, and the ability to adapt to shifting environmental conditions, (Kanonhuwa, Toriro and Chirisa, 2021). In urban areas, marginalised communities might lack access to climate-resistant infrastructure or services, increasing their exposure to extreme events like floods, droughts, and heatwaves, (Tirivangasi et al., 2023; Putsoane, Bhanye and Matamanda, 2024). Urban centres often have complex infrastructure like roads, water systems, electrical grids, which can be vulnerable to climate disruptions. Strengthening urban resilience means ensuring these systems can continue functioning in the face of extreme weather or environmental shocks, protecting citizens and the economy, (Brown, Dodman and Zvigadza, 2013; Spaans and Waterhout, 2017; Matsumoto and Bohorquez, 2023).

Urban resilience is a higher priority in Zimbabwe due to the concentration of people, resources, and infrastructure in cities, and the significant social and economic impacts that urban climate disruptions can have, (Tyler and Moench, 2012; Kanonhuwa, Toriro and Chirisa, 2021; Ugochukwu Kanayo Ashinze et al., 2024). By focusing on urban resilience, we not only safeguard the urban areas themselves but also create scalable solutions that can benefit rural areas and the wider global community. Through inclusive decision-making, capacity building, innovative technology, and financing, urban areas can enhance resilience to climate change while ensuring that vulnerable populations are protected. MLG is therefore crucial in fostering collaborative solutions that create more resilient, sustainable, and equitable urban environments, (Tyler and Moench, 2012; Matsumoto and Bohorquez, 2023; Kapucu et al., 2024).

4. MULTI-LEVEL GOVERNANCE IN THE CONTEXT OF URBAN RESILIENCE

Urban resilience has attracted attention as urban areas globally deal with multiple shocks and stressors, including natural disasters, climate change, socioeconomic inequality, and infrastructure weaknesses. Urban

resilience refers to the capacity of urban systems, communities, and individuals to survive, adapt, and thrive despite chronic stresses and acute shocks (Meerow, Newell and Stults, 2016; Ribeiro and Pena Jardim Gonçalves, 2019). Key elements of urban resilience may include robust infrastructure, diverse and inclusive communities, effective governance and institutions, adaptation and flexibility, integrated risk management, resource efficiency and sustainability, knowledge and innovation, (CDDG, 2023).

In the context of urban resilience, MLG plays a crucial role in addressing the challenges posed by the multiple shocks, rapid urbanisation and environmental changes, (Abhas et al. 2013). When the different levels of governance work well together, policies are more likely to succeed, promoting development in holistic manner. Multi-level Governance (MLG) has emerged as a critical approach in urban climate resilience, ensuring that different levels of government, private actors, and civil society collaborate effectively to address climate-related challenges, (Charbit, 2020). In the global context, different countries have implemented MLG frameworks with varying degrees of success.

In Europe, the Covenant of Mayors for Climate and Energy is a notable example of a successful MLG framework. This initiative involves local and regional authorities working together to tackle climate change and improve energy efficiency. The framework emphasises the importance of vertical and horizontal integration, ensuring that policies are coherent and aligned across different levels of government, (Neves et al., 2016). The European Union's approach to sustainability transition also highlights the role of MLG in overcoming barriers to effective implementation of climate policies, (Poyraz & Szalmáné, 2022). The Netherlands has developed one of the most effective MLG frameworks in urban climate resilience, particularly in flood risk management, (Bloemen, Van Der Steen and Van Der Wal, 2019). The Dutch Delta Programme, established in 2010, exemplifies an adaptive, multi-level governance approach involving national, provincial, and municipal governments, as well as water boards and private stakeholders, (Mees and Surian, 2023).

In Africa, MLG frameworks are increasingly seen as essential for addressing complex governance challenges due to diverse political, economic, and social contexts, as well as the wide range of development and environmental challenges across the continent, (Jänicke, 2017). The African Union's Agenda 2063 provides a long-term vision for Africa's development, focusing on climate resilience, sustainable development, and regional integration, (African Union Commission, 2010). It involves multiple levels of governance across the continent, with the African Union at the regional level, national governments, and local authorities working together to achieve the goals of the Agenda. The Southern African Development Community (SADC) recognises the growing impact of climate change on urban areas and is committed to building resilience through initiatives like the Regional Climate Resilience Program and the SADC Climate Change Strategy, aiming to enhance sustainable urban development and disaster risk reduction, (SADC, 2020, 2023).

Urban centres such as Harare and Bulawayo suffer from fragmented governance, weak inter-agency coordination, and disempowered local authorities. Traditional governance frameworks concentrate decision-making power at the national level, often sidelining the municipalities that are closest to climate impacts, (Marumahoko, Nhede and Mapuva, 2025). This has led to misaligned priorities, policy incoherence, and poor implementation of resilience strategies. MLG offers a compelling corrective: it enables local ownership, ensures better alignment of national policies with local realities, and encourages shared accountability, thereby improving the efficiency and sustainability of urban climate responses, (Jonga, 2014; Daniell and Kay, 2017; Mlambo, 2020).

5. STUDY AREA

Zimbabwe is a lower-middle-income country with an urban setting that includes the metropolitan areas of Harare and Bulawayo, cities and towns. in addition, there are more than 450 small urban centres known as "growth points," district service centres, and rural service centres, (Kamusoko et al., 2021). Urban areas in Zimbabwe are defined based on population size, density, and access to services. The Zimbabwe National Statistical Agency describes "urban" as a defined urban area with a compact settlement pattern and more than 2500 residents, 50% of whom work in non-agricultural occupations. According to ZIMSTATS, 2022, 38,6% of the population in Zimbabwe is in urban areas, a 5.6% increase from 2012. The increase is largely driven by rural-to-urban migration and population growth. This growth has heightened resource strain, environmental degradation, and climate impacts such as floods, emphasizing the need for effective governance.

The paper focuses on four major urban centres that are characterised by rapid urban development, (Munzwa and Wellington, 2010; Manjengwa and Nyelele, 2011). These urban centres are Harare, Bulawayo, Gweru and Mutare show in figure 2. According to the Zimbabwe Housing and population census of 2022, Harare had a population of 1,849,600 while Bulawayo had a population of 665,952, Gweru had a population of 161,294 and Mutare had a population of 224,802. The cities face a myriad of urban challenges ranging from water and sanitation issues, collapsing infrastructure, growth of the informal economy and increased demand for housing, (Jonga, 2014; Marumahoko, Nhede and Mapuva, 2025). In addition, climate change is exacerbating existing urban challenges creating a complex web of issues for urban areas in Zimbabwe.

The challenges demand integrated solutions that address multiple issues.

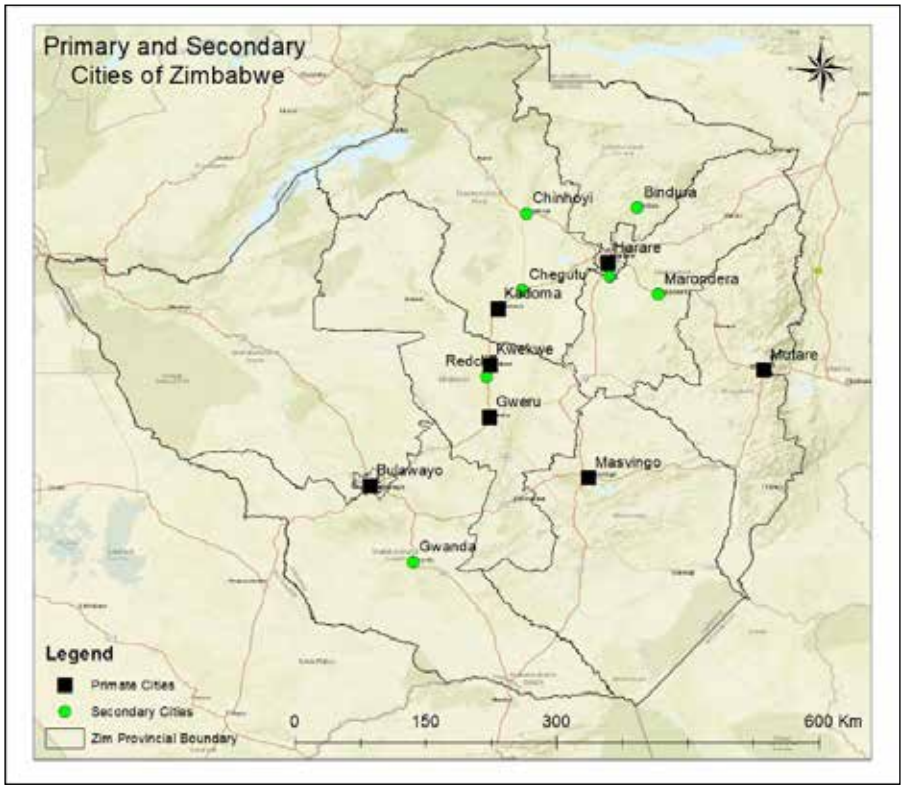

Figure 2: Map of Zimbabwe showing the Primary Cities in Zimbabwe, (Matamanda, Mafuku and Bhanye, 2024)

6. RESEARCH METHODOLOGY

This review utilised a targeted and systematic search strategy to identify relevant documents from academic databases and institutional repositories. A desk review provides preliminary insights in understanding the nature and extent of coordination between different governance levels in addressing climate change impacts in Zimbabwe. Data was collected from secondary data sources, that is, peer-reviewed journal articles, books, conference papers, theses, government reports, policy documents, organization reports, grey literature and news articles. Electronic search was conducted on the Research4Life and JSTOR platforms. In addition, grey literature from recognised international agencies like, UN-Habitat, UNDP, World Bank, African Development Bank, SADC, Government of Zimbabwe was also consulted. No software or automated screening tools were used for this review.

Data collection and analysis was guided by the five phase process by Bingham, 2023, that involves organising the data; sorting the data into categories; open/initial coding; identifying patterns/themes and applying theory to explain findings leading to actionable insights. To ensure relevance, credibility, and comprehensiveness of this desk review, the following inclusion criteria was applied during the selection of literature and documents.

- Sources focused on urban climate resilience, climate adaptation, or urban governance in Zimbabwe or comparable developing countries.
- Sources that discussed multi-level governance, decentralization, or intergovernmental coordination relevant to climate or urban policy.
- Literature specific to Zimbabwe, but comparative insights were drawn from Sub-Saharan Africa and other regions
- Sources published between 2000 and 2025 were included to reflect both historical context and recent developments in governance and climate resilience.
- Only documents published in English were reviewed, because English is the official language of policy and academic discourse in Zimbabwe.

Search terms included combinations of the following:

- “Urban governance” OR “multi-level governance” AND “climate resilience” AND “Zimbabwe”
- “Urban governance” AND “climate adaptation” AND “Sub-Saharan Africa”
- “Urban climate policy” AND “local government” AND “resilience planning” AND “Zimbabwe”

The selected literature was analysed through thematic content analysis. Key themes were identified relating to roles of MLG stakeholders, barriers to effective MLG in building urban climate resilience in Zimbabwe and opportunities for enhancing the effectiveness MLG structure in Zimbabwe.

7. RESULTS AND DISCUSSION

This section presents the findings on multi-level governance (MLG) in enhancing urban climate resilience in Zimbabwean urban areas. The discussion is structured around key governance levels, stakeholder roles, and the challenges and opportunities identified through policy document analysis and thematic analysis.

7.1. MLG Structure in Zimbabwe for Building Urban Climate Resilience

The urban governance structure in Zimbabwe operates within a decentralised framework, where different levels of government play distinct roles in managing urban areas and addressing the impacts

of climate change, (Government of Zimbabwe, 2023, 2024; Ziti, Chapungu and Nhamo, 2024){“id”:”ITEM-2”,”itemData”:{“DOI”:”10.14232/jengeo-2024-44881”,”abstract”:”Sub-catchment level water sector response strategies to climate change in Zimbabwe have not been adequately analyzed to determine their impact and connectedness with the Sustainable Development Goals (SDGs. The Zimbabwe National Climate Change Response Strategy, Zimbabwe’s Climate Change National Adaptation Plan as well as the National Climate Policy of Zimbabwe highlighted that with the increasing vulnerability of urban areas to climate change impacts, each level of governance that is national, provincial, and local must have specific responsibilities in climate adaptation. These specific responsibilities are highlighted below.

7.2. The Role of National Government in Urban Climate Resilience

The national government provides the overarching policy framework and direction for climate change adaptation. Ministries involved in formulating climate policies, coordinating programs, and ensuring the integration of climate adaptation into national development plans include, Environment, Climate, and Wildlife; Finance and Economic Development; Lands, Agriculture, Water, Climate and Rural Resettlement and Local Government and Public Works, (Government of Zimbabwe, 2023, 2024).

The national government, through ministries sets the national climate change policies and strategies that align with international commitments such as the Paris Agreement, United Nations Framework Convention on Climate Change and the Kyoto protocol. The National Climate Policy of Zimbabwe 2016, adopted in 2017, outlines the country’s commitment to addressing climate change through a low-carbon development pathway. The policy prioritises adaptation actions with mitigation co-benefits and aims to create a climate-resilient economy (Government of Zimbabwe, 2016). The policy is supported by various strategies, including the National Adaptation Plan and the Low Carbon Development Strategy, which focus on enhancing urban resilience to climate impacts, (Gwati and Mafuratidze, 2020).

Zimbabwe’s National Climate Change Response Strategy (NCCRS), 2024, provides a comprehensive framework for addressing climate change through adaptation and mitigation measures at the local level. The strategy provides guidance on integration of climate change issues into national development planning processes at national, provincial, district and local levels and ensures coordinated activities. The NCCRS emphasises the importance of building climate-resilient infrastructure and promoting sustainable urban development to reduce vulnerability to climate-related hazards, (Government of Zimbabwe, 2024).

Several initiatives have been undertaken to enhance urban climate resilience in Zimbabwe. The New Urban Agenda, adopted by the government, emphasises the role of the built environment in fostering climate resilience (Chavhunduka, et. al., 2024). The agenda promotes the integration of climate resilience measures into urban planning and development practices. Additionally, the National Adaptation Plan (NAP) for Zimbabwe, 2023, outlines specific actions to address climate vulnerabilities in urban areas, including the development of climate-resilient infrastructure and the promotion of sustainable land-use practices.

The national government ensures that urban areas follow guidelines for sustainable development, (Government of Zimbabwe, 2023). It also provides coordination among ministries, private sector actors, international donors, and local authorities to implement climate adaptation strategies, (Government of Zimbabwe, 2024). National bodies such as the Meteorological Services Department collect climate data and conduct research to guide local governments and inform adaptation policies. The Environmental Management Agency plays a multi-faceted role ranging from promoting sustainable development practices and climate-sensitive urban planning to providing disaster preparedness and fostering climate awareness among urban populations.

7.3. Role of Provincial Government in Climate Adaptation

The provincial government functions as an intermediary between the national and local governments, (Government of Zimbabwe, 2024). It oversees local authorities in its region and ensures that national climate policies and guidelines are implemented at the regional level. The provincial government helps coordinate local actions and provide support to urban councils in managing climate-related issues. For instance, in Harare, the provincial government plays a crucial role in coordinating climate-related actions and providing support to urban councils, (Mlambo, 2020; Matamanda, Mafuku and Bhanye, 2024; Marumahoko, Nhede and Mapuva, 2025). This support includes assisting with policy implementation, resource allocation, and facilitating collaboration among different levels of government and stakeholders to address climate challenges effectively.

In addition, provincial governments are responsible for ensuring that urban councils align their local policies with national climate strategies. They also help translate national climate policies into regional strategies that are more applicable to local conditions. In case of climate-related disasters such as floods or droughts, the provincial government coordinates response efforts, providing support to affected urban areas. Provinces assist urban councils in building capacity to understand and implement climate change adaptation measures. The provincial government plays a critical role in monitoring the implementation of climate adaptation strategies at the local level. They

organise training workshops for local authorities, urban planners, and other stakeholders to improve knowledge of climate resilience strategies, (UNDP, 2019b).

7.4. Role of the Local Government (Urban Councils) in Climate Adaptation

The local government level, that is, the urban councils are the most directly involved in implementing climate adaptation measures. The Ministry of Local Government, Public Works, and National Housing oversees urban governance, while local authorities, such as city councils and municipalities, are responsible for the administration and management of urban areas, (Dodman and Mitlin, 2015). The councils manage local authority and urban infrastructure and have the primary responsibility for developing and implementing climate adaptation strategies within their jurisdictions. Local authorities in Zimbabwe are mandated to provide essential services, including water supply, waste management, and infrastructure development, (Jonga, 2014; Mubaya and Mafongoya, 2017; Mlambo, 2020). They play a crucial role in implementing climate adaptation measures at the urban level.

According to the NCCRS, local urban authorities in Zimbabwe are responsible for developing and implementing climate adaptation policies and plans. They integrate climate change into local development plans, promote sustainable practices, and develop climate action plans tailored to the needs of their urban populations. The NCCRS and the NAP provide guidance for local authorities to align their climate adaptation efforts with national priorities. Urban councils are responsible for ensuring that urban areas are developed in ways that reduce vulnerability to climate impacts such as floods, heat waves, and storms. This includes creating green spaces, ensuring proper drainage, and promoting climate-resilient infrastructure through implementation of various climate resilience interventions, (UNDP, 2019a; Government of Zimbabwe, 2020).

Urban infrastructure development is a key component of climate adaptation. Local authorities are tasked with constructing and maintaining infrastructure that can withstand climate-related hazards, such as floods and droughts. This includes the development of climate-resilient buildings, roads, and drainage systems, (Moyo, 2023). Urban councils manage essential infrastructure like water supply, sewage, roads, and drainage systems. Climate adaptation at this level includes ensuring that urban infrastructure is resilient to climate change impacts, such as upgrading drainage systems to prevent flooding or building water reservoirs to address water shortages.

Engaging local communities in climate adaptation efforts is essential for building resilience. Local authorities work with community-based organisations, civil society groups, and residents to raise awareness about climate change and promote community-driven adaptation initiatives. This participatory approach ensures that adaptation measures are tailored to the specific needs and vulnerabilities of urban communities (Dodman and Mitlin, 2015). Local governments actively engage with urban communities to raise awareness about climate change risks and encourage citizens to participate in climate adaptation initiatives. Through community-based programs, they promote sustainable practices like water conservation, waste management, and the protection of urban ecosystems.

Local authorities in Zimbabwe often rely on support from national government agencies, international donors, and development partners to fund climate resilience projects. The NAP Global Network, for example, provides financial and technical assistance to support the implementation of the National Adaptation Plan. While local authorities often rely on national resources, some urban councils also work to attract investment and funding for climate-related projects. They might partner with international organizations, NGOs, or the private sector to fund initiatives that increase resilience to climate change. Mutare and Bulawayo city councils are collaborating under the HIVOs Urban Future to develop and implement transformative urban food policies through multi-stakeholder platforms and youth movements, (Hivos, 2024).

Local authorities in Harare, Bulawayo, Gweru and Mutare are responsible for tracking the progress of adaptation initiatives, assessing their impact, and making necessary adjustments, (Mlambo, 2020). This iterative process helps to ensure that adaptation efforts remain relevant and effective in the face of changing climate conditions, (Moyo, 2023). Furthermore, urban councils manage natural resources within cities, including land, water, and vegetation, (Mutandwa and Hendriks, 2022). This includes promoting sustainable land use practices to prevent soil erosion, managing waste to reduce pollution, and protecting urban forests and wetlands that help mitigate climate impacts.

7.5. Role of Non-State Actors in Climate Adaptation

In addition to national, provincial, and local government authorities, other actors play crucial roles in urban governance for building urban climate resilience in Zimbabwe. These include, international organisations, the private sector, academic institutions, community-based organisations, the media and urban citizens.

International organisations, including multilateral agencies, development banks, and environmental bodies that support Zimbabwe's climate adaptation efforts through technical support, policy guidance, and financing, (IDF, 2020; Government of Zimbabwe, 2023, 2024). These organisations include the Southern African Development Community (SADC) the United Nations Development Programme (UNDP), the World Meteorological Organization (WMO) the World Bank, and the

African Development Bank (AfDB). Organisations such as the UNDP, the World Bank, and the AfDB provide technical expertise, capacity building, and knowledge sharing on urban climate adaptation. UNICEF developed child-friendly climate policies to engage younger populations in climate action, (UNICEF, 2021).

International financial institutions provide funding for climate adaptation projects in urban areas, especially in developing countries like Zimbabwe. These funds help finance infrastructure projects, disaster preparedness, and urban resilience initiatives, (Government of Zimbabwe, 2020). Additionally, the private sector plays a vital role in urban governance by providing investment, innovation, and expertise. The private sector, including banks, insurance companies, and investors, can provide funding for climate adaptation projects, especially for urban infrastructure projects. In the context of climate adaptation, the private sector can help build infrastructure, offer sustainable technologies, and fund climate-resilient projects.

Non-governmental organisations (NGOs) occupy a pivotal space within Zimbabwe's urban climate governance landscape, particularly in contexts where the state's institutional and financial capacity is constrained, (Kabonga, 2023). NGOs increasingly serve as critical actors in shaping climate adaptation agendas, especially in underserved or marginalised urban areas complementing government efforts. One of the most significant contributions of NGOs lies in their ability to translate national climate objectives into locally actionable strategies. Through direct engagement with communities, NGOs often co-produce adaptation measures that are context-sensitive and socially embedded, (Kabonga, 2023; Maphosa and Moyo, 2024b). This includes tailoring awareness campaigns, training programs, and resource distribution to the specific vulnerabilities of low-income urban populations who are usually excluded from formal decision-making channels.

NGOs also act as intermediaries between local communities and government institutions especially when their advocacy work helps surface local climate concerns within broader policy frameworks, ensuring that adaptation strategies reflect on-the-ground realities, (Brown, Dodman and Sherpard, 2020; Kabonga, 2023; Marumahoko, Nhede and Mapuva, 2025). In some instances, NGOs play a catalytic role in prompting municipal governments to integrate climate considerations into urban development plans, effectively nudging policy in more inclusive and resilience-focused directions, (Hivos, 2024).

Academic institutions and research organisations contribute knowledge, data, and expertise that enhance urban governance, particularly in climate adaptation. Universities conduct research on urban climate risks, vulnerability assessments, and the effectiveness of adaptation strategies. They provide essential data that informs urban planning and climate policies. Nyikadzino, 2024, highlighted that Mutare City Council (MCC) has various collaborations with multiple institutions of higher learning. Harare Institute of Technology (HIT) as their major collaborator that has contributed to improved local governance. The collaboration between MCC and HIT has brought about digital transformation that has improved transparency and accountability within the urban council, (Nyikadzino, 2024).

Community-based organizations (CBOs) are grassroots organisations that often have direct access to local communities and play an essential role in advocating for local interests. Communities lead climate adaptation efforts such as tree planting, local waste management, and the construction of flood barriers. For instance, the City of Bulawayo in partnership with the Bloomberg Philanthropies Youth Climate Action Fund Project has resulted in youth-driven climate mitigation and adaptation projects, like youth-led community gardening, tree planting, reforestation, and urban farming campaigns, (Mkwananzi, 2018; Bulawayo City Council, 2025). These activities are more effective when they are locally driven and supported by local knowledge. Citizens play a key role in climate adaptation through changes in behaviour, such as reducing energy consumption, using water more efficiently, and adopting sustainable waste practices.

Through community organisations or social media platforms, citizens have pushed for greater attention to climate adaptation in local government agendas. Chiwaridzo and Masengu, 2023; Mutanda, 2024 highlighted the positive use of platforms like Facebook, YouTube, WhatsApp and LinkedIn have been used in reporting on the success or failure of urban climate adaptation efforts, ensuring transparency and accountability in implementation. In addition, the media plays a critical role in disseminating and raising public awareness about climate change and urban governance issues, (Zhou, Landa and Zhou, 2017; Ndlovu, 2019). By informing the public about climate risks and adaptation measures, the media can help mobilise action and influence policy. The media helps inform the public about the impacts of climate change on urban areas, highlighting the need for climate adaptation and resilience-building actions. Media outlets are be instrumental in highlighting gaps in urban governance and advocating for better policies, helping to put pressure on decision-makers to prioritize climate adaptation, (Ndlovu, 2019).

7.6. Barriers to Effective MLG in Building Urban Climate Resilience in Zimbabwe

The barriers to effective multi-level governance in Zimbabwe are complex and interconnected, ranging from political, economic, institutional, and social factors that affect how different levels of government (national, provincial, and local) and non-state actors collaborate and coordinate on climate adaptation efforts. These challenges are not isolated, but instead

compound one another, often resulting in fragmented governance responses, limited policy enforcement, and vulnerable urban populations being left behind in adaptation efforts.

Zimbabwe's local authorities face financial constraints that undermine climate action, (Dube, 2020; Chirisa et al., 2021). Most municipalities rely heavily on transfers from the central government, limiting their fiscal space to initiate or sustain resilience-building projects. Moreover, the country's broader macroeconomic instability, marked by high inflation, fiscal deficits, and a shrinking formal economy further restricts investment in long-term climate infrastructure such as drainage systems, flood management and early warning mechanisms, (Brown, Dodman and Sherpard, 2020; Chirisa et al., 2021; Maphosa and Moyo, 2024). Although various national policies recognise the importance of local adaptation planning, these ambitions remain underfunded, and urban resilience continues to be deprioritised amid competing development pressures.

These financial limitations are exacerbated by the lack of technical expertise and institutional readiness at the local level, (Mwenye and Kutywayo, 2021). Without sufficient numbers of trained personnel in urban climate planning, environmental engineering, or disaster risk reduction, municipal authorities struggle to design, implement, or monitor adaptation strategies effectively, (Nyikahadzoi and Mhlanga, 2021; UN-Habitat, 2022b). Even when policies exist, they tend to be poorly enforced, due to weak institutional oversight or political interference. This failure of enforcement enables continued development in high-risk zones, such as informal settlements in flood-prone areas, thereby perpetuating urban vulnerability.

Ambiguities in roles and responsibilities across different government levels lead to policy overlaps and inefficiencies, (Government of Zimbabwe, 2016). A key political and institutional barrier lies in the strained relationship between central government and certain local authorities, particularly the Harare City Council, (Marumahoko, Nhede and Mapuva, 2025). This power struggle, which is often rooted in broader partisan and governance tensions, undermines the autonomy of local institutions. In doing so, it disrupts horizontal and vertical coordination mechanisms essential for coherent climate governance. When local authorities operate in politically contested environments without sufficient autonomy or institutional backing, their ability to implement climate adaptation initiatives is severely weakened, (UNDP, 2019b). This has slowed progress in mainstreaming climate resilience in local planning frameworks.

The case of Bulawayo further illustrates how decentralisation without adequate support can overwhelm local capacity, (Dube, Sibanda and Chiwara, 2021; Maphosa and Moyo, 2024). Resource scarcity and infrastructure deficits already challenge the city's ability to implement climate-smart initiatives such as urban agriculture or resilient housing. Pushing more decision-making to the local level, in the absence of corresponding fiscal transfers or technical support from national institutions, risks overburdening already stretched municipal systems. In this way, decentralisation can become a liability rather than a strength when not matched with capacity-building investments, (UNDP, 2019b).

Furthermore, unclear mandates and role ambiguities among the national, provincial, and local tiers of government foster policy duplication, overlaps, and implementation paralysis, (Chigumira et al., 2020). Coordination across levels remains weak, with little in the way of formal intergovernmental platforms for climate governance, (Mwenye and Kutywayo, 2021). National adaptation plans often fail to reflect local conditions or leverage community-based knowledge systems, while local authorities lack the power or legitimacy to meaningfully influence national frameworks. This top-down policy orientation undermines local authorities and also limits the responsiveness and adaptability of climate interventions, (Brown, Dodman and Sherpard, 2020; Chigumira et al., 2020). Beyond institutional misalignments, Zimbabwe also suffers from inadequate systems for data collection, sharing, and analysis which is an essential foundation for evidence-based climate governance, (Chagutah, 2010; Nyikahadzoi and Mhlanga, 2021; Maphosa and Moyo, 2024). In the absence of reliable and disaggregated climate data, urban planners and decision-makers are forced to rely on outdated or generalised information, undermining the precision and impact of climate adaptation responses. This knowledge gap also impedes monitoring and evaluation, making it difficult to assess what works, where, and for whom.

Another concern is the deeply rooted social inequalities that limit inclusive governance, (Brown, Dodman and Sherpard, 2020). Vulnerable groups, such as women, people with disabilities, and residents of informal settlements are often systematically excluded from formal decision-making processes, (Lunga et al., 2025; Woyo, Venganai and Benhura, 2025). This exclusion is not merely procedural but materially significant, as it ensures that their specific vulnerabilities and adaptive capacities remain unrecognised in climate planning. The result is a resilience deficit that disproportionately affects those least equipped to withstand environmental shocks.

Addressing these barriers requires strengthening coordination and communication between national, provincial, and local governments, improving financial resources and institutional capacity, promoting public participation, and ensuring that policies and strategies are inclusive and well-enforced. Overcoming these challenges can help ensure that urban areas in Zimbabwe become more resilient to the impacts of climate change and better able to adapt to future climate risks.

Opportunities for Enhancing the Effectiveness MLG Structure in Zimbabwe for Building Urban Climate Resilience

Enhancing the effectiveness of multi-level governance in Zimbabwe for building urban climate resilience requires a comprehensive approach that addresses institutional, financial, and social barriers while capitalising on opportunities for strengthening coordination and empowering local governments. Effective MLG structures can facilitate more coordinated, inclusive, and context-specific climate adaptation measures. Strengthening MLG in Zimbabwe requires a shift from fragmented, top-down governance to a more integrated and participatory model where institutions at all levels are both empowered and coordinated, (Brown, Dodman and Sherpard, 2020).

One of the most immediate opportunities lies in empowering local governments by building their technical, financial, and administrative capacities, (Mutambisi and Chavunduka, 2024). At present, the reliance on central government transfers constrains local authorities from exercising meaningful autonomy in climate decision-making. By decentralising fiscal control and enhancing local capacity through targeted training in areas such as urban climate planning, disaster risk management, and environmental monitoring, municipalities can assume a more active role in adaptation planning, (Clos, 2015). However, decentralisation should not merely transfer responsibilities but must be accompanied by commensurate resources and support systems to avoid overburdening already stretched institutions.

Another opportunity is to improve vertical and horizontal coordination across governance levels. A more coherent MLG structure should facilitate regular interaction between national ministries, provincial authorities, and local governments, thereby aligning strategies and ensuring resource synergies, (Mwenye and Kutywayo, 2021; Mutandwa and Hendriks, 2022; Marumahoko, Nhede and Mapuva, 2025). Creating formal intergovernmental coordination platforms such as joint climate committees or resilience task forces, could institutionalise such collaboration. These platforms would allow for the integration of national adaptation policies with local realities while promoting feedback loops where municipal experience informs higher-level decision-making. Evidence from countries with effective climate governance systems suggests that coordination mechanisms significantly improve the responsiveness and efficiency of climate interventions (OECD, 2020).

Access to climate finance is another critical yet underutilised opportunity that needs to be enhanced. Many local governments in Zimbabwe lack the technical know-how to tap into international financing mechanisms such as the Green Climate Fund (GCF) or the Global Environment Facility (GEF), (Jonga, 2014; Clos, 2015). Building institutional capacity to design, propose, and manage climate adaptation projects that meet the standards of these mechanisms would unlock much-needed funding. Moreover, the establishment of municipal climate funds and public-private partnerships could diversify funding sources and catalyse investment in urban resilience infrastructure ranging from flood mitigation systems to green energy solutions.

Investments in data systems and digital tools can enhance decision-making across all levels of government, (Mutanda, 2024). The current absence of reliable, localised climate data limits both planning and response efforts. Geographic information systems (GIS), climate vulnerability mapping, and predictive modelling can equip authorities with timely information to guide interventions. Real-time early warning systems, integrated with local disaster response units, would further strengthen preparedness. A national framework that facilitates open data sharing between institutions would mitigate information silos and allow for a more unified climate risk management approach, (Chagutah, 2010; Matamanda, Mafuku and Bhanye, 2024).

Meaningful public participation, especially from historically marginalised urban populations, is another area ripe for development, (Mutanda, 2024). Urban resilience will remain partial and unsustainable if the voices of informal settlers, women, youth, and persons with disabilities are excluded from governance structures, (Angela van der Berg, 2017; Bandauko and Arku, 2024; Lunga et al., 2025). Participatory planning models such as community consultations, participatory budgeting, and citizen monitoring can foster ownership and improve the social legitimacy of climate policies. Inclusive governance also ensures that adaptation strategies are responsive to local needs rather than driven solely by elite or external priorities.

Legal and policy reforms are necessary to underpin these structural changes, (Jonga, 2014; Mlambo, 2020; UN-Habitat, 2022b). While Zimbabwe has developed a range of climate-related policies, enforcement remains inconsistent, and the legal mandates of local authorities on climate adaptation are often vague, (Marumahoko, Nhede and Mapuva, 2025). A clearer legislative framework would assign roles and responsibilities across governance levels while mandating resilience mainstreaming into urban development policies. Local bylaws aligned with national strategies would also enhance accountability and implementation fidelity at the municipal level.

Zimbabwean universities, think tanks, and research institutes must be better integrated into the climate resilience ecosystem, (Nyikadzino, 2024). By investing in localised climate research such as urban heat island mapping, flash floods mapping, rainfall pattern analysis, or socioeconomic vulnerability studies governments can ensure that policy decisions are grounded in robust evidence. Moreover, collaborative

research projects with international partners can provide access to global expertise and emerging technologies, enhancing the adaptive capacity of both institutions and communities. Strengthening partnerships with organisations such as UN-Habitat, the World Bank, and UNEP can facilitate access to funding, technical support, and policy toolkits, (Chirisa et al., 2021; Marumahoko, 2023). In addition, involvement of non-state actors maybe institutionalising within MLG frameworks through formal partnerships or advisory roles, (Mubaya and Mafongoya, 2017; Mwenye and Kutywayo, 2021; Mutambisi and Chavunduka, 2024). This might ensure that resilience strategies are grounded in local realities while drawing on external innovation and support.

Overall, the potential to improve multi-level governance in Zimbabwe is considerable but contingent on deliberate institutional reform, political will, and inclusive engagement. Empowering local governments, institutionalising coordination, mobilising resources, and fostering research-based innovation are all critical enablers of a more climate-resilient urban future. As climate risks escalate, the effectiveness of Zimbabwe's MLG system will be increasingly tested not only by its capacity to plan but by its ability to adapt dynamically, inclusively, and at scale.

8. CONCLUSION

In conclusion, the effectiveness of multi-level governance (MLG) in building urban climate resilience in Zimbabwe is shaped by the interactions between various levels of government, actors, and sectors involved in climate adaptation. The national, provincial, and local levels of government, alongside key stakeholders such as NGOs, private sector, and civil society, play integral roles in shaping climate resilience efforts within urban areas. Each of these actors brings unique strengths, such as technical expertise, financial resources, and local knowledge, but also faces significant challenges that impede coordination and effective action.

The roles of these actors are diverse, with national governments primarily providing the overarching policy frameworks, funding, and international climate commitments, while local authorities are responsible for implementing climate resilience measures, engaging communities, and managing localized climate risks.

While the strengths of Zimbabwe's multi-level governance structure include the potential for collaborative policy development and resource mobilisation across different levels, the barriers such as financial constraints at the local level, weak coordination, and limited access to climate finance remain substantial challenges. Political instability and insufficient data further exacerbate the difficulties of building a cohesive and resilient governance system.

However, opportunities abound to enhance the effectiveness of MLG in Zimbabwe's urban climate resilience efforts. Strengthening coordination and communication across government levels, empowering local authorities through capacity-building and financial resources, promoting inclusive governance, and fostering public-private partnerships offer viable pathways for improving climate adaptation strategies. Moreover, leveraging international climate finance, integrating climate resilience into urban planning, and enhancing the use of data and technology can further boost the country's ability to address climate impacts in urban areas.

Ultimately, the effectiveness of multi-level governance in building urban climate resilience in Zimbabwe will depend on the commitment to overcoming institutional barriers, promoting more inclusive decision-making, and ensuring that resources and expertise are equitably distributed across all levels of governance. By capitalising on the identified opportunities and strengthening the coordination of all actors involved, Zimbabwe can pave the way for more resilient urban spaces capable of withstanding the growing challenges posed by climate change.

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