



Gender Intersectionality and Disaster Risk Reduction - Context Analysis

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Abstract

Disasters do not discriminate; however, existing socio-economic conditions present segregated disaster impacts even for similar communities- demographically. Here, the most vulnerable groups within these communities suffer most. Research shows that disasters increase gender inequalities. This framework analysis sought to bring to the construct of disaster risk reduction, gender intersectionality perspectives, and ways of gender mainstreaming in disasters in Kenya. It is undeniable that each time a disaster occurs, gender relations are part of the human experiences that arise from disasters. Therefore, the inclusion and advancement of gender mainstreaming or responsiveness into disaster risk reduction are timely, especially when the world is faced with numerous disasters inclusive of emerging ones as COVID19. The findings resulting from this study used a Participatory Action Approach. Primary data presented a multi-level approach to disaster risk reduction comprising of local, city-level and international participation. The results show a need for gender mainstreaming in disaster risk reduction in Kenya. These efforts call for training, community leadership network and a rethink on policies for research and practice to address the local people' sufferings in the face of disasters, and lost livelihoods.



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Acronyms/ Abbreviations

ARIN: Africa Research and Impact Network

DRR: Disaster Risk Reduction

B4A: Big Four Agenda

SDG: Sustainable Development Goals

MDG: Medium Development Goals

MTP: Medium Term Plan

UKRI: U.K. Research and Innovation

SFDRR: Sendai Framework Disaster Risk Reduction

HFA: Hyogo Framework of Action

CBO: Community Based Organizations

GBV: Gender-Based Violence

WHO: World Health Organization

UNISDR: United Nations Office for Disaster Risk Reduction

IA: Intersectionality Approach

PAR: Participatory Action Research



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1.0. Introduction

1.1. General Background

Disasters expose inequalities. Invariably those who encounter the greatest exposure to disasters require the highest levels of resiliency and suffer the greatest inequalities in many spheres of life. They include children, women, older persons, the minority and indigenous people collectively labelled as the vulnerable or marginalized (Djoudi et al., 2016). These groups of people are still not homogeneous, they have different needs, priorities and capabilities, within and across the groups, and hence the need for a broader framing to gender, and that is the adoption of an Intersectional approach.

The gender intersectional approach goes beyond the dichotomy of men and women- the vertical-hierarchical, or horizontal approach to inequality, which view vulnerabilities as independent occurrence that affect different groups of people uniformly but rather explores to capture the overlays and overlaps inherent in multiple vulnerabilities that reinforce exclusion (vide Fig. 1). Jordan et al. (2018) notes, the intersectional approach to gender is more transformative, and power sensitive. Intersectional approach considers gender in relation to other identities in order to appreciate the different social differences and power relations between men and women.

The approach goes beyond basic assumptions that women are the most vulnerable in the face of disasters to much deeper attentions such as the identities of these women, highlighting their intra group disparities that influence how they experience the effects of disasters (Hackfort & Burchardt, 2018). These brings to the fore the reality that there is no homogeneous cluster of people, for instance there are difference within and across women, based on different needs, age, physical location, education or class. The appreciation of the differences help in understanding the differentiated aspects of vulnerability.

Gender is a social construct and involves analyzing behaviors, characteristics, attitudes, and social norms linked to one' biological sex at birth. Gender as a social construct varies from society to society. This construction is also likely to change with

time (WHO, 2014). In other words, gender refers to the roles, expectations, and values placed on men and women by society in what it considers to be appropriate for them. Gender integration into disaster risk reductions is vital in building resilience and recovery, especially in developing countries whose disaster levels are generally high.

The importance of gender intersectionality into disaster risk reduction processes and monitoring and evaluating its progress is informed by the differential social roles that men and women play in managing disasters. According to a World Bank report, where men and women are allowed equal opportunities in the economic sphere, better results are achieved in firm performance and economic development (World Bank Report, 2019). Indeed, gender integration play a salient role in harnessing equal opportunities, responsibilities, and rights for men and women in different aspects of life.

The Sustainable Development Goal (SDG) 5 on gender equality envisions a world with zero gender discrimination. This SDG goal is in synch with SDG 8 that advocates for Decent Work and Economic Growth. These goals together advance to include men and women in all spheres of socio-economic activities to spur growth. Indeed Kenya's constitution 2010, chapter four recognizes women's rights as human rights; in this hailed document, gender equality is also considered a catalyst towards eliminating structural inequalities propagated by traditional social norms in all aspects of life, including disaster risk management.

Disasters are sudden events that disrupt the normal functioning of a community or society set up, the effects of which they cannot self-recover. Two elements precipitate disasters—the severity of the hazard and the people's vulnerability to it. Indeed, natural threats and people's vulnerabilities accelerate disasters. Vulnerabilities can arise from physical exposure, socio-economic, limited capacities propagated by poverty, age, social class, ethnicity, and gender relations. *Risk= hazards x vulnerability by gender or coping abilities by gender* (UNISDR, 2009).

The occurrence of disasters is impartial, and while disasters are not gender selective, how men and women experience the aftermaths of disasters dramatically differ. These differential outcomes are accentuated by the varied experiences, skills, and roles

of men and women in society. Women and men play different roles, which result in different identities, responsibilities, and attitudes, leading to gender inequality.

It is against this backdrop; the paper aims at analyzing gender intersectionality on disaster risk reduction using a multi-level approach: local, city level, national and international levels while highlighting the missing links in the analysis of gender gaps in DRR. This conceptual analysis is believed to set an agenda for designing gender-responsive disaster management policy guides and gender analysis tools in the face of a rapidly growing city- Nairobi, Kenya. Further, the working paper discusses applying gender-responsive best practice approaches to DRR towards 'Build Back Better' as enshrined in the Sendai Framework Point of Action. This working paper's primary audience includes the Nairobi Risk Hub stakeholders, the policymakers, the Nairobi County Government, community-based organizations, the national government, and national and international DRR champions and the general public.

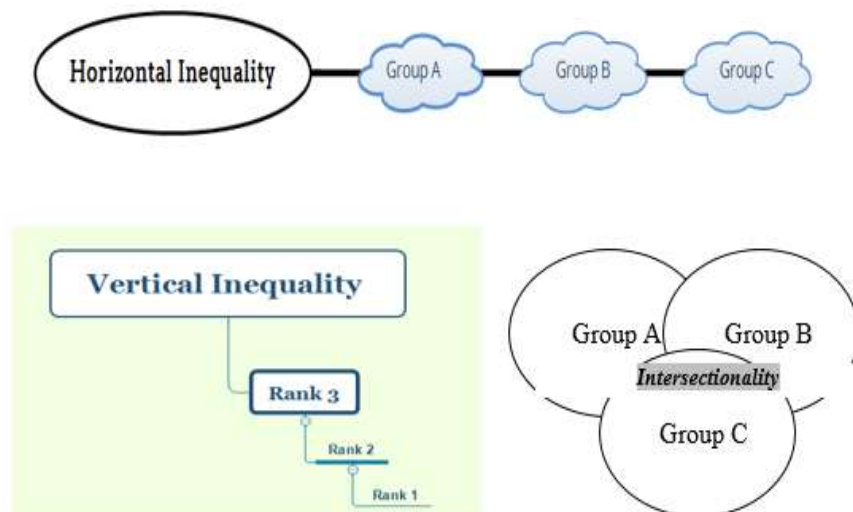


Figure 1: Adapted from Lenhardt & Samman, 2015 Gender Intersectionality

1.2. National Context

In Kenya, the disaster risk profile comprises fires, floods, terrorism, droughts, buildings collapse, and disease epidemics. Kenya has a national policy for Disaster Management run by the ministry of state for special programs in the president's office.

Disaster management includes; preparedness, relief, rehabilitation, mitigation, and prevention. However, there is a call for an integrated approach to DRR that is more active than reactive and focuses on enhanced DRR management by developing policies and frameworks as captured in the Nairobi Disaster and Management Act of 2019. Indeed, with urbanization, cities have become the epicenter of disasters, with African cities leading in this calamity globally (Wisner et al., 2015). For instance, Nairobi's informal settlements (slums) experience the most significant magnitude of the disaster, hence calling for an integrated approach to DRR.

To advance gender equality, Kenya has had programs, institutions, laws, Acts, and regulations that advocate for the inclusion of men and women equitably in all socio-economic life spheres. Kenya's 2010 constitution contains important commitments towards gender equality and women's empowerment. Article 10 highlights the guiding principles on governance whose focus is inequality, equity, and inclusiveness, and all forms of discrimination are banned. Article 27 (1) recognizes human equality and states that all persons are equal before the law and are entitled to similar benefits and protections. This provision is more specified in Article 27 (3), which advances the equal treatment of men and women in all spheres of life; socio-economic, political, and cultural (Constitution, 2010). Besides the constitution, Kenya has integrated gender dimensions into most of its long-term plans, such as the Medium Development Goals (MDG), Medium Term Plans, Kenya' vision 2030, the Big Four Agenda international treaties as Agenda 2063, and Sustainable Development Goals (SDG). All these laws show Kenya's commitment to gender equality and social inclusion.

Kenya's commitment to gender equality is further demonstrated, for instance, in action programs. In 2016 H.E Uhuru Kenyatta was among the few African leaders who signed a UN. Movement dubbed as He-She, whose focus is to include both men and women in the course of gender equality. Kenya's government seems focused and committed to promoting gender equality and women empowerment based on resolutions from the Beijing 1995 platform and Kenya's 2030 agenda on sustainable development.

Despite Kenya's progressive strides towards attaining gender equality and women empowerment, and against the experience of post-election violence, gender inequality

remains a hard nut to crack. Some of the sources of gender imbalances in Kenya include structural social inequalities, propagated by social norms where men are accorded more rights and opportunities than women. This practice is further supported by customary laws, standards, and cultural traditions. While that is the national state, the need for gender mainstreaming in disaster risk reduction needs to be championed at both levels; international, national, city, and local levels.

1.3. Multi-Level Gender Equality Policy Frameworks

Kenya has signed multi-international policy frameworks, cutting across human rights, child rights, elimination of racial discrimination, civic and political rights among them conventions aimed at closing the gender equality gap- the Vienna Declaration of Human Rights the Beijing Platform of Action, 1995 among them. All these international conventions have informed the progression of gender equality in Kenya. In the regional arena, Kenya has signed treaties to form the human rights court and the Maputo convention on Human and People's Rights and adopted the African Union Agenda 2063. Nationally, through parliament, Kenya's government has legislated laws aimed at advancing provision for gender equality. These provisions include Acts protecting women's rights to land ownership, marriage, succession, female genital mutilation, domestic violence, sexual offenses and citizenship, and immigrations (National Policy on Gender and Development, 2019).

1.4. Multi-Level Disaster Risk Management Frameworks

Many international organizations and frameworks have recognized the roles of gender in disaster risk reductions. Here, women are considered as critical stakeholders in DRR efforts. Globally, the Sendai Framework Disaster Risk Reduction (SFDRR 2015-2030), a predecessor of the Hyogo Framework of Action (HFA, 2005- 2015) 2015, aims to reduce disaster risk prevention and reduction of existing risks while building resilient communities and nations. This resilience is further strengthened in the Sustainable Development Goals (SDG). These international agreements are designed to mutually reinforce each other and integrate the reduction of disasters in all development sectors.



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The 2030 SDG recognizes the need for disaster risk reduction in its 2030 Agenda. According to UNISDR (2015), the SDG framework acknowledges that DRR cuts across all development sectors. A number of the SDG highlight the critical role of DRR; SDG 11, for instance, urges the world to advocate for sustainable, safe, resilient, and all-inclusive cities.

Regionally, all African countries (55) signed for the Sendai Framework's implementation under the African Union's leadership. They drafted five additional strategies to realize the performance of the SFDRR. Besides, they drew policies, procedures, and actions toward implementing SFDRR (Manyena, 2016). The SFDRR though non-legally binding, guides national governments, local authorities, academia, and the private sector on disaster risk reduction. The seven targets for Sendai Framework underpins reduction of global disaster modalities, the number of people affected by disasters, the removal of economic losses, GDP-wise, disruption of critical infrastructures, the increase of several countries with DRR strategies, the cooperation in the implementation of DRR framework, and the rise to access and availability to early warning DRR information by 2030. To contextualize DRR in Africa, the additional five targets aimed at: increasing the number of countries with DRR curriculums in education systems, the inclusion of DRR in national development goals, the domestic financing for DRR, the increase of several countries on testing, preparedness, response and recovery and the growth in the creation of networks, partnerships, knowledge management, and capacity development.

However, a critique on SFDRR show, the assumption that disaster risk reduction policies are strengthened from national levels to the local governments is a rational ideology that does not happen in practice. Besides, the framing of words as 'substantial reductions' in the framework seem vague and cannot be measured in precise terms (Pearson & Pelling, 2015). Indeed, disaster frameworks in developing countries suffer not for lack policy but policy implementation effectiveness.

1.5. Rationale/Justification for Gender and DRR Conceptual Analysis



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Nairobi, Kenya, is presented with various hazards; fires, floods, and collapsing buildings being the most prevalent. While most parts of the city experience such disasters in different magnitude, Nairobi's informal settlements (slums) are major frontiers of these hazards, both natural and human risks owing to several compounding reasons. For instance, fires are common in slums, often emerging from various sources, including electrical faults (resulting from poor/illegal electrical infrastructure) and inadequate cooking spaces. The Nairobi Risk Hub's primary goal is to provide Nairobi with the capacity and policy framework that enables a shift from crisis/emergency response towards integrated urban development and planning for enhanced disaster risk preparedness and management through policy-relevant and trans-disciplinary research. The Kenya government for instance is keen on developing disaster preparedness and a transition from emergency reactions to disasters preparedness. This is also recognized at the Nairobi city-county government level and, reflected among others in the Nairobi Disaster Management Act 2019, which is currently under development.

It is against this background that this exercise on gender analysis and disaster risk reduction framework is premised. Equally, over 60% of the world's population is living in cities due to urbanizations thus cities have become hot spots for disasters, and especially Sub-Saharan African countries. This discussion on gender intersectionality and disaster risk reduction at the Nairobi Urban Disaster Risk Hub project aims to inform urban policy and practice on disaster reduction. Given that the informal settlements suffer disasters due to their vulnerability, their considerations are captured in the framework analysis. This study analysis identifies gender in relation to other identities, to appreciate different inequalities and power dynamics between men and women and how they play into vulnerability and risk preparedness. The research aims to identify, design, and outline gender intersectionality in disaster risk management and recommend best policy practices.

1.6. Statement of the Problem

Disasters do not discriminate; however, existing socio-economic conditions present segregated disaster impacts even for similar communities- demographically.

Here, the most vulnerable groups within these communities suffer most. Research shows that disasters increase gender inequalities (U. UNISDR, 2009). Men and women have different tasks, roles, and capacities and hence get differential impacts from disasters. Women, for instance, have less access to production factors such as land and capital. Again, the nature of their work predisposes them to hazards, such as collecting firewood, air pollution from cooking with dirty energy, and they generally suffer from massive unemployment levels; these challenges hinder their resilience in the wake of disasters. While there have been strides towards gender mainstreaming progress in Kenya, several gender inequality cracks are rife. In a recent Intergovernmental Consultation Framework for Gender Sector (2019), whose aim is to integrate efforts of the national government with those of the 47 counties on mechanisms and cooperation between the two on gender equality and women economic empowerment, the discussion on gender and disaster risk reduction did not explicitly feature.

This framework analysis then seeks to bring to the construct of disaster risk reduction, gender perspectives, and ways of gender mainstreaming in disasters in Kenya. It is undeniable that each time a disaster occurs, gender relations are part of the human experiences that arise from disasters. Therefore, the inclusion and advancement of gender mainstreaming or responsiveness into disaster risk reduction are timely, especially when the world is faced with numerous disasters inclusive of emerging ones as COVID19. The gendered roles of men and women in risk reduction are useful in the disaster risk management realm.

2.0. SITUATIONAL ANALYSIS

2.1. Gender and Disaster Risk Reduction

Disaster risk reduction (DRR) is a broad concept and involves using practices, policies, and regulations to minimize disaster and vulnerability severity. The idea of DRR is vast, and as Twigg (2009) notes, there is no single sector or organization that can deal singly with DRR. Thus, the need for multi-level collaborations and partnerships among varied organizations. Decades after global commitments to disaster risk reduction, the Hyogo Framework of Action (HFA), and the Sendai Framework of Disaster Reduction of 2015- 2030, many remain undone at the national and local levels. There are few debates on gender issues in DRR at national levels and no aggregated efforts on policies, legislation, and strategies. As much as gender equality is espoused in Kenya's constitution, its strong link to DRR is missing. A lot remains misunderstood about gender issues in disaster risk reduction, hence calling for more government and research think tank actions.

In recent times, gender equality has moved from women-focused to gender focus, addressing issues involving both men and women while understanding the power relations between them and their genesis. Ciampi, Gell, Lasap, and Turvill (2011) highlight particular vulnerabilities facing women in disasters; for example, not many women can swim, so their chances of survival in flood are slim. Equally, women find themselves at home taking care of children and the elderly, and in cases of fire outbreaks, their mobility is not swift compared to their male counterparts. Following the 2004 tsunami, it is estimated that women and girls in Indonesia and India accounted for 70% of the dead (Pittaway, Bartolomei, & Rees, 2007).

Additionally, there is a lack of political goodwill from countries and insufficient financial resources dedicated to mainstream gender issues in disaster risk management. National governments are not pioneering recommendations on gender and disaster risk reduction. There has also been limited development of capacities and tools to advance gender and DRR programs (Ishiwatari, 2014). It is against this background that recommendations to allocate an adequate budget for gender issues in DRR, improve

understanding of gender through training/education, and capacity building in DRR is advanced.

2.2. Disaster Risk Assessment

This risk assessment process helps identify and adopt requisite policies and regulations regarding disasters. Gender-sensitive risk assessments involve identifying the hazard, their location, intensity, and probability. Further, the identification of exposures and weaknesses is made to establish vulnerability. In risk assessment, capacity is built by identifying resources for mainstreaming gender-sensitive disaster risk reductions once levels of risk have been determined. Both qualitative and quantitative methods are useful in disaster risk management studies. These four main factors of vulnerability; physical, social, environment and economic predict risk assessment (Cannon, 2002). The factors are also a reflection of the happenings in Kenya, Nairobi' informal settlement affairs:

2.2.1. Physical

Physical terrains play a role in housing and disasters. The location of the accommodation is worse for poorer women. Even when men and women share this environment, it is hard for women to flee to safety during a disaster due to limited mobility see an instance map of Mukuru slum in Kenya, one of the largest slums in East Africa which is located 10 kilometers outside of Nairobi Capital Centre of Kenya. The slum is densely populated with an approximate number of 600,000 to 700,000 people (Wambura & Marnane, 2019) . The slum comprises of eight villages where the largest are Mukuru kwa Reuben and Mukuru kwa Njenga which are highlighted here in red and yellow lines respectively.



Fig 1: Photo Credit: Google Earth 2.13.2021 Mukuru Informal Settlement in Kenya

2.2.2. Social

Social aspects, such as human rights, values, literacy levels, customs, and governance, expose women to disaster vulnerability. Women play different social roles, such as taking care of children and, properties at home. They also lack skills like swimming, running, and climbing, which are useful during disasters. Besides, their participation in public information and policy is limited, and they tend to receive information from men. These different roles and experiences, such as indoor pollution from cooking and health states such as pregnancy, menstruation, and breastfeeding, expose women to disasters in other forms differently than men (WHO, 2007). The picture below illustrates the socially differentiated roles men and women play, in this case, the man is involved in outdoor labour activities, while the woman is engaged in unpaid care- in the house. Both of these roles portend differentiated vulnerabilities.



Fig 2: Flickr Images, 2021

2.2.3. Environmental

Environmental challenges, such as lack of water resources, deforestation, and land degradation, expose women to risk-vulnerability. Especially in East Africa, women undertake workloads such as collecting water, firewood and farming to fend for the family. Therefore, whenever an environmental disaster strikes, they are significantly disadvantaged.



Fig 3: Photo Credit: forestsnews.cifor.org

2.2.4. Economic

According to Moser and Satterthwaite (2010), the more assets people have, the more likely they can better respond to hazards. Generally, women possess less entrepreneurial skills than men and benefit less from credit access to buy assets and undertake businesses. As Beyer, Chaudhuri, and Kagima (2016) note, gender disparities on income levels persist, they report women to earn 62% of what their male counterparts earn in similar tasks. Moreover, women possess lower financial literacy levels, which plays into their savings and retirement planning (Maobe, 2018). Their incomes, mostly from the informal sector, are subject to disasters such as floods, fire, and buildings collapse. The gendered nature of risk shown below although focusing on Asia mirrors the same level of

predicaments that befall women, the elderly, the disabled, men, boys, and girls who reside in Africa's informal settlements and, in specific, Nairobi, Kenya.

2.2.4.1. Historical Gender Equality Index

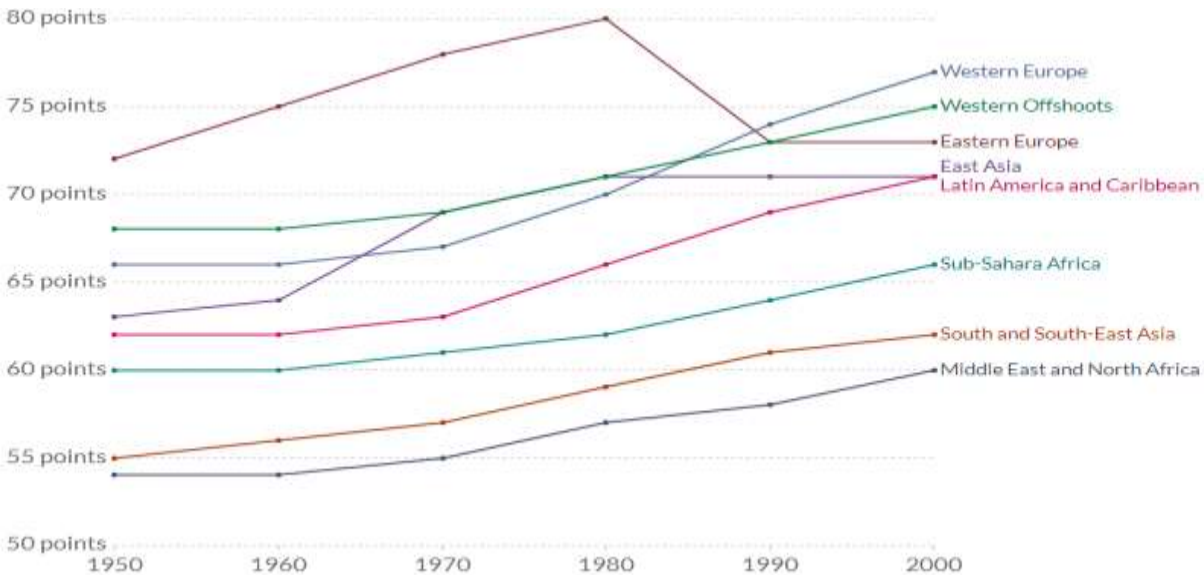


Fig. 4: Source: OECD 2014

This historical gender equality index of between 1950 to 2000 and, based on four main scores: Health, socio-economic resources, household gender disparities and political disparity, show those regions with higher score points have fared better with gender equality while regions such as Sub-Saharan Africa whose score is 60 points indicate low levels of gender equality. While Europe and America lead with over 70 points. Asia and Middle East' score portray a lag. These historical statistics are a reflection of economic burden that bedevil women across all spheres of life and curtail their resilience and recovery post disasters.

2.3. Gendered Nature of Risk

Risk	Gender Implications
Cyclones	Women get injured and die due to societal restrictions based on gender roles such as;
Tsunamis	
Mudslides	Swimming skills are uncommon among women due to culture, and so many women died
Cyclones	Women's clothing also limits mobility
See – Indian ocean tsunami	Women roles requiring them to stay home and cannot leave the house without the company of a male
Nepal with River Saptakoshi and the Bangladesh Cyclones	

Land degradation Erosion Deforestation and Desertification	Women engage in water, firewood collection, herbal medicine search, and other chores that depend on the environment. When there are disasters in the natural environment, women's vulnerability automatically increases.
Access to early warnings and response	Women stand disadvantaged on access to information and disaster early warnings. Sometimes they are not aware of warning signals since their roles keep them busy in the homes.
Asset ownership	Research shows that only 10% of women own land in Nepal, Thailand, and India. With this state, women hold crops in the fields but do not own the titles to the ground, and whenever a disaster strikes, they are the most hard-hit due to limited asset resources and the inability to access credit due to lack of collateral
Lower-income	Globally women earn less than men on similar jobs; this also exposes them to the severe impacts of disasters.
Decision Making	Due to societal cultures, decision making is gendered. Some cultures bar women from decisions on risks, wars, and conflicts
Lower levels of education	Generally, women possess lower levels of education, and this constrains their capacity to respond to disasters.

Source: Adapted from UNISDR, 2009

2.4. Disaster Resilient Communities

Resilient communities are those urban settings that can withstand and adapt to disasters; they can manage and maintain their essential functions and recover from the disasters whenever they occur (Twigg, 2009). It is undeniable that building a resilient community is ideal. However, safe urban settings can be achieved even in the context of disasters. Local governments are tasked with the responsibility of infrastructure and urban planning agendas aimed at secure settlements. According to Satterthwaite (2011), African cities suffer budget cuts and lack government commitment to care for the poor and the vulnerable who live in informal urban settlements.

Disaster resilient communities comprise of five main factors drawn from the Hyogo framework see Fig. 1 (Twiggs, 209). Firstly, governance structures existing between plans, regulations, institutional frameworks, partnerships and collaborations, and community involvement. Second, risk assessment involves disaster and vulnerability impact assessment to ascertain the levels of risk present. Third, resilient communities

also possess knowledge and education through public awareness, information sharing, training, learning, and research. Fourth, such organizations undertake risk management through health and wellbeing, financial investment, environmental conservation, and planning to reduce the impact of disasters. Finally, resiliency involves disaster preparedness and response, resilient urban settings have early warning systems, contingent funds for disaster, capacities, emergency rescue plans, full participation, and coordination.

The first step to creating disaster-resilient communities is to assess all possible hazards/risks that face the community. This process should involve all the stakeholders in a participatory approach, coupled with vulnerability analysis. Once data is collected and analyzed, the findings reach the stakeholders/participants for confirmation and feedback. The agreements then form the disaster risk plans for the community.

There should be a continuous update of hazards and risks inherent in the communities and capacity building to match the dangers and risks. The constant updates call for training and education on disaster risk reduction best practices highlighted in the next section.

Fig. 1. Elements Comprised of Disaster Resilient Communities



Source: Adapted from Hyogo Framework, 2015

3.0. Methodology

A gender intersectionality-based framework was used as an analytical approach to the study. The selection of gender as a single analytical focus was deemed inadequate to capture the vast vulnerabilities between men and women. The analytical framework, while appreciating that gender inequality shapes vulnerabilities, other social differences as highlighted by Carrington (2014) as age, education, class, physical location to play a role in best understanding who is at more risk during disasters, and even into recovery. This paper explores the annex between gender intersectionality and disaster risk reduction in Kenya with the aim to inform policy, research, and operational practice.

The study employs diverse methodological approaches as; Secondary data review and Participatory Action Research (PAR). PAR was considered appropriate for functional purposes such as to collect specific information related to gender intersectionality and disaster risk reduction from the participants and to also build collaborative research networks to inform policy and practice. To start with, secondary review of policies, laws, and institutions in place was done to advocate for gender intersectionality in disaster risk management. These include the highlights and documentation of current progress and procedures, programs, and actions geared towards attaining gender equality in Kenya in general. The PAR approach was structured into multi-level approach involving; local communities from the informal settlements in Kenya, the national government and international participation (see annex 1). Similarly, a desk review of relevant strategic literature on gender intersectionality and disaster risk reduction was done.

Secondly, the involvement of key stakeholders, partners, and participants as government authorities, civil societies, and community-based organizations, and the private sector as key informants to the study. This stakeholder engagements were carried out through interviews and focus groups based on a set of predetermined open ended questions on gender and DRR.

This study was further corroborated by findings from a virtual side event on 'gender lens in disaster risk reduction' in an international conference held by Africa

Research and Impact Network (ARIN) between 18-20th of November 2020 from Nairobi, Kenya. In this virtual event, data was gathered on the gendered impacts of disasters in the context of COVID19. In this side event, three main perspectives informed the gender discussion: national gender perspectives, World Health Organization views, and those of the diaspora on the relationship gender intersectionality and disaster risk reduction, the gendered impacts of COVID19 and the priority mitigation measures.

Finally, the data on the relationship between gender and disaster risk reduction was collected from stakeholders' community dialogues. In these bi-weekly participatory community virtual dialogues, varied and diverse community-based organizations were interviewed, and the conferences' proceedings informed the paper's design and content. The situational literature review analysis that follows and the primary findings from these diverse PAR methodological approaches were used to identify gender intersectionality and DRR best practices and the way forward for research, policy, and operational practice.

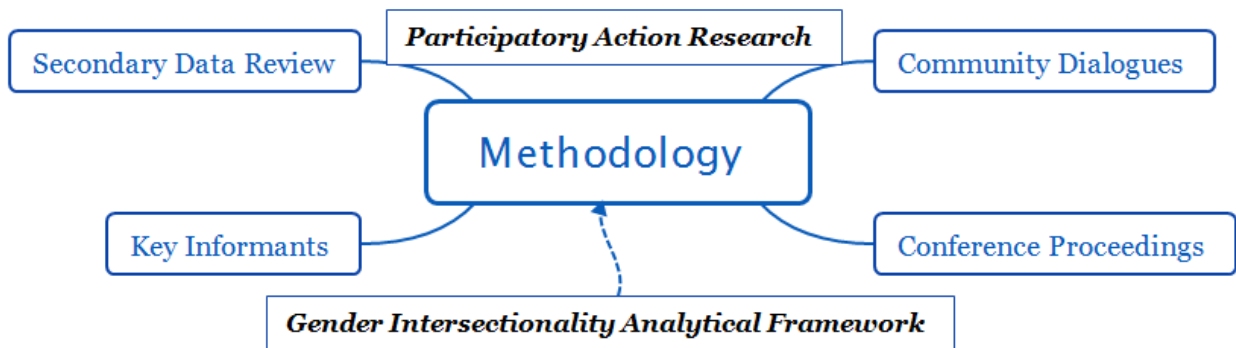


Figure 2: Methodological Concept

Source: Author, 2020

4.0. Findings Review

4.1. Gender and DRR Best Practice

Following the eclectic research method approaches used in this study interalia; focus groups, interviews, virtual community dialogues and from the international conference- Africa Research and Impact Network (ARIN), data analysis was done using theme analysis. In this theme analysis, data was coded and arranged along emerging thematic patterns based on a multi-level approach. The levels were grounded on; Local/Community views, National perspectives and International views. These approaches explored the annex between gender and disaster risk reduction.

From the aforementioned discussions and dialogues it was constantly argued, best practices in gender and DRR are desirable and, there is a need to design visionary DRR plans together with action-oriented policies. While acknowledging the best practices are not exhaustive, they are reflections drawn from literature review, key informants' interviews, online virtual gender conference, and the participatory community-based bi-weekly dialogues. From these discourses, the following thematic DRR best practice emerged, the need for:

4.1.0. Gender Responsiveness in the DRR Process- Local Level Perspectives

- There is an urgent need to design and implement gender-responsive practices that recognize and appreciate the differences between men and women in disasters.
- Men and women have different perceptions and resilience. This critical aspect is vital when designing a DRR plan/policy.
- The process of gendering the DRR process should involve broad stakeholder consultations and constant feedbacks that includes women' and men' groups during the DRR planning to own the process of DRR and policy.
- Use sex-disaggregated data to appreciate the variance between men and women,
- The creation of multi-level gender budgets and gender champions too are essential in the process of ensuring a gender-responsive process towards DRR.
- Train the DRR staff from the community level to city level to address the gender issues and ensure gender equality in the DRR plans.

4.1.1. Gender Risk Analysis and Profile- National Perspectives

Gender analysis and profiling are one of the action points in gender mainstreaming in disaster risk processes. This can be done by documenting the different roles of men and women during disasters and livelihoods impacts. This analysis further includes assessing the different abilities and capacities that men and women possess and what additional information or training needs are required to boost men's and women's differentiated disaster coping mechanisms see Table 1.

4.1.2. Gender Strategic Actions aligned with Men and Women' Needs- City Level Views

The inclusion of men and women in DRR committees and their access to early warning signs is important in disaster risk reduction process. Further, identify gender champions and those that form the voice for the voiceless in decision-making processes. The development of gender-responsive measures that address men and women's social needs is essential, without forgetting to create an enabling environment with equal access to resources as assets for both men and women. In other ways, women who are always the most affected during disasters should be accorded the space to own the DRR initiatives, completion period, and awarded access to resources considered key to the successful completion of DRR processes.

4.1.3. Inclusion of Gender Equality Principles in DRR- International Perspectives












The world's best practices on gender equality stipulate equal access to opportunities, responsibilities, and rights for men and women. The discrimination of any form based on one's gender is discouraged. In 2020, the slogan during the International Women' was "Each for Equal," a call for a gender-equal world. Institutions should advance for gender equality and commit to including both men and women in disaster risk decision-making processes and implementations. Moreover, there should be intentional efforts to reduce any existing gender gaps in disaster risk processes. The

representative for WHO in the interview series reiterated for an intentional use of gender lens in disasters in the context of COVID19.

4.1.4. Implementation of Gendered DRR Plans- Collective Views

Involve gender experts in drafting and leading DRR plans from the community level. This should be coupled with monitoring and evaluation to track and audit gender mainstreaming in DRR processes, thus using gender indicators such as the number of men and women in DRR committees and their leadership positions.

Some of the other summarized ways from the key informants and the online community dialogues on how to make gender-sensitive programs towards resilient urban settings included:

-  Include both men and women in disaster early warning committees for quick access to information.
-  Community-based organizations that are separate for men and women to empower them with disaster preparedness and response skills.
-  Distribution of food and other disaster reliefs directly to both men and women
-  Train first aid skills to men and women to use during disasters.
-  Fire drill seminars to prepare for fire hazards and flood risks in the informal settlements.
-  Provide women entrepreneurship opportunities where they can use eco-friendly cooking stoves and reduce firewood use that is more prone to starting fires and increase access to clean energy.
-  Improve national and local institutional systems and policies of DRR
-  Involve residents in fire reduction initiatives, such as running campaigns and awarding fire ambassadors for long-term fire safety.
-  Formulate policies to integrate fire reduction policies at the national level and county levels (multi-sector approach).
-  Improve the master plan on housing to reduce the exposure to fires spreads.
-  Policies to improve the economic livelihoods of low urban residents will help form a safe and resilient community.

5.0. Conclusion

The discussion on the interaction between gender, disaster risk reduction, and building resilient urban informal settings in Nairobi, Kenya, is certainly ongoing. The design of a gender-sensitive disaster risk reduction framework is welcome to help design resilient communities. These communities will rely on accurate risk assessment hinged on proper data collection and gender analysis tools, as highlighted in the gendered nature of risks. In contrast, disaster risk mitigation, preparedness, response, and recovery are central to an effective gendered risk plan.

We might not exactly provide an ideal environment free of any form of risk for the poor in tomorrow's cities, but we can certainly create a safe environment for the habitats of the informal settlements in Nairobi. This task requires a multi-sector level approach, the intentional desire to make training and public awareness on fires, the advocacy for disaster risk reduction, and the frequent reference to gendering the disaster risk management process. As (O'Mathúna, Dranseika, & Gordijn, 2018) aptly notes, tragedy strikes a society from the onset when it fails to recognize the vulnerabilities associated with gender and concerning disasters, way before the disasters themselves occur. Therefore, all stakeholders must contribute to the concerted effort to gender disaster risk reductions. The benefits that accrue from the process far outweigh the costs of gender mainstreaming.



Tomorrow's Cities is the UKRI GCRF Urban Disaster Risk Hub

GLOSSARY OF TERMS

Gender Equality: this is a scenario where men and women both have equal access to opportunities, responsibilities, and rights. Men and women can equally contribute to national socio-economic, political, and cultural development and equal access benefits.

Gender Equity- the equal and fair distribution of opportunities, responsibilities, and rights between men and women.

Gender identity is the personal expression or feeling about one's gender in how they behave or through their physical appearance.

Gender Issues- these are equity or inequality issues that arise from differential treatment based on gender, let's say male and female.

Gender Mainstreaming is the planned action to include both men and women, such as design, implementation, monitoring, and evaluation. It is vital to involve men and women in all socio-economic spheres of life to reduce gender inequality.

Gender Awareness- Understanding the different roles of men and women and appreciating how they lead to differences in power relations, rights, and opportunities.

Gender Disaggregated Data- This is information that is socially designed to capture roles and activities of men and women and collated separately of men and women, household questions such

as who buys food, who pays rent, who cleans the home, who takes care of children if any are asked.

Gender Responsive- this a gender planning process aimed at dealing with gender issues arising due to the social differences between men and women stemming from social norms and cultural philosophies.

Gender-Sensitive- Understanding the social differences between men and women and acting incognizant of their needs.

Gender Stereotypes- these are gender-biased opinions on roles, tasks, and activities that should ideally be done by women or men, the belief that women are better suited to care for children or cook is one of such.

Gender Roles/ Dynamics- these are societal expectations of female or male behaviors and deemed desirable and expected. These roles are perceived based on one's sex and not on any other objective criteria.

Gender Needs- the gender-specific needs that are unique to men and women and deemed necessary to transform gender inequalities.

Gender- refers to the different social roles allocated to men and women in particular times and societies, and the parts are dictated by social, political-economic, and cultural norms characterized by unequal power roles.

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Annex: List of Persons Interviewed

1. Hon. Esther Muthoni Passaris, Nairobi County Government Women Representative in Parliament
2. Ms, Tasiana Mzozo, World Health Organisation, Focal Point for DRR, and Climate Preparedness for East and Southern Africa- ESA.
3. Mr. Matthew Gmalifo- Focal Point for Africa, Research and Impact Network, and a sessional academic at the school of social and political sciences at the University of Melbourne, Australia.
4. Charles Tonui- DRR policy analyst for Nairobi Risk Hub, in Tomorrow' Cities project.
5. Dr. Joanes Atela- Africa Research and Impact Network ARIN

Participants in Community-Based Organisations - Dialogues

	NAME OF CBO	CORE AREA OF CBO	CONTACT PERSON
1	SINAIRELI YOUTH ORGANIZATION	Biogas Toilet, Hall For Rent, Garbage Collection	Anami Daud
2.	LUKIKA CBO RUEBEN	Savings and Merry Go Rounds	Dr. Barasa
3.	EMBAKASI BEVERAGE PACKERS	Community Volunteers	Scollar Gedeon
4.	PILLARS OF HOPE/ ASPIRE	Mental Health Awareness	Sarah Mwangi
5.	MOTO MOTO FOUNDATION	Shop, Candle Making	David Obara
6.	HOLY WAVE CBO	Entertainment and HIV awareness	Njenga Mwangi
7.	MADAME CBO	HIV Awareness, Reproductive Health	Peris Wacuka

8.	HOPE RAISERS YOUTH INITIATIVES	Arts and Sports	Daniel Onyango
9.	MUKURU CBO ALLIANCE	Youth Organisation- Community Peace	Caleb Ngala
10.	KIBERA GREEN---ALFY ALFREDO	Localization Of SDGs Quality Education, Gender Environmental Sanity	Alfy Alfredo
11.	POLYCOM	Girls Mentorship, pad making, and GBV	Esther
12.	KIBERA COMMUNITY EMERGENCY RESPONSE TEAM	Emergency Response First Aid Training Relief Activities	Moses Omondi
13.	MATHARE SOCIAL JUSTICE CENTER (MSJC)	Social Justice, Advocacy and kids club	Njeri Mwangi
14.	KOCH FM CBO	Radio platform that creates awareness on disaster risk reduction.	Doreen
15.	AYIERA INITIATIVE	Community Sports and Talent Development	Brian Namongo