

Vulnerability Analysis of the Gender- Differentiated Impact of Flooding in Budalangi Flood Plains, Kenya

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Abstract

Disasters result from the interaction of social vulnerability and natural hazards, which combine to put certain groups of people at greater risk than others. This understanding of vulnerability and risk is crucial to our efforts to address the differential impacts of a disaster on men, women, children, the elderly, and the physically challenged. Without addressing gender issues and issues relating to social vulnerabilities, there cannot be effective disaster risk reduction or adequate resilience. In Sub-Saharan Africa, despite several decades of analysis and study, disaster risk reduction does not adequately address issues of social vulnerability. This is the same case in Kenya as revealed in a study carried out in Budalangi Flood plains, Busia County, at the mouth of River Nzoia. Kenya has passed legislation, and there are some innovative interventions, but the way in which the sector has dealt with social vulnerabilities has been to focus more on the 'vulnerable groups' rather than on the social systems, community structures and power relations that keep them vulnerable. Generally, disaster risk reduction in Kenya is at a nascent stage with disjointed policies and legislation that do not seem to factor in the gender-differentiated impact of disasters to the vulnerable communities. The objective of this paper is to contribute to existing evidence that there is differentiated vulnerability and impact to disasters yet the interventions that are not gender-sensitive. I have recommended policy guidelines for gender-sensitive interventions for this community vulnerable to the flooding disaster to ensure sustainable development.

Keywords: disaster risk reduction; gender, vulnerability, flooding disaster, livelihoods

INTRODUCTION

Natural catastrophes reportedly cost an estimated US\$ 78.7 billion per annum. It has become essential that the disaster/risk management skills are imparted to the public in general and to the younger generation all over the world (Campbel & Yates, 2010). The HFA (2005-2015) highlights knowledge and education as one of the five main priorities of action (UNISDR, 2006). The integration of DRR into sustainable development policies and planning, the development and strengthening of institutions, mechanisms and capacities to build resilience to hazards and the systematic incorporation of risk reduction approaches into the implementation of emergency preparedness, response and recovery programmes is necessary.

Collected information on the school curriculum indicates that disaster management is taught as a formal education in few countries (UNESCO, 2011). The integration of both formal and informal education through schools is one way of ensuring that these messages reach every home and community and that learning is sustained into future generations (UNISDR, 2006; Wisner et al., 2006; Petal, 2008; Izadkhah & Hosseini, 2006). Education and public awareness are therefore the cornerstone of approaches aimed at reducing people's vulnerabilities to natural hazards. However, most countries worldwide are missing out on the most important

aspects such as introducing primary disaster risk mitigation, the physical protection of people and property, environmental stewardship and recognizing underlying vulnerability connected with tenuous livelihoods (Petal, 2007; 2008). Disasters result from the interaction of social vulnerability and natural hazards, which combine to put certain groups of people at greater risk than others. This understanding of vulnerability and risk is crucial to our efforts to address the differential impacts of a disaster on men, women, children, the elderly, and the physically challenged. Without addressing gender issues and issues relating to social vulnerabilities, there cannot be effective disaster risk reduction or adequate resilience.

There is enough evidence that in any disaster, disproportionately, a large number of women are affected more severely relative to men. Worldwide, it has generally been established that when gender issues are not addressed fully or sufficiently, in both development and disaster contexts, they perpetuate and in many instances augment existing gender-based inequities. Although the available data is scarce, empirical studies back up the variance of disaster impact (UNISDR, UNDP & ICUN, 2009). Women and girls, who account for over half of the 200 million people affected annually by natural disasters, are typically at greater risk from natural hazards than men particularly in low-income countries and among

the poor (Wahlström, 2012) Natural disasters and climate change often exacerbate existing inequalities and discrimination, including those that are gender-based, and can lead to new forms of discrimination.

The term “gender” refers to the socially-constructed roles, behaviors, activities and attributes that a society considers appropriate for a person based on his or her assigned sex at birth. Understanding the gender implications and facets of natural disasters and climate change is critical to effective disaster risk management practices that enable communities and countries to be disaster resilient. All women, men, girls and boys do not face the same needs and vulnerabilities in the face of natural disasters and climate change; there are differences within each group and between individuals regarding specific protection concerns and capacities for example, people with mental or physical disabilities, minorities and indigenous populations, the elderly, chronically ill, unaccompanied children, child headed household, female-headed households, widows, etc. and over time throughout the disaster and post-disaster phases (UNISDR, UNDP & ICUN, 2009).

This paper’s specific objectives are to: increase understanding of gender concerns and needs in disaster risk reduction by explaining the causes of Budalangi flood plains community’s vulnerability; show evidence that they are vulnerable to the flooding disaster; develop government capacity to address gender issues in disaster risk reduction and to encourage the Kenya government to take action to integrate gender perspectives into disaster risk reduction legislation, policies and programmes, to alleviate vulnerable communities’ suffering for sustainable development. Included in this paper also is a policy guideline on gender mainstreaming, and practical guidelines on how to institutionalize gender-sensitive risk assessments.

STATEMENT OF THE PROBLEM

There has recently been a critical shift in the mainstreaming of gender perspectives into DRR: from a women-focused approach to a gender-focused approach, based on the premise that the roles and relationships of women and men in DRR should be analyzed within the overall gendered socio-economic and cultural context. On top of this shift, the strategic focus of disaster management has changed from reactive disaster response to long-term proactive disaster risk and vulnerability reduction, where gender and DRR are considered necessary to achieving sustainable development. At the global level, available information shows that efforts to promote gender equality in DRR have focused on advocacy and awareness-raising, along with support for policy changes and gender mainstreaming in inter-governmental processes (UNISDR (2012).

Mainstreaming gender in disaster preparedness and response involves viewing and analyzing situations through a gender perspective and render gender inequities explicit. Understanding the nature of this difference is essential for maximizing the effectiveness of disaster risk reduction policy and implementation. There is not enough precedent guidance and practical understanding on how governments can make disaster risk reduction interventions gender-sensitive. (UNISDR, 2012: 2013). Some regional inter-governmental level policies and strategies focusing on disaster management and DRR have also come into place over the last five years or so. Unfortunately, commitment to gender issues is rarely stated explicitly; rather, it can only be assumed to be an implicit part of larger commitments to the Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters. At the programme or operational level, implementation is ad hoc and inconsistent, and progress is largely due to the dedicated work of a handful of organizations, particularly NGOs (Mukuna, 2013).

An increasing number of governments are recognizing the importance of gender issues in their national DRR reporting to UNISDR, although meaningful progress is far from adequate. Progress in the last five years started from a very low baseline. In 2004 only 19 out of 118 countries mentioned gender or women’s issues in their national reports for the World Conference on Disaster Reduction. By 2009, 51 of 62 national reports to UNISDR acknowledged gender as important to DRR, but there was still very little concrete mainstreaming in policies and programmes. Ultimately, although there are numerous policy documents clearly stating political commitment to mainstream gender issues into DRR, no tangible or sustainable progress has resulted, with the exception of some ad hoc activities. Furthermore, there has not been much substantial progress made in mobilizing resources for mainstreaming gender perspectives into disaster risk reduction process.

In Sub-Saharan Africa, despite several decades of analysis and study, disaster risk reduction does not adequately address issues of social vulnerability. This is the same case in Kenya as revealed in a study carried out in Budalangi Flood plains, Busia County, at the mouth of River Nzoia. There are several state and non-state actors on disaster risk reduction in Budalangi flood plains. Kenya has passed legislation, and there are some innovative interventions, but the way in which the sector has dealt with social vulnerabilities has been to focus more on the ‘vulnerable groups’ rather than on the social systems, community structures and power relations that keep them vulnerable. Generally, disaster risk reduction in Kenya is at a nascent stage with disjointed policies

and legislation that do not seem to factor in the gender-differentiated impact of disasters to the vulnerable communities. There is an urgent need to provide evidence on the gender-differentiated impact of disasters in Kenya so as to make the set out interventions gender-sensitive.

LITERATURE REVIEW

Understanding Gender Concerns and Needs in DRR

When a disaster hits or a conflict erupts, humanitarian actors move quickly to save lives, meet basic needs and protect survivors. In this rush to provide humanitarian response, the appeal to “pay attention to gender issues” often falls on deaf ears and may seem irrelevant. ‘Paying attention to gender issues’ or putting on a “gender lens” quite simply means recognizing the different needs, capacities and contributions of women, girls, boys and men. Ignoring or being blind to these different needs can have serious implications for the protection and survival of people caught up in humanitarian crises. “Gender” determines the roles, power and resources for females and males in any culture (DFID, 2004). Historically, attention to gender relations has been driven by the need to address women’s needs and circumstances as women are typically more disadvantaged than men. Increasingly, however, the humanitarian community is recognizing the need to know more about what men and boys face in crisis situations.

In crisis situations, mainstreaming a gender focus from the outset:

- allows for a more accurate understanding of the situation
- enables us to meet the needs and priorities of the population in a more targeted manner, based on how women, girls, boys and men have been affected by the crisis;
- ensures that all people affected by a crisis are acknowledged and that all their needs and vulnerabilities are taken into account; and
- facilitates the design of more appropriate and effective responses.

A gender analysis should inform the deliverers of humanitarian protection and assistance of the specific needs of the individuals or groups within the affected population requiring targeted action. In many cases these actions will be targeted to women and girls — Targeted actions should not stigmatize or isolate women and girls; they should compensate for the consequences of gender-based inequality such as the long-term deprivation of rights to education or health care. This is important as in many situations women and girls are more disadvantaged than men and boys, have been excluded from participating in public decision-making and have had limited access to services and support. Targeted actions should empower women and build their capacity to be equal

partners with men in working towards solving problems caused by displacement and helping with reconstruction and return to their homes. Each sector should identify specific actions that could promote gender equality and support the capacity of women to enjoy their human rights. Whatever strategy is employed to reach the goal of the equal enjoyment of human rights by women, girls, boys and men, the approach should eventually result in women’s and girls’ empowerment. For example, in the case of women who have been disempowered through the uneven distribution of resources and rights between the sexes. The empowerment might involve efforts directed towards self-reliance and control over resources. Gender equality programmes include efforts to address gender-based violence. Sexual exploitation and abuse (SEA) are forms of gender-based violence that have been widely reported in humanitarian situation (World Bank World Bank, 2001)

Gender issues have slowly become visible on the global DRR agenda after decades of marginalization in inter-governmental processes. This is largely due to consistent global advocacy, awareness-raising and technical support from the UNDP and UNISDR in cooperation with other UN agencies, such as UNIFEM, United Nations Commission on the Status of Women, regional organizations and civil society organizations. In Africa nearly all 2009 national reports from the region referred to women’s or gender issues. Africa has a Regional Plan of Action and Guidelines for Mainstreaming Disaster Risk Assessment into Development, in which the importance of gender is discussed. However, not all African countries were at the same stage of development with regard to gender mainstreaming. Many international NGOs and development organizations with regional level operations related to disaster management make no explicit commitment to gender in their strategy documents. On the other hand, there are some efforts to address gender issues at the operational level. These efforts typically manifest through programmes that target women; however, no evidence exists that these efforts are consistently being followed through or if they address gender relations overall in DRR. This indicates gaps in the understanding of gender issues at the organizational planning and implementation levels.

Major disasters that have occurred over the past decade, such as the Indian Ocean Tsunami, Hurricane Katrina and the Kashmir Earthquake, have highlighted the gendered aspects of disaster risk and vulnerability. For example, response and recovery programmes encountered heavy criticism for gender insensitive practices that often made the situation for women worse. As a result, the issue now receives greater attention from researchers, academics, and relief and recovery agencies. In 2009, 52 out of 62

national reports submitted to UNISDR through the new reporting tool HFA Monitor3 reported full acknowledgement of the important role that gender issues and women play in DRR. The HFA Monitor gave a clearer range of responses for reporting on gender progress and gave the issue prominence, which may have contributed to this increase in government acknowledgement. However, it was also clear that beyond this acknowledgement, there was very little significant reported progress on mainstreaming gender issues into policies, programmes and initiatives. The national reports generally reflected a poor degree of gender mainstreaming at country level. There are gaps in dealing adequately with gender issues in their policies, legislation and strategies. Although in some countries, gender equality is defined by law, links with DRR have not been achieved. Poor understanding of gender issues in DRR is widespread among most countries, showing that it is high time for governments to take more action.

International frameworks such as the Hyogo Framework and the Millennium Development Goals are leading to changes in policy, legislation, financing or programming for disaster risk reduction and sustainable development. However, the mainstreaming of gender perspectives in disaster risk reduction still requires greater efforts and priority at all levels, from local to global. Much still needs to be done to secure concerted and coordinated efforts by global, regional and national actors. Adequate financial investments and tangible commitments are urgently required to pursue gender-sensitive disaster risk reduction at the operational level.

Aspects of Women's Vulnerability

Women play significant roles in all stages of disaster and climate risk management; they are often at the frontline as responders and bring valuable resources to disaster and climate risk reduction and recovery (Wahlström, 2012). However, the important roles or potential roles women take on are often not recognized, and women themselves "are largely marginalized in the development of DRR policy and decision-making processes and their voices go unheard. women are key to a society's social fabric and hence, its capacity for resilience. They shape behavior and transmit culture and knowledge through kin and social networks, which are critical to risk prevention and response efforts. They help to rebuild their communities after disasters strike. Women often serve as teachers, nurses and social workers and as such are well-placed to assess community needs and implement disaster relief and recovery programs. Women's leadership in civil society organizations can provide the potential for their participation in more formal processes of DRR, response and recovery efforts (UNISDR, UNDP and IUCN, 2009).

Gangwar (2013) retorts that gender relations shape the four factors of vulnerability: economic, social, physical, and environmental. This paper has analyzed women's vulnerability following this framework.

Women are on average more vulnerable to disasters due to their increased vulnerability across all of these conditions. These include;

Physical aspects; Assessing physical vulnerability looks mainly at how location and the built environment can make disaster impact worse. Poor women are usually in the wrong place at the wrong time because they cannot improve the quality of their houses, choose a good location to live, or store food adequately, due to a lack of resources. Poor men are also physically vulnerable to natural hazards but poor women tend to be more vulnerable due to gender-based inequalities, such as fewer opportunities, less access to resources, and more limited mobility than men in the same social class differently at risk when disastrous events unfold.

Social and cultural aspects; Assessing social vulnerability looks at the wellbeing of individuals, communities, and society. It includes access to basic human rights, education and literacy levels, good governance, organizational systems, values, customs and ideological beliefs. Gender inequalities in these areas make many women more vulnerable to disasters, compared with men.

Women have different social roles; Differences in socially assigned roles of men and women result in different skills, which can increase women's disaster vulnerability. In many countries women's traditional role is to look after and protect children and the elderly as well as their family's domestic property. During seasonal disasters, women's intensive domestic roles mean they have demonstrated excellent risk management and coping skills. However, limits on women's social roles can also often mean that they lack skills needed to survive major catastrophes, such as swimming, climbing, understanding and responding to warning signals, or participating in disaster prevention. In many regions only boys learn to swim or climb trees, which reduce women's survival chances in case of flooding or other hydro meteorological events.

Women have less education; In many parts of the world, women and girls face obstacles to their education, leading to less ability than men to receive information and to understand early warning messages. Disaster impact itself can also be an obstacle to gaining more education. Of the 876 million people in the world who are illiterate two thirds are women. Three-fifths of the 115 million children that do not go to school are girls. After a disaster or other stressful impacts, many girls are forced to drop out of school to help with chores in the house, or to save money.

Women are less well targeted by public information; In many cases, women do not receive hazard warnings because their behaviour patterns or

information preferences are not taken into account. It is assumed that they will simply absorb information from men in the community.

Women have poorer health; Disasters tend to exacerbate existing gender inequalities in health. For example, women already have poorer nutrition, which increases the burden on women coping with hazards that affect food production, such as drought. Women are more prone to nutritional deficiencies because they have unique nutritional needs (especially when they are pregnant or breastfeeding), and in some cultures are lower on the household food hierarchy. In some regions, women's nutrition is particularly precarious. In South and Southeast Asia 45 to 60 percent of women of reproductive age are underweight and 80 percent of pregnant women have iron deficiencies. There are also more female than male famine victims due to bias against female babies and children

Women are also more predisposed to infections, and are more exposed to communicable diseases. Also, women are in many countries are in charge of cooking which exposes them to indoor pollution, which causes a total of 1.2 million deaths a year (World Health Organization (WHO), 2007). This increases women's vulnerability to disease that spreads in the aftermath of disasters that have damaged health and sanitation services. Studies have reported worse reproductive health for women after disasters. Some develop complications with their delivery. Also, social taboos about menstruation and norms about appropriate behaviour have contributed to health problems for young women in disaster situations for example an increase in perennial rashes and urinary tract infections in adolescent girls because they are not able to properly wash and dry their menstrual rags (WHO, 2005)

Economic aspects; Women's access to assets (physical, financial, human, social and natural capital), largely determines how they will respond to a given hazard. The more assets people have, the less vulnerable they are (Mitchell et.al, 2008) while the greater the erosion of people's assets, the greater their insecurity. Compared with men, women are poorer, have less access to developing entrepreneurial skills, less ability to access financial resources like credit, land, are paid less if paid at all, and their income is less secure. Inequitable access to markets and credit means less ability to prepare for or recover from hazardous events. In sub-Saharan African countries women are often acknowledged as owners of crops, but not of land. Their rights to use land can often only be asserted through association with men, as mothers, daughters, sisters or wives. Women's income is more likely to be derived from the informal sector, which is often the worst hit by disasters and the least able to recover from the effects of disasters due to low levels of capital accumulation, and weaker access to credit and information. When floods arrive only wealthy people have the capacity to move to higher ground or

send their livestock to relatives in cities. A typical low-income rural woman, she does not have the resources to move and loses everything, including her livestock.

To be adequately gender-sensitive, risk mapping needs to: Recognize that women and men are differently vulnerable to different hazards and that the impact of a hazard is usually gender-differentiated; Include the proportion of men and of women that can be potentially affected by the hazard; Have a variable that shows separately where women and men are at high, medium, or low risk; Recognize that women and men have different knowledge about their surroundings and different skills to collect data that can improve understanding and risk mapping. Success and accuracy of socioeconomic and cost-benefit analyses depend on the active involvement of the community at risk in mapping and assessment. It is important to recognize that women and men have different knowledge about their surroundings, and different skills to collect data, all of which can improve risk mapping and understanding (UNISDR, UNDP and IUCN, 2009; Gangwar (2013; Wahlström, 2012).

MATERIALS AND METHODS

This study was carried out in Budalangi flood plains, Bunyala District of Busia County, Kenya. It was hinged on the Relativist Ontological view with Pragmatism philosophical underpinning. A mixed methods design was employed. A sample size of 96 primary school teachers and 180 parents was used from 14 primary schools found in the flood plains. Twelve Head teachers, 12 Parents and Teachers Association members, 2 Quality Assurance and Standards Officers and 8 government and Non-governmental organizations formed the total population. Purposive and saturated sampling techniques were used. Multiple data generation tools were used namely; a teachers' questionnaire, an in-depth interview schedule for the head teachers, PTA representatives and QASOs, a Focus Group Discussion schedule for parents and a document analysis guide. Validity and reliability of the instruments was tested by piloting the instruments. The research team also did a document analysis, as earlier mentioned, to further triangulate the findings and seek clarifications where possible. Data analysis was done both qualitatively (coded into themes) and quantitatively (summarized in means and percentages).

RESULTS AND DISCUSSIONS

Causes of Vulnerability for Budalangi Flood Plains Community

Curriculum change stakeholders were asked to list the factors they thought have led to perennial floods in the Budalangi flood plain over the years. Their responses were:

- i. Geographical morphology of Budalangi in that it is found at the mouth of River Nzoia, which is lowland.
- ii. Silt loading in the river.
- iii. Population pressure, both upstream and downstream.
- iv. Infrastructure development, particularly the dykes that were constructed between 1961 and 1982 from earth works. Their life span has elapsed and they can no longer withstand the strong currents from River Nzoia.
- v. Environmental degradation which includes silting in the river bed and meanders.
- vi. Communities in the flood plain not participating in interventions that are put in place for flood control.

Document analysis and review confirms these factors. The Flood Mitigation Strategy by the Ministry of Water and Irrigation (RoK,2009) and the Strategy for Floods Management for Lake Victoria Basin, Kenya, (RoK,2004) have enumerated the main factors contributing to increased floods hazard in the lower reaches of the rivers in Budalangi division of Bunyala district. Furthermore, the floods management strategy has enlisted threats to flood management in the R. Nzoia flood plain which are exacerbating the flood disasters as: population pressure, deteriorating infrastructure and environmental degradation of water sheds caused by uncontrolled and unregulated human activity, especially large scale deforestation and cultivation practices that result in increased flood peaks.

Disaster risk reduction education is a multidisciplinary endeavour aimed at reducing the vulnerability of the society (Mukuna, 2013; Mondoh, 2013; Wisner, 2004). It is the vulnerability of the society at risk that determines the extent of the flood disaster. This vulnerability is caused by a combination of physical factors such as exposure to floods, degree of protection from flood hazards, quality of infrastructure available, degree of access to resources and the ability to avoid, withstand or recover from the flood hazard. Socio-economic factors like acute poverty, high population density, lack of education, poor planning and management of agricultural and farm lands, poor quality of agricultural inputs and technology and absence of access to modern technological options to cope with the situation increase the vulnerability of the population to floods. Occupation also plays a role. For example, fishermen whose occupation requires them to live close to rivers and other water bodies are more at risk than others and are therefore more vulnerable. People are also unaware of the adaptation measures used elsewhere that can help in living with floods (APFM, 2004).

The vulnerability of the flood plain's communities should be addressed by appropriate policies in different sectors so that their resource base and

incomes can be improved. Reviewed literature revealed that people living in the flood plain are poor due to small land holdings and low yields caused by poor quality of agricultural inputs and crop husbandry. The farmers do not get remunerative prices for their produces and the support provided by the National Cereals and Produce Board is often inadequate. There are no alternative livelihood options to enhance their income as they are unable to mobilize resources to face the challenge of floods. Their vulnerability to floods is further compounded due to poor physical and social infrastructure and lack of awareness about health and hygiene, leading to morbidity and high HIV/AIDS incidence.

Due to climate change and the projected increase of floods in the Lake Region and, subsequently, Budalangi flood plain, the community will sink into more poverty. The changes will lead to less food due to declining crop productivity, malnutrition, increased deaths, diseases, injuries associated with floods and less fish. All these have enormous implications for development, particularly for poverty reduction initiatives and global initiatives like MDGs (DFID, 2006). *Human Development report* (2007/2008) argues that failure to adequately address climate change will consign the poorest 40% of the world's population to a future of diminished opportunity (UNDP, 2008). *Stern Review* (2006) adds that climate change will be the greatest contributor to morbidity, mortality and poverty, especially among populations that are resource-dependent, have low incomes and are constrained in their capacity to adapt by insufficient access to the social, environmental and economic resources needed to adapt.

It was also important to know what actions have been put in place reduce people's vulnerability to the flooding disaster and if these measures were gender-sensitive. The investigation revealed that action was being taken by both state and non-state actors in DRR. In-depth interviews with various NGOs working in Budalangi flood plains revealed that NGOs have taken a leading role in training the community's members on DRR education but they have not particularly zeroed-in on primary schools. It is also true that different NGOs have disseminated different knowledge on DRR. This could probably be due to their policies and funders. Sponsors of NGOs target specific problems. In as much as all of them aim at reducing people's poverty and vulnerability and increasing resilience and sustainable development, their work is not uniform. For example BUCODEV focussed on promoting the use of indigenous knowledge on early warning signs, food security and counselling services to rehabilitate the community members as they return back home. CODMI concentrated on training masons to build flood resilient houses.

WCDD&FMG deals with flood control, use of Geographic Information Systems and the Geographic Positioning systems for vulnerability analysis and to train the community members to identify hazards and risks. They also build the capacity of the community members to handle their risks. They have established scientific early warning systems and they transmit this information to the community using Bulala radio station. LABET- Kenya deals with helping the community to develop disaster management plans, reconstruction of dykes, and engaging the community in active participation of developing resilience to floods. Kenya Red Cross Society provides clean water, mobile toilets, medicines, blankets, mosquito nets, evacuation drills, and information dissemination.

UNICEF, MOEST, Action Aid International and the World Bank had sunk boreholes in all schools and covered them securely with pumps. These water wells were high enough to prevent water contamination during flooding. However, teachers and head teachers still reported that raging floods often contaminate the wells, leading to outbreaks of water borne diseases. The children are the most vulnerable. It makes many children stay out of school as they receive treatment. None of the NGOs has used schools as stipulated in the Hyogo Framework for Action's article 3. This means that DRR education in the community is inadequate, scarce and sporadic. The NGOs do not have a uniform curriculum that they are using. Addressing this problem through schools is the best solution to perennial floods that have made Budalangi flood plain's communities very vulnerable and poor

A visit to the Kenya meteorological department also revealed very positive measures towards disaster risk reduction. The document analysis revealed that there is an established flood forecasting and dissemination mechanism. This network encompasses the National Disaster Management Authority (NADIMA), Disaster Operation Centres (DOCs), water management authority, chief flood forecasting office in Nairobi, Kenya Meteorological Department(KMD), rainfall stations,, the national meteorological department on River Nzoia, disaster management committees and Bulala radio station. It is clear that both the state and non-state disaster risk reduction interventions are gender-blind. They do not specify which intervention is for men, women, girls or boys. Evidence of Community Vulnerability Integration of DRR education into the primary school curriculum cannot happen in a vacuum. There are facilitative and impeding factors to this noble course. The curriculum change stakeholders were asked if floods affect education and education programs in any way. Their responses were as follows:

The impact of floods on education is enormous. Floods destroy human life and livestock, damage personal property and rural infrastructure. This is a big setback to development programme in this area. For example, look at our classes and toilets, they have big cracks and can collapse any time. We are yet to repair them and soon we shall have more floods... (Head teacher Rugunga Primary).

The floods cause a lot of suffering. Most of our pupils turn to absenteeism due to water borne diseases during and after the floods. There is also disruption of family life (Head teacher, Sibuka Primary school).

As a woman, I can say floods first of all burden women. They are overburdened with domestic chores in the IDP camps. They have to queue for clean water from the tanks, fetch firewood which in most cases is wet, take care of ailing members of their families, look for food if the relief food delays and in some cases most of the women turn to prostitution so as to provide for their families. You know most of the local leaders are men and they also appoint men to be in charge of relief food. Some of the food distributors threaten women that unless they befriend them then they won't get their supplies. This forces some women to become prostitutes during their stay in IDP camps and it increases chances of HIV/AIDS. Again, we sometimes do not get family planning services in time especially those who use Depo Provera and those who use contraceptive pills. Moreover, since most of us are poor, we use rags as sanitary towels. When in our own homes we wash and air them in the sun but in the camps this privacy is not there. Besides, there is a lot of rain. Sanitary towels are only given to the school going children. Most women end up getting fungal infections due to these unhygienic practices (Parent at Budalangi Primary school).

If I may add something... apart from sexual exploitation of women, the girl child also suffers a lot. Some are forced into early marriages so as to run away from the poverty and suffering in their homes. This leads to high dropout rates of our girls. Others are sent away from home as house maids so that they can be sending money back home to their parents. This contributes to school dropout (Teacher, Budalangi Primary School).

At Mudembi which was an IDP camp in December 2011, it was very overcrowded. Boys and men were separated from girls and women. After the floods, almost half of the girls especially in classes 5 to 8 did not return to school because they were pregnant. They lacked close monitoring from their parents. In the camps, there is a lot of immorality. People take advantage of the unsupervised children. Most children learn about sex when they are in these camps and engage in sex too early. Even those who don't get pregnant don't concentrate in class because their

minds are polluted. This could be causing poor performance in this area (Parent Igigo Primary School).

In this Bunyala irrigation scheme, the dropout rate is very high. In Rwambwa primary school, children drop out to go and work in the rice fields and get some money instead of staying in school and going to sleep hungry at home. On the other side of the river, boys leave school to become fishermen. They are forced by circumstances. During floods, the children's families remain with nothing and the only option is fishing (PTA chairman, Rwambwa Primary).

In this school, there is a high dropout rate and early marriages attributed to flooding. Most of the couples are standard seven boys who marry class five girls. Since they are unemployed, they opt for fishing (Head teacher, Igigo Primary).

School children are at the greatest risk to these floods. Like in December 2011 when we had floods, by January this year some children were still in the camps. Their houses had been severely damaged. Some homes were inhabitable especially just behind the dykes. Even if the school is a host centre like Budalangi primary here, no learning goes on. This negatively affects curriculum implementation. At other times the floods come when KCPE is in progress. Pupils are forced to sit for exams in host schools which are also IDP centers. This strange environment is not a conducive atmosphere for exams. It affects their overall performance. To make matters worse, at that time some children are separated from their parents who should be taking care of them and supporting them. It makes the performance poor since the children are stressed. Also the hosting schools are usually congested and facilities overstretched. Psychologically it affects the child who is a learner. This eventually leads to poor performance (DEO Bunyala District; Head teacher, Budalangi Primary School).

The floods have lead to high dropout rate evident in our records that you can see here. The trend in Budalangi flood plain is such that the enrolment rate is high but as the children reach class 6, the dropout rate is very high especially for the girls. I can say that this trend is made worse by the socio-economic position that children find themselves in. they are forced to go out of their way to fend for their families through activities like fishing, child prostitution and other income generating activities. Apart from property, the children's life in IDP camps is distressing. Normal family life is disrupted. For example, our office had many reports of girls dropping out of school due to pregnancies, many of which they got while in camps.

In the camps, the close interactions the pupils have with people coupled with lack of supervision of the children due to family separation gives them too much freedom to indulge to immoral behaviour. In the camps there is no privacy in those taurblins. A parent has to talk to a neighbour to allow the daughter to sleep in the next tent. You can't know what will happen to your daughter in such circumstance. In the process, parents lose control of their children. Thus lack of parental monitoring and control. I can also add that culture and poverty influence these trends of high girl-child dropout rate. When the family livelihood is destroyed, priority is given to boys to continue with education while girls are married off (DEO, Budalangi District).

The narratives above point out that the education of the children is negatively affected not only due to absenteeism but poverty, social problems like child prostitution and child labour, the separation of families, early marriages, early pregnancies lack of parental monitoring of children, the life in IDP camps, immorality and hunger and/or food insecurity. The children also develop psycho-social problems because of the circumstances they experience in the camps and back at home when they return, the girl-child is the most vulnerable in this case. There is gender-based sexual violence as indicated from these stories. This is heightened by the cultural beliefs of the community wherein boys are given preference in families to stay in school while girls drop out. These findings reveal the untold stories about the suffering in Budalangi flood plain's IDP camps. They resonate with the Kenya national country report (Mondoh,2013) and the African Union DRR Platform report(UNISDR,2013). There is urgent need for holistic intervention measures that are gender-sensitive so as to attain sustainable development and fight poverty in the Budalangi flood plains.

We sought to find out the teacher pupil ratio with a gender lens. The findings are represented in the table below;

Table 1.1: Gender Disaggregated Data of Pupils and Teachers in Budalangi Flood Plain Primary Schools

SCHOOL	No. OF PUPILS			No. OF TEACHERS		
	Male	Female	Total	Male	Female	Total
Sibuka	160	166	326	8	1	9
Igingo	264	260	524	7	2	9
Namalo	217	221	438	3	6	9
Mukhobola	278	225	503	9	3	12
Rwambwa	203	223	426	6	4	10
Busagwa	317	348	665	10	3	13
Mbwao	273	293	566	9	2	11
Makunda	244	216	460	7	3	11
Lugale	301	279	580	9	3	12
Rugunga	254	254	508	13	1	14
Bubamba	75	55	130	8	0	8
Runyu	218	211	429	7	2	9
Mundika B	263	285	548	7	2	9
Budalangi	236	274	510	9	2	11
TOTAL	4307	2306	6613	103	34	147

Source: DEO's office, Budalangi

Table 1.1 further emphasizes what the DEO said about enrolment. It shows that boys consist of almost twice the number of girls (4307 to 2306). This scenario could also be aggravated by inadequate role models for girls in the community. The female teachers form a third of the total staff in Budalangi flood plain's primary schools (34 compared to 103). Most female teachers find it hard to hang on and teach in these difficult circumstances. During the Focus Group Discussions most of the respondents were men and the women often kept quiet. Culture therefore, is a contributing factor to increasing sex and/or gender based violence in Budalangi flood plain's schools, making the girl-child the most vulnerable in these circumstances. These findings resonate with what Kim (2008), Sinclair (2002) and Wisner et al. (2006) found out about women and girls being the most vulnerable in the event of a disaster.

The IASC handbook adds that, in the event of a disaster, humanitarian actors move quickly to save lives, meet basic needs and to protect survivors. In this rush to provide humanitarian aid, the appeal to pay attention to gender issues often falls on deaf ears and may seem irrelevant. The different needs, capacities and contributions of women, girls, boys and men are neglected. Ignoring or being blind to these different needs can have serious implications for the protection and survival of people caught up in humanitarian crises. The following figures represent the enrolment data collected in the field to emphasize the vulnerability of the girl-child in Budalangi flood plains

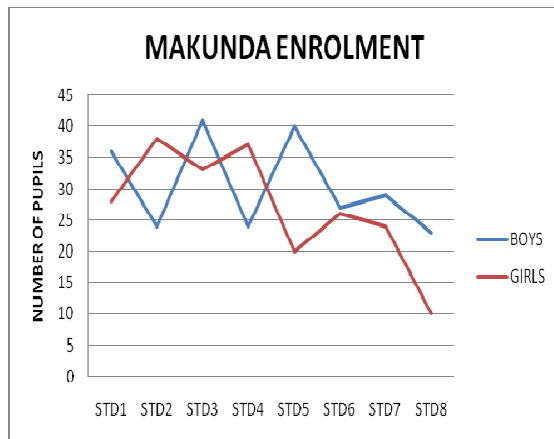
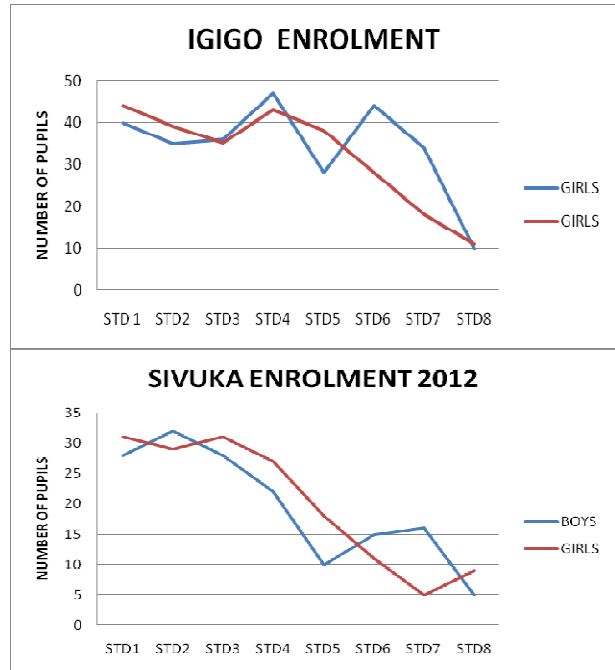


Figure 1: Gender-Differentiated Impact of Flooding on Enrolment in Selected Primary

Gender analysis in a crisis situation allows for a more accurate understanding of the situation, enables us to meet the needs and priorities of the population in a more targeted manner based on how women, girls, boys and men have been affected by the disaster. It ensures that all the people affected by a crisis are acknowledged and that their needs and vulnerabilities are taken into account. It facilitates the design of more appropriate and effective responses. It will ensure that both the practical and strategic needs of the affected males and females are addressed for sustainable development (UNISDR, UNDP and IUCN, 2009).

Further interviews with other curriculum stakeholders on what they thought were the impacts of floods on education/schools elicited the following responses:

During floods, children become more vulnerable. When their schools are submerged, the children are forced to move to schools in higher grounds. When they get to these hosting schools they lose self-esteem which make them more vulnerable. They can't concentrate in their classrooms. The teachers also suffer the same loss of identity, stigmatization and loss of confidence. Their sense of ownership and prestige of being in their own schools is lost. They develop an inferiority complex which demoralizes them to perform to the best of their potential. This movement in general impedes the effective implementation of the curriculum. The syllabus is not covered well in time (Head teacher, Sibuka primary school).

Whenever we have climate and weather related problems, children become more vulnerable because

their immunity system is very low. At times, they may not be able to withstand the harsh climatic conditions. They develop malaria, scabies, pneumonia, dysentery, cholera amoebiasis etc. the water wells usually get contaminated and this low quality water increases the children's vulnerability (Parent, Igigo Primary School).

After the floods there are a lot of challenges in schools for example the infrastructure in the school is destroyed. Children are not able to get the same facilities that they had earlier; for example toilets collapse, water wells are contaminated, classrooms have cracks or are tilted. All these are health hazards to the children (Head teacher, Rwambwa Primary School).

I think hunger is a major problem that affects our children's learning in the IDP camps and immediately after. We had a feeding programme for our school in the flood plain when Hon. Gumo Fred was the Assistant Minister for Education but nowadays we do not have. This school feeding programme kept our children in school. Even during floods, at least they concentrated because they had food (Parent Budalangi Primary School).

It is true... the relief food is not enough. In fact we starve in these camps. Our children suffer more. The relief food in IDP camps is not like the relief food given to refugees' camps where there is standard provision of food. Here the government talks of providing relief food which is maize, beans and cooking fat. That lasts for only three weeks yet we stay in the IDP camps for at least 8 weeks. After providing the relief food, we are forgotten for a month. This causes untold sufferings to the families. Children often despair and drop out of school to engage in child labour, fishing or to do activities that their parents are expected to do as parents look for food. This also affects their academic performance (Parent, Mudere Primary School).

We don't know whom to blame for our suffering. Our children's education gets affected adversely. The teachers who are posted to this area run away because of suffering. In fact most of the ones teaching in these schools are here on disciplinary grounds. They regard it as a punishment and don't focus on their work. Even teachers absent themselves very much. The high turnover of teachers depresses the learners (Parent Mukunda Primary School).

During evacuation in schools, teachers, parents and pupils collaborate to pack most of the crucial teaching and learning facilities. The teachers are also traumatized. At first, they save lives, then property. Female teachers especially opt to transfer to other stations. It is not automatic that when one is transferred, a suitable replacement is got. This means

that children end up being untaught. There is a lot of trauma and stigma for teachers who teach in Budalangi flood plain (Head teacher, Bugunga Primary School).

In St Annes' Girls' School, most of the students lost their property. Their parents are too poor to replace the lost property. Partners have brought them mattresses and blankets to replace their lost property but the attachment they had to their former property traumatizes them (DEO, Budalangi district).

The head teachers' in-depth interviews confirmed what parent said on the effects of floods on education in Budalangi flood plain.

Teachers were asked to respond to an open-ended question that required them to state if the standards of construction of schools in disaster prone areas followed laid down regulations.

I don't think so. If they were, then the school buildings would not have cracks. In fact before they are repaired, other floods occur. I think this infrastructure is a health risk. We have forwarded the report that the QASO made on the damage to infrastructure to the Ministry so that they can give us additional funding to do the repairs. I think the contractors will build the schools. They should be trained to build strong buildings that are high enough not to allow water that destroys. The teaching and learning materials were also destroyed. We really need the government's intervention (DEO, Budalangi district).

Teachers' attitudes are crucial for any innovation to be adopted (Fullan, 2004). Life-skills' education in Kenya offers potentially fertile ground for the intended embedding of disaster risk reduction and climate change education. However, very few schools have integrated it into the primary and secondary school curriculum due to in-sufficient teacher training on the same, over load of the current syllabus and not examining it in national examinations. Teaching and learning materials are often lost or swept away during floods. A lot of time is lost during evacuation and resettlement after floods. All these adversely affect the chances for integration of DRR education into the primary school curriculum. When asked how the community's health needs are met, a member reported thus:

Yeswe are given tarpaulins per household with blankets, clothes and relief food. We are also given anti malaria drugs, mosquito nets and drugs for treating water. However, most people use the nets for fishing or making kitchen gardens fences.

What about people living with AIDS? Do they get their drugs in time?

Yes...the health officers ensure that they get them although they refuse to take them because the drugs increase hunger yet there is no food in the camps. Many of them fall very sick due to the conditions in the camps, hunger and lack of comfort. Their children get very affected psychologically. Some of them opt to drop out of school to look for jobs so as to support their ailing parents (Parent, Mudembi Primary school).

Curriculum stakeholders were asked how the health of the children in Budalangi flood plain's schools can be improved. Their responses were:

Budalangi area is a hardship area and all civil servants shy away from working here. We need more health workers trained in psychosocial counselling to help settle children after the flooding disaster. We can use this health workers in DRR education advocacy campaigns .this will also improve child survival in this flood plain. During flooding young children below the age of 10 years die due to water borne diseases (DEO, Budalangi district).

The public health workers, together with technicians, should be deployed to this flood plain, especially those trained in water borne diseases. We also need nutritionists to advice parents on to cater for the dietary needs of the children. Food security is a chronic problem in this place because floods sweep away all the food crops. However, NGOs are training farmers on using short-season and early maturity seeds, flood resistant crops and food storage facilities (BUCODEV representative).

Public health workers need to attend parent-teacher conferences and train them on hygiene education, use of safe water management and maintenance of mobile toilets, de-wormers, and use of anti-malarial drugs. All these will improve the health status and make children learn for better results. To reduce the spread of HIV and prevent our daughters and wives from exploitation, I suggest that during evacuation, families should stick together. It may not completely

stop sexual violence but will reduce it to a great extent. We have seen how the separation of families accelerates immorality and affects children's learning, especially the girl child (PTA Representative, Sibuka Primary).

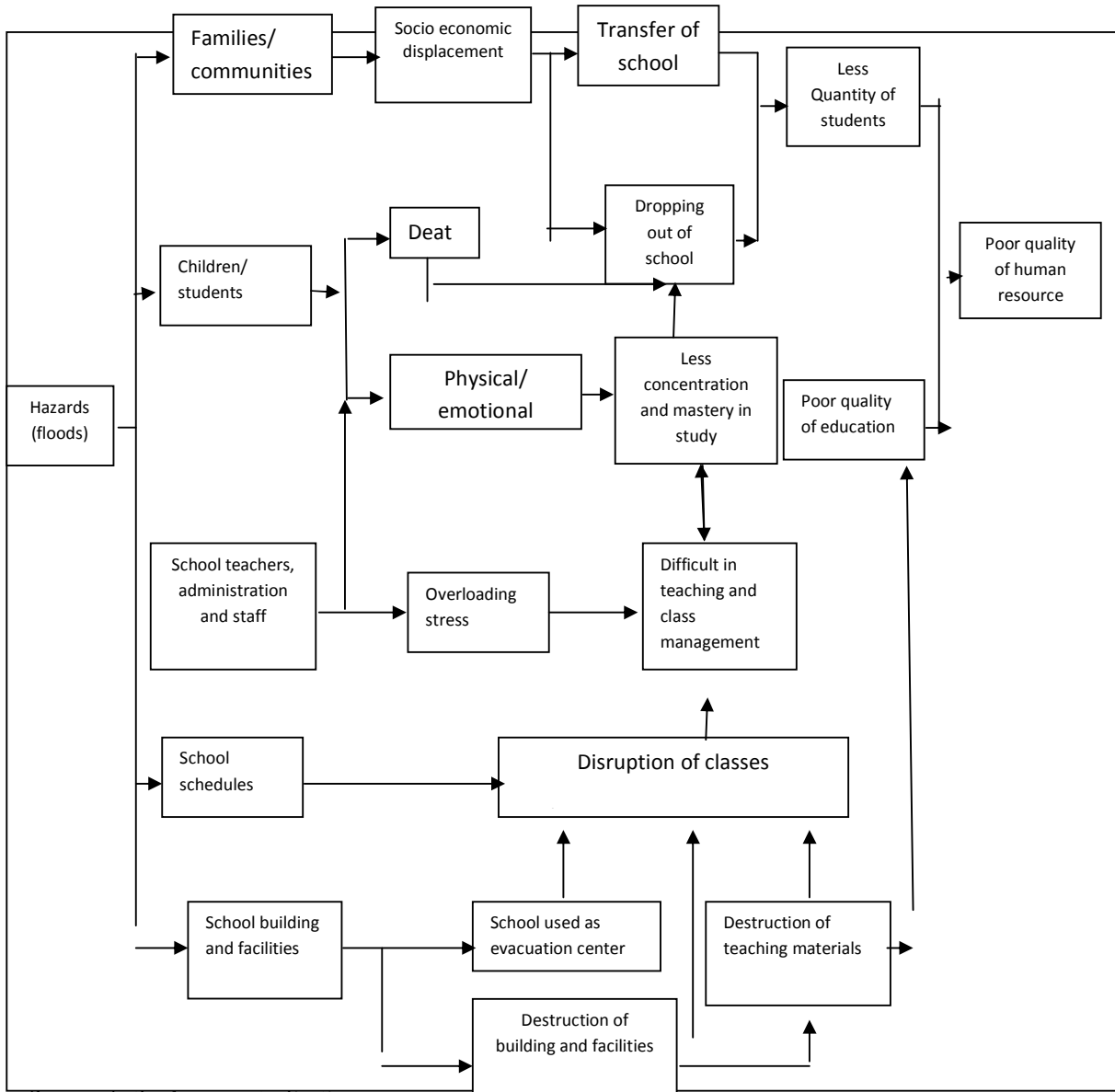
Other effects of floods on the community that emerged during the interviews include:

When families are being evacuated, family life is disrupted. When we are separated to go and live in different camps or tents as husbands and wives, some people get other sexual partners in the camps where they go. This causes disharmony in their respective families. It also leads to the high prevalence in HIV/AIDS that is already alarming (Parent, Igigo Primary School).

Life in the camps is so hard. To survive some people engage in immorality. Dependence on relief food that is not adequate makes people to look for alternatives such as illicit affairs. Women who are burdened with their children opt for quick solutions through casual sex (FGD, Male Respondent).

During floods our children usually suffer, others drop out of school and decide to become house helps or join fishermen or work in rice fields so as to send parents some money to use. Those who remain in school suffer most because when it floods mothers are too stressed (Parent, Rwambwa Primary School).

The reports also indicated that, for the schools whose infrastructure is destroyed, an additional disbursement of funds by the Ministry of Special Programmes is allocated. However, this money is not enough because after the repairs, the next floods worsen the damages. This was evident in Makunda, Bubango and Rwambwa primary schools. The parent-teacher conferences' minutes confirmed that some of the pupils perform poorly in school due to the poverty situations that they live in at home. Figure 2 summarizes these negative impacts of floods on education in Budalangi flood plains' primary schools.



Source: Author's conceptualization

Figure 2: Negative Socio-Economic Impact of Floods on the Education Sector in Budalangi Flood Plains

Box 1. Gender-based Differentiation in the Flooding Disaster and Vulnerability

Implications for Women

Condition	Specific Implications for Women	Examples
Direct impacts of sudden onset of floods	<p>Women are at a greater risk of injury and death due to societal restrictions and gender roles</p> <p>Swimming is not a skill women and girls are encouraged to learn in the Bunyala culture</p> <p>Women's clothing may also limit their mobility</p> <p>In the Budalangi flood plains where men are household heads, women do not leave the house without a male companion</p> <p>Loss of livelihoods e.g crops, chicken, livestock,</p>	<p>-Statistics show that men in Budalangi flood plains move to towns and have left women and children in the homesteads.</p> <p>-Women reported sexual harassment from men who distribute relief food.</p> <p>-There were high girl-child dropout rates, child prostitution, child labour, teenage pregnancies, and early marriages</p> <p>-Where fathers are absent, the boys become household heads and turn to fishing or child labour in the rice fields.</p> <p>-Women have to look for clean water, fuel and food for the household</p>

	that are owned by women lead to food insecurity The female teachers have fled the region due to the hardship in the area leaving no role models the girl-child	
Impacts of slow onset hazards like drought, desertification and land degradation	-Increased workload to collect ,store, protect and distribute water for the household -Increased domestic workload to secure food -Increased numbers of women headed households due to men’s migration	
Lesser access to early warning	-Warnings may not reach women -Some women lack awareness on how to respond or act upon warnings -Women lack life-saving skills like climbing ,swimming -Women move with their property including children ,the elderly and disabled	-The radios in the households are owned by men -Women are too busy to go for village meetings’’barazas’where debriefing on what is going on is done
Lower income	Greater vulnerability in the face of shocks such as food shortages, crop failure or flooding	Women has less access to better paid jobs in the formal sector making less money with less employment security
Lower levels of education	Limits women’s access to information and limits their ability to prepare and respond to disasters	-Girls dropped out of school to be house-helpers ,child prostitutes or due to teenage pregnancy -Boys completion rate of school higher although households headed by boys-boys drop out to engage in fishing or child labour -67 % of the population is illiterate of which 2/3 are women
Lower levels of participation in decision making	-Women’s capacities were not recognized for example there were only two women as PTA representatives in all the 14 primary schools in the flood plain. In the FGDs, the women who attended either kept quiet or when probed said ‘’just as the men have said’’ -Women’s needs and concerns were represented by men. Chances of their needs and concerns to be overlooked in policies and programmes are very high.	- Women are poorly represented in decision making e.g the ratio of female to male teachers -In FGDs, there were 2/10 women
Poor access to resources	Women suffer inequitable access to markets, credit, information, relief services all which make it difficult for them to recover from disaster losses	-Women reported to lose all their livelihoods including household goods, crops, livestock, chicken and small businesses. Men own the land and all the property in the houses so women cannot get collateral for loans

POLICY RECOMMENDATION

Strong evidence from good practices of gender-sensitive DRR worldwide shows that both men and women benefit from a gender balanced approach to DRR – ‘men and women’ meaning in practical terms, everyone, and by implication, their families, communities, societies and nations. Equal and active participation of women and men in DRR makes it possible to achieve the overarching goal of the Hyogo Framework - building the resilience of nations and communities to disasters, which is essential to achieving the Millennium Development Goals and

sustainable socioeconomic development. For Kenya to effectively reduce disaster vulnerabilities and risks requires that policy and decision makers understand the benefits and efficiency gains of mainstreaming a gender perspective.

DRR and gender are both cross-cutting development issues. They need to be addressed through a holistic and multi-stakeholder approach and coordinated joint actions through political, technical, social, developmental and humanitarian processes. Mainstreaming gender into DRR offers an

opportunity for re-examining gender relations in society from different angles and enhancing gender equality in socioeconomic development. It also makes it possible for nations and communities to achieve disaster resilience. This is a win-win option for governments and organizations to achieve sustainable development. There are different experiences, skills and possible roles of men and women in DRR. These policy guidelines are mainly based on:

The Universal Declaration of Human Rights, which affirms the equal rights of men and women, and the Convention on the Elimination of All Forms of Discrimination against Women are together commonly referred to as the international legal framework for the equal rights of women. Under this framework, governments are bound to guarantee men and women equal opportunities in terms of economic, social, cultural, civil, and political rights. State Parties agree to incorporate the principle of equality of men and women in their national constitutions and/or other appropriate legislation, and to ensure, through law and other appropriate means, the practical realization of this principle.

Chapter 24 of the Agenda 21 UN Conference on Environment and Development calls upon governments to make necessary a Policy Guideline for Gender-Sensitive Disaster Risk Reduction constitutional, legal, administrative, cultural, social, and economic changes in order to eliminate all obstacles to women's full involvement in sustainable development and in public life. Agenda 21 is to be achieved through government policies, national guidelines, and plans to ensure equity in all aspects of society, including women's 'key involvement' in decision-making and environmental management.

The Hyogo Framework for Action states that a gender perspective should be integrated into all DRR policies, plans and decision-making processes, including those related to risk assessment, early warning, information management, and education and training.

The United Nations Declaration on the Rights of Indigenous Peoples specially prohibits discrimination against women, providing that all the rights and freedoms recognized in the Declaration be guaranteed equally to male and female indigenous people.

The above instruments have provided a comprehensive legal framework for policy guidelines for promoting gender equality in DRR, which is closely linked with human rights, equality, the environment, and socioeconomic development issues. In line with international legal instruments and agreements, the Kenya government must:

- I. Commit to gender analysis and gender mainstreaming through enhanced cooperation and collaboration between Ministries responsible for disaster risk reduction, climate change, poverty reduction and gender issues;
- II. Review national policies, strategies and plans and take immediate action to mainstream gender into national development policies, planning and programmes;
- III. Ensure women and men's equal access to natural hazard early warning systems;
- IV. Establish gender specific data and statistics on impact of disasters, carry out gender-sensitive vulnerability, risk and capacity assessments and develop gender-sensitive indicators to monitor and measure progress;
- V. Increase awareness of the public and media on the gender-sensitive vulnerabilities and capacities in disasters and gender-specific needs and concerns in disaster risk reduction and management;
- VI. Support research institutions to study the cost-benefit and efficiency of gender-sensitive policies and programmes in disaster risk reduction, climate change adaptation and poverty reduction;
- VII. Secure the linkage between DRR and climate change adaptation from a gender perspective;
- VIII. Support gender-sensitive financial risk-sharing mechanisms, including risk insurance and reinsurance; Improve disaster preparedness, response and contingency planning from a gender perspective and make them respond to the specific needs and concerns of men and women;
- IX. Increase women's participation in disaster relief coordination and secure equal access to disaster relief assistance between men and women;
- X. Build and enhance the capacities of professional communities and pertinent national institutions to enable gender mainstreaming into all development sectors.

A gender-sensitive risk identification and assessment will result in more efficient and cost effective disaster risk reduction interventions. The risk assessment process has four main steps to quantify the factors in the risk equation; identifying the nature of the risk; determining the human vulnerability to the risk; identifying the capacities and available resources for managing and reducing vulnerability; and determining acceptable levels of risk. This can be done by the Kenya government analyzing gender differences, designing services to meet needs of all, accessing women, girls, boys and men, all people participating equally in DRR interventions, training women and men equally on DRR and addressing Gender Based Violence in sector programmes. This should be done by collecting, analyzing and reporting sex- and age-disaggregated data, targeting actions based on a gender analysis and coordinating actions

with all partners. A baseline gender analysis of social relationships must be available for the area under investigation

Box 2: Reducing People’s Vulnerability to Disasters Using Gender-Sensitive DRR for Sustainable Development; Case of Budalangi Flood Plains

Causes of Vulnerability	Evidence of Community Vulnerability	Ways of Reducing Community Vulnerability
<p>Social-Ignorance and illiteracy</p> <p>Economic-Poverty, expensive for government to do siltation from time to time</p> <p>Physical-Location of homes, structure of houses, structure of school buildings and toilets, nature of the soil(clay),</p> <p>Environmental-Poor land use practices upstream, land degradation</p> <p>Geology-Shallow mouth of R. Nzoia, Flood plains located between the River mouths of Nzoia and Yala</p> <p>Hydro meteorological-Climate Change(more rain in Lake Victoria Basin)</p> <p>Government policy-There are various policies on flood mitigation that are disjointed. There is no policy on DRR, mainstreaming gender in development plans is missing, gender-sensitive interventions absent</p>	<p>High school dropout especially the girl-child</p> <p>Early pregnancies</p> <p>Early marriages</p> <p>Destroyed livelihoods</p> <p>Dependence on relief aid</p> <p>Abject poverty</p> <p>Child labour</p> <p>Stigma and discrimination as IDPs</p> <p>Food insecurity</p> <p>High HIV and AIDS prevalence</p> <p>Misuse of drugs like anti-malarial drugs, ARVs, mosquito nets</p> <p>High immorality due to life in the IDP camps and poverty</p> <p>Few medical practitioners</p> <p>Few teachers</p> <p>More women and children affected than men</p> <p>High numbers of illiterate women</p> <p>High number of child and women headed households</p> <p>Women not in decision –making positions</p> <p>Women and girls not taught swimming drills or climbing on trees</p>	<p>Analyse gender differences.</p> <p>Design services to meet needs of all.</p> <p>Access for women, girls, boys and men.</p> <p>Participate equally.</p> <p>T rain women and men equally.</p> <p>and</p> <p>Address GBV in sector programmes.</p> <p>C ollect, analyse and report sex- and age-disaggregated data.</p> <p>Target actions based on a gender analysis.</p> <p>Coordinate actions with all partners.</p> <p>Political commitment for policy development on gender-sensitive DRR</p> <p>Legislation and bylaws on DRR</p> <p>Community engagement in DRR</p> <p>Awareness raising for change in behaviour e.g refusing to re-locate, making informed decisions in regard to HIV and AIDs</p> <p>Knowledge development in terms of research, dissemination of knowledge on DRR and integration of DRR into the school curriculum</p> <p>Risk and vulnerability identification, impact assessment and community capacity assessment to be invigorated by the judiciary</p> <p>Early warning of impending floods using both scientific and indigenous knowledge</p> <p>Preparedness for flooding</p> <p>Emergency management measures</p> <p>Rehabilitation for quick recovery</p> <p>Use of risk reduction measures e.g environmental management, poverty alleviation, livelihood strategies, land use planning ,enforcement of partnerships, building safe schools and homes, food security, WASH programmes, back to school for teenage mothers, campaign against gender-based violence, crop and animal insurance</p>

Source; Author’s own conceptualization

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