Gender aspects of climate change

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Incorporation of gender perspective in global and national climate change policies, documents, programmes and budgets is imperative for any meaningful effort against the negative externalities of climate change. As women constitute half of total population of Bangladesh, climate change adaptation and mitigation policies must address the gender issues.

UNTIL recently, most people treated climate change as a matter of scientific discourse, or at best a technical issue discussed and debated in highbrow academic seminars and 'expert consultations'. Of late, however, the pervasive effects of climate change hovering over economic to social to political sectors that bind people of every stage in the society-- regardless of race, caste, ethnicity, sex, and level of income -- have forced this traditional "far-off" perception of climate to change into one of the hard realities of everyday life.

Case studies from across the globe allude to the uncomfortable fact that climate change impacts are more heavily felt by poor nations and communities due to their weaker resistance capacity. This predicament is also indicative of the existing inequalities. Gender discrimination -- one of most striking dimension and manifestation of such inequalities -- has often remained typically overlooked in climate change-related discussions and interventions.

Apparently, women are more vulnerable to climate disasters than men through their socially constructed roles and responsibilities, and their relatively poorer and more economically vulnerable position especially in the developing world. Gender inequalities with respect to enjoyment of human rights, political and economic status, land ownership, housing conditions, exposure to violence, education and health (in particular reproductive and sexual health) -- make women more vulnerable before, during and after climate change-induced disasters.

In academia, gender refers to the social roles and relations between women and men which include different responsibilities of women and men in a given culture and location. Gender analysis, however, is closely related to power analysis, and recognised as an important conceptual tool in addressing differential vulnerabilities, and predicaments of women (vis-à-vis men) -- arising out of social norms, customs or even, state policies.

Women, generally, are responsible for reproductive tasks such as food collection and energy supply for the household as well as many care-giving tasks, such as caring for the children, sick and elderly and the home and assets. In many societies, socio-cultural norms and care giving responsibilities prevent women from migrating to look for shelter and work when a disaster hits. Water, sanitation and health challenges put an extra burden on women in case of any disaster. Moreover, women are often seen to embrace risk to rescue others during disaster situations in a characteristically self-sacrificing attitude.

A recent study conducted jointly by the London School of Economics, the University of Essex and the Max-Planck Institute of Economics, analyzing natural disasters between 1981 and 2002 of 141 countries reveals evidences of socially constructed gender specific vulnerability of women built into everyday socio-economic patterns that leads to the relatively higher female disaster mortality rates compared to those of men. For example, the 1991 cyclone in Bangladesh killed 138,000 people, many of whom were women and older than 40 years.

During and immediately after disasters, deaths, diseases and injuries occur from such incidences as waterborne diseases, snake bites, drowning, fall of large trees and collapse of physical structures. In all such cases of danger, women are particularly susceptible. Furthermore, lack of medical facilities, malnutrition, disrupted supply of pure drinking water and lack of proper sanitation facilities make women's life increasingly vulnerable.

During cyclones and floods, women and adolescent girls suffer as sanitation systems are destroyed. Pregnant women, lactating mothers and differently-abled (disabled) women suffer the most -- as they find it difficult to quickly move to safety before and after any disaster hit.

In developing countries like Bangladesh, women are more calorie-deficient than men (the male members in a family have the "right" to consume the best portions of the food, and the female members have to content themselves with the left-overs) and have more problems during disasters to cope with. Moreover, an increase in the number of female-headed households (because of male out-migration to cities or overseas destinations) also amplifies women's responsibilities and vulnerabilities during natural disasters. Therefore, in case of disasters, often women are also seen to struggle to cope with their household tasks or to find a safe shelter.

In the societies where dogmatic religious customs and rituals prevail, most often disaster relief efforts pay little or no attention to women's reproductive and sexual health guided by superstitions, and as a result, women's health suffers disproportionately. There are incidents often reported in the media where women have been abused sexually by the male relief seekers in congestion during the distribution of relief goods and services. This has put off many deserving women from participation in relief programmes despite their great need and demand.

During natural disasters, more women die (compared to men) because they are not adequately warned, cannot swim well or cannot leave the house alone (UNFCCC COP-11, 2005). Moreover, lower levels of education reduce the ability of women and girls to access information including early warning, and resources, or to make their voices heard.

Various natural calamities such as drought, deforestation and erratic rainfall cause women to work harder to secure (natural) resources and livelihood. In such situations, women have less time to earn income, get an education or training, or to participate in institutional fora (e.g. governing bodies). Despite governmental support, poor girls regularly drop out of school to help their mothers to gather wood and water in the changed harsher climatic condition.

Bangladesh happens to be the most vulnerable country to the impacts of climate change as *Intergovernmental Panel on Climate Change* (IPCC-the global watchdog on climate change impacts) warned in their latest report, because of its regional connectivity through geo-physical and hydrological features and its livelihood reliance on trade.

In Bangladesh, women in low-income households are heavily involved in economic activities, mostly around homestead-based production, which contributes up to 16% of the household income (CPD 2004). Independent livelihoods managed by women-headed households are also an important aspect of the rural economy of South Asia, and contribute upto 15% of the rural households income in Bangladesh (CPD 2000). When poor women lose their livelihoods, they slip deeper into poverty; the gender-induced inequality and marginalization they suffer from also correspondingly increase. Climate change thus poses a very specific threat to their security.

Unfortunately, the UN Framework Convention on Climate Change (UNFCCC) has failed to recognize the gender aspects of climate change until recently, and omitted the issues of gender equality and women's participation entirely in climate policies. Eventually, in a compensatory effort, the COP-13 (2007) in Bali, the *gendercc - Women for Climate Justice* network of women's organizations and individuals, as well as the *Global Gender and Climate Change Alliance* of UN organizations, IUCN (International Union for Nature Conservation) and WEDO (Women's Environment and Development Organization) along with other international organizations have been established.

It is intriguing that regardless of UNFCCC's failure to incorporate gender equality as a cross-cutting issue, gender equality is a guiding principle in NAPA design and it was advised to include gender expertise in NAPA teams. Many of the national reports submitted by signatory nations to the UNFCCC Secretariat emphasize the vulnerability of women and the importance of gender equality, though in different formats.

In fact, incorporation of gender perspective in global and national climate change policies, documents, programmes and budgets is imperative for any meaningful effort against the negative externalities of climate change. Moreover, gender-sensitive indicators for use by governments in national reports to UNFCCC and related policies and mechanisms should be developed.

Furthermore, enhancement of institutional capacity to mainstream gender in global and national climate change and Disaster Risk Reduction (DRR) policies and operations through the development of gender policies, gender awareness, internal and external gender capacity and expertise, and the development and application of relevant mechanisms and tools should be prioritized.

As women constitute half of total population of Bangladesh, climate change adaptation and mitigation policies must address the gender issues. In this respect, for concrete and integrated actions against climate change, women's participation in climate change decisions should be assured.

Women are often portrayed as unworthy and incapable of engaging themselves in environmental and climate change related negotiations and strategic planning. This historical neglect and associated invisibility of women's role ought to be reversed. It is high time to incorporate gender issues in environmental and climate change policies and actions from a 'human rights' point of view.

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Natural, semi-natural and artificial ecosystems

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Even after much attempt, human population growth is yet to be arrested successfully in the countries where this is most needed. Consequently, natural ecosystems are dwindling everywhere, even in oceans! So managing wisely the semi-natural ones should be the second best choice for humans. We should shun importing and transplanting alien species as much as possible.

ECOSYSTEM is defined as "the total physical, chemical and biological conditions surrounding the organisms (including the organisms themselves) of any area of the earth".

An organism's environment is everything altogether -- all other organisms and non-living and physical materials around it somehow influence it. Each and every element of its environment is its amenity. The organism and each amenity (living and non-living) of its environment are interlinked, each one is in some way dependent on others, and the invisible super power "Nature", in a perfect calculative way maintains the balance among all these elements. Such a complex system of interactions and network is called the "Ecosystem", for example, aquatic ecosystem (marine, brackish & fresh water ecosystem), terrestrial ecosystem (forest, grassland etc.). In each ecosystem, the land, water and air, which serve as the sources of amenities, are fixed and limited, and so has a limited carrying capacity.

Now the terms natural, semi-natural and artificial ecosystems. "Natural ecosystem" means an ecosystem not perceptibly altered by humans. "Semi-natural ecosystem" means an ecosystem which has been altered by human actions, but which retains significant native elements. An artificial ecosystem is a man-made system of plants, animals, and people living in an area together with their surroundings.

In **natural** and **almost natural** ecosystems the actual and historical role of man in the functioning of the ecosystem is nil or almost nil. Species composition and species numbers are uninfluenced --no by exploitation, no game-hunting, even no indirect way: for example any changing of watercourse. Geomorphologic, ecological and biological processes are almost undisturbed by man, large predators can fulfill their life-cycle. In this category also fall the almost natural ecosystems, in which the ecosystems are only very marginally exploited by man. Examples are the highest parts of the mountains, undisturbed parts of seas, lakes, rivers, tundras, raised bogs, and primeval natural forest-ecosystems.

It is known that undisturbed, natural ecosystems are the best guarantee for preserving biodiversity, richness of species -- including endemic, threatened, resource and flag-ship species -- and also other natural values (Sobolev et al., 1995). The preservation of natural ecosystems with as less human influence and management as possible is in a lot of cases a very efficient way to maintain the biological diversity and protect species. Natural processes such as sedimentation, erosion, aquifer recharge/discharge, hill slope processes, inundation, and grazing can have a diversifying effect on nature itself and should be allowed as much as possible. Moreover, undisturbed ecosystems ("natural" ecosystems) have a large nature conservation value in itself: they make it possible to watch nature in its purest form, and conduct scientific research on species and processes that are rapidly diminishing.

Semi-natural ecosystems may range from unaltered species composition to just using the natural background-soil and/or water by man. In the strictest sense, the species composition is unaltered by man -- no species introduced or planted by man. Soil- and water-management are unaltered, but man has to a limited extend influenced the natural processes, for example by taking over the role of natural grazing through extensive mowing or by taking over the role of great predators by fishing in great waters.

These ecosystems do occur also in natural situations, but then they are limited to areas where natural grazing, erosion by rivers or streams, reverse the natural succession to earlier stages, or prevent the natural succession. These ecosystems are rather complex (different trophic levels are still present) and can be very rich in species numbers, if the human use has been stable for many years. Almost all ecosystems resulting from "traditional" forms of agricultural land use as steppes, puszta's and wooded meadows fall in this category. In figure-2, Arnica Montana (a grass) is seen grown well on the mountain slopes with human agency.

In these situations there is a high degree of sustainable use. Sustainable use means the use of an organism, ecosystem or other renewable resource at a rate within its capacity for renewal.

If humans change the species composition, keeping at least some native ones, use the natural soil and water conditions, the system may still be called a semi-natural ecosystem. Practically most forest and water bodies of Bangladesh have turned to semi-natural ecosystems.

An **artificial** ecosystem is a human made system of plants, animals, and people living in an area together with their surroundings. Zoo parks often create artificial ecosystems by placing animals in human-made areas similar to their natural habitat. People can also create lakes in the middle of desserts and keep penguins in warm climates, but only if they create an artificial ecosystem. Even a spacecraft can contain an artificial ecosystem (like an aquarium), but such ecosystems have almost no value except for exhibition and studying a bit of ecology.

Even after much attempt, human population growth is yet to be arrested successfully in the countries where this is most needed. Consequently, natural ecosystems are dwindling everywhere, even in oceans! So managing wisely the semi-natural ones should be the second best choice for humans. We should shun importing and transplanting alien species as much as possible and fight against even 'unintentional introduction'; rather appreciate mostly the indigenous species composition and nurture as much diversity as possible.

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Fig-1: Mountain, forest and lake-- a natural ecosystem

Fig-2: Mountain grassland-- a semi-natural ecosystem

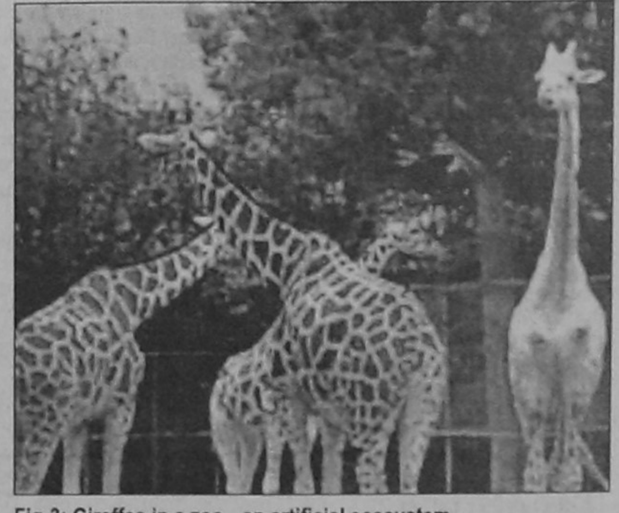

Fig-3: Giraffes in a zoo-- an artificial ecosystem

Fig-4: Fish in aquarium-- an artifical ecosystem