

WOMEN, ENVIRONMENT AND ENVIRONMENTAL ADVOCACY: CHALLENGES FOR BANGLADESH

Farzana Nasrin

Public Administration Department,
Chittagong University,
BANGLADESH.

ABSTRACT

The women's issues in Bangladesh are considered to be a chronic problem of patriarchal society. Despite several positive policies and programs undertaken by the government and NGOs recently, the position of women in the society did not improve to a satisfactory level. Now, the relationship between women and the environment has become more explicit and apparent. As such, the article seeks to provide basic information related to women and environment and advocacy for environment and women in Bangladesh. Through an extensive review of literatures, this study attempts to shed light on the challenges of women with a view of exploring the linkages between women and environment and adverse impact that falls on women. It also emphasizes on environmental advocacy for women. The work is accomplished on the basis of secondary sources including – book reviews, newspapers, journals, research reports and other secondary materials. Implications of the past literature with regard to empower women as they interact with environmental and cultural elements.

Keywords: Bangladesh, environment, patriarchal society, women

INTRODUCTION

Although half of the world's population is women, only ten percent of global income is spent on them and share less than one percent of global resources (Kholiquzzaman, 1986). They are the poorest of the poor. A recent study on poverty (Rahman et al., 1992) reveals that in Bangladesh, poverty is increasingly feminized. Violence against women is widespread. Gender based violence which often stems from existing socio-cultural attitudes that regard women as inferior to men, take place in various forms like beating, rape, acid-throwing, trafficking, sexual coercion and harassment, as well as verbal and psychological abuse.³⁶ Despite persistent efforts at all levels of National Government Office (NGO) (e.g. state, regional and international) to make a paradigm shift in terms of gender equality, an overwhelming majority of women are caught up in the maelstrom of discrimination and inequality.³⁷ Another suffering is added to women – they are the worst victims of environmental degradation.

Since the lives of women in Bangladesh are totally dependent on nature, they have to carry their family through managing and using natural resources. The global climate change has been increasingly raising attention recently all over the world, particularly in developing countries. It

³⁶ The Common Country Assessment: Bangladesh (2000).

³⁷ Forum, March, 2012.

adversely affects the people and most of its impacts fell on women. In Bangladesh, women have to depend on natural resources for their existence (e.g. food, fuel, fodder, water, medicine and income-generating activities) and on the contrary, they have to suffer more for environmental degradation. Thus, this paper attempts to explain the linkages between environment and women and focuses on environmental advocacy for women to come out from this suffering from the perspective of Bangladesh.

Linkage between Women and the Environment

“My environment is the basis of my economy and my total survival. It is from the land that I get my food.” - Dankelman and Davidson (1988)

The above line was taken from Dankelman and Davidson (1988). There is a key linkage between environment and women which was recognized in 2005. In a statement released in recognition of international Women’s day (8th March, 2005), UNEP’s Klaus Toepfer predicted that this relationship would come to forefront when nations meet later 2006 to review the progress of the millennium development goals.

We will now consider how our environment should be managed and how environmental changes affected people, particularly women and children. Ninety percent of women from the third world depend on land for their survival (Dankelman and Davidson, 1988). Women are categorized into two groups (Boserup, 1970) according to the agricultural works they perform. The *first* is found in the sub-Saharan Africa and in many parts of South East Asia where women do the majority of agricultural work. Boserup (1970) regarded this as female farming system. The status of women in this system is based on their role in production, *“they often enjoy considerable freedom of movement and some economic independence from the sale of their own crops.”* (Boserup, 1970) It was also added that women are active in this group.

The *second* type of women is found in South and West Asia. They do less agricultural work than men. Rahman (2003) stated that the status of women as primary dependents on the fulfillment of their reproductive roles. Islam (1993) cited the relationship of women with the nature from the writings of Shiva (1988) and Mies (1988). They found the relationship as an organic process of growth in which women and nature work in partnership. The process is summarized as follows (Mies, 1988):

1. Women’s interaction with nature, with their own nature, as well as their external environments, is a reciprocal process. They conceive their body as productive in the same way as they conceive external nature to be productive.
2. Although women correct nature, their appropriation of external environment is neither a relationship of domination nor a property relation. Women are owners neither of their body nor of the earth, but they cooperate with their bodies as well as with the earth in order to let it and make it grow.

In third world countries, women constitute half of the entire population and they are the poorest of the poor - not merely in wealth, but in every other index of development (Jahan, 2008). All over the developing world, women play a crucial role in environmental management as farmers, stockbreeders, and suppliers of fuel and water (UNEP & TERI, 1999). In Thailand, the forest people make a bamboo case to keep the umbilical cord and placenta and tie it in the sacred trees. They never cut that tree. This is a symbolical relation between nature and man. It is important to note that the relationship between women and the environment is less obvious in the west where most women are not involved directly with the source of their food supply, the energy, and the water they use.

In recent years, the relationship between women and environment has become more apparent. The importance of women's role in environmental issues has been recognized as daily manager of natural resources, caretakers of environment and decision-maker of domestic consumption and production patterns. But, much of these works have become harder through environmental degradation. Statistical evidence showed that women constitute a large majority among "low income groups" and are often the victims of poverty and environmental degradation. When natural resources are abundant, women face a lot of problems. Being the poverty and environment advisor with CARE, Phil Franks worried that the negative outcomes of loss and/or degradation of natural resources often fall most heavily on women, adding to their responsibilities and multiple roles in families and communities. Jahan (2008) also agreed that while her resources continue to dwindle, her responsibilities continue to increase. Women in Africa are the main custodians of indigenous knowledge in natural resource conservation, management and food preparation. Denkelman and Davidson (1988) explained the condition of women in this situation that women know that participating in the new agricultural technology threatens their only means of control over their livelihoods.

"In Tanzania, when new hybrid maize seeds, fertilizer and pesticides were allotted to men by the government, the women who did most of the field works neglected the new crop. Although their workload with the old crop was heavier, the profits from the new crop would, by tradition, have gone only to men"³⁸. Rural women in many countries were reluctant to accept the new hybrid due to the unpleasant taste, extra work load for preparing and cooking, storing, depending on market for collecting seeds, fertilizer and pesticides. Though improved technology have developed in agriculture and increased the production, women suffer more due to handling pesticides and fertilizers that cause serious health hazards. In 2003, the Centers for Disease Control and Prevention (CDC) reported that women, as compared to men, had in their bodies significantly higher levels of 10 of the 116 toxic chemicals they tested. Excessive use of agro – chemicals, an especial pesticide to reduce soil fertility, pollutes the water system and destroys capture fishery.

³⁸ Worldwide news, 1986

Linkage between Women and Environment in Bangladesh

The total population of Bangladesh is 123.1 million, of which 60.4 million are women, which is approximately 49.06 percent of the total population³⁹. Nearly 82% women of Bangladesh live in rural areas (Khan, 1995). Babul (2009) outlined the status of women in Bangladesh as:

“They are not secure; especially poor women die many times before their death. They receive less, but have no rights to demand more. They say less, but are bound to listen more. They eat less, but must produce more to feed others. If we analyze the lives of poor women, we become amazed at how they survive.”

In rural areas, women are totally dependent on the environment. About 43 percent of the women in rural areas are engaged in agriculture and related activities. Women are the most vulnerable group in society and suffer the most from any degradation of the environment (Jahan, 2008). Nowadays, the traditional role of women in Bangladesh is gradually changing due to increasing landlessness and male out migration (Burch & Rahman, 1990). In Bangladesh, one-quarter of the population has no land and the majority of them are women. They are affected directly and adversely both through manmade and natural disasters. Some key facts about women and environment are listed below (See Figure 1).

As Resource Managers - Women are efficient resource managers and have a central role in the conservation of natural resources (Table 1). They are considered as the primary users of natural resources (i.e. land, forest and water). They are responsible for gathering food, fuel and fodder. They perform various activities such as collecting, processing, storing, utilizing, managing and marketing. Their involvements in pre-seasonal and post-harvest operations are considered very critical, as also their work in weeding and pest management, seed selection, treatment and shortage of harvested crop (Vyasulu, 2001). They have profound knowledge of the plants, animals, ecological processes around them since they are traditionally involved in homestead forestry through nursery work and tree plantation. Preservation of seeds is the heart of agriculture and traditionally used to be handled by the women (Akash, 1998). Today, multinational companies control the promotion of HYV (High Yielding Varieties), they distribute and sale the seeds. Green Revolution made women abandon their traditional practices and became dependent on markets. The use of imported seeds, chemical fertilizers and pesticides have negatively impacted the large-scale irrigation and compelled the farmers' dependence on the chemical inputs. The environmental consequences of globalization impact on women because they can further worsen the situation of already poor and disadvantaged women. On one hand, control of agricultural resources goes out of women's hand, while on other hand, HYV produce less straw which affect women. Fodder for the livestock and branches and leaves for fuel are not available for women. So, they have to carry the heavier head loads and walk longer distances for collecting fuel wood and fodder.

³⁹ 2001 Population census, Enumerated

Figure 1: Contributions, Problems and Challenges of Women in Bangladesh

- *The impacts of environmental degradation on people are not same for men and women.*
- *In the poorer households, women are commonly seen to sacrifice their own meals for their husbands and children.*
- *In rural areas in Bangladesh, a woman's life totally depend on nature as she has to carry on her family through managing and using natural resources (Jahan, 2008).*
- *Women have extensive workloads with dual responsibility for farmland and household production.*
- *The role of women in rice production is already substantial and expanding further and women are actively involved in forestry, fisheries, and livestock production.*
- *Women have a central role in home gardening and homestead food production and women contribute to household income through farm and homestead production and wage labor.*
- *As primary managers of livestock, women ensure a supply of high-quality protein to the country.*
- *Women are the primary providers of household food, fuel, and water for cooking, heating, drinking and washing. Recently, women in the poor households have been identified as the 'victims' as well as 'managers' of household food security.*
- *Women have the knowledge of the location, reliability and quality of the local water resources. Women are responsible for water collection and carriage.*
- *They play unappreciated, invisible, undocumented, unaccounted and unpaid roles as both producer and active agents in sustainable development.*
- *According to UNDP (1995), women experience the hunger and poverty resulting from environmental degradation and reduce access to common property resources in much more intense ways than men.*
- *According to Ali (2002), the incidence of divorce, desertion and widowhood has been growing. Approximately 15 percent of all rural households are female-headed and 25 per cent of all landless households are headed by women showing links between gender disadvantage and poverty. Furthermore, female headed households earn 40 per cent less than male-headed households.*
- *Deforestation not only raises the workload and heightens the tensions of rural women; it also shuts out avenues to income earning opportunities (Islam, 1993).*
- *Mangrove destruction impede women's contribution through kitchen gardening, livestock and poultry rearing along the coastline.*
- *They do certain works that contribute to the savings of expenditure such as fetching water, collecting fuel wood, cooking, cleaning, childcare, house repair, nursery work and tree plantation.*
- *On one side, high technology agriculture and forestry decreases the control of rural women over the economy and on the other side, it strengthens controls of elites at the expense of women.*
- *Approximately 20-30% households are headed by women and 95% of these are considered to fall below the poverty line⁴⁰.*

⁴⁰ Bangladesh Bureau of Statistics (BBS), 2002.

The roles of women from environmental perspective in Bangladesh include the following:

As Decision Makers – They decide what to cook, what type of fuel to use, what type of stove to build for cooking, where to get water from, and where to get soil and other materials for constructing and maintaining their homesteads.⁴¹

Table 1: Women’s Work on The Basis of Months (Bangla)

Month	Activities
Boishakh (15 th April to 14 th May)	Bring soil from pond; plant and water vegetables weed; make trellis for vegetables; make <i>mourabba</i> (mango dessert); make <i>achar</i> (mango pickle)
Joistho (15 th May to 14 th June)	Make <i>amshotto</i> (mango preserve); vegetable cultivation
Asharh (15 th June to 14 th July)	Make fish traps, nets, breed fish; make <i>kantha</i> (quilt); mattresses and clothes; make <i>shikka</i> (jute hanging baskets)
Sraban (15 th July to 14 th August)	Thresh, dry, clean, parboil and husk rice dry and stack paddy stalks for cattle; make <i>shital pati</i> (grass mats)
Bhadro (15 th August to 14 th September)	Soak, wash and clean jute, and husk rice
Ashin (15 th September to 14 th October)	Clean house of damp & mould following monsoon; dry, mend rice containers for next harvest; make jute handicrafts
Kartik (15 th October to 14 th November)	Visit family; cultivate vegetable and pulses
Ograhayan (15 th November to 14 th December)	Husk rice and store, make <i>pitha</i> (pies)
Poush (15 th December to 14 th January)	Make rice cakes from newly harvested rice; make <i>cheera</i> (dried rice) and <i>muri</i> (puffed rice)
Magh (15 th January to 14 th February)	Make <i>gur</i> from date palm juice; make rice cakes
Falgun (15 th February to 14 th March)	Repair and re-plaster house and floor; plant vegetables and pick mustard seeds
Choitro (15 th March to 14 th April)	Clean and repair house; plant vegetables; make palm – leaf fans

Source: UNDP (1995)

⁴¹ UNDP, Environment report, April, 1995

As Mostly Sufferers - Natural and manmade disasters such as floods, cyclones, droughts, deforestation, soil, and riverbank erosion, drying of wetland, contamination from agro-chemicals and industrial waste, commercial shrimp cultivation, inappropriate land use and poorly planned infrastructure have pushed poor women into great problems (Table 2). Najmun (2008) explained that as household managers, women are the first to suffer when sustainable livelihoods are unbalanced, when the water becomes not portable, the food stores dry up, the trees disappear, the land becomes untenable and the climate changes. Women eat last and least. Approximately 70% of women and children suffer from nutritional deficiency and 30% suffer from calorie deficit (e.g. pregnant and lactating women). They are often the ones who need to walk further and work harder to ensure survival of their families. Loss of the wetlands has severely reduced fishery in Bangladesh and it has a negative impact on poor women and children as capture fishery.

Table 2: How Women are affected by Environmental Degradation in Bangladesh

Issues	Concerns
Deforestation and forest degradation	Affected disproportionately by less food, fuel and harder work. Women have to travel far to collect fuel woods and have reduced opportunities to attend school. Furthermore their health is damaged due to less cooked food and un-boiled water resulting in intestinal diseases.
Drying of wetlands	Fish is the main source of protein for the rural poor. Destruction of wetlands affects the nutritional and health status of women and it shrinks women's employment opportunities.
Poorly planned development projects	Cause water logging problem, affects plant quality and growth, human health hazard and ecosystem disturbed.
Contamination from agricultural chemicals	Women face greater risks of sickness or morbidity than men. Sufferings from heart and skin diseases. Cows, goat and other domestic animals eat pesticide-affected grasses. Decline in fish production due to water pollution by chemicals.
Loss of biological diversity	Loss of many traditional varieties of rice and other crops. Loss of agriculture, forestry, livestock and fisheries production system. Women have to depend on market.
Urban pollution	Land use alterations, inadequate shelter, water, sanitation and other facilities in slums and urban poor areas, degradation of community ambient environment. Air and water pollution threat to women health (the source of asthma, lung cancer, allergy, cold and viral fever) and industrial wastes cause unsuitable

	human habitation.
Hazardous industrial wastes	Polluted water, pressure on urban water source, decline in the quality of water, increased pressure on ground water, loss in soil fertility, disruption of livelihood system, increased conflict among different users and sectors and damaged homestead and towns.
Lack of clean water and sanitation	Women have to walk a long way to get water and it becomes harder for them and it is time consuming. Spread of various communicable waterborne diseases, including diarrhea, cholera and typhoid.
Shrimp cultivation	Destruction of mangrove for shrimp cultivation made women jobless (collect firewood to earn their livelihood), limited kitchen gardening, livestock, and poultry rearing due to saline inundation of fields.
Natural disasters	Destroy crops, livestock and human life, particularly women, and bring unbearable social crises and sufferings to women. Creates refugees of migrated women.

Women using polluted water get skin, eye and intestinal diseases and face greater problems than men because they are more likely to work without protective equipments and are less aware about the harmful consequences of such chemicals. Women rely heavily on biomass fuels (e.g. wood, straw, or dung) which emit smoke that contain levels of suspended particular matter (SPM) that exceed safe levels. The combination of inefficient stoves, absence of chimneys and poor ventilations leads to indoor air pollution. Their mental and physical health is severely hampered due to breathing of polluted air. Apart from its damaging effects on women health, polluted air particularly sulfur dioxide, also exercises an influence on vegetation. Plant species are seriously affected and may die off altogether. Thus, women again are the suffer most. According to Unnayan Shammaanay (2001) and People's report on Bangladesh Environment (2001), the physical characteristics of the land, geographic location, the multiplicity of rivers and the monsoon climate make Bangladesh highly vulnerable to natural disasters, such as floods and cyclones and act as significant constraints in achieving sustainable socio-economic development of the country.

According to Climate Change Cell (2007), Bangladesh is already confronting adverse impacts of global climate changes including summers becoming hotter, monsoon irregular, untimely rainfall, heavy rainfall over short period causing water logging and landslides, very little rainfall in dry period, intensity and recurrence of floods, coastal erosion, riverbank erosion, cyclone,

tornado, storm surge and tidal bore among others. Climate change is expected to disrupt farming systems and jeopardize the local infrastructure. In such situation, women and children suffer most because of their lesser mobility and inadequate infrastructure support. Disasters can devastate the environment, but women still have to perform their regular duties like preparing food and collecting water and fuel, often under impossible circumstances (Jahan, 2008). They have to survive by adopting strategies to cope with all odds of nature and the society (Ahmed, 1995). They find it difficult to get work during the disaster period. Sometimes they have no other way other than to choose beggary or prostitution (Ahmed, 1995). It is important to note that in the 1999 cyclone, 65 percent of the dead people were women and children. Women are left home by their husbands to care for children and protect property and fail to understand the emergency warnings by loudspeaker and other factors that result in higher mortality⁴². Riverbank erosion uproots people from their settlement, cause unemployment and marginalize people with little resources (Shamim, 1995). To date, this phenomenon has rendered millions (in cumulative terms) homeless and has become a major social hazard. Gender assigned tasks of the women become much more difficult to perform under displaced situation (Jahan, 2008). Women suffer more in coastal areas of Bangladesh. Few examples are cited below:

“Agriculture is limited in the coastal areas, reducing the diverse and varied tasks that women were engaged in before (e.g. weeding, harvesting, rice husking)... Loss of mangrove areas and other public lands and water bodies as common pool resources appear to have had a greater impact on women than men in coastal areas. A decline in nutritional diversity is suspected as consumption of fish, poultry, fruits and vegetable decline from falling survival rates of different species of plants and animals due to increased salinity in the area and conversion of large tracts of lands for shrimp ponds. Such realities adversely impact women’s health, nutrition, workload and livelihood strategies.”⁴³

According to Irshad (2002), women in urban areas do not have the same close relationship with the natural environment as they do in the rural areas; however, they are still affected by the degradation, face problems such as poor housing, overcrowding and inadequate water supply and sanitation. They have to live in unhygienic condition in urban slums. According to experts, about 40 diseases can spread from waste products including bronchitis, asthma and many types of skin diseases, with women and children being the most affected group. Unsustainable environment caused by inadequate or inappropriate shelter, lack of water supplies, poor sanitation, shortage of cooking fuel, poor nutrition, and excessive use of agrochemicals and habitation of environmentally fragile and hazard-prone areas are creating problem to environment.⁴⁴

⁴² Baden, Goetz, Green and Guhathakurta (1994)

⁴³ www.unnayan.org/env.unit/paper5

⁴⁴ ECAP/UNDP report, 1990.

As Water Manager – In 2002, UNFPA did a study which estimated that girls and women in developing countries walk six kilometers on average per day to collect water. As water managers, women have to decide (Dankelman & Davidson, 1988):

- Where to collect water, how to draw, transport and store it;
- How many water sources can be used depending on its quality for various purposes including drinking, washing and in the kitchen; and
- How to purify drinking water using simple techniques (such as filtration) or materials available from the environment.

The scenario in Bangladesh is no exception. They are responsible for collecting water and for controlling its domestic use. Distance to source, terrain to be crossed, queuing time, number of consumers in the household and number of females available in the household to transport the water are aspects women have to face (Haider, 1994). For drinking purposes, over 97% of households in Bangladesh use ground water, most of which is abstracted by hand tube wells from shallow layers. The rural poor women are more likely to rely directly on rivers and unprotected shallow tube-wells for their water needs and are least able to bear the cost of purifying water to make it safe for drinking. Women will have to walk further to collect drinking water when both ground and surface waters are made saline by shrimp ponds.

In dry season, it is difficult for women to procure water. When one accumulates the hour's mothers and girls spend on the procurement of water, we see that it leaves very little time for their education and other productive or income-generating activities. Available reports suggest that the water quality of surface water sources is found to be deteriorating rapidly on a number of counts - namely, a decrease in the concentration of dissolved oxygen (DO), an increase in both the counts of biological oxygen demand (BOD) and chemical oxygen demand (COD), an increase in both faecal and total coliform counts, and an increase in concentrations of known carcinogens including heavy metals and azo-dyes (Rahman et al., 1990). Poor water quality is hazardous for women and children. During dry months, the size of the standing water bodies including the *haors* and *beels* becomes smaller. The water bodies turn into breeding grounds for pests and pathogens and concentrations of various pollutants. Women health conditions deteriorate with changing water quantities and qualities.

As Fuel Manager – Deforestation requires women to spend more time gathering fuel wood over greater distances. In Bangladesh, women have to spend five hours in a day to collect fuel wood. Moreover, women use industrial wastes, papers and polythene as fuel which creates air pollution in urban areas. Women and children are badly affected by air pollution.

As a Friend of Forest – As they collect their every day needs such as fruits, vegetables, medicine herbs, fuel wood, fodder and water, women have a close relationship with forest. They are often the custodians of indigenous knowledge and promoters of biodiversity and environmentally friendly management. The tree cover in Bangladesh according to official

statistics has been reduced from over 17% in the 1960's to less than 9% now (Islam et al., 2007). The forest area has been almost denuded due to deforestation. Falling of trees for timber, fuel, and encroachment on areas covered by forests has reduced the reserve forest area. Parts of the Sundarbans and other mangrove forests in the coastal areas have been clear cut for commercial shrimp farming by private companies and individuals. Another important issue is that homestead forests are depleting at a very alarming rate. When forest has been denuded, degraded and encroached by people, women face many problems. They depend on forest for fruits, fuel and vegetables. Forest Based Small Scale Rural Enterprise (FBSSRE) is one of the major sources of off-farm income to rural women in Bangladesh. They are jobless when forests are disappeared. Worst deforestation has occurred in the *sal* forest and *Modhupur Ghar* forest. It has severely affected *Adivasi* economy.

Women who collect fuel wood and other necessities from forests for domestic consumption and sale have found that their source of livelihood has drastically shrunk (Gain, 1998). They have to walk longer and work harder to collect minimum requirements of survival needs. Garo women in Mymensingh are faced with the problems of land grabbing problems. Since they inherit the land property, the Bangali land grabbers often forcibly or by seducing the Garo women to marry them. After they transfer the lands in their husband's name, husbands simply divorce them.

Women Environmentalist and Movement on Environment

Women Environmentalist at Global Perspective

The twentieth century has seen the rise of women's movement. Like environmentalism, the first appeared much earlier, but it was not until the present century, and in particular, until the 1960s, that the women's movement became established as a worldwide influence.⁴⁵ It is perceived by all that they have participated and contributed to major environmental movements in many countries. The summary of the contributions of prominent women environmentalists are given below:

Table 3: Summary of Contributions of Prominent Women Environmentalists

Name of Environmentalists	Focus	Concern	Contribution
Rachel Carson	Focused on effects of chemicals and pesticides on the environment	Pollution from industrial sector can damage the ecosystem. Natural resources conservation.	<ul style="list-style-type: none"> • 'Silent Spring' was famous to introduce modern environmental movement. • Advocating for conserving natural resources and calling for new policy to protect human health and

⁴⁵ UNEP and TERI report, 1999:p.3

			environment was her tremendous works.
Marjory Stoneman Douglas	Focused on poor women's suffrage and rights in South Florida	Concerned for the of preserving wetland of Everglades.	<ul style="list-style-type: none"> • Her book 'Everglades: River of Grass' was made to conserve the South Florida's wetlands. • She founded 'Friends of the Everglades' to accelerate the movement.
Teresa Heinz	Focused on environment	Advocates for children health and environmental issues	<ul style="list-style-type: none"> • She founded the Heinz Centre to improve the scientific and economic foundation for environmental policy through multi-sectoral collaboration among industry, government, academia, and environmental organizations. • She is a member of the Environmental Defense Fund. • She was a delegate to the Earth Summit, representing NGOs. • She also founded Heinz award for outstanding contributions in environment.
Lois Gibbs	Focus on health and chemicals.	Advocated for raising awareness about toxic chemicals and their effects on human health particularly children's health through her group.	<ul style="list-style-type: none"> • She made an environmental group named 'the Centre for Health, Environment and Justice'.
Jane Jacobs	Focus on urban renewal movement.	Advocated for dense-mixed-use, walk able cities.	<ul style="list-style-type: none"> • She was well known as hero of urban renewal movement. • Her book 'The Death and Life of Great American

			Cities' was a milestone in 1950s.
Jane Goodall	Focus on Wildlife Conservation.	Works for raising awareness among people to protect animals and the environments.	<ul style="list-style-type: none"> • She founded the Jane Goodall Institute in 1977 in Africa. <p>The institute works for raising awareness to protect apes and giving training to care for animals and the environments.</p>
Wangari Maathai	Focus on environmental restoration in Kenya.	Concern for establishing environmental restoration and empowering poor women along with economic growth.	She is the founder of Green Belt movement. The movement helped plant more than 40 million trees on community lands.
Vandana Shiva	Focus on raising awareness about the danger of genetic engineering and promoting sustainable agriculture.	Advocated for bio-diversity and people's food right.	<ul style="list-style-type: none"> • She is the founder of Navdanya biodiversity conservation program. • The Navdanya biodiversity conservation program helped to set up 54 community seed-banks in India and trained over 500,000 farmers in seed sovereignty, food sovereignty and sustainable agriculture.
Majora Carter	Focus on integrated environmental and economic solution.	Works for environment and social justice.	She founded 'Sustainable South Bronx' to provide integrated economic and environmental solution. It also provides training for innovative jobs and education programs for advocacy.
Julia Butterfly Hill	Focus on some initiatives that stresses on speaking and teaching folks about	Concern for sustainable environment.	<ul style="list-style-type: none"> • She saved a 1500-year old California Red wood tree from being cut down by the Pacific Lumber

	community organizing and activism with Circle of Life.		Company. The Earth First group supported her campaign.
Betsy Greer	Focus on crafting movement.	To use green crafting techniques.	<ul style="list-style-type: none"> • She helped the green crafting movement. Her book 'Knitting for Good' inspired thousands of crafts makers to use green crafting techniques and it makes a difference in crafting movement.
Maria Cherkasova	She recently shifted her focus on children rights protection to establish healthy environment.	Concern for Ecological programs.	<ul style="list-style-type: none"> • She works for coordinating a 4-years campaign to stop construction of hydro-electric dam on the Katun River. • She researched on rare species. • She also worked in USSR Red Data Book and CIEP.
Ellen Swallow	Focus on industrial and environmental issue.	Advocated for environment by providing education to women about the environment in relation to their homes or home making	<ul style="list-style-type: none"> • She is the founder of ecology.

Women Environmentalists on a Bangladesh Perspective

In Bangladesh, there are few women environmentalists who are working for women and environment. Among them were Syeda Rizwana Hasan and Farida Akhtar who are famous for their activities. Syeda Rizwana Hasan, chief executive of Friends of the Earth Bangladesh and Bangladesh Environmental Lawyers Association (BELA) has been awarded the Goldman Environmental prize 2009 for the Asian region. Her effort in the conservation of environment is considered for that award. She works in BELA which continues to work on advocacy for environmental issues such as detrimental environmental effects of ship-breaking industry, wetland conservation, and regulation of commercial shrimp farming, forest preservation, vehicular pollution and industrial pollution. Farida Akhtar is working in UBINIG (Policy

Research for Development alternative) which focused on commercial shrimp culture. She is also involved with ecological agriculture and biodiversity movement.

Women Movement on Environment: A Global Perspective

Throughout history, men have considered natural resources as income generating sources, while women have looked on them as their basic needs. Women have different relationship with environment including different needs, responsibilities and knowledge about natural resources. Vyasulu (2001) stated that when natural resources like the water and forests are in danger, women have been quick in responding and participating in movements that have drawn attention to such danger. According to Janice Jiggins (1994), they give greater priority for the protection of and improving the capacity of nature, maintaining farming lands, and caring for nature and environment's future. Chipko and Narmada movements in India, and Green Belt movement in Kenya were led by women that focused on restoration of forest and natural resources and empowerment of rural women through environmental preservation. The present culture, environment and systems are against women and do not include women's concerns. For this reason, eco-feminists start their work in small groups and community-based personal affinity in rural areas (Patel, 2004). Then, they connected the environmental movement nationally and internationally through networking. Eco-feminism is a new word in environmental movement which is connected with women and environment. Particularly, it is a social movement that regards the oppression of women and nature as interconnected (Najmun, 2008). She addresses the term "feminism" as a thought or movement toward the political, economic and social equality of women and men. Ecology is the study of the relationship between human and environment. Ellen Swallow and Arne Naess are renowned eco-feminists in the world. They considered the connection between oppression of women and oppression of nature as sometimes competing, sometimes mutually complementary or supportive analysis of the nature of the twin dominations of women and nature. The international women's movement became connected to international environment movement in the 1980s. Some of the environmental movements are highlighted below.

Chipko movement in India – It is an environmental movement which has a hearty relationship on women and nature. In the mid 1970s, Indian government decided to cut forest resources for commercial purposes. About thirty women in the Himalayas of Northern India were united to save more than 10,000 square miles of forest watershed, because deforestation had caused landside, flood, and soil erosion (Najmun, 2008). The first Chipko movement occurred in April, where villagers, mainly women, demonstrated against felling trees. They hug the trees and protected the trees from forest destruction through non-violent resistance in the Mandal forest. It was fought for preventing trees falling to the forester's axe. This resistance to the destruction of forests speeded throughout India from 1970s to 1980s. Chanshyam Raturi, a folk poet, wrote songs of popular protest which created awareness about forest destruction. Vandana Shiva was a participant of this movement. She laid emphasis on justice and ecological stability, led the movement as an environmentalist and eco-feminist. Her book "Staying Alive: Women, Ecology,

and Development” grounded the environmental struggle of women in the third world. It got momentum result in 1980 with a fifteen year ban on forest destruction in Uttar Pradesh.

Green - Belt Movement in Kenya - The movement was organized by the National Council of Women of Kenya. Professor Wangari Maathai was the leader of the movement. Following are some words from the Nobel laureates Wangari Muta Maathai⁴⁶ :

“I reflect on my childhood experience when I would visit a stream next to our home to fetch water for my mother. I would drink water straight from the stream. Playing among the arrowroot leaves I tried in vain to pick up the strands of frog’s eggs, believing they were beads. But every time I put my little fingers under them they would break. Later, I saw thousands of tadpoles: black, energetic and wriggling through the clear water against the background of the brown earth. This is the world I inherited from my parents. Today, over 50 years later, the stream has dried up, women walk long distances for water, which is not always clean, and children will never know what they have lost. The challenge is to restore the home of the tadpoles and give back to our children a world of beauty and wonder.”

The poor rural women identified that forest have been jeopardized resulting to soil erosion and land degradation. Maathai initiated the movement with a commitment which created a relationship between women and environment, with concerns over environmental conservation. The objectives of the movement were inspired by the local needs and problems of Kenya. Mathai helped women plant more than 30 million trees in their communities, farms and school grounds (Najmun, 2008). Women produce tree seedlings and sell to small-scale farmers and public institutions. Thus, they are paid for the tree seedlings and it creates income generating activity. It is a fact that it improves their economic position and promotes self-employment. The movement created more than 600 tree nurseries in communities throughout the country (Patel, 2004). It is interesting to note that about 40 million trees are currently growing in Kenya. More than 50, 000 members are engaged in the community based project.

Women Movement on Environment from Bangladesh Experiences

Movement on shrimp cultivation - In Bangladesh, shrimp cultivation has devastated the coastal ecology. In the Khulna and Sathkhira districts, a number of NGOs, primarily Nejera Kori, have taken a strong lead in the anti-shrimp movement and have successfully organized farmers in Polder 22 to resist any shrimp being grown in this area by outsiders. Movement on shrimp was organized by women and was spearheaded by Nejera Kori and Bittyahin Shamabai Samity.

⁴⁶ The Daily Star, 06.07.07.

The killing of Karunamoyee Sarder, a landless woman in 1990, reflected the movement against shrimp and woman's active role in it (Raj and Gain, 1998). Ghafur et.al. (1999) provides the following information about the movement:

“On the 7th November 1990 at about 10.00 a.m., five trawlers carrying cadres of the shrimp lord came to Horinkhola to cut the embankment in order to set up a shrimp farm. Hearing the news of such arrival, the members of the Bittyahin Shamabai Samity brought out a peaceful procession, chanting slogans in protest of the shrimp-farm. The shrimp lord's men attacked the innocent people ruthlessly with guns, hand-made bombs and sharp instruments. Karunamoyee, who was leading the procession, died instantly. Part of her skull was severed from her body. Twenty more people were seriously injured. To the local people, Karunamoyee became a martyr and the 7th of November is observed every year in memory of Karunamoyee”.

The experience of shrimp farming and its relation with the livelihood of women in southeastern Bangladesh clearly illustrates that poverty; food, insecurity and environmental degradation are critical development problems that have a disproportionate negative impact on rural women, due to their inferior socioeconomic, legal and political status.⁴⁷

Movement of Khasias - In Sylhet, an Eco Park was built where Khasias had been living for years. Khasias, particularly women, were severely victimized because they were dependent on forest for food cultivation. Najmun (2008) notes that some movements emerged to protect women and environment and some NGOs emphasized environment protection in 'Magorchara' and 'Tengra Tila', places which were burnt so badly that it was difficult to grow trees for years.

Advocacy for Women and Environment

“Life is a whole; it is a circle. That which destroys the circle should be stopped. That which maintains the circle should be strengthened and nurtured.” – UNEP (2004)

The above statement was collected from UNEP report (2004) and is unique for all. According to Dankelman and Davidson (1988), recent developments have worsened the position of women. Western colonization, the increasing dependency of third world countries on the western monetary economy, developments in technology such as agricultural modernization, the sharpening worldwide division of labor and increasing religious fundamentalism have all brought extra problems for women. Among them, environmental degradation is the most and latest threat to women. In developing countries, environmental degradation such as toxic contamination, destruction of natural resources, disappearance of water, food and work, displacement for traditional lands are common sufferings of the people. Environmental movements are centered on these issues. Many organizations focus on the needs of women who are most affected by environmental hazards. UNEP (Table 3), FAO and IUCN are the active

⁴⁷ Naved Ahmed Chowdhury, Climate Study Series-2, Unnayan Onneshan. Available online at: www.Unnayan.org/env.unit/paper5.

actors for creating awareness of women’s crucial role in environment. World Bank (2002) in a study recognized that gender equality is important for sustainable development. An Action program named Agenda-21 has been taken, that recognized the importance of women in preserving the environment. There was another call that declared to establish a work-pattern at the national, regional and international levels by 1995 in order to evaluate the influence of development – environment on women. Women participated in the workshops and shared their experiences and voiced their concerns over environmental degradation. Particularly, women’s role in protecting the environment was recognized nationally due to the advocacy of women’s groups and NGOs. They motivated the women and emphasized that women had distinct role and voice in advocacy on issues related to environment and environmental health. They engaged women in advocating for their rights to live in a healthy environment by providing opportunities to build networks for change. They also worked for community action, created women’s awareness in over environmental, educational, social and political concerns.

Table 3: UNEP’s Work on Women and Environment

Years	Activities
1980s	UNEP played a pioneering advocacy role in linking women and the environment.
1985	Held a special session on women and environment at the 3 rd world conference on women, in Nairobi. Hired senior women advisors on sustainable development.
1991	Co-organized the global assembly on women and environment in Miami, Florida, USA.
Since 1992	Focused more on internal functioning, and less on external advocacy.
1993/1995/1997	The 17 th , 18 th and 19 th sessions of the UNEP Governing council issued decisions on the organization and the role of women in environment and development.
1995	Issued publication of Gender and Environment: A UNEP perspective.
1996	A policy statement from the executive director set forth guiding principles for interacting gender into Gender into UNEP activities.
1997	Included gender sensitivity guidelines within UNEP’s project manual.
1999	Appointment of a UNEP gender focal point. Report to the 20 th session of the Governing council on the “Role of Women in Environment and Development”(UNEP/GC.20/10)
2000	Issuance of the publication success stories: Gender and Environment.
2004-05	UNEP program of work includes a commitment to make gender a cross-cutting priority in all its programs, with an emphasis on the empowerment of women in environmental decision-making, active participation of women, technical assistance to women’s network, a focus on women in reports on environmental links to ill health, development of education and training materials, organization of workshops and gender balance in meeting.

Source: UNEP report 2004, p.6

In recent years there have been some positive results. Women's Environment and Development Organization received the 2010 Advocacy Award for their contribution to the Climate Change Conference in Copenhagen, particularly for their work on promoting gender responsive climate policy and improving resilience and capacity of women and their communities around the world. Thus, all over the world, women are taking action against the degradation on natural resources. Below we list the concerns of several organizations (Table 4) from the global perspective:

Table 4: Organizations Engaged in Advocacy

Organization	Concerns
Friends of the Everglades	Works for preserving the ecosystem.
The Centre for Health, Environment and Justice	Raise awareness about the effects of toxic chemicals on health, particularly on children.
The Jane Goodall Institute	Protect apes and help teach young people to care for animal and the environment.
Navdanya biodiversity conservation program	Raise awareness about the danger of genetic engineering and promote sustainable agriculture.
AUPWAE (Association of Uganda Professional Women in Agriculture and Environment)	It works for gender awareness and agricultural resources distribution (improve farm yield and food production).
National Council of Women of Canada	Advocates for improving conditions of women, families and communities including women's suffrage, immigration, health care, education, mass media and environment.
Rosie's Place	Provides a safe and nurturing environment to help poor and homeless women in the United States.
Association for Women in Science	Promote the entrance and advancement of women in science through congressional advocacy and by participating in a variety of national coalitions and publishing science programs and women's issue.
Women's Environment and Development Organization (WEDO)	Advocates for women's equality in global policy through conducting research on gender and governance, sustainable development and social justice and build alliance with women's groups, human right groups, and also advocates for including gender-perspective in climate change issue.
Women's voices for the Earth	Works to eliminate toxic chemicals to improve women health through raising awareness on environmental health hazards, providing technological assistance to women fighting local polluting facilities

	and engage women in advocacy campaign and change consumer behavior and government policy.
African Women's Right Advocacy Group (AWRAG)	Advocates for women rights
Women's Earth Alliance in North America	It supports the indigenous movement of environmental health and justice.
Women Environmental Institute at Amador Hill	Create awareness about environmental issues and policies relevant to women, promote agricultural justice, organic and sustainable agriculture and ecological awareness through research, seminars, demonstrate leadership, and develop strong affiliations with local and regional environmental groups.
Global Green Grants Fund	Working as community activists about social justice and environmental sustainability and supporting local leaders of developing countries to establish a just and sustainable world.
Green Team (Global Ministries United Methodist Church)	Advocates for establishing environmental justice for the benefit of present and future generation.
The foundation for the support of women work (FSWW) in Turkey	Provide support, skills, training, and information to women through disaster risk management.
The Gambian National Women's group	Works for women and sustainable environment. It organized village women to introduce orchard woodlots. Planting nursery bed by women helps to establish the sustainable environment and enrich the soil, prevent erosion, increase crop diversity and provide fuel and shade.
Self-Employed Women's Association (SEWA) in Ahmedabad, India	Works for women empowerment through self-employment. It runs cattle and dairy projects for landless women. Milk cooperatives, cattle-feed programs, development of dairies provide them income-generating programs.
World Plus in Portland, USA	Broadcasts and unite women's voice into powerful force for change through global media and communication network.
Plus wire	Helps grassroots women journalists by providing training and solutions and new ideas through online network and world plus magazine.
Women Environmental Council in California	Its mission is to make a difference in the community through women leadership, education, communication, and environmental activities.

In 1980s, many countries and development agencies became more aware of the need to consider gender issue in their environmental programs. Advocacy works about women and environment are limited in Bangladesh. Donor agencies also gave importance on women as environmental manager and considered their contribution in environment. International organizations and donors are interested to include these issues. Many local, regional and national workshops on environment and sustainability were held in Bangladesh in 1990. Several NGOs like Nejera Kori, UBINIG, SEHD, and PROSHIKA created awareness to do their best to encounter environmental degradation. The Government of Bangladesh has started to recognize the need to advance the status of women in environment. Government adopted a participatory plan named National Environment Management Action Plan (1995) which was formulated by grassroots men and women in a bottom-up planning exercise. It calls for the involvement of local community, including men and women, for the protection of environment.

The government has taken few environment related projects in which advocates awareness on women's needs and interest; for example - Coastal Greenbelt Project, Biodiversity Conservation Urban Environment Project (1995), and Sustainable Environment Management Project (1995-2002). Several NGOs have, for example, demonstrated the potential for 'social forestry', whether in homesteads or alongside roads or railway lines, particularly involving women in Bangladesh. There are about 300 local and national NGOs (ADB report, 2001) are active in social, community and homestead forestry project activities. The National Association for Resource Improvement involves women in tree planting along roadside at *upazilas*. A non-governmental organization campaigned to raise the general level of consciousness and lobbied the parliament to form a special committee that helped to include women in the coastal afforestation program (Patel, 2004). The status of women was also enhanced through the distribution of land to both husband and wife. She added that the result of this program included new trees being planted and the local authorities integrated women in various other projects which helped coastal ecology and preserved the livelihood of millions of people. UBINIG did many research works on women and pesticides in Bangladesh. One of their works was '*Beesh*' poisoning of the lives: A study on Women and pesticides in Bangladesh that was conducted in 1998 in 5 districts of Bangladesh. These studies provided various illustrations about how women were involved in the use of pesticides as a family member of the farming households, as well as farmers themselves, and how they were affected by pesticides for using them directly and also due to the food and environment poisoning. UBINIG also introduced ecological agriculture movement. They have tried to establish linkages between nature and agriculture. Women were the first to respond as they experienced face – to – face excessive chemical use in agriculture. PROSHIKA, a national NGO, believes that the real development, both in crop production and post-harvest agricultural activities, can happen only through involvement of women. PROSHIKA introduced this policy in 1983 and women's participation increased in the irrigation programs. A study conducted jointly by the Wageningen Agricultural University of Netherlands and BIDS revealed that PROSHIKA women's groups are the top in Bangladesh in terms of independent initiatives and involvement in operating irrigation projects. More than 18,500 disadvantaged women were

involved as caretakers in plantation maintenance program through PROSHIKA's social forestry program. It also provided training of ecological agriculture to develop women farmers understanding of the causes of agro-ecosystem degradation and a scientific explanation of adverse effects they experienced. The efforts from the government and NGOs in combating the challenge to women and environment need to be strong and coordinated.

CONCLUSION

The authors' argument is based on information that she collected in person, and there were lack of information concerning women environmentalists and specific advocacy organizations for women and environment in Bangladesh. This paper tried to cover issues related to women, environment and advocacy. There is however, a need for a more multi-dimensional approach for an in-depth analysis of the situation of Bangladesh in relation to women environmentalists and advocacy for women and environment.

Bangladesh faces frequent floods, drought, and cyclone than many other countries. This is expected to increase in the future. The vast majority of women in Bangladesh is not only poor, but is also heavily disadvantaged compared to men in terms of social, economic, legal and environmental status. For this reason exploration in terms of vulnerability of poor women and linkages between gender and climate change are required (Babul, 2009). Islam (1993) argues for women's special vulnerability to environmental degradation needs to be better appreciated. We hope that twenty first century is ushering in an era of new hopes and aspirations for the women-folk, as the women of Bangladesh can now look forward with pride and hope for having some outstanding and significant moments that have taken place in the last two decades for their all out development. Jahan (2008) adds that sustainable development would be an elusive goal, unless women's contribution to environmental management is recognized and supported.

To restore and conserve the environment, a worldwide reorientation of development towards sustainability is needed at all levels of society starting from the grassroots to international action. Women are among the most important and best experienced actors in bringing about such sustainability. There is a prospect of advocacy groups in environment to strongly advocate about the linkages between women and environment and to work for saving their lives and establishing human rights. They also can improve the status of women and environment. They can explore the sorrows, tragedies and sufferings of millions of women through their advocacy works in front of the world. Media can play a hugely complimentary role by educating and sensitizing people about this new topic of environmental advocacy for women.

The national policy related to women and environment needs to take cognizance of effects of environment degradation and begin to plan appropriate responses. Another important thing is the women's knowledge of location, reliability and quality natural resources. Food security is not possible without women. The policy planners should recognize the importance of mainstreaming women in natural resource development, management, and their knowledge gained as resource manager, as decision maker, as suffer, as water manager, as fuel manager, and as friend of forest

at the household and community levels should be utilized properly. Government and advocacy group's interventions and achievements would help women find new ways to cope with these challenge and mark a new beginning in sustainable development.

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