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Gender Perspectives of Energy, Disaster Management and Climate Actions in Rural Bangladesh

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Abstract –*Strong evidences are appearing that show the intensity and frequency of natural disasters are increasing in Bangladesh under the changing climate conditions. These disasters and climate change induced challenges create various forms of challenges in energy sector in terms of availability of energy options, access to energy, increased burden related to costs; and women, especially in the rural contexts, suffer from these challenges the most. In these contexts, this study was conducted with the community located in the Daskhin Kharibari village of Dimla Upazila of Nilphamari district of northern Bangladesh. The field works took place between June 2018 to January 2020 using participatory action research tools to know the gender perspectives of energy, disaster management and climate actions in the rural Bangladesh contexts. The findings of the research show the vulnerability of women as results of the challenges indicated above and their short- and long-term coping strategies to the conditions. It is also suggested how additional support from different sectors may help local adaptation efforts more useful.*

Keywords – *Bangladesh, climate action, disaster management, feminism of agriculture, gender.*

1. INTRODUCTION

Bangladesh is recognized worldwide as one of the most vulnerable countries due to the impacts of climate change [1]. The country is highly vulnerable to natural disasters because of its geographical location and land features, between the Himalayas and the Bay of Bengal. Climate change accelerated the intensity and frequency of occurrences of salinity, storms, drought, irregular rainfall, high temperature, flash floods, *etc.* that resulted from global warming. Global warming is harmful for crops of the tropical countries [2]. The charlands of northern Bangladesh are one of the most vulnerable areas of the country. Charlands are the newly formed land on the bank of river and locally termed as riverine islands. The land is not stable and sandy, while the productivity of the land is less. The inhibitants of the charlands are poor. The charlands of the Nilphamari district is vulnerable to flood, extreme heat and extreme cold.

The climate change and disaster risks are impacting women differently. Women generally take the responsibility of agricultural activities because of the migration of the male members of the community for income generation. Women also take the burden to gather fuel wood from the natural environment. The increasing trends of hazards resulted work burden to the women. Literature review indicates that 'gender differentiated impacts'- are directly related to traditional gender roles of women. It also reveals the constraints to women's adaptation resulting from access to resource allocation and other elements of society [3]. As the global community pass through the transitions towards the implementation of the post-2015 development agenda, *i.e.,* the Sustainable Development Goals (SDGs), it is imperative that gender equality and women's empowerment continue to influence, shape and drive the collective climate and human development efforts [4]. Bangladesh has set National Priority Index (NPI) towards achieving the SDGs and the contribution of women is well noted in the NPI.

To cope up with the climate change, the community is practicing different coping mechanism many of which are supported by different development interventions. However, the objective of the study is to know how the women of the charlands in Bangladesh address the requirement of food, water and energy during the disasters. In patriarchal society those are considered as women's responsibility. Women as the vulnerable group is considered as target beneficiaries of different development interventions. Such interventions are empowering the women. The current study was conducted in the village of Daskhin Kharibari to know the gender perspective of climate change and disaster management emphasising the energy requirement of a rural community.

2. METHODOLOGY

The community particularly women farmers of the village Dashkhin Kharibari were trained on using the participatory action research tools from different development projects. Participatory research methods were geared towards planning and conducting the research process with those people whose life-world and meaningful actions are under study. Consequently, this means that the aim of the inquiry and the research questions develop out of the convergence of two perspectives, that of science and of practice. It is a very

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demanding process that evolves when two spheres of action- science and practice - meet, interact, and develop an understanding for each other [5]. Participatory research tools are in common use of development studies. Through the participatory research the community themselves can identify the root causes and consequences of the problem in everyday life; they also can identify the required actions of solving the problems.

One hundred women between the ages 20 and 40 were working as research animators of an action research project was implemented in the village Daskhin Kharibari. The research project identified those animators following the socioeconomic state of the village, that is, 20% of them are from extreme poor families, 40% from poor families, 15% from middle income families and 5% from rich families. They know how to conduct Focus Group Discussions (FGDs), transect works, action plan identification and prioritizations of action points, *etc.* To identify gender perspectives on climate change and disaster management there were consultations with them. The selection of the participants of FGDs was random. The village is divided in different clusters, called para. The FGDs were conducted in 4 paras viz., Dighi para, Chairman para, Guideband para, and Camp para. The FGDs were conducted in a common meeting place and 10 to 12 female famers attended for around 2 hours. The discussion in the FGD was spontaneous but was minutely facilitated to remain cantered to (a) what are the weather extremities now? Is the vulnerability of women different than men? (b) How women are coping up with the climate challenges? (c) What are the practices and actions taken or followed? Meeting in small group was also conducted with 6 to 7 individuals for around 45 minutes. There were 8 such consultations conducted in different common places like, harvesting ground, water collecting site of the river, tea stalls, *etc.*, to know the efficiency of the information technology use by the women farmers and the gender perspectives of climate change and disaster vulnerability. Total 72 women were consulted in those 4 FGDs and 8 group meetings conducted between June 2018 to January 2020, where 46 women attended in FGDs and rest (28) in group meetings. The age of the women participants of the FGDs and Group meeting was between 20 to 35 years and except 5 of them all were married. Two of them were studying in graduation level, 11 of them have secondary level education, 6 were illiterate and rest other can only read. The discussion was noted detailed and analysed.

Similar participatory method was followed by Sarrica *et al.*, [6] and Khan *et al.* [7] in their studies of gender perspectives of using Information and Communication Technology (ICT) by the rural communities of Bangladesh.

3. RESULTS

3.1 Vulnerability of Women from Disaster and Climate Change

In the northern Charland the rainfall pattern has been changed. The intensity and frequency of both the monsoon flood and the flash flood have been increased. The vulnerability of women is different than that of the men during the disasters. The community has identified the vulnerabilities of women due to natural calamities. These are illustrated in the sections below.

3.2 Feminization of Agriculture

Due to increasing natural calamities seasonal migration of the male has been increased. The people of that locality were not migrating to outside earlier but nowadays, the migration rate is too high. Nearly every family has one or two male members working outside the district. It was found that around 40% of the male members of earning age of the village Daskhin Kharibari have migrated to different towns including the capital city. The scope of earning money by working in the locality is not sufficient to meet the needs of the family as expenses to address uncertainty has increased. Such migration has resulted additional responsibility to women for crop framing. The number of women as crop farmer has been increasing dramatically. Now, around 85% women in the village Daskhin Kharibari visited the crop farms year-round. Earlier the presence of women in crop harvesting and preservation was significant, but now it is in every stages of cultivation from seeding to marketing. During 2014-15 to take care of the paddy only a few women were hardly entering up to 1 km inside the field located in the isolated charland; but nowadays, some women of the village visit paddy field located 3 km away from their home regularly. The presence of women in agriculture is mostly as farm labour. The right on decision making on crop selection and marketing by women is very limited. Woman has no ownership and right on the field land.

To cope with the climate change community is practicing new crops. While women are getting gradually the responsibility of farming, they have to manage the new form of cultivation. In the Daskhin Kharibari the paddy is being gradually replaced by the maize. Women are taking more responsibilities of taking care of the maize cultivation and marketing. The harvesting and taking out the seeds from the corn are mostly done by hand. While storing maize takes more places, the common practice is selling the production immediately after harvesting. The profit is going down gradually from the maize.

Table 1. Impacts of extreme events on women's daily life.

Extreme events	State	Impacts on women's daily life
Flooding	The frequency of the monsoon flood and flash flood has been increased. The duration of inundation has been increased for monsoon flooding.	Women's workload increased to cope with flood; women have to protect the yard from flooded garbage, specifically the fecal from latrine and cow dung from the cattle shed. Arranging the cooking wood is responsibility of women. The water borne diseases and skin diseases increased during flood and women have to take care of the sick family members. Collecting relief items is also an added activity.
Heavy Rainfall	The rainfall type has been changed; now it is a huge shower in a short time.	Women have to cut drain for water pass from yard and kitchen garden. Keep the fuel wood dry and arrange fuel wood for cooking. Burner drying of cloths also required some time.
Localized Drought	Drought in some small pockets of areas in crop field is very common now.	Hand irrigation is done by women. They collect water from river by pitcher and bucket and walk long to the field for watering. They have to water the kitchen garden and plantation in homestead for the whole winter season as the sandy soil can't keep the moister for long.
Extreme heat	Maximum temperature limit is higher	Care work burden of women to sick babies and elderly has increased while heat stroke related sickness increased. Women have to wash more clothes comparing with the regular time. Bathing the cattle, keeping them in shed and give them cut grass and more water are added responsibilities of women in summer.
Extreme cold	Days with extreme cold decreasing but extremity of low temperature increased.	Fever and respiratory problems of family members increase the care work burden of women.
Storm	No changes in frequency or intensity	During the storm women must keep their cattle and poultry in safe places as fast as possible. They took part in protecting houses and crops from strong wind. They took part in reconstruction of the damaged houses. Keeping privacy is a challenge while the boundary fence of house, bathing place and wall of houses got broken due to heavy wind.
Fog	Number of dense hazy days increased	Covering the seedlings of winter vegetables in evening and removing the cover on daytime.
River erosion	Displacement due to river erosion.	Managing food for the displaced family members by any means. Shifting the household assets to other places; Sexual violence while living in a temporary shelter and in new locations.

Source: FGD results.

Because of the cultivation of maize, gender-based violence has increased. The tall plant around the roadside has created a vision barrier. Adolescent girls are victim of teasing and sextual harassment. Child sexual abuse and child rape in the field of maize became a new anxiety.

Though there are more women in crop agriculture there is no progression of promoting gender friendly agricultural tools. Till most of the women farmers in the village Daskhin Kharibari are collecting cereals from the maize corn by hand. There are some corn husking machines run commercially but if the production volume is not enough then it is not profitable both for the farmer and the machine owner. Moreover, male members of the family assumed that women are collecting maize from corn in their free time, so paying money for that is not worthy. If the 'hand is not busy' for a woman, most of the male and elderly woman members of the family consider it as 'woman is staying idle'. Not only the grain collection even for irrigation women are using another hand as irrigation sprinkler, though there is plastic made water pot available in local market and is not that expensive according to the female farmers. Moreover, the woman farmers have seen the photos of those simple devises in their mobile phone while using Facebook or searching Agro technology. According to the women there are many gender friendly technologies available but as long as the man will not change their mind-set those tools will not come to the female farmer. They also said that no development organization or government intervention has noticed this urgency.

3.3 Energy and Water Burden

During disaster, managing fuel is a challenge for women. It is a women's responsibility to arrange all forms of fuel for the family. The village Daskhin Kharibari has no grid line but while the use of mobile phone has increased a new form of business was developed. There are mobile phone charging shops in the village. The generators are used to charge the mobile

phone in shops. Price of full charging varies from 2 Taka to 5 Taka (0.024 US$ to 0.059 US$) for a bottom phone and an android respectively. Major cooking fuel is the crop residues in the village. The fuel use pattern in regular time and during calamities by the women varies as follows:

Table 2. Energy use during calamities.

Source and Task	Source	Use during normal time	Use during calamities
Electricity	No grid, solar panel	Charging mobile phone from the local shops.	Local shops inundated. To charge the mobile phone sets they have to walk around 1.5 km to a highway side market.
Fuel	Wood, dung, crop residues	Mostly they collect wood from dead branches, rarely family is buying wood for cooking. Women collect cow dung and make cakes or coated (jute) stick and sundry. Crop residues dried and piled for use.	Risk of inundation of the stored wood, dung, crop residues, *etc*. Women took the main responsibility of preserving those.
Sunlight	Sundry	For drying the harvested crops and crop residue.	No place to sun drying during the flood.
Cooking	Woodstoves	Stored wood, dung, crop residues.	Keeping the stored wood, dung, crop residues away from the flood water is responsibility of women.
Lighting	Oil and kerosene lamps	For the study of children and other household works at evening.	Low consumption while purchasing is not easy during flood.
Motive power	Human- and animal powered devices	Ploughing with cow.	Mostly not functioning.

During disasters, collecting water is another burden for women. Women are solely responsible for managing potable water for the family. Only the tube wells in high land are not inundated during the monsoon flood and flash flood. Because only a few tube wells are found with safe water, women have to walk in inundated and muddy path to collect the water. Average water carrying distance in the last flood was three times more comparing with the distance in regular time, and average carrying was 3 buckets full. As the Daskhin Kharibari village was extended centering an embankment, the women living far from the embankment have to take more burden for water collection during flood, they have to use boat and also walk to the tub wells. The mean distance covered was 2.2 km in the last flood of 2018, the time required for them to collect water was 1 hour and 20 minutes in total for both ways. It is good that there no arsenic contamination in this village. Water collection is not only for the family members but for cattle also. If the family has more than two cattles, then only one time collection of potable water is not enough. Many of the female farmers have to collect water for more than 2 times during the early stage of flood in last major flood of 2018.

3.4 Coping Strategy

Women's burden is unbearable during the recovery of flood. After flood when the water gets down from the homestead, cleaning is a work burden for the women. The muddy yard must be cleaned. Due to calamities families are also losing their income, specifically those who are wage labours. After every disaster woman has to take a new revised coping strategy. That strategy includes from less eating to new income generation activity.

In the village of Daskhin Kharibari, at the aftermath of the floods, around 75% women have compromised their food intake. To meet the family food crisis many of them have collected leafy vegetables from nature; some have learnt fishing.

The community was found aware about the climate change from various interventions by the development agencies and government initiatives. They have been participating in different gatherings and learnt about the climate change. They themselves classified their coping mechanisms in to the following two categories:

(1) Spontaneous, and
(2) Planned

For communities situated in a disaster-prone area, natural calamity is a part of life. They have been

practicing different traditional coping mechanisms. To cope with the flood high raising the plinth is a traditional practice. The female of community was used to keep a handful of rice in a pot while taking rice for boiling, they have been practicing this consistently; which is now in a form of foodbank by the facilitation of different development organizations. Seed preservation was a traditional coping mechanism of preserving the seeds of vegetable and minor crops. Women had been preserving cooking wood and cow dung coated jute stick for use during monsoon. There are portable stoves found to cook during the flooding. Women are taking the lead role in traditional coping mechanisms.

In the village, the community is practicing good number of climate change adaptation practices and using information technology for adaptation knowledge management. Those interventions are facilitated by development organizations Pollisree and Oxfam. There are also few other development interventions from non-government organizations, namely CARE, World Vision and RDRS, *etc.* Those planned adaptations are being practicing by selected community members who are the beneficiaries of those projects. It was found that some other community members who are not beneficiaries of any project are also practicing those technologies following them. The planned adaptations are mostly those technologies that were being practiced in some other areas and resulted success. Welcoming the new technologies was not always found spontaneous. Some technologies were found good in demonstration only but not in wider practice.

Table 3: Women in practicing spontaneous adaption to climate change.

Sl	Practices	Role of women
1	Saving rice from every meal	Put a handful of rice in a pot before boiling
2	Seed preservation	Collect vegetable seeds in bottle and drying as required
3	Storing cooking wood	Store wood or cow dung coated jute stick on ceiling
4	Save money	Women save money to banks and local cooperatives for the hard time

The demonstration cultivation of adaptation in agriculture including field crops and kitchen gardens was done by women in many locations of the village. Cropping in raised plinth, soil tower made of local material like bamboos and poly sheets, cultivating in PET bottles, crop rotation, cultivation of wild vegetables in kitchen gardens, *etc.*, were being demonstrated by the woman farmers.

To cope with climate change, the community now is cultivating different new crops. The promotion of the new crops including new varieties and species was both spontaneously and driven by development interventions of non-government organizations. In the charland the cultivation of paddy is gradually reducing because of the maize cultivation. The community likes the maize cultivation as it requires less water than the rice cultivation and there is promotion of market value chain by both business community and development community. Pumpkin cultivation in charland is being popularized by non-government organizations, like the Practical Action.

Practicing the planned adaptation technologies in the homestead the community has started cultivating some wild vegetables in their kitchen garden too. Gima shak, *Glinus oppositifolius* (botanical family: Molluginaceae (Carpetweed)) is being cultivated in most of the household at the Daskhin Kharibari village while it is also found in wild.

To meet the cooking wood crisis, the Bandhu Chula and also cement made portable cooker are becoming popular. As the cement made portable cooker is easy to use there are a few entrepreneurships developed for making such cooker.

3.4 Role of Awareness, Knowledge and Information in Climate Change and Disaster Management

The new form of agriculture requires new knowledges and new technologies. Moreover, the farmers are new too. Traditional knowledge was not sufficient enough to address the requirements of the new cultivation practices. The transfer of traditional knowledge from generation to generation was found though for the field agriculture but there is a gender gap. Transfer of knowledge of field framing was found mostly from male to male between the generations. The females are aware about it by observing only. As the mobile phone penetration is significantly high now a day, NGOs found the use of mobile phone is worthy for dealing the need of new knowledge. Pollisree and Oxfam in Bangladesh along with Monash University and ICT companies, and local academic partner Hajee Mohammad Danesh Science and Technology University have been implementing the action research project PROTIC at the Dashkhin Kharibari village. PROTIC provided agricultural advisory services to the women farmers by Short Message Services (SMS), outbound dial (OBD) and Call Center. It was found that the use of mobile phone for knowledge management was noteworthy, while the use efficiency and self-efficiency of technology in rural women were quite satisfactory. The agriculture advisory services were mostly on adaptation technologies and varieties that can cope with the local hazards. There was agrometeorological information providing too. By owning the mobile phone the female farmers started using different apps. Apps on weather prediction were found very helpful. For longer preservation of rice, the community boils the rice and then sundry. If it is long rainy days the sun drying will be not be possible or will take more days to dried up, so the woman farmers check the weather prediction and soak their rice. Many of the community members have identified such weather forecasting as a great help for them.

The women farmers as the participants of that action research have learnt the adaptation technologies as well as know the weather prediction and forecasting. They are capacitated with knowledge and are considered as the adaptation knowledge hub of the community. They are demonstrating different adaptation practices, and also creating a climate smart community through their voice and interaction. Though there was no institutional structure formed as a knowledge hub, but the female farmers capacitated from the project helping the community with disaster forecasting and climate adaptive farming technologies. According to the woman farmers of the Daskhin Kharibari village now they are valued in the society.

The female farmers of the village Daskhin Kharibari are well aware about the local administrative process. Their knowledge on the adaptation technology and use of Information Technology is well known to the community and local administration. They are disseminating the climate change adaptation practices and disaster preparedness. They are leading the community with their knowledges and voices. They are also vocal and well aware about the local governance. There are records of influencing the Union Parishad (the lowest administrative unit of the country) in selecting beneficiaries of government safety net coverage. Through the development organizations they are participating in different community gatherings. Two women of that remote village have been awarded as Jayeeta by the Ministry of Women Affairs, Government of Bangladesh; which award is given to women who have created followable example of success in particular areas of life, including entrepreneurship, social development, education, employment, motherhood, and prevention of repression.

4. DISCUSSION

Most of the adverse effects of climate change will be in the form of extreme weather events, while water-related hazards such as flood, drought, salinity increases, bank erosion, and tidal bore are likely to exacerbated, leading to large scale damages to crop, employment, livelihoods, and national economy [9]. According to Ali *et al.* [10] the Flood Intensity Index will significantly be increased due to climate change. As a floodplain, part of the country becomes inundated in every peak monsoon. For the same hydro-geophysical hazard, however, women face flood differently than males. Among those affected by flood and related problems, women and children are usually the most helpless and disadvantaged [9]. The vulnerability of women and their responses towards climate change and disaster risk reduction are different than that of men. The study found that the work burden has been increased for women. The male migration and new responsibility of women in field farming added the obligation of food security to the women. Food security in developing countries is complex, multifaceted, interlinked and intertwined with different socio-economic and political aspects [11]. Consequently, women, poor, children and marginalized people suffer extremely in such hostile environmental circumstances and substantiated victims to food insecurity and its ill-effects [12]. Climate related policies and adaptation mechanisms of Bangladesh are not gender neutral yet. Every year various degree of the flood impacting the livelihoods of the charland. As a result of the impact of flood, people suffer more and disrupt their income-generating activities, agriculture, infrastructure, food supply systems, and other parts of the livelihood. The people are passing their entire life while striving against flood in char, and the main interesting matter is that the char dwellers, directly and indirectly, depend on rivers and floods for their livelihood [13]. Lifestyle change is a complementary call for a continuous effort encompassing spread of awareness of sustainable lifestyles, energy concerns, building of synergies between policy, regulation, technology, market forces and ethical imperatives. The focus of change needs to be on patterns of energy consumption [14]. Rural households are the end user of energy and their energy demand includes energy for lighting and cooking. A survey conducted by Halder *et al.* [15] in a nearly similar remote village has identified that, the cooking energy is the dominate energy demand by the households as accounts almost 90% of total demand, on the other hand, lighting energy demand shares only a nominal amount of total demand as estimated about 10%. Most of the households in the study area use agricultural wastes, fuel wood and tree branches and dung for cooking. The disaster situation creates burden to the women while due to inundation a crisis of storage of those cooking fuel happened. Moreover, the indoor cooking also has a risk of health hazard. Modern and clean energy like electricity and efficient cooking technologies in the rural areas in developing world provide improved and healthy lifestyle to help in reducing harmful environmental effects.

Participation rate of women in agriculture in Bangladesh is increasing. Shifa [16] identified that it increased by 136.025% during the period from 1999-2000 to 2016-17. Different literatures on ‘Gender in Agriculture’ reveal that women lack access to and control over resources such as land and capital as well as agricultural inputs and technology such as improved crop varieties, training information and marketing services [17]. Again, there are also evidences that women have an unmanageable workload, they lack access to credit or have no decision-making power over credit and are poorly represented in agricultural and non-agricultural groups and organizations [18], [19]. Singh and Vinay briefed significance of female labour in agriculture and allied activities. They further stated that the role of women in agriculture as female labour is not highlighted in India. Despite of their presence in activities sowing, transplanting and post-harvest operations they are considered as an invisible worker [20]. The state was found same for Bangladesh too. The

feminization that happened there in agriculture is the presence of more women in crop farming as work force not as decision maker. Despite of various social, economic and various other constraints women have high level participation in agriculture, and they are very committed in their agricultural activity [21].

Land tenure is a challenge. The ownership of the crop lands belongs to male farmers; to obtain banking and other financial facilities woman farmers face many problems. Cultural norms and regulations, religious belief, traditional views, less availability of time as women have to concentrate on household works and different restrictions from family members acts as major constraints for women to participate in agricultural extension education services [22]. It was found that promotion of adaptation knowledge through ICT was helpful for women to overcome the constrain. Becoming economically independent through the help of ICT the rural women also keep a great contribution in the economy of our country [23]. But it is true that contribution of women in agriculture is yet to be broadly recognized. There are huge untapped potentials of using ICTs in climate change adaptation [24], government intervention, development project and private sector may explore those potential for sustainable development of the country. We are towards the middle-income economy, the ICT use will faster the process. Knowledge and information play a key role in overcoming constrains and are pivotal for building and capacity of multiple stakeholders involved in adaptation strategies at the micro, meso and macro level [25].

Although women's social, economic and political position in society makes them more vulnerable to natural hazards, but they are not helpless victims. Women are important agents for change and need to be further strengthened as such. Recognizing and mobilizing their skills and capacities as social force and channeling it to enhance efforts to protect their safety and that of their communities and dependents is a major task in any disaster reduction strategy [26]. The state of vulnerability and capacity along with the scopes and constrains should be considered in implementation of development action. Transformative leadership is a vital towards community resilience. Gender-specific capacities of women deriving from their social roles proved to be beneficial for their whole communities during every stage of the disaster cycle. Women's high level of risk awareness, social networking practices, extensive knowledge of their communities, task in managing natural environmental resources and caring abilities makes of them important players of effective risk assessment, early warning, disaster response and recovery actions [27].

For many women, influence in families and communities, and the ability to make decisions depends on their ability to earn an income. Their income-generating ability allows them mobility, a say in household decisions about expenditure, and clout in communities which allows them to give advice to others, and ask for help when they need it [28]. Access to sources of income during post-disaster is important in preserving the influence and decision-making ability of women. In the case of lost or unviable livelihoods following disasters, access to training and capacity building, such as advice on improving agricultural practices will be the key for women.

Bangladesh is a good example of disaster management. Soon after the birth of Bangladesh, Father of the Nation Bangabandhu Sheikh Mujibur Rahman established the relief ministry on 12 January 1972 giving a special attention to build a disaster resilient country through minimizing losses of lives and properties caused by different natural events including cyclone and flood. The adverse impacts of all the natural hazards affecting socio-economic condition need to be reduced for sustainable development. Realization of this reality, the Government of Bangladesh has undertaken a lot of plans and programs for disaster reduction through disaster management. The country is striving hard to establish an elaborate and experienced disaster management system from national down to community level to mitigate the effects of disasters. Considering the gender perspective of climate action and disaster risk reduction is essential to every planning and execution. Presence of women in every stage is not only the number of women in the project cycle but the issues of women being addressed through the process.

The aftermath of the COVID-19 pandemic definitely will amplify the trend of male migration from the village Daskhin Kharibari and other remote locations. The agrarian community to face the risk of food insecurity needs to cultivate more. The Honorable Prime Minister Sheikh Hasina urged farmers to keep no land fallow. Whole the major farming responsibility gradually being shouldered by women, all the humanitarian responses and recovery along with development attempts should consider the issues of women farmers with precedence.

5. CONCLUSION

Due to the impact of climate change the natural hazards in Bangladesh are increasing and women are becoming more vulnerable. The socio-economic and cultural contexts are major challenges for women to cope with the climate and disaster vulnerabilities. The coping strategies of women both spontaneous and supported are different than that are commonly considered for the community in a gross. Attempts of the government and the development agencies are with wide spectrum, but the context says that the gender perspectives of climate action and disaster risk reduction is not well analyzed in designing, planning and implementing of projects and development actions. Bangabandhu Sheikh Mujibur Rahman's recognition of and contribution to rehabilitation of the rape victims of 1971 war of independence is a real example of giving women the most coveted empowerment, said people from every

walk of life on the eve of the birth centenary of Bangabandhu Sheikh Mujibur Rahman [29]. Bangabandhu was concerned about the women and children. In His birth centenary our development and disaster responses commitment should sworn on 'Nothing about her without she'.

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