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**TOWARDS A GENDER-SENSITIVE AGENDA FOR ENERGY,
ENVIRONMENT AND CLIMATE CHANGE**

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Introduction

Energy, environment and climate change are inter-related. Unsustainable uses of fossil fuels lead to physical impacts resulting from green house gas (GHG) accumulation, such as rising temperature and rising sea levels. Extreme events will dramatically alter the natural balance of local and global ecosystems and will infringe on human settlements (IPCC 4th Assessment 2007). These, in turn, impact natural resources and ecosystems such as forests, coastal zones, agriculture and water. Consequently, vulnerable groups, for example the poor, will be faced with problems such as food insecurity, loss of livelihood, hardships due to environmental degradation and extreme events such as drought, floods, storms and cyclones. Such events may also lead to displacement and a number of potentially devastating economic and social consequences. Poor women are, in particular, vulnerable to such impacts and will bear the adaptation burden despite the fact that they contribute in an insignificant way to GHG emissions.

A gender-sensitive approach, data and analysis are required in order to shed more light on the levels of vulnerability, and of coping mechanisms of different social groups and the effectiveness of responses. These findings should feed into climate change negotiations as well as into national debates about energy and the environment so as to enable decision-makers to have a better understanding of how different groups of people are affected and what kind of capacity and support is needed to address those impacts.

As Gro Harlem Brundtland (2007) observed: “Poor people are more vulnerable to climate change due to their limited adaptive capacities to a changing environment. Among them, the rural poor, and rural women and girls are the ones most immediately affected. Climate change impacts are not gender neutral.”

Women are affected differently, and often more severely than men, by climate change and natural disasters such as floods, droughts, cyclones and storms due to gender-based discrimination against women, unequal power relations between women and men, including in access to assets and resources, as well as intra-household inequities and related vulnerabilities, capabilities and opportunities for adjustment.

Framework for analysis

Gender-sensitive analysis needs to be conducted of vulnerability and adaptation, mitigation as well as of responses thereto, with women’s full and equal participation.

Vulnerability and adaptation

J. Parikh and Denton (2003) emphasized that in climate-related decision-making, gender considerations are absent institutionally, in semantics and in financial allocations and budgets.

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Climate change will pose a challenge to women in terms of land degradation, drought, loss of biodiversity, among other issues, and hence, vulnerability, adaptation and mitigation issues are very important for women.

Vulnerability to climate change can accentuate non-climatic stresses such as those related to migration, urbanization, as well as lack of/limited food and energy security, poor management of natural resources, the loss of traditional coping skills, and health risks. These climate change risks will impact progress towards all Millennium Development Goals (MDGs) directly and indirectly, but especially those of poverty reduction, gender equality and environmental sustainability.

Floods, storms, cyclones and other disasters invariably lead to failures in power systems, interrupt water and fuel supply, and bio-fuels become difficult to obtain. Movable energy systems such as solar torches, solar chargers, dryers and diesel-based power systems are important to restore normalcy and avoid looting, prevent epidemics due to lack of hygiene (boiling water), and improve safety for women.

J. Parikh (2008) discussed the gender perspectives of climate change in terms of agriculture, food security and water shortage, among other aspects, in different ecosystems such as mountain, forest as well as coastal ecosystems. Climate change may exacerbate existing shortages of water. Women, largely responsible for water collection in their communities, are more sensitive to the changes in seasons and climatic conditions that affect water quantity and accessibility and make water collection more time-consuming. Climate change can cause a rise in sea level, affecting livelihoods from fishing in which women are equally involved. Fresh water supply may also be affected due to intrusion of saline water into freshwater systems. When lands are inundated, infrastructure is damaged, especially roads and houses. Large-scale migration from inundated areas may result, often resulting in added hardships for women. Extreme climate events and disasters may force more men to migrate, either seasonally or for longer periods of time. Female-headed households left behind are often the poorest, and wives and other dependents of seasonal migrants may not receive remittances or have their own sources of income. As a result, the workloads of these women, their children and the elderly may increase significantly as a result of male out-migration.

As climate change exacerbates natural disasters, more women will be affected if proper measures are not taken. Women accounted for 55 to 70 per cent of Banda Aceh tsunami deaths; in the worst affected village in the North Aceh district of Indonesia, Kuala Cangko, 80 per cent of the deaths were women. 70 per cent of the deaths during the 2003 European heat wave were women.¹ Ulrike Röhr points out that when Bangladesh was hit by a devastating cyclone and flood in 1991, the death rate was reportedly five times higher among women.² In disasters such as intense rainfalls, floods, cyclones and storms, women suffer more due to their restricted mobility and pressures from family and household responsibilities, especially care for the elderly

¹ <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC420061/>

² <http://www.tiempocyberclimate.org/newswatch/comment050711.htm>

and children. Women may also have less exposure to disaster-related training and information such as early warning systems. Table 1 shows some of the effects of climate change in different areas and their impacts on gender equality.

Table 1: Impacts of climate change on gender equality, poverty, wellbeing and achievement of the MDGs

Climate Change	Impacts
<i>Forests</i>	
Degradation of forests	<ul style="list-style-type: none"> • More drudgery for fuel collection • Less time for income generating activities • Less time for children to study • Reduction of income due to increase in non- timber forests products (NTFPs) • Loss of eco-tourism opportunities
<i>Food and Agriculture</i>	
<ul style="list-style-type: none"> • Decreased yield from crops • Increase in food prices • Change in food patterns • Depletion of livestock 	<ul style="list-style-type: none"> • Reduced calorie intake • Higher food insecurity for women • Less milk/nutrition for children
<i>Water</i>	
<ul style="list-style-type: none"> • Reduction in water availability • More dependence on unsafe water 	<ul style="list-style-type: none"> • Larger distances for fetching water • Impacts on mother and child nutrition
<i>Biodiversity</i>	
<ul style="list-style-type: none"> • Loss of species (flora and fauna) • Loss of medicinal plants/herbs • Loss of mangroves and corals • Loss of gene pool 	<ul style="list-style-type: none"> • Loss of indigenous practices • Loss of livelihood • Reduced income • Increased vulnerability
<i>Health</i>	
<ul style="list-style-type: none"> • Increase in water-borne diseases • Increase of diseases like dengue, malaria, etc. • Increase in respiratory diseases due to indoor air pollution and other emissions 	<ul style="list-style-type: none"> • Women and children more vulnerable • Increase in infant mortality • Disease sensitivity

Gender perspectives in mitigation

Significant resources are being invested in renewable energy technology (RET) to address climate change. Involving women will not only benefit them, it will make this investment effective. Engaging in income-earning activities that are climate-compatible could be the way to ensure that women can afford to purchase labour-saving energy technologies for their household chores (WEDO, 2004) and thus contribute towards mitigating climate change. Women have proven themselves capable of operating and also constructing renewable energy applications on their own, when provided with appropriate training and support. The use of energy-efficient fuels and technologies will become widespread only if the income generated from women's time saved exceeds the cost of the fuels and technologies.

Urban women's role can be significant to implement energy efficiency programmes at the household level dealing with lighting appliances, heating and cooling; while rural women are already playing a critical role in using biomass, biogas, plantation and solar devices. Capacity building and information campaigns can result in substantial gains. J. Parikh (2002) highlighted the possible role of women in clean development mechanisms (CDM) as women are engaged in a number of activities such as brick making, charcoal making, waste management, afforestation, reforestation, energy projects such as biofuels, and agro-processing where energy efficiency can lead to CO₂ mitigation. CDM, through carbon sequestration from afforestation and reforestation, can also be done by poor rural women. Women can benefit from CDM projects, but these need to be made known, scaled up and replicated for greater impacts.

Women's role in recycling and waste management within the household includes a variety of opportunities to make women an important agent in resource conservation. Some successful experiences are observed in Mexico, where poor women set up a profitable recycling company from municipal solid waste management. Women in urban areas can contribute to recycling household waste, as they are usually responsible for cooking and housekeeping. Also, gas from waste can become a new energy source for women in rural areas.

Adaptation strategies

Capacity development for national and local institutions can strengthen resilience to climate change. Climate change risk management can be mainstreamed into national poverty reduction strategies. Assistance to developing countries can help them to choose the right energy paths that provide low carbon sources of power (Lorena Aguilar, 2009)

It is necessary to mainstream climate change into environment and energy services, and into crisis prevention and recovery work to support mitigation and adaptation action at the global, regional, national, provincial and community levels. Towards this end, a number of strategies can be pursued, including: policy and agenda setting, experience-sharing and training activities, including for policy-makers; availability of expertise to assist countries to access and integrate different sources of financing; and evaluation of alternative mitigation and adaptation options.

Women's concerns and priorities need to be addressed in climate change mitigation and adaptation efforts (WEDO, 2007), including in policy development and in financing. Gender-

specific impacts of environmental changes and disasters need to be analyzed, and related protection measures put in place. At the community level, in urban and rural areas, women's access to sustainable sources of energy and water need to be increased. There is a need to increase the capacities of communities to make their livelihoods more resilient in the face of climate change. Women should participate in all efforts and discussions, including at decision-making level within communities, aimed at the generation of disaster risk management and prevention approaches. National capacities to conduct gender analysis need to be strengthened, including the use of data disaggregated by sex in assessments of disaster risks, impacts and needs.

International action

Efforts are needed to integrate gender perspectives in policy negotiations on climate change. International treaties and mechanisms and their implementation, such as the United Nations Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol as well as the Conference of Parties (COP) all have an impact on women. It is therefore critical that gender perspectives are addressed in climate negotiations and in scientific work on climate change, and take into account scientific, technical and socio-economic literature produced worldwide relevant to the understanding of the risk of human-induced climate change and its observed and projected impacts on women and options to respond. Women need to participate in these efforts in decision-making positions.

Concluding comments

It is becoming clearer that climate change is going to impact a vast number of people in a variety of ways. This could mean loss of property, livelihood or lives, displacements, dispossession, disaster and despair. For some, it could be also a new beginning or new opportunities, based on proactive policies. What would be role of women in this? How will their daily lives be impacted?

Short-, medium- and long-term strategies are needed to ensure a substantial involvement of women not only as beneficiaries, but as decision-makers. Climate change strategies need to focus on the design of policies and action plans, promotion of early adaptation, as well as measures to direct investment towards low carbon technologies and practices and, finally, integrating climate change broadly into development assistance at the global, regional and national levels. The nexus between climate change and gender equality needs to be highlighted, and capacity of national and local institutions strengthened to develop resilience to climate change. All of these efforts require the involvement of a wide range of stakeholders.

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