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Gender in the context of Disaster Risk Reduction; A Case Study of a Flood Risk Reduction Project in the Gampaha District in Sri Lanka

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Abstract

During the last four decades floods have been the main disaster that affected the highest number of families in Sri Lanka. At present, flood risk reduction is seriously taken into consideration by relevant authorities taking mitigation actions to save lives and properties. Literature on gender and disasters shows the importance of gender in disaster mitigation to bring better results. Thus the present study is an attempt to understand the importance of gender dimension in a flood disaster risk reduction project implemented in Sri Lanka. The study was conducted in two Grama Niladari divisions Pamunuwila and Galedanda in the Gampaha district where the project “cleaning Natha Ela” was implemented during in to address the issue related to floods in the area. The overall objective of the research was to understand, whether gender has been adequately addressed in the project management cycle of the flood risk reduction project and its consequences.

The study revealed that women were more vulnerable to the flood disaster compared to men, due to differences in employment status, income, gendered social roles, social norms and restrictions governing behaviour. Even though the communities experienced a significant reduction of flood damages after the project implementation, the impact on the community could have been much greater if the project had considered the gender aspects related to floods. The study thus reinforces the argument that gender planning is vital for any development activity. In the case of cleaning the Natha ela project, gender was neutral from the planning stage to the implementation stage. The low representation of the women in the decision making process also contributed to the lack of gender sensitivity in the project. Thus the study clearly revealed that although disasters affect both men and women, the impact could be different and therefore mitigation efforts need to address such differences to make both men and women resilient to flood disaster.

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1.0 Introduction

1.1 Background

Sri Lanka is exposed to natural hazards like floods, landslides, cyclones, droughts, wind storms, coastal erosion and occasional seismic events. The country is also prone to manmade hazards like deforestation, indiscriminate coral, sand and gem mining, and industrial hazards. Major natural disasters in Sri Lanka are due to intense weather conditions, upper atmospheric disturbances or low pressure resulting in excessive rainfall, cause severe flooding and landslides. Frequent droughts due to deficit rainfall result in lower crop yields and power shortages. As anticipated by meteorologists exposure to hazards will be increased in future due to the changes in demography, development patterns and the climate (Ministry of Women Empowerment and Social Welfare, 2005).

According to statistics during the last four decades the hazards that have affected the largest number of families have been floods. The occurrence of floods and droughts very often has affected a large area of the island. Though the tsunami condition does not occur very often, in the year 2004 the tsunami caused extensive damage to life and property along the coastal areas of Sri Lanka (Japan International Corporation Agency, 2009).

The development activities tend to have adverse impacts on nature. As Ecofeminists highlight women have always tried to conserve nature. Furthermore, mechanistic theories of progress and development cannot be trusted and there should be space for future generations to work out their relationships with nature. Therefore it is understood that both men and women in the present generation, have a great responsibility of conserving nature and prevent land degradation. Floods in the research sites are due to poor drainage created with the open economy and this research seeks to demonstrate how short sighted development can cause extensive damage to the environment and increase disaster risk creating an urgent need to rectify these past mistakes and decrease disaster risk and improve environmental conservation.

As primary natural resources users and managers, women are highly impacted by environmental degradation and natural disasters. In general natural disasters often demand the highest number of victims from vulnerable groups, such as poor and economically insecure, the homeless, women, children and indigenous people (Enarson and Morrow, 1998; Pijnappels, 2006). Natural disasters seem to disadvantage women economically, biologically and socially. Compared to men, women are employed in part time and informal sectors, temporary and low- status occupations which place them at greater risk of poverty.

As women have limited opportunity to decision-making power structures due to patriarchy they are prevented from participating in emergency planning and action. Also they have less interaction outside the domestic sphere compared to men as a result they are less informed, less- well-prepared and less protected than men in the same community. In addition, biological factors such as, pregnancy and lactation have restricted women's mobility increasing greater need for food and water during disaster (Enarson and Morrow, 1998; Pijnappels, 2006).

However, there is a remarkable absence of disaggregated data on men and women as separate flood victim groups as they could affect in different ways due to their different needs and responsibilities. Implications of these differences for vulnerability and resilience will be highlighted in this research.

1.2 Research Problem

In the explained background this study focused on the following research problem, do men and women have different needs to be considered in a flood disaster situation and were they adequately addressed in the particular flood risk reduction project?"

1.3 Research Questions

To examine the above research problem a number of research questions were formulated as follows,

- 1) Is there a difference between men and women with regard to their vulnerability and resilience to flood?
- 2) Did the project cycle of the flood risk reduction project adequately address the gender aspects?
- 3) Were men and women equally able to reduce their vulnerability and increase their resilience to floods with the implementation of the project, if not what were the reasons?
- 4) What were the perceptions of men and women relating to flood risk reduction activities?

1.4 Overall Objective

In relation to the above mentioned research problem, the study focused on the following overall objective, whether gender aspects were adequately addressed in the project management cycle of the flood risk reduction project and if not, what were the reasons and consequences.

1.5 Specific objectives of the study

Given the above overall objective four specific objectives were identified as follows:

- 1) To find out whether there was a difference between men and women with regard to the disaster vulnerability to flood disaster, if so to understand why.
- 2) To examine whether gender sensitivity could be found in the identified flood mitigation project.
- 3) To understand whether the implementation of such a project could reduce the disaster vulnerability of both men and women equally or whether there was a difference and if so why.
- 4) To examine whether there was a difference in the disaster resilience to floods between men and women, if so why.

1.6 Theoretical background

Disaster has been defined as a serious disruption of the functioning of a society, causing widespread human, material or environmental losses which exceed the ability of the affected society to cope using its own resources. (United National International Strategy for Disaster Reduction, 2009). Disasters are considered to be a result of hazards impacting on people who are physically, economically and socially vulnerable. Also a disaster is said to have occurred when a significant number of vulnerable people experience a hazard and suffer severe damage /and or disruption of their livelihood system in such a way that recovery is unlikely without external aid. It is also believed that the root causes of vulnerability to disasters are the social and economic processes leading to poverty (Asian Disaster Preparedness Centre, 1997).

At the individual, household, neighbourhood and community level, women and men are differently affected by hazards and disasters and often involved in different ways in local or governmental initiatives to reduce the risk of disaster (Ariyabandu, 2007). For example the ecology movement, large segment of the women's movement, and other groups and individuals repeatedly campaigned against the construction of nuclear power plant, because nuclear power is a source of energy so dangerous that it cannot be controlled by human beings; a fact confirmed by the Chernobyl disaster and its aftermath. While the propagators of atomic energy, the scientists, politicians and economists still maintain that atomic energy is necessary to maintain our standard of living, women have to worry where to get uncontaminated food for their family, their children (Shiva and Mies, 1993).

In this context, the government of Sri Lanka has taken initiatives to give importance to gender aspect in projects

funded by the External Resources Department of the National Treasury by developing a project proposal format with a bullet point on “gender perspective”. This is in order to evaluate projects on development, risk reduction, etc with the aim of reducing gender gap and gender imbalance. In the project proposal format developed by the External Resources Department of National Treasury the bullet point eight which refers to gender perspective has three sub headings as follows; identified gender gaps, strategy to address the gender imbalances and project activities designed to bridge gender gaps and impact on gender imbalance. In the project submission format used by the Disaster Management Center, Sri Lanka (Simplified version of original project format) the bullet number nine refers to gender perspective which is further elaborated under two sub headings. They are identified gender gaps and project strategies that address the gender imbalance. Nevertheless, in the completed project proposal for it was filled as “not applicable”.

2.0 Methodology

Quantitative data were collected using a questionnaire which was administrated on the total direct beneficiaries with an equal number of men and women. I visited the Pamunuwila Grama Niladhari(Village) division and met the Grama Niladhari (recently appointed) who introduced me to some of the community leaders who helped me to visit every house that was directly affected by floods. After having three informal discussions with the community in Pamunuwila to explain the purpose of my presence in the village, all direct beneficiary households number being 40 were selected for the study. The same approach was used to collect data from all 22 households identified as direct beneficiaries in Galedanda GN division(village). Moreover, the information collected through the questionnaires was supplemented with in-depth interviews using an interview guide to obtain qualitative data in relation to the vulnerability to floods and the resilience to floods after the implementation of the project. Other data collection tools such as focus group discussions, informal discussions, and participant observation were also used for data collection. In addition direct beneficiaries, relevant authorities and officers of the project were interviewed using an interview guide.

3.0 The Disaster Vulnerabilities between Men and Women for Floods in “Pamunuwila” and “Galedanda” Villages

Differences of vulnerability was analysed under the broad categories of physical, social and attitudinal vulnerabilities and women’s vulnerability in relation to their primary occupation, activity status, number of family members was examined using disaggregated data of men and women. As a result, it was found that women in both villages were more vulnerable to floods compared to men. Their increased vulnerability was due to several factors ranging from the physical conditions such as their primary and status of occupation to social conditions like their reproductive role ,social norms and restriction on mobility (Birkman, 2009).

Women are expected to be the care givers for the family as their gendered duty . This was evident in both Pamunuwila and Galedanda villages. Janaki a woman from Pamunuwila village had this to say in this regard,

“My 12 years old son and I walked on the flooded road. Water was up to my shoulder in some places and I had to carry my son as well. A tall man helped me cross the Ranaviru Mawatha culvert, if not for his help I might not have been able to cross the water since it was flowing at a terrifying speed. I walked nearly 1 km to reach a relative’s house and stayed there for a week, but my husband had to stay home to look after the house and its possessions.....”

According to the Fig 01 below In Galednada village women were more physically vulnerable to disasters compared to men.

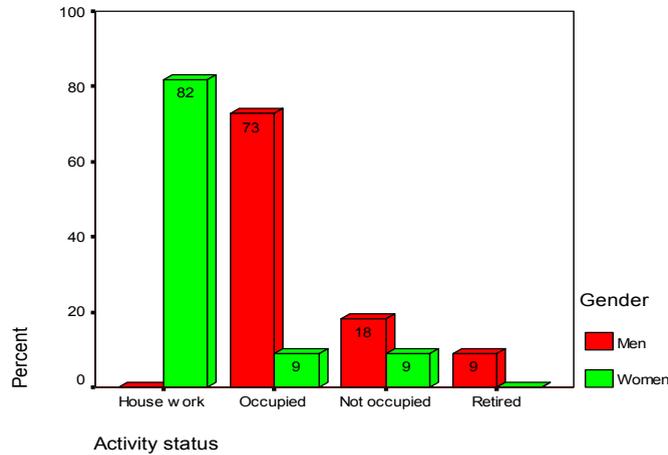


Fig 01: Relationships among gender, activity status and vulnerability in Galedanda
 Source: Primary data

The “occupied” means engage in economic activities or employed and “not occupied” means not engage in economic activities or unemployed. Due to stereotyping of gender roles majority of 82 %women in the sample were engaged in domestic work where as 73% of men were in economic activities outside the domestic sphere. As a result, the physical vulnerability of women during disaster is increased compared to men.

Table 01: The age group and gender of flood affected in Pamunuwila

Age group(years)	Number	Percent (%)	Male	Male (%)	Female	Female (%)
0-5	25	15.2	11	44	14	56
5-18	59	35.9	28	47.4	31	52.6
18-60	55	33.5	26	47.3	29	52.7
>60	25	15.4	12	48	13	52
Total	164	100	77		87	

Source: Survey data

In Pamunuwila village the sample 30.6% of the community is either below age 5 years or more than 60 years who had been at home. Those staying at home with their mothers had been totally depended on mother’s help. increasing their vulnerability compared to men in the work force. Women’s gendered duties of caring for elders and children whose safety they had to be mindful of first and foremost played a significant part in how and why their vulnerability increased during the floods . Data show that among the flood affected majority of 87 % were women and had stayed at home at the onset of floods. Nevertheless, the majority of men (47.3%) were away from home engaging in economic activities outside the vicinity of house.

In Pamunuwila village majority of 72.5% of the households in the community had four to seven family members who were more exposed to floods. With the increasing number of family members there is greater strain on distribution of household resources. For example, one woman mentioned that in addition to loosing livestock during floods, her stock has diminished since she had to share eggs with children and flood affected neighbours in need. Other villagers also said that meeting their household food requirements was at times difficult as they were compelled to share with neighbours, relations and friends. Rani a flood victim from Pamunuwila had this to say,

“In addition to loosing livestock during floods, my stock has diminished since I had to share eggs with children and flood affected neighbours in need. There were few other women facing the same situation. Our household food requirements were difficult to meet at times and we were compelled to share with neighbours, relations and friends. We as mothers or grandmothers give our share to the children and the husband and eat what is left or starve . We are not taught or trained to eat when our children and husband are still hungry ”.

The above goes to show the importance of considering the heterogeneity of household structures to reduce the vulnerability . Unlike the nuclear family, non nuclear family or extended family structures are still invisible (Moser 1993). Social vulnerability resulting from weak family and kin relations and attitudinal vulnerabilities due to dependency had not been considered as dimensions of vulnerability. In the case of Galedanda as highlighted before grandmothers looked after their grand children in the absence mothers who have gone abroad. Fathers of such children were often addicted to alcohol and indifferent about caring for their children. In such families, grandmothers manage the money sent by their daughters. As a result, the main income earners as well as the financial decision makers were women. In addition, to the care giving role grandmothers performed all other domestic activities and fathers were free of these duties . Therefore even during floods it was left to the grandmothers and not the fathers who were often drunk and not at home to ensure the safety of the children. However due to lack of clarity about non nuclear family structures the increased vulnerability during the floods of old aged grandmothers resulting from their social role of caring for children whose safety they had to be mindful of first and foremost were sadly overlooked in planning for pre and post disaster situations.

4.0 Introducing the project cleaning Natha ela to reduce disaster risk for floods in Pamunuwila and Galedanda

It was revealed that, most of the implementers were not clear about the project management cycle, needs of the community and the difference of gender based vulnerability for flood in villages. Therefore it was found that the project did not recognize the importance of gender in planning and implementation. As a result the project ultimately had less impact . It failed to cater to strategic and practical needs of women and priorities of the flood victims and to implement the best options for flood risk reduction while ensuring the sustainability of the project.

There are several stages involved in the implementation of a project. First there should be a needs assessment and targeting of the beneficiaries (Nicklin, et al, 2008). However no assessment was conducted prior to the implementation of the project. As a result, the community was not consulted with regard to their needs and priorities and concerns prior to planning of the project. While this disadvantaged both men and women the latter were disadvantaged more because they were more vulnerable than men due to their gender roles, nature of occupation and social status as discussed. As Moser (Moser 1993) pointed out this shows the importance of identifying the strategic and practical gender needs of the community by conducting a needs assessment prior to project implementation, which could have implemented better strategies to improve flood resilience of both men and women equally. There are older aged female flood victims than men needing special attention during a disaster as illustrated in the case given below. Kumudu a flood victim from Pamunuwila had this to say ,

“ I stayed home with the husband when the children were evacuated in the face of the increasing flood, as there was no way of evacuating our paralyzed mother (Grandmother). We kept her on a platform of cement blocks and though we were successful in saving the mother we could not save our household possessions as water level rapidly rose to more than 5 feet”.

4.1 Needs assessment

In order to understand what is a needs assessment with a gender sensitive perspective some views of sociologists and anthropologists would help. “The recognition that women have a community managing role is still far from

widespread, such that it is most frequently identified as a part of their reproductive work” (Moser 1993: 34). As a result, provisions and maintenance of scarce resources of collective consumption such as water, health care and education which are voluntary unpaid work undertaken as an extension of women’s reproductive role is overlooked by the policy makers (Moser 1993). Unless there is an effort to identify dynamics of a household as grounded with the gender roles, the gender based vulnerabilities discussed in chapter two will be overlooked in the project management cycle. Therefore identification of specific needs of men and women in the flood affected community is crucial to reduce their vulnerability and to increase their flood resilience with the external supports provided by implementing projects.

The project proposal format developed provided by the Treasury of Sri Lanka provided the base for information required for the project approval. As per this format the activities should reflect the priorities of target beneficiaries. With reference to the project proposal of cleaning Natha ela there were 11 sub topics seeking details of the project. The questions in the format relating to gender perspective were,

1. Does the project identify any gender gap? If so describe.
2. Which project strategies will address the gender imbalance?

However in the submitted project proposal response to both questions were “not applicable”. The explanation given for this by the relevant officer at the DMC was that, gender perspective was not understood and there was no guideline provided to clarify it. This shows the lack of access to information on gender perspective has not resulted in gender insensitivity in the project planning stage. I also tried but failed to find a guideline that could supplement the information on gender perspective found in the project proposal format. In the proposal there was scope to address some strategic gender needs. Nevertheless, the opportunity was missed due to lack of information available on gender perspectives.

5.0 Differences of Disaster Vulnerability and Disaster Resilience to Floods between Men and Women after the Project Implementation

It was found that there is a difference in the disaster resilience to floods of men as compared to women. The reasons being the social roles of men and women within the household in terms of dependency, reproduction and access to community services and infrastructure. If there had been a needs assessment conducted identifying gender specific strategic and practical needs, the gender based vulnerabilities for floods could have been decreased while increasing disaster resilience for floods to a greater extent.

In the case of Pamunuwila and Galednada with the implementation of flood mitigation project women’s home based livelihoods could have been supported to increase family income that could reduce poverty to some extent. However, this did not happen due to gender insensitivity of project planners. As we are aware that poverty has different dimensions in that low family income, risky livelihoods, lack of access to basic production inputs are linked with increase in disaster vulnerability.

According to flood affected women in Pamunuwila the floods had a direct impact on livelihood activities of women compared to that of men. Nevertheless, this was not highlighted in the project planning or implementation due to gender insensitivity and as a result prevented the incorporation of strategies to rescue informal sector livelihood options of women.

Out of the flood affected families in Pamunuwila only 10% owned livestock and poultry. At present a family usually owned 3 pigs, and 6 hens, 14 layer hens before the floods and about 8 of them were killed as they were inside the cage during floods. About 6 were saved as they were outside the cage and could fly. Three pigs ran away and got saved otherwise the flood waters which was 5 ft high would have definitely killed them. During the floods the water level was 5 feet even inside the house. Rest of the families lost the 5 layer hens they owned. After implementing the project there was no damage to livestock or poultry in or household possessions as water didn’t come inside the house.

This example indicates that even though there was no gender sensitivity at times women benefited due to the flood risk reduction project as women's livelihoods that were home based had been protected. As a result, women's economic vulnerability has been reduced.

However there were no equipment /storage facilities or any other assistance provided to improve livelihood options of flood affected community that could have enhanced the earnings specially of women who are involved with sewing, home gardening, cultivating "ovita" and livestock rearing. As a result, even though the economic vulnerability was reduced, as mentioned before, the disaster resilience in terms of strengthening coping mechanism such as food supplies through livestock rearing, home gardening, cultivating Ovita that increase flood resilience remained unchanged despite implementing the flood risk reduction project.

Women's participation in subsistence activities which contributed to the household income had been overlooked resulted in throwing people into deeper poverty. Different livelihood needs of men and women due to floods were not addressed. There was no conscious attempt made to increase flood resilience by reducing economic vulnerability. As it was not possible to reduce geographical vulnerability by relocating the flood prone community, the project should have taken measures to restore livelihoods for both men and women, and thereby empower them economically and increase their resilience to floods. The project also did not pay much attention to improve the infrastructure which is crucial for flood resilience.

6.0 Conclusions

The project cleaning "Natha ela" had also not addressed other issues that are directly linked to flood mitigation such as cleaning of feeder and branch canals associated with Natha ela, widening/replacing culverts to ensure proper drainage and prevent damages to roads. This situation could have been avoided if the host community especially the women had been consulted before implementing the project because many women complained about their difficulties of using flooded roads to evacuate during floods and the threats to pregnant women and small children when walking on wet roads. Mostly the men were behind illegal and unauthorized land filling that trigger floods but it was the women, children and old aged people who suffered more due to floods. Nevertheless, the project made no attempt to stop land fillings.

Although gender was an item specified in the project proposal provided by the National Treasury for funding, the project failed to identify gender aspects related to disaster vulnerabilities, disaster resilience and perceptions of the men and women. This was because the project planners and implementers lacked gender sensitivity as they were concentrated only on the technical aspects of the flood risk reduction project. However if gender planning was undertaken the impact would have been greater as gender gaps and gender imbalances could have been identified and necessary strategies could have been adopted to bridge the gender gap and to reduce gender imbalances.

Thus the present study clearly revealed the importance of gender in disaster risk reduction and brought out the significance of gender planning for any development activity.

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