

CLIMATE CHANGE AND GENDER EXCLUSION

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***Abstract:** There are several impacts of climate change and their assessment is imperative in order to adopt strategies to cope with them. The effect of climate change like droughts, floods, sea level result in displacement of gender either permanently and temporarily as the response mechanism to natural disaster and displacement of population is not gender sensitive in most of the developing countries. This places women in a lose-lose situation. It is important to identify gender-sensitive strategies for responding to the environmental and humanitarian crises caused by climate change. In the analysis of climate change, the gender approach promotes understanding of how the identities of women and men determine different vulnerabilities and capacities to deal with climate change. However, policy makers are facing major difficulties in assessing how gender-differentiated outcomes of climatic threats may be mitigated. This paper argues that the need of the hour is that women should be involved in climate change decision making process so that they are better off during the process of climate change and events of natural disasters taking place.*

Climate change optimizes the complexity of the development challenge in a globalizing world. Climate change is a development reality. Climate change has the potential to reverse the hard earned development gains of the past decades, and impede the progress towards achieving the Millennium Development Goals, such as eradicating poverty, combating communicable diseases, and ensuring environmental sustainability. Climate change increases the cost of development. Geographically coupled with high level poverty and population density has rendered South Asia especially vulnerable to the impacts of climate change. The region faces daunting climate related development challenges. The region is

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highly susceptible to natural disasters. Thus, there is dire need for coordinated regional response to mitigate the adverse impact of climate change especially on the female population who is less prone to migration during the time of natural disasters and gets excluded in the rehabilitation policies of the governments.

The scope of scientific understanding and technical skills in ecology and environmental science have widened significantly over the years. A greater attention is being paid to global environmental change, biodiversity conservation, environmental toxics, ecological restoration, and sustainable development with particularly emphasis on human well-being. Most of the global environmental problems fall within the gambit of ecological studies and require a thorough understanding of ecological principles for resolution. The understanding of ecological principles is important for sustainable use of resources and to evolve strategies for mitigation of environmental problems at local, regional and global regions. The ecologists are required to interpret the human induced environmental changes and postulate varied scenarios for alternative policy options for legislative and implement able administrative decisions. Thus, ecology has grown by internalizing different disciplines of natural and social sciences. The increase in severity of natural disasters and the aided damage is attributed to climate change. The human induced climate change has been caused by the cumulative emissions of greenhouse gases which is the culmination of increasing consumption of fossil fuels. Climate change is one of the most important global environmental challenges, with implications for food production, water supply, health, energy etc. Addressing climate change requires a good scientific understanding as well as coordinated action at national and global level. According to the latest scientific assessment, the earth's climate system has demonstrably changed in both global and regional scales. Most of the warming (of 0.1°C per decade) observed over the last 50 years, is attributable to human activities. A vast population depends on climate sensitive sectors like agriculture, forestry and fishery for livelihood in the country. The adverse impacts of climate change, in the form of declining rainfall and rising temperatures and thus the increased severity of drought

and flooding, would threaten food security and livelihood in the economy. Poor infrastructure facilities, weak instrumental mechanism, lack of financial resources and vast sectoral and regional variability adversely affect the adaptive capacity of the country to climate change. Climate change could represent additional stress on the ecological and socio-economic systems that are already forcing tremendous pressure due to rapid industrialization, urbanization and economic development (Gupta, 2005). Depending on social categories such as gender, age, economic level and ethnic groups, climate change has, and will have, different effects on different sections of the population. If attention is not paid to its causes and effects, climate change may increase inequality the world over. Dr. R.K. Pachouri, the joint Noble Peace Prize winner of 2007 for the significant contribution in the field of mitigation of climate change, has remarked that climate change has the potential to disrupt peace, stability and security across the world. The findings of the Fourth Assessment Report of IPCC (Intergovernmental Panel on Climate Change) have highlighted the impacts of climate change and other serious implications for growth, development and social well-being in some of the most vulnerable regions. There are several dimensions of climate change that bring out the equitable aspects of this problem.

CLIMATE CHANGE AND GENDER CONCERNS:

The gender issue has taken centre stage in many international forums and discussions in last two decades. The International Conference on Population and Development (1994), the Beijing Declaration and Platform for Action (1995), the World Summit on Sustainable Development (2002), and the 2005 World Summit recognized the essential role women play in sustainable development. During past one decade this issue has taken centre stage in discussions in various parts of the world addressing the need to formulate policies of disaster management and sustainable development taking the gender perspective into consideration. The table 1 gives an overview of the gender concerns in international meetings.

Table 1
Climate Change and Gender Perspective

<i>S. No</i>	<i>Forum</i>	<i>Place</i>	<i>Focus</i>
1.	Commission on Status of Women	New York 2002	Integration of gender perspective in academic research and other related fields. Impact of climate change and its causes to be addressed.
2.	World Congress on Disaster Reduction	Hyugo 2005	To integrate gender equity into all decision making of disaster management.
3.	UN Framework Convention on Climate Change	Bali 2007	To include gender equality in preparation of National Adaptation Plans of Action (NAPA)
4.	Roundtable on Gender and Climate Change	New York 2007	To include gender approach in all policies about climate change especially in adaptation policies.
5.	14 th Conference of the Parties of Climate Change	Poznan 2008	Highlighted the need for gender sensitive funding for climate change.
6.	UN Permanent Forum on Indigenous Issues	New York April-May 2008	To ensure crucial role of women in indigenous girls in developing mitigation and adaptation measures.

Source: UNDP 2009

In its recent follow-up to the Beijing Platform for Action, the General Assembly highlighted the need to “involve women actively in environmental decision-making at all levels; integrate gender concerns and perspectives in policies and programmes for sustainable development; and strengthen or establish mechanisms at the national, regional and international levels to assess the impacts of development and environmental policies on women” Women make up a large number of the poor in communities that are highly dependent on local natural resources for their livelihood and are disproportionately vulnerable to and affected by climate change. Women’s limited access to resources and decision-making processes increases their vulnerability to climate change.

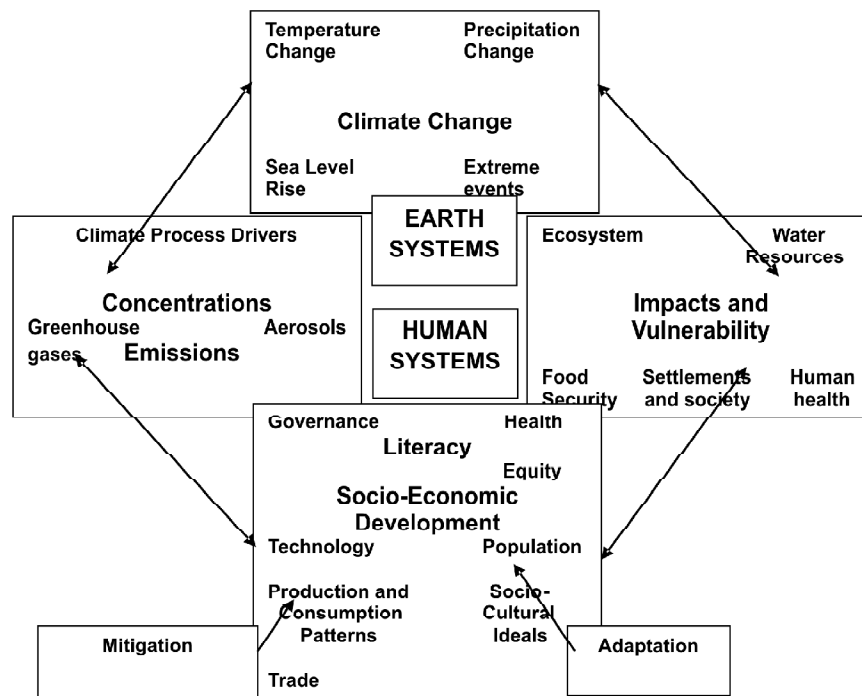
It is in place to mention that the World Bank in cooperation with regional multilateral development banks established The Climate Investment Funds (CIF), to provide funding for developing countries' climate change mitigation and adaptation efforts. Since their launch in 2008, the CIF have allocated 6,5 billion dollars to climate change projects in 45 developing countries. However, experts at the United Nations Development Programme (UNDP) warn that the funds could run the risk of perpetuating existing gender imbalances. To take into account the gendered nature of energy consumption and domestic labour patterns in a resource-poor context, women need to be consulted when designing and implementing climate change mitigation and adaptation initiatives. There have been some common arguments which appear in relevant available literature on gender exclusion and climate change . These common issues are as follows:

1. There is insufficient exploration, information and evidence on the gender-differentiated nature of climate change impacts, particularly at the local level;
2. The impacts of climate change on women have been relatively overlooked, partly because of the invisibility of gender issues and gender inequalities;
3. There is a need for improved understanding of how different social groups are affected by climate change, and of how to build upon their capabilities;
4. Women and other marginalised groups have relevant knowledge and skills for adaptation, which is being ignored;
5. Each marginalised group (women, children, older people, etc) has *unique* vulnerabilities to climate change;
6. Individuals can be active agents of change – especially given external support to articulate their concerns to authorities beyond the community. They should not be seen as passive victims, because this is a partial view that risks reinforcing their powerlessness;

Facilitation of greater participation by these groups in climate policy spaces and decision-making is both urgent and important.(Varelie Nelson 2011)

Vulnerability specifically to climate change is commonly defined as being a function of exposure, sensitivity and adaptive capacity. In terms of exposure, some geophysical areas will be more affected by others – for example, low-lying coastal areas may be more affected by sea level rise and extreme weather events than inland areas for example. But quite often there are spatial dimensions to poverty and social exclusion, with the poorest being forced to live on the most marginal lands, fragile soils, steep slopes and flood prone areas – in both rural and urban areas – because they have lesser access to land than others (Varelle Nelson 2011).

Chart 1: Climate Change and Its Implications



Source: IPCC 2007

The chart I focuses on the impact and vulnerability of climate change on human resource and development .Women gets more

affected especially in rural areas in developing countries have the major responsibility for household water supply and energy for cooking and heating, as well as for food security, and are negatively affected by drought, uncertain rainfall and deforestation. Because of their roles, unequal access to resources and limited mobility, women in many contexts are disproportionately affected by natural disasters, such as floods, fires, and mudslides. It is important to identify gender-sensitive strategies for responding to the environmental and humanitarian crises caused by climate change. Changes in the climate usually impact on sectors that are traditionally associated with women, such as paddy cultivation, cotton and tea plantations, and fishing. This means increased hardship for women. For example, studies show that climate change has an adverse impact on fishing, as the sea level rises and saline water enters into freshwater systems, making fishing difficult. Further, in extreme events more women deaths are observed for women's inability to swim or run or lack of strength to withstand physically demanding situation such as storms, floods, typhoons etc.

World Development Report, 2010 has advocated that climate change must urgently be addressed. Climate change threatens all countries, with developing countries the most vulnerable. Estimates are that they would bear 75 to 80 per cent of the costs of damages caused by the changing climate. Most of developing countries lack sufficient financial and technical capacities to manage increasing climate risks. They also depend more directly on climate sensitive natural resources for income and wellbeing (World Development Report, 2010). India is a large developing country with nearly 700 million rural population directly depending on climate-sensitive sectors (agriculture, forests and fisheries) and natural resources (such as water, biodiversity, mangroves, coastal zones, grasslands) for their subsistence and livelihoods. Further, the adaptive capacity of dry land farmers, forest dwellers, fisher folk, and nomadic shepherds is very low (Ravindra Nath and Sathaye, 2002). Climate change is likely to impact all the natural ecosystems as well as socio-economic systems as shown by the National Communications Report of India to the UNFCCC (GOI, 2004).

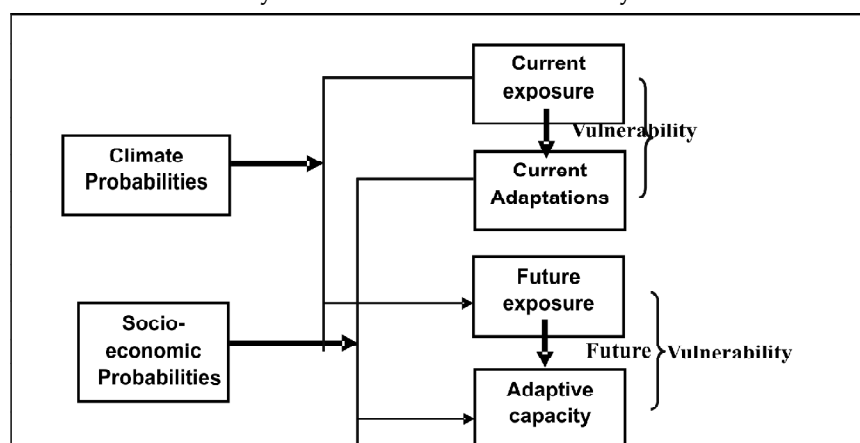
NATURAL DISASTERS VULNERABILITY

South Asia is most vulnerable to climate change. The region faces daunting climate related development challenges. The impacts of climate change in the form of higher temperature, more variable precipitation and more extreme weather events are already felt in South Asia. The region is already marked by climate variability and a higher incidence of natural disasters. The region has also a long and densely populated coast line with low lying islands that are vulnerable to sea level rise. Urbanization poses an additional challenge in the region. Women, poor and indigenous people are most vulnerable to climate risk.

Among the 32 states and Union Territories in the country, 22 are multi-disaster prone. About 40 million hectares of land in the country has been identified as flood prone and on an average 18.6 million hectare of land is flooded annually. About 57 per cent of area of the country is vulnerable to seismic activity. About 18 per cent of country's total area is drought prone, approximately 50 million people are annually affected by droughts and about 68 per cent of total sown area of the country is drought prone. India has a long coastline of 8040 km. which is exposed to tropical cyclones arising in the Bay of Bengal, the Arabian Sea and Indian Sea. The Indian Ocean is one of the six major cyclonic prone regions of the globe (Jain, 2004). The Coromandal coastline is more cyclones prone, with 80 per cent of the total cyclones generated in this region. Risk to the existing housing stock in various states and union-territories had been estimated by Expert Group Set up by the Ministry of Urban Affairs and Employment, Government of India. About 3.9 million houses are susceptible to earthquakes of very high intensity, about 20 million houses are susceptible to damage due to winds and about 9.3 million houses are susceptible to damage due to floods. Besides the risk of earth quakes, cyclones and floods are liable to very high damage and destruction of vulnerable houses under heavy rains. (Jain, 2004:61). Unemployment, poverty backwardness, migration from rural areas and increasing price of land and construction, million of people are occupying disaster prone areas. Thus about 6 per cent increase in disaster affected population has been reported.

Vulnerability and its causes play essential roles in determining impacts (Handmer, *et.al.*, 1999). The evolution of vulnerability assessments has been stimulated by changing stakeholder needs, and has been aided by increasing scientific knowledge in a range of relevant disciplines. The assessment starts with engaging the community to assess current vulnerabilities, which includes identifying conditions or exposures that are pertinent to the community and assessing the adoptive capacity of the community to deal with these exposures. The analytical framework for vulnerability assessment looks at what systems, places and people are vulnerable and why, and in the process identifies what types of adoption strategies will be most effective (Chart 2).

Chart 2: Analytical Framework for Vulnerability Assessment



Source: TERI, New Delhi.

GENDER IMPACT OF CLIMATE CHANGE

There are several impacts of climate change and their assessment is imperative in order to adopt strategies to cope with them. **“The trade-offs forced upon people by climate shocks reinforce and perpetuate wider inequalities based on income, gender and other disparities.”** (UNDP 2007) In the analysis of climate change, the gender approach promotes understanding of how the identities of women and men determine different vulnerabilities and capacities to deal with climate change. At the 14th Meeting of the United

Nations Commission on Sustainable Development in 2006 the Women's Major Group 34 pointed out that climate change has specific gender characteristics because:

- i. Women, due to their social roles, discrimination and poverty, are affected differently by the effects of climate change and disasters.
- ii. Women are not sufficiently represented in decision-making processes on climate change, or adaptation and mitigation strategies.
- iii. Women must be included, not because they are "more vulnerable" but because they have different perspectives and experiences to contribute (for example, in implementing adaptation measures).

Adaptation – the ability of human systems to adapt to and cope with change – depends on factors such as wealth, technology, education, information, skills, infrastructure, access to resources, and management capabilities (IPCC 2001,8) The implications of gender divisions in labour for coping with environmental change, and the different ways in which men and women respond to disasters, are examined. These differences, largely due to unequal social relations, determine men's and women's roles, behaviour, and responsibilities in the household, workplace, and community. They determine their access to income to tap into material and productive resources that can provide security, protection, and recovery; and they determine individuals' power to influence or control events and outcomes that affect them. The capacity to cope and the potential to recover from climate shocks are affected by access to material and productive resources such as income and employment.

The effect of climate change like droughts, floods, sea level result in displacement of gender either permanently and temporarily as the response mechanism to natural disaster and displacement of population is not gender sensitive in most of the developing countries. This places women in a lose-lose situation. About 35 million people worldwide depend on fishing and aquaculture including substantial number of women (Aguilar 2004). The climate

warming could result in the loss of key marine ecosystem that supports many resources essential to the livelihood of women. A study conducted by Neumayer and Pluempfer 2007 indicated that gender differences in death from natural disaster are directly linked to the economic and social rights of women and become the sufferers in terms of preferential treatment in rescue efforts also. As per the report of the IPCC 2001, the climate change impacts affect all the countries and its impact will be differently distributed among different regions, generations, age, class, income groups, occupations and genders. In the developing countries 70 per cent of the poor women will be disproportionately affected. In the 1991 cyclone disasters that killed 140,000 in Bangladesh, 90 per cent of victims were reportedly women; in the 2004 Asian Tsunami, an estimated 70 to 80 per cent of overall deaths were women. And following the 2005 Hurricane Katrina in the United States, African-American women, who were the poorest population in some of the affected States in Alabama, Louisiana, and Mississippi, faced the greatest obstacles to survival, according to the New York-based Women's Environment and Development Organisation. The 2007 Human Development Report, issued by the U.N. Development Programme, points out that women are particularly affected by climate change because they are the largest percentage - accounting for about 70 percent - of the poor population. In Kenya, increased poverty associated with drought has affected school attendance, with girls being more likely to be withdrawn from school than boys. In Uganda, the food crises associated with climate change have been linked to higher rates of early marriage for girls, as they are exchanged for dowry or bride price which has been termed as famine marriages (Thalif Deen 2010). Gender-differentiation is reflected in women's limited access to and control of environmental goods and services, their negligible participation in decision-making; and in the distribution of environment management benefits. Consequently, women are less able to confront climate change. Furthermore, increased migration of males because of extreme climate changes and disasters could interrupt and limit educational opportunities for girls as they are required to assist their mothers in household works.

CONCLUSION

India is faced with the challenge of sustaining its rapid economic growth while dealing with global threat of climate change. National Action Plan on Climate Change has been setup by Government of India which addresses the urgent and critical concerns of the country through a directional shift in the development pathway, including through the enhancement of the current and planned programmes in gendered context. In order to deal with the challenge of climate change, there is imperative need to focus on promoting understanding of climate change, adaptation and mitigation, energy efficiency and natural resource conservation. There are 8 National Missions which form the core of the National Action Plan, representing multipronged, long term and integrated strategies for achieving key goals in the context of climate change. These Missions include (1) National Solar Mission, (2) National Mission for Enhance Energy Efficiency, (3) National Mission on Sustainable Habitat, (4) National Water Mission, (5) National Mission of Sustaining Himalayan Ecosystem, (6) National Mission for Green India, (7) National Mission for Sustainable Agriculture, (8) National Mission on Strategic Knowledge for Climate Change. It is in place to mention that policy makers are facing major difficulties in assessing how gender-differentiated outcomes of climatic threats may be mitigated. Firstly, the exact nature, scope and timescale of local impacts cannot be accurately determined. Secondly, the issue of assessing impact of climate on gender is highly politicized, with major political and corporate interests at play. Thirdly, although potentially cataclysmic, the threat of climate change may not be perceived as demanding immediate attention by poor communities and countries with other, more immediate, practical concerns. Hence the need of the hour is that women should be involved in climate change decision making process. Increasing participation of women in international bodies is required to promote gender equity.

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