

# The Plight of Women during and After Floods. A Case Study of the Mbire District, Zimbabwe

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**Abstract:** The aim of this paper was to examine the impact of floods on women given their vulnerability and the inequalities inherent in the social construction of gender. The paper examined the impact of flooding on women in Mbire District's Ward 10 located along the Hunyani River Valley. The district is one of the most vulnerable areas to floods in Zimbabwe. A total of 50 questionnaires were distributed and 5 focus group interviews conducted. Correlation analysis was used to analyse the repossess from questionnaires while thematic approach used to analyse data from interviews. The main findings were that women were overburdened by disasters in terms of addition responsibilities which creates excess burden. The study showed that women became emotionally overburdened; they become stressed and psychologically depressed in the absence of effective psycho social support initiatives especially during the disaster and post recovery phases of the disaster. After the migration by males, majority of whom abandons their families and start new families elsewhere leaving women to assume headship of their households, taking over most of the responsibilities. This often created emotional stress on women who were still to recover from the disasters and without sustainable sources of livelihoods. Psychosocial or emotional stress were also reported and observed among women due to loss of property, family members and food reserves. The study also noted that women experienced feelings of fear, anxiety and insecurity as a result of their past experiences with the disasters in the Mbire district. The study concluded that women are generally vulnerable to disasters and hence suffer from emotional depression and stress during and after disasters. It is recommended that awareness campaigns be rolled out to women in disaster prone areas to prepare them mentally, socially and emotionally for future disasters. The study also recommends the setting up of physical or material reconstruction projects among women in disaster prone areas to economically empower them and ensure that they are not emotionally stressed before and after disaster period. Disaster preparedness skills and livelihoods life kills in the three phases of the disaster namely, pre, during and post recovery phases be imparted to women to help them to copy with the impact and the effects of the disaster. The training would help reduce the various stresses that women undergo following disasters and help them to recover from the disaster. The paper recommends that policies be developed that allow women to participate in disaster planning activities and decision-making processes related to disaster risk reduction. It is also recommended that dedicated funds be made available for gender mainstreaming in disaster risk reduction policies.

## I. INTRODUCTION AND BACKGROUND

Floods have emerged as the most devastating disasters in recent decades worldwide. The driving factors that have contributed to floods have been the consequences of

environmental and climatic changes, increase in global population leading to the concentration of people in high risk areas such as coasts, flood plains and hillsides (Madhuri 2016, Cobian Alvarez and Resosudarmo 2019). According to Intergovernmental Panel on Climate Change (IPCC), it is increasingly clear that climate change has detectably influenced several of the water related variables that contribute to floods such as rainfall. Climate change leads to flooding through heavier precipitation, more frequent hurricanes which in turn bring greater rains, higher seas which amplify storm surges and increases high tide flooding (Ba'canovi'c, 2014).

According to Kron, (2015), water is responsible for most natural disaster losses in the world without undermining the emerging health pandemics. In 2011, severe floods were reported in Mozambique, Namibia, South Africa and Uganda, Brazil Columbia, Mexico United States of America, Cambodia, China, India, Korea, Pakistan, Thailand and others (Petrovi', Dragi'cevi', Radi', Milanovi and Peši'2016, Goh 2019). Literature also shows that 2013 was also a year with some exceptional floods in areas such as Typhoon Haiyan /Philippines, central Europe, Uttarakhand/ India, Colorado/USA, Canada, Mexico, Indonesia, Australia, Southern Africa, China, Russia and Sardinia/ Italy (Petrovi, 2015).

While there are several factors that have contributed to floods globally, most researchers have acknowledged the devastating effects of floods to most countries and communities. UNICEF, (2019) observes that an estimated 50,000 households/250,000 people, including 120,000 children, have been affected by the flooding and landslides after local rivers and their tributaries burst their banks. Previous studies have established that flooding often causes significant damage to homes, schools, infrastructure and economies of most countries. Developing countries are however the most vulnerable and more than 95% of all losses caused by water hazards occur in the developing countries (World Bank, 2000, Hennighausen and Suter,2020).

Previous studies have established that the impacts of disasters such as floods vary. This implies that the impact of floods varies according to gender, age, sustainable livelihoods household levels, and other factors. There is, therefore, increased emphasis among researchers for a gender perspective approach to research studies on the impact of disasters (Ba'canovi, 2014). This perspective has gained

attention due to the differentiated impact of floods on men and women and on account of the different strategies adopted by them to deal with such situations (Nyakundi, Mogere, Mwanzo and Yitambe, 2010). With the emerging fourth generation rights which are advocating of gender blind language where the term gender would be seen as a 'fluid' line, the gendered dimension to natural disasters is likely to be a mammoth task. In addition, there has been limited literature on the gender perspective to research studies on the impact of floods to countries in general and developing countries in particular (Ba'canovi, 2014). This has motivated this research study to interrogate on the impact of floods on women in Mashonaland Central Province's Mbire District. Despite limited literature, this study has confirmed the differential effects of disasters such as floods on the rural patriarchal communities and especially among males, females and children.

Scholarly work has shown that disasters such as floods do not affect people equally (Parkinson, D.; Zara 2013). Literature has confirmed that women are more vulnerable than men to disasters (Keating, Campbell, Mechler, Michel-Kerjan, Mochizuki, Kunreuther, Bayer, Hanger and McCallum, 2014). Research has also shown that the number of female victims in disasters is twice that of male victims (Enarson and Meyreles, 2004), and women and children are 14 times more likely to die in a disaster than other groups, especially in developing countries. A number of factors have contributed to this trend. Factors such as lack of social connections, unequal power relations, low levels of disaster preparedness among women, rigid gender roles, patriarchal family structure, a gendered burden of care-giving responsibilities, limited or no community support networks, and high illiteracy rates have been found to contribute to women's vulnerability during disasters (Kashyap and Mahanta, 2018)

This study, therefore, focused on the effects of floods on women of the Korekore dialect in Mbire District in Mashonaland Central Province. Mbire is an underdeveloped district situated close to the area bordering Zimbabwe, Zambia and Mozambique in the Zambezi River valley. The district is amongst some of the most vulnerable areas to floods and droughts in Zimbabwe. CPU (2015) indicated that Mbire District experiences frequent localised flooding. Backflow from the downstream Cahora Bassa Dam and rainfall events from the large upstream catchment are the two main factors that contribute to flooding. The vulnerability of the area to floods made it a suitable case study for this study.

## II. LITERATURE REVIEW

Disasters such as floods are natural phenomena with devastating effects on countries that ranges from social destruction, economic destruction and emotional distress among citizens. The impact of disasters, however, are determined by the circumstances of the country in question, i.e., poverty, social inequalities, and the extent of deforestation, topography, economic considerations among other factors. This implies that people's experience of the

disaster will vary. The current thrust of this research is the need for a gendered perspective to the studies on the impact of disasters on women in developing countries.

### *Vulnerability Factors of women to floods*

Literature indicates that there are several factors that have contributed to higher levels of vulnerability of women to floods (Kashyap and Mahanta, 2018). The neglect position of women in society has contributed to their vulnerability.

Lack of education, limited access to resources, economic conditions, and cultural issues have all contributed to higher levels of vulnerability. Limited access to education, limited access to information, awareness and knowledge of hazards and the risk they pose have all made women vulnerable to floods (Cobian and Resosudarmo 2019). It is argued that women are generally marginalized by the education system and hence this increased their vulnerability to disasters due to limited information on the management of disasters (Kashyap and Mahanta 2018).

According to Kashyap and Mahanta (2018) unequal opportunities by women to education and health care and access to resources due to poverty means that at the time of a disaster they are more vulnerable than men. In times of floods, food shortage make women vulnerable since they have to depend on men.

The socio-economic status of women and the gender-specific factors increases the disaster vulnerability during periods of disaster. According to Armaş & Gavriş (2013) gender-based inequality increases women's vulnerabilities in disasters. In addition, it is argued that women do not have the courage to escape or evacuate from disasters without receiving permission and guidance from their husbands or other elders. This makes them extremely vulnerable. According to Sam Chanthy and Hay Samchan (2014) women's vulnerability to disasters is also rooted in their traditional gender roles (productive, reproductive, and social) and child care responsibilities.

Armaş & Gavriş (2013) argued that gender inequality has greatly contributed to vulnerability of women to floods and other related disasters. Gender differentiation and exclusion in society is also reflected in all levels of the disaster process, that is exposure to risk, risk percept, preparedness, response, physical impact, psychological impact, recovery and reconstruction. This means that exclusion subjugation, dispossession, and segregation within communities has contributed to vulnerability of women during and after disasters.

Women vulnerability is also a result of the cultural practices, norms and values which reinforce significant social inequalities between women and men and reduce women's capacity to make independent decisions during and after floods (Ciampi, Gell, Lasap & Turvill 2011 and Nabegu 2014). Vulnerability to flood among women is also high because they are expected to take care of children and the sick, prepare food

and do all farming activities, whilst men do the formal work (Islam et al. 2017). In most situations, cultural norms make it difficult for women to swim vigorously, limit their ability to take early action (Hunter, Castro, Kleiber. & Hutchens 2016).

According to gender polarization theory the discrimination of women in various decision making processes and the combined lack of access to shelter after a disaster all increase women's vulnerability (Attems, Thaler, Genovese & Fuchs 2019). The low social status of women excludes them from making survival decisions after floods and this increases their vulnerability.

#### *Effects of floods on women*

Floods generally lead to agriculture production losses. It is also highlighted that the significant losses in agriculture will lead to huge losses in family income. This puts an additional burden on women given their roles in the provision of food to the family. Losses in food and sources of income leads to depression, stress and psychological pressure on women (Armaş & Gavriş 2013, Bariweni, Tawari & Abowei 2012).

The theory of socialisation indicates that women bear the responsibility for the socialisation of children, especially in most patriarchal African societies. Gender is a social construct and each society treats women differently. Thus, gender roles are societally interlinked and determined. Women are expected by society to play the role of family earners and caregivers. Floods in most cases leads to loss of food, sources of income and all production. This leads to additional burden on women during periods of floods (Attems, Thaler, Genovese & Fuchs 2019, Ba'canovi'c, 2014).

There is also reported relatively higher disaster mortality rates of females compared to those of men in periods of floods. This is based on the inherent limited access to education and limited knowledge on disaster mitigation skills among women. Therefore most women are affected by fear, anxiety and stress during periods of floods (Ciampi, Gell, Lasap & Turvill 2011).

Floods affect women in terms of inequality in accessing proper health, hygiene, and sanitation facilities during and after floods. Floods lead to scarcities of food and nutrition and hence this affect women by putting additional burden. Increase in women related diseases after floods are very common. Social problems such as early pregnancy loss, premature delivery, stillbirths, delivery-related complications, and infertility are usually common during and after floods (UNHCR, 1999). According to Ariyabandu (2009), floods leads to loss of women productive activities and income including that of the backyard economy and of small businesses. This puts additional emotional and psychological pressure on women given that children still look up to them to avail food.

Social challenges that also affects women during and after floods include an increase in domestic violence (Enarson and

Betty 1998). It has also been noted that girls are more vulnerable to sexual violence in a post-disaster situation and in temporary refugee camps. Floods lead to economic hardships, frustrations, and struggles to replace housing. These aspects leads to increased tensions and stress to relationships. It may also lead to conflict and domestic violence (Enarson, 1999a, 1999b). Social dislocation as well as loss of community support and protection following flooding leads to social stresses, emotional stress and psychological pressure. (Ariyabandu, 2003). Increased anger, frustration, stress, and depression leads to domestic violence.

Floods also affect the girl child in that after a disaster or other stressful impact, girls are forced to drop out of school to help with households' chores or to save money (Ikeda 1995).

This shows that due to higher levels of vulnerability, women are usually affected more following flooding. However despite being more vulnerable to flooding compared men, most disaster relief efforts are in most cases not responsive and sensitive to the basic needs of women, which further jeopardizes their lives and safety (Chen, Mueller, Jia, and Tseng 2017). There is also limited literature on the differential effects of flooding on men and women. This has led to limited attention on the effects of floods on women and hence most relief programs have not been sensitive to the needs of women during and after disaster. This has also limited efforts to the development of specific programs to fulfil the requirements of women after a disaster. It has therefore becomes necessary for research studies like this one that specifically focus on how floods affect women. This will guide the development of female related relief programs targeting the most vulnerable section of the society.

### III. METHODOLOGY

The study was guided by the pragmatism research philosophy which argues for the adoption of mixed research approach in one study to enhance the validity and reliability of findings. A descriptive research design was used. The justification for the use of the descriptive was the nature of the study which sought to provide a detailed description and accounting of how the women were acted by floods in the Mbire District. A descriptive design was also selected on account of its capacity to provide detailed data on how different women were affected in the Mbire area from which inferences were obtained. The study used elements of both qualitative and quantitative research approaches to ensure that the findings on the effects of the floods on women in Mbire were valid and reliable. Data was collected using both the survey and interviews. The use of surveys was justified on the basis of its capacity to collect objective and large quantities of data in a cost effective way. In addition, responses from surveys were easy to analyse and make objective inferences. Interviews in form of focus groups were used. The use of focus groups was justified in that they generated more detailed experiences of how women were affected by floods. This complemented data collected from structured questionnaires. The participants and key informants in the study were mainly women aged 18-35

years and were sampled from Ward 10’s Nyamhondoro, Nyamhara B and Mushongavende villages.. Key informants included programmers from the Ministry of Women Affairs, EMA and the Mbire RDC officials also participated in the research as key informants. In order to select participants in the study, stratified sampling was employed. A total of 50 questionnaires were distributed to women selected using the stratified sampling approach. A total of five focus groups were also selected on the basis of villages in the area. The use focus groups was justified in that they generated rich and well debated information on how various women were affected by the flooding in the Mbire area.

IV. RESULTS

The study sought to examine the impact of floods on women in the Mbire area. In specific terms the study sought to determine the extent to which the floods impacted on the social, emotional and psychological aspects of women in the Mbire area. Correlation analysis thematic approach was used to determine the effects of floods on women.

*Level of preparedness to disaster*

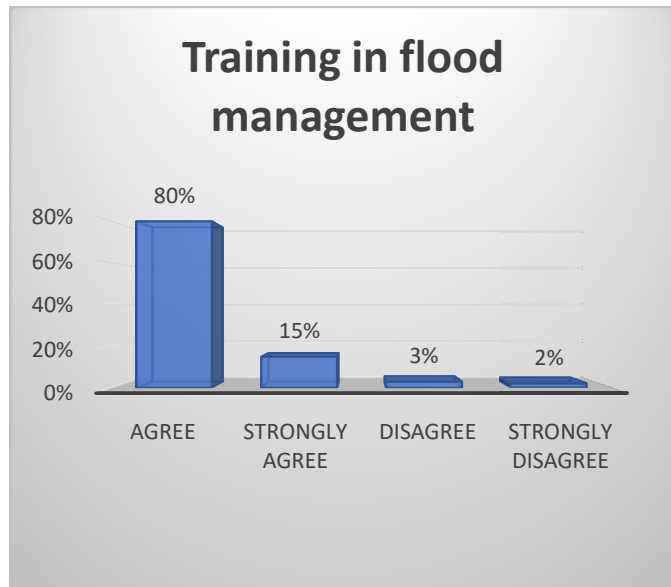


Figure 1 shows that the majority (95%) of women in the Mbire area did not receive training in floods management despite several episodes of floods in the area. This reflected limited preparedness to the management of floods. Interview results showed that only men had received some form of training in flood management mainly from donors. This shows that women in the Mbire area are vulnerable to the effects of floods.

*Support during and after floods*

Survey data shows that most villagers received support during and after floods (See Figure 2)

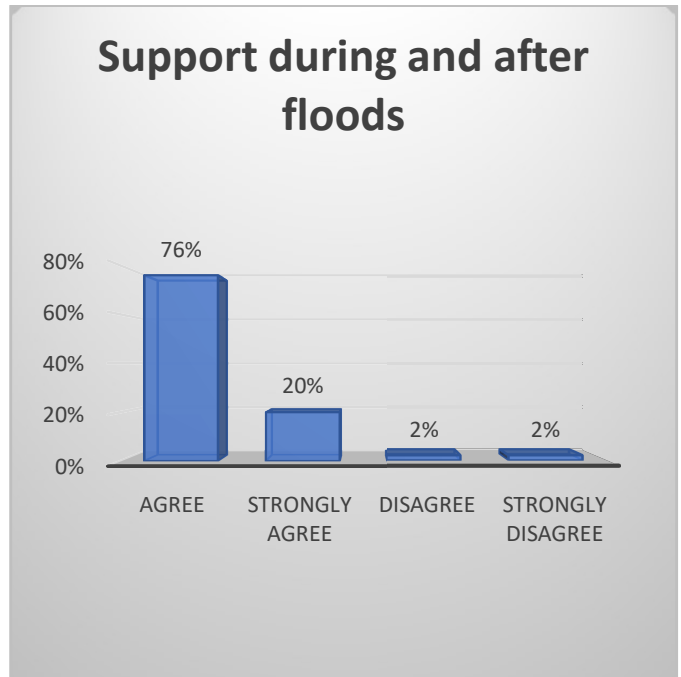


Figure 2 shows that the majority of women in the Mbire area did not receive enough supporting and survival material during and after floods. Interview results indicated that most of the materials received during the floods were short term in nature and hence they remained vulnerable to a number of risks such as diseases, hunger and starvation.

*Effects of floods on women in the Mbire area*

Correlations analysis was used to determine the extent to which women in the Mbire area have been affected by floods. Four factors dependent variables were correlated to the independent variable

Dependent variable -impacts on women (social, psychological, emotional and burden)

Independent variable- Floods

The correlation model

$$Y = a + \beta X_1 + \beta X_2 + \dots + \beta X_n$$
, was used

Where

X1 is effect 1

X2 is effect 1

X3 is effect 1

X4 is effect 1

The results are shown in table 1

Table 1 Correlation results showing the extent to which women have been affected by floods

	Social stress	Overburdened	Emotional stress	Psychological stress
Effects of floods	0.75	0.83	0.67	0.94



Table 1 shows that most of the women in the Mbire area suffer from social stress during and after the floods as reflected by a positive and strong correlation (0.75) between floods and social stress among women. This shows that floods have contributed to social stress among women in the Mbire area.

Interview results also highlighted that loss of relatives, properties and food contributed to post traumatic disorders (PTDs) among women during floods and after floods. Interview results also indicated that women bear the burden of taking care of their children without any government intervention and this leads to social stress. Interviews with most women also indicated that they experienced less privacy when flood periods. They indicated in periods of evacuation, women and girls were evacuated to the shelters where there is less privacy and most of them complained of being insecure and unsafe. It was noted from interviews that accessing proper latrines or washing rooms or private sleeping tents was difficult. These factors led to significant social stress among women. This finding is in line with views by Ikeda (1995) and Sam Chanthy and Hay Samchan (2014) who argued that women experience social stress after a devastating flood.

The results in table 1 shows that there is strong and positive correlation between flooding and overburdening of women during floods.

Interviews results that most men migrated to look for work and fend for the families after floods and this left women having to assume all the family responsibilities and this put an extra burden on women. It was noted that most women are then expected to ensure food security and this leads to additional burden. This problem was even worse in women-headed households. It was revealed that women are given additional responsibilities for safety, privacy and security of the family during and after flood periods. The safety and security include the safety of children and other members, and safety of properties left after floods. Respondents indicated that leads to women being overburdened with additional responsibilities as a result of floods.

The creation of additional burden on women as a result of floods is in support of views raised by Madhuri (2016). He indicated that women assume all family responsibilities after disaster and this leads to an additional burden.

Table 1 indicates that there is a strong positive and correlation between floods and emotional stress experienced by the women in Mbire area.

The women interviewed highlighted that they experienced emotional distress as a result of loss of close relatives, friends and spouses. They also indicated that failure to feed their children after losing food contributed to emotional stress. This finding is in support of views raised by a key informant from the Ministry of Gender and Women Affairs in Mbire District who suggested that one of the effects of floods on women was the aspect of emotional burden and stress. This was mainly because they are the most vulnerable members of the society.

Existing literature indicates that one of the devastating effects of floods on women is the traumatic emotional stress among women (Abeysekera2006. Sam and Hay 2014). This is also emerged from this study.

The results in table 1 indicates that there is a strong positive correlation between floods and psychological stress among women. This means that women experienced psychological stress during and after floods.

Interview results revealed that most women suffered critical psychological stress because of high perceived risks of children and family members drowning. It was indicated during interviews that most women were psychologically stressed because floods put more pressure on them to after losing their beloved ones, food, materials to use, property and failure to fend for children as a result of floods all contributed to psychological trauma, distress and psychological stress to floods. Interview themes also showed that there was tensions in families. It was indicated that excessive drinking alcohol contributed to violence. Women testified that most men drank more during flood citing pressures and stress. It was reported that there were a number of domestic violence during periods of floods. The significant stress levels among women are high, both during-flood and post-flood.

These findings are in line with views raised by Isik, Ozer and Ozcep (2015) and Sam Chanthy and Hay Samchan (2014) who highlighted that women experiences psychological stress after floods.

In view of these findings, it can be concluded that women are more vulnerability to floods and hence experience psychological stress, emotional stress and social distress. The study showed that women experience devastation during and after floods. In view of these key conclusions, it is recommended that a differential approach to humanitarian support is required in view of the factor that women suffer more during and after floods. Adequate measures to guarantee access to assistance for population groups which might face barriers or are traditionally more vulnerable like women must be put in place. Developing flood prevention clusters that are inclusive of women is necessary to help pre-identify and assess specific community-level risks for flooding and share updated information on weather and river level forecasts, as well as providing awareness to groups deemed to be at risk. This increases the levels of coordination before, during and after floods. It is also recommended to create awareness among women and ensuring they are alert and encouraged to take practical measures to protect themselves and their belongings, in periods of floods. It is recommend intensifying pre-disaster training which will help to increase the level of readiness or improve operational capabilities for responding to floods especially among women.

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