

URBAN INFORMAL SETTLEMENTS: THE CRITICAL ROLE OF WOMEN IN THE RESILIENCE TO CLIMATE CHANGE AND ADAPTATION IN HOPLEY, ZIMBABWE

Anesu Mironga

Independent Researcher, Zimbabwe

Abstract: The susceptibility to the effects of climate change is intensified by the disparity and exclusion associated with geographical location, ethnic background, gender, poverty, and other economic and social determinants. This qualitative study investigated the living conditions of the urban poor in informal settlements of Hopley, Zimbabwe and illustrate how the appropriation of private, parochial, and public spaces by female residents of Hopley informal settlement affects their ability to manage climatic risks. Informal settlements are characterized by substandard dwellings or shanties constructed in violation of formal laws and regulations. The informal community of Hopley do not have access to clean potable water or sufficient infrastructure for public health, drainage, and essential services. This paper examined strategies for developing resistance to the impacts of climate change by women in informal communities such as Hopley. The research offers valuable insights on the varying degrees of women's participation in climate resilience development, based on a comprehensive analysis of existing literature and in depth interviews of 12 women living in Hopley. It additionally examined the measures being taken to tackle climate resilience in informal settlements, specifically, initiatives sponsored by the local community to improve settlements and strengthen their capacity to endure the effects of climate change and support marginalized populations. Furthermore, the study explored strategies for overcoming obstacles to achieving larger scale and effectiveness, such as using synergies with the Sustainable Development Goals.

Keyword: climate change, informal settlement, resilience, poverty, sustainable development goals

Introduction

Climate change continues to be a critical worldwide issue, disproportionately impacting vulnerable populations, especially in the Global South. Zimbabwe, a country already facing socio-economic instability, has seen heightened vulnerability due to changing weather patterns, extended droughts, and inconsistent rainfall (Garcia, Madurga-Lopez, Liebig, Tarusarira, & Niklas Sax, 2024). Zimbabwe is seen as a significant hotspot for climate change, characterized by high vulnerability, restricted coping capacity, and inadequate adaptation readiness (Mwadzingeni, Mugandani, & Mafongoya, 2021). The country is vulnerable to various fluctuations in precipitation and temperature, with excessive occurrences such as heatwave, intense rainfall leading to flash floods, droughts, high winds, and hailstorms becoming prevalent. Consequently, Zimbabwe will experience increased temperatures and reduced precipitation due to climate change (UNDP, 2017).

Urban informal settlements, typically marked by restricted access to essential services, inadequate infrastructure, and precarious land ownership, are especially susceptible to climate change. The settlements are especially susceptible to the impacts of climate change, including heightened flooding, severe weather occurrences, and elevated temperatures (Mironga, 2024). Settlements like Hopley in Zimbabwe encounter distinct challenges due to a deficiency in resources and planning required to alleviate climatic impacts (ACRC, 2023). The effects of climate change are not distributed uniformly.

Corresponding Author's Email: mirongaa@africau.edu



In marginalized areas the impacts are frequently exacerbated, with women disproportionately shouldering the burden. In this setting, informal communities such as Hopley, situated on the periphery of Harare, are significantly impacted by climate change (UNDP, 2022).

It is progressively acknowledged that climate change is a multiplier of existing inequalities, excessively affecting marginalized communities and vulnerable populations. Among these, informal settlements—characterised by inadequate infrastructure, poverty, and resource access limitations—face amplified risks, particularly in terms of food insecurity. Within these spaces, women often bear the brunt of food-related challenges due to their responsibilities in managing the household, food preparation and caregiving (Hussainzad & Gou, 2024).

Women are essential in fostering resilience to climate change and advancing adaptation strategies in their communities (Blessing, 2023). This paper examined the case of Hopley, Zimbabwe, looking at the vulnerabilities and adaptive strategies thus providing insights into the complex socio-ecological dynamics involved and underscoring the significance of prioritizing women in climate action. It investigated the multifaceted relationship among women, climate change, and adaptation in Hopley, emphasizing the resilience, resourcefulness, and essential contributions of women in addressing the challenges of a changing climate, basing on a thorough review of literature and in-depth interviews.

Research Objectives

To examine the role of gender in shaping resilience within informal settlements in Zimbabwe.

To identify the particular problems encountered by women living in these environments.

To explore the coping mechanisms employed by women in the face of adversity.

To provide policy recommendations aimed at improving the living conditions and resilience of women in these areas.

Hopley: Context

Informal settlements are areas where residents lack secure tenure, encompassing situations from squatting to informal rentals. These neighbourhoods generally exhibit too little access to basic amenities and urban infrastructure, with housing frequently noncompliant with established urban development and construction regulations, and are often situated in environmentally and ecologically vulnerable areas (Mironga, 2024). Informal communities generally lack essential utilities, including potable water, electricity, sewage systems, road infrastructure, access to educational institutions, healthcare facilities, and governmental presence. Informal settlements, frequently inhabited by displaced individuals, typically occupy unoccupied or underutilized property within urban areas or high-risk zones that have been officially barred from planned development (UNHCR, 2024). A substantial percentage of residents in global urban informal settlements consists of the most vulnerable social groups, particularly women and children (Ouma, Beltrame, Mitlin, & Chitekwe-Biti, 2024).

Additionally, urban informal settlements frequently occupy regions that are particularly susceptible to environmental degradation, such as flood-prone regions or on land that lacks governmental designation for residential use (UNHCR, 2024). These variables exacerbate the community's susceptibility to climate-related hazards. Hopley, an urban informal settlement located on the outskirts of Harare, the capital of Zimbabwe, is home to many low-income families. Hopley is among Harare's major informal settlements, housing thousands of citizens displaced by Zimbabwe's urban housing problem and the contentious Operation Murambatsvina in 2005 (Mironga, 2024). It is inhabited by over 200,000 individuals, the majority of whom reside in informal dwellings lacking essential facilities (UNFPA, 2018). The settlement is devoid of institutional infrastructure, including sufficient water supply, sanitation, electricity, and healthcare services. Consequently, the inhabitants are exceedingly susceptible to climate-induced risks, including heatwaves, unpredictability of rainfall, flooding, and droughts (Mironga, 2024). Hopley, like many informal settlements, suffers from inadequate infrastructure (such as poor roads, absence of waste management systems and inadequate access to clean water), which intensifies the adverse effects of climate change. The consequences exacerbate the already dire living conditions in the settlement, threatening the livelihoods of the residents (UN-Habitat, 2018)

In an already precarious situation, women endure the majority of these adversities. They frequently bear the responsibility of procuring water, food, and fuel for their households—endeavours considerably complicated by environmental pressures. Moreover, gender inequalities in resource access, education, and decision-making opportunities further constrain women's ability to successfully address climate consequences (Alvi, Ringler, & Bryan, 2023).

Conceptualizing Climate Change

Climate change denotes persevering modifications in temperature and meteorological phenomena. Such changes may happen naturally, depending on solar activity or major volcanic eruptions, and human activity has mostly driven climate change since the 1800s, mostly by using fossil fuels including coal, oil, and gas (United Nations, 2025).

Burning fossil fuels generates emissions of greenhouse gases that surround the planet, trapping solar heat and raising temperatures. Methane and carbon dioxide are the main greenhouse gases driving climate change. These arise from the utilization of gasoline for vehicular operation or coal for building heating, for instance (Garg, Chaudhary, & Garg, 2024). Omotoso and Omotayo (2024) state that deforestation and land clearing can also emit carbon dioxide. Major sources of methane emissions are agricultural and oil and gas operations; the main sectors generating greenhouse gases are energy, land use, industry, agriculture, transportation and buildings.

The effects of climate change are extensive and may encompass: Increasing global temperatures, increased frequency and severity of heatwaves, melting glacier caps and icebergs result in elevated sea levels, more extreme meteorological phenomena (such as storms, droughts, and floods), disruption of ecosystems and wildlife habitats, adverse impacts on agriculture, water resources, and human health (Valavanidis, 2023)

Initiatives to combat climate change encompass diminishing greenhouse gas emissions, shifting to renewable energy sources, and enacting legislation to safeguard ecosystems and adapt to evolving conditions (United Nations, 2025).

Methodology

The study utilized a qualitative research methodology that employs inductive reasoning to deliver a thorough comprehension of the intersectionality of women in informal settlements and climate change. (Naeem, Ozuem, Howell, & Ranfagni, 2024) A combination of content and thematic analysis was utilized to investigate data obtained from documentary searches and interviews with 12 women living in Hopley. Specifically, content analysis was employed to systematically identify and quantify the presence of specific words, phrases, or concepts within the documents relating to women, informal settlements and climatic change adaptation, while thematic analysis was used to explore recurring patterns of meaning and identify overarching themes within the interview data. A broader and more complex knowledge of the experiences and viewpoints of the women residing in Hopley and climatic change adaptation was made possible by this mixed-methods approach, drawing on both factual information from documents and their lived narratives.

The Role of Women in Urban Informal Settlements

The role of women in urban informal settlements is complex, involving social, economic, and health aspects. Women frequently assume the role of primary caregivers within their families, overseeing domestic duties while simultaneously participating in income-generating endeavours. This dual position fosters a distinctive dynamic within these communities, as women contribute to both the economic stability of their households and the enhancement of social cohesiveness (Mirona, 2024). Urban poverty is increasingly characterized by a predominance of women and girls, surpassing the number of men and boys living in poverty in urban areas globally, a phenomenon referred to as the “feminisation of poverty” (Fenyves, 2015). The phrase “feminisation of poverty” denotes that women experience a greater prevalence of poverty than men, that their poverty is more acute, and that the incidence of poverty among women is rising (Bloxham, 2021). Slums and informal settlements prominently illustrate female poverty within metropolitan environments. The disproportionately high number of female-headed households in these settlements implies that women are more susceptible to the home deprivations connected to informal settlements, hence compromising their fundamental right to appropriate housing (UN-Habitat, 2021).

Women in poverty frequently lack access to essential resources, including loans, land, and inheritance. Their efforts remain unacknowledged and unrecompensed. Their healthcare and nutritional requirements are deprioritized, their participation in decision-making at home and in the community is restricted, and they lack sufficient access to educational and support services. Women ensnared in the poverty cycle are deprived of access to resources and services necessary for altering their circumstances (Mirona, 2024). Moreover, women and girls in impoverished and informal settlements suffer specific risks about (1) urban safety, particularly gender-based violence (GBV), including the possibility of physical violence within domestic environments and public spaces, (2)

access to public areas as well as essential infrastructure and resources, that often compromises the rights they have to education and healthcare, and (3) the effects of climate change (Chant, Klett-Davies, & Ramalho, 2017). These challenges are exacerbated by the impacts of climate change, which often disproportionately affect women and their families. Women are more likely to be responsible for household tasks such as collecting water, cooking, and caring for children, all of which become more difficult in the face of climate-related disasters. Moreover, women are frequently marginalized in decision-making processes and lack access to resources and information that could help them better prepare for and respond to climate change (Fruttero, et al., 2023).

The Disproportionate Impact of Climate Change on Women in Hopley

Women frequently experience unequal consequences of climate change, particularly in low-income nations where they may be more vulnerable to adverse impacts due to poverty, insufficient education, and restricted decision-making authority (Fruttero, et al., 2023). Climate change intensifies existing gender inequalities in Hopley as shown in the findings below.

Water Scarcity

Prolonged droughts require women and girls to go long distances to gather water, exposing them to risks such as gender-based violence and diminishing time available for schooling or income-generating activities (Care International, 2016). Inhabitants of Harare's Hopley area have turned to extracting water from hazardous sources due to the Harare City Council's inability to supply potable water (Mukungurutse, 2024). In Hopley, women are typically the primary water collectors, caretakers, and household managers. Water scarcity intensifies their workloads, health risks, and vulnerabilities to gender-based violence. Women and girls often spend hours daily fetching water from distant or unsafe sources, reducing their time for education, employment, or personal care. Poor access to clean water heightens risks of waterborne diseases and menstrual hygiene challenges, particularly in overcrowded settlements lacking sanitation facilities. Women are more exposed to harassment or assault when collecting water from remote or poorly lit sources and from water barons who control water points in a mafia style (Mironga, 2024). Additionally, women's voices are frequently excluded from decision-making spaces where water governance policies are crafted, perpetuating their marginalization.

Food Insecurity

Climate change disturbs food production systems, diminishes agricultural yields, and raises food prices, contributing to greater food insecurity. Rising temperatures, irregular rainfall, flooding, and droughts lead to crop failures and livestock loss (Sheikh, Ashraf, Weesakul, & Hanh, 2024). These disruptions cascade into urban informal settlements, where food supply chains are fragile and residents heavily rely on informal markets. Women in informal settlements face compounded vulnerabilities related to food insecurity due to social norms, economic marginalization, and caregiving responsibilities. Conventional gender roles typically assign women the primary responsibility for home food production and preparation, rendering them particularly attuned to disturbances in food systems. Climate change exacerbates limited access to potable water, cultivable land, and stable livelihoods in informal settlements. Prolonged droughts and unpredictable rainfall patterns diminish agricultural production, hence impacting women peri urban farming. Flooding can

contaminate water supplies, devastate crops, thereby disrupting food availability and necessitating that women assume the responsibility of sourcing alternative food.

Furthermore, climate change exacerbates pre-existing inequalities faced by women residing in informal settlements. Their restricted access to resources such as finance, education and property ownership constrains their capacity to adapt to seasonal changes. For instance, they are unable to invest in water-harvesting devices or drought-resistant crops without financial resources. The absence of land ownership equally restricts individuals from accessing government funding intended for climate adaptation. Their absence of agency hampers their ability to climate change impacts on their food security.

Health Risks

Climate change has extensive implications for human health, disproportionately impacting underprivileged groups in informal settlements. Elevated temperatures, heightened occurrence of extreme weather phenomena, and inadequate environmental stewardship exacerbate health hazards, encompassing infectious diseases, nutritional deficiencies and mental health disorders (Hambrecht, Tolhurst, & Whittaker, 2022). Women in Hopley face unique vulnerabilities due to their social roles, economic marginalization, and limited access to healthcare services. Climate-induced health crises, including waterborne diseases and heat stress, disproportionately affect women and children, who are more likely to be caretakers of the sick.

Moreover, contaminated water sources result in waterborne illnesses such as cholera and typhoid, significantly endangering women's health, especially during pregnancy. The lack of sanitation facilities in these communities exacerbates the problem, creating a breeding ground for disease vectors and increasing the risk of infections.

Vector-Borne Diseases: Rising temperatures and shifting rainfall patterns generate favourable circumstances for disease vectors like mosquitos, increasing the frequency of diseases like as malaria.

Waterborne Diseases: Flooding and inadequate sanitation in informal communities facilitate the transmission of cholera, diarrhoea, and other waterborne diseases.

Respiratory Illnesses: Asthma and chronic bronchitis are among the respiratory disorders caused by increased air pollution and poor housing conditions.

Heat Stress: Extended heatwaves have a disproportionate impact on vulnerable populations, particularly women and children, residing in overcrowded and inadequately ventilated informal housing..

Mental Health Issues: Post-traumatic stress disorders (PTSD), anxiety, and depression are made worse by climate-related displacement, loss of livelihoods, and everyday survival pressures.

Maternal and Reproductive Health: Climate-related stressors, including malnutrition and inadequate sanitation, heighten risks during pregnancy and childbirth.

In informal settlements, inadequate healthcare infrastructure, overcrowding, and poor access to clean water and sanitation systems worsen these health risks. Malnutrition disproportionately affects women, especially pregnant and breastfeeding mothers, leading to long-term health issues for both women and their children.

Economic Vulnerability

Climate change is not only an environmental challenge but also a profound economic disruptor, disproportionately affecting marginalized communities in informal settlements (Satterthwaite, et al., 2020). A key factor contributing to women's vulnerability in informal settlements is their restricted access to economic opportunities. Women residing in informal settlements may encounter restricted access to official jobs, education, and financial resources. Frequently confined to the informal sector, they participate in precarious employment, including domestic work, street vending, and casual labor, which provide minimal income, insufficient security, and lack social safety nets (Mironga, 2024). This economic vulnerability renders them significantly reliant on climate-sensitive sectors such as agriculture and natural resource management, hence increasing their exposure to climate threats. Women in Hopley are often engaged in informal economies, which are highly sensitive to climate shocks. Loss of livelihoods exacerbates poverty and reduces women's financial autonomy.

Barriers to Women's Full Participation in Climate Adaptation

Despite their essential roles as caregivers, community organizers, and informal traders, women encounter substantial obstacles that impede their complete involvement in climate change adaptation efforts. These barriers are deeply rooted in social, economic, political, and cultural systems that perpetuate gender inequality (UN Women, 2018). Addressing these barriers requires deliberate policy interventions, including ensuring women's representation in local governance structures and providing targeted financial support for women-led climate initiatives. Women in Hopley face systemic barriers that hinder their effectiveness in climate change adaptation. These include:

Socio-Cultural Barriers

Gender Norms and Roles: Traditional gender roles often restrict women to unpaid domestic responsibilities, leaving them with limited time and mobility to engage in community adaptation projects or decision-making forums. Cultural perceptions regarding women's roles restrict their participation in decision-making processes at community and policy levels. Gender norms and power imbalances can limit women's participation in decision-making processes related to climate change adaptation. In Hopley, women are expected to prioritize household duties over participating in community meetings or training programs.

Gender Inequality: Patriarchal societal norms often limit women's decision-making power, particularly in matters related to land ownership, resource access, and community leadership (Mironga, 2024). This unequal power dynamic reduces the effectiveness of women's contributions to climate resilience.

Lack of Representation in Leadership: Women in informal settlements are often excluded from leadership positions in community-based organizations or local governance structures. Women's voices are frequently underrepresented in local adaptation planning committees, leading to policies that fail to address gender-specific needs. Women highlighted that they face restrictions on traveling long distances away from the home or interacting with male-dominated groups, limiting their ability to access resources, training, and adaptation opportunities.

Political and Institutional Barriers

Lack of Inclusion in Policy-Making: Women's participation in climate policy formulation and decision-making processes at local and national levels remains limited (Satterthwaite, et al., 2020). Women in informal settlements are rarely consulted during the design and implementation of climate adaptation programs.

Inadequate Legal Protections: The lack of secure land tenure and housing rights makes women more vulnerable to displacement and less likely to invest in climate-resilient infrastructure. Women living in Hopley informal settlement often face eviction threats, discouraging long-term investments in sustainable housing solutions.

Inadequate Policy Support: National climate change policies often fail to incorporate a gender-sensitive approach, sidelining women's specific needs and contributions. This oversight stems from a variety of factors, including a lack of female representation in policy-making positions, insufficient data on gender-differentiated impacts of climate change, and a persistent societal bias that overlooks women's roles as key agents of change and their vulnerability to climate change impacts (Habtezion, 2016). Consequently, policies do not address women's specific vulnerabilities, such as increased difficulty accessing resources like water and land in times of drought, or the disproportionate burden of household responsibilities during climate-related disasters. Moreover, by failing to recognize and leverage women's traditional knowledge and skills in areas like sustainable agriculture and natural resource management, these policies miss valuable opportunities for more effective and equitable climate action..

Limited Access to Information and Education: Climate adaptation often requires technical knowledge and access to early warning systems, agricultural techniques, or renewable energy solutions. Women in informal settlements frequently lack access to such information, placing them at a disproportionate disadvantage when facing climate-related challenges. This gap in access is often due to factors such as lower literacy rates, limited access to education and training programs, cultural norms that restrict their mobility or decision-making power, and a lack of representation in relevant institutions and governance structures. Consequently, they may be less informed about impending climate events, less equipped to implement adaptive farming practices, or less able to benefit from sustainable energy alternatives, making them more vulnerable to the impacts of climate change like food insecurity, displacement, and health risks. Addressing this disparity is crucial for building climate resilience and ensuring equitable adaptation strategies that empower women in informal settlements.

Economic Barriers

Financial Exclusion: Women in informal settlements often lack financial independence and have limited access to credit, loans, and savings mechanisms. Without access to microfinance or financial services, women cannot invest in climate-resilient technologies like rainwater harvesting systems or solar energy.

Limited Access to Resources: Women in Hopley lack access to financial resources, training, and technology that could improve their capacity for climate adaptation. The absence of these resources restricts their ability to implement large-scale solutions or improve practices to cope with climate impacts.

Lack of Formal Recognition and Support: Women's contributions to climate resilience are often undervalued, as formal climate adaptation programs tend to focus on technical solutions without adequately recognizing the role of local knowledge, particularly that of women. The contributions of women in climate change resilience are often unrecognised and underappreciated

Precarious Employment and Income Inequality: Women are disproportionately employed in low-paying, informal jobs, such as street vending or domestic work, which offer little economic security. Climate events, such as flooding or heatwaves, disrupt these income-generating activities, leaving women without financial safety nets.

Unpaid Care Work: Women in informal settlements bear the majority of unpaid care work, including childcare, elderly care, and household chores. This burden limits their capacity to engage in income-generating or climate adaptation activities.

Knowledge and Capacity Gaps

Limited Access to Training Programs: Climate adaptation often requires skills in sustainable agriculture, disaster risk reduction, and energy technologies. However, women in informal settlements are frequently excluded from these training opportunities. Capacity-building programs often fail to accommodate women's schedules or provide childcare services.

Lack of Awareness About Climate Adaptation Initiatives: Many women lack awareness about available resources, funding programs, or adaptation technologies due to poor communication channels.

Environmental and Infrastructure Barriers

Poor Infrastructure and Services: Inadequate access to clean water, sanitation facilities, and reliable energy sources creates daily struggles that leave little room for women to engage in adaptation initiatives. Women may spend hours fetching water, limiting their time for community activities or skill-building programs.

Exposure to Climate-Related Health Risks: Women in Hopley are on the frontlines of health risks associated with environmental change and degradation. These risks include increased exposure to heat stress, leading to dehydration, heat exhaustion, and heatstroke. They are also disproportionately

affected by waterborne diseases, due to their roles in water collection and sanitation, and suffer from the adverse effects of poor air quality, both indoors and outdoors, which can exacerbate respiratory illnesses and other health problems. These factors, individually and in combination, significantly reduce their physical capacity to perform daily tasks, engage in economic activities, and care for their families.

Gender-Based Violence and Safety Concerns

Climate-related stressors, including resource scarcity and displacement, often exacerbate gender-based violence (GBV) in informal settlements. Women may face harassment or assault when accessing water points or emergency shelters during climate disasters. Fear of violence can discourage women from participating in public meetings or community adaptation activities.

Women as Agents of Climate Adaptation in Hopley

In urban informal settlements, women play a crucial role in leading initiatives for climate resilience and adaptation due to their unique experiences and perspectives. Within this challenging landscape, women often find themselves at the forefront of the struggle for survival (Kellogg, 2020). Women in Hopley are not passive victims of climate change but active agents of resilience and adaptation. Through informal networks, women have mobilized resources, shared knowledge, and implemented grassroots strategies to combat environmental challenges. In many African communities, women are the primary managers of household resources, including water, food, and energy (Mironga, 2024). In Hopley, as in other informal settlements, women bear the brunt of climate-related stresses, often being responsible for daily chores such as fetching water, cooking, and taking care of children and the elderly. Despite facing these burdens, women are also at the forefront of adaptation efforts. From the study, their roles can be grouped into several key areas:

Water Management and Conservation

Access to clean and reliable water is a major issue in Hopley, where the water supply is inconsistent, and climate change has worsened the situation through periods of drought. Women in Hopley have traditionally been the primary water managers in households. They often take the responsibility for gathering water from distant sources, making them acutely aware of the challenges posed by water scarcity.

Women have adopted innovative strategies to conserve water, such as rainwater harvesting, creating efficient storage systems, and using greywater for non-drinking purposes. These practices not only help ensure access to water during dry spells but also reduce the community's reliance on open wells which dry up easily. Women's leadership in water management thus enhances the overall resilience of the community.

Agriculture and Food Security

Peri Urban agriculture is a key livelihood activity for many households in Hopley, although the land available for farming is limited and often of poor quality. Women are usually responsible for growing food for their families, and their agricultural knowledge is critical for ensuring food security. These women have small fields around Hopley, with some stretching as far as 5 to 10 kilometres from Hopley. They plant mostly maize, sugar beans, pumpkins and groundnuts. They have also adopted container gardening techniques to grow drought-resistant crops and secure food supplies.

Furthermore, women are central to food preservation efforts, drying and storing surplus produce to ensure that families have food during lean periods. Maize is stored to be used for mealie meal throughout the year, pumpkin leaves and other leaf vegetables are dried and used as relish and groundnuts are used to make peanut butter which is also used for family consumption and to sell as well. These adaptive strategies not only help improve household food security but also contribute to broader community resilience by reducing dependence on external food supplies.

One example of women's leadership in Hopley is the establishment of community gardens to improve food security and generate income. Women in the settlement have converted unused land into productive gardens, where they grow vegetables and other crops to supplement their households' diets and sell at local markets. These gardens not only provide a source of nutritious food but also help to mitigate the effects of climate change by promoting biodiversity and reducing reliance on imported food.

Community Mobilization and Education

Women's social networks in Hopley are vital for fostering community resilience. Women often serve as the glue that holds the community together, organizing meetings, sharing information, and providing emotional and practical support to one another (Mironga, 2024). Their deep knowledge of local conditions and their experience with climate impacts allow them to be effective advocates for climate action within the community.

Women in Hopley have been instrumental in organizing local adaptation initiatives, such as tree planting programs to combat soil erosion and community-based disaster risk management workshops. Their leadership in educating others about the effects of climate change and the importance of sustainable practices has had a ripple effect, with more households adopting climate-resilient practices.

Furthermore, women in Hopley have been instrumental in raising awareness about climate change and its impacts on their community. Through education and advocacy efforts, women have helped to mobilize their fellow residents to take action on climate change, such as planting trees, reducing waste, and building more resilient homes. By engaging with local authorities and international organizations, women in Hopley have been able to access resources and support for their adaptation efforts.

Moreover, women in Hopley are not only adapting to existing challenges but also serving as crucial conduits for climate change awareness and knowledge dissemination within their communities. They

often act as educators, sharing their knowledge on sustainable practices and advocating for climate-resilient solutions. Their roles as mothers and caregivers give them a unique perspective on the long-term consequences of climate change, making them powerful advocates for change.

Economic Empowerment and Diversification

In response to the economic challenges exacerbated by climate change, many women in Hopley have sought ways to diversify their income sources. Women have established small businesses that are less dependent on the direct impacts of climate events, such as informal retail, crafts, and services. These enterprises contribute not only to household income but also to community cohesion by creating opportunities for women to collaborate and share resources (Mirona, 2024).

Women's involvement in micro-financing and savings groups has also helped families weather economic shocks, enabling them to invest in sustainable livelihood activities that support long-term resilience. In this way, women's economic empowerment enhances the adaptive capacity of the community as a whole.

Education and Awareness Campaigns: Women-led advocacy programs have played a key role in raising awareness about environmental stewardship, waste management, and climate-smart practices within their communities.

Disaster risk reduction: Women play a vital role in early warning systems and community-based disaster preparedness. Their knowledge of local vulnerabilities and social networks helps in effective response and recovery efforts.

Environmental conservation: Women are often at the forefront of environmental conservation initiatives. They actively participate in tree planting, waste management, and promoting sustainable practices.

Community organizing and advocacy: Women's leadership in community-based organizations empowers them to advocate for their needs and access resources for climate change adaptation. They often bridge the gap between local communities and policymakers.

Policy Recommendations and Path Forward

1. To support the critical role of women in climate adaptation in Hopley and similar settlements, several strategies should be pursued. To amplify women's voices and enhance climate resilience in Hopley, the following strategies should be prioritized:
2. **Gender-Responsive Policies:** National and local authorities should integrate gender perspectives into climate change adaptation policies and ensure women's active participation in decision-making processes.
3. **Capacity-Building Programs:** Training programs in climate-smart agriculture, water management, and renewable energy should specifically target women in informal settlements.

4. **Access to Resources:** Increased access to financial resources, technology, and land rights will enable women to better implement sustainable practices and contribute to long-term resilience. Financial institutions should create microfinance programs tailored to women entrepreneurs in climate adaptation projects.
5. **Community-Led Governance:** Women should be included in community governance structures to ensure their perspectives are represented in climate resilience planning. Support for women-led community-based adaptation initiatives will strengthen local resilience, leveraging women's knowledge and leadership in addressing climate risks.
6. **Empowerment through Education and Training:** Providing women with access to education on climate change and practical training in climate-resilient technologies can increase their capacity to adapt to changing conditions.
7. **Inclusive Decision-Making:** Policies and initiatives related to climate change adaptation must include women in leadership and decision-making roles, ensuring their voices are heard in local and national discussions.
8. **Strengthening women's leadership:** Promoting women's participation in decision-making processes at all levels is crucial for effective climate action.
9. **Addressing gender inequalities:** Challenging gender norms and power imbalances can create a more enabling environment for women to contribute to climate change resilience.
10. **Recognizing and valuing women's contributions:** Acknowledging and appreciating the valuable roles played by women in climate change adaptation can motivate and empower them further.

Conclusion

The experiences of women in Hopley informal settlement paint a compelling picture of vulnerability and resilience in the face of climate change. Their stories highlight the urgent need for climate action that is grounded in gender justice and recognizes the crucial role women play in shaping sustainable solutions. By amplifying their voices, supporting their adaptation efforts, and addressing the systemic inequalities that constrain their potential, we can empower women to become agents of change and build more resilient communities in the face of a rapidly changing climate. The resilience of women in Hopley is not just a story of survival; it is a testament to the power of human agency in the face of immense adversity and a guiding light for climate action centred on human dignity and equity. In informal settlements like Hopley, Zimbabwe, women are indispensable in building resilience to climate change. Their roles in water management, agriculture, community mobilization, and economic diversification are vital for adapting to climate shocks. However, for their contributions to be fully realized, structural barriers must be addressed, and women's participation in decision-making and access to resources must be expanded. By recognizing and supporting women's leadership, communities like Hopley can strengthen their resilience and adapt more effectively to the challenges posed by climate change.

The women of Hopley informal settlement are not just victims of climate change but resilient agents of transformation. Their efforts in water management, and community organization are testament to their ability to drive meaningful change under challenging circumstances. However, their potential remains underutilized due to systemic barriers. Addressing these challenges requires a multi-stakeholder approach that prioritizes women's leadership, ensures equitable resource distribution, and fosters inclusive governance structures. By empowering women, Hopley—and communities like it—can become models of grassroots climate resilience and adaptation.

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