The very possession of nuclear weapons violates the fundamental human rights of the citizens of the world and must be regarded as illegal.

Winston P. Nagan, Simulated ICJ Judgment

The emerging individual is less deferential to the past and more insistent on his or her rights; less willing to conform to regimentation, more insistent on freedom and more tolerant of diversity.

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It is more rational to argue that developing countries cannot afford unemployment and underemployment, than to suppose that they cannot afford full employment.

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The tremendously wasteful underutilization of precious human resources and productive capacity is Greece’s most serious problem and also its greatest opportunity.

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Ashok Natarajan, Original Thinking

Given the remarkable progress of humanity over the past two centuries, the persistence of poverty might not be so alarming, were it not for the persistent poverty of new ideas and fresh thinking on how to eliminate the recurring crises, rectify the blatant injustices and replace unsustainable patterns with a new paradigm capable of addressing the deep flaws in the current paradigm.

Great Transformations

Our global systems can be resilient if they are based not only on efficient markets that can cope with future crises, but on principles that also allow for the projection of civic will and preference onto the global level. Stability and resilience are laudable goals but they need to be achieved in all three dimensions, the financial, the economic and the social, in a participatory fashion.

Patrick M. Liedtke, Getting Risks Right

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At the root of the current crisis are not subprime mortgages, credit rating agencies, financial institutions or central banks. It is the Great Divorce between finance and economy, which is a subset of the widening precipice between economy and human welfare.

The Great Divorce: Finance and Economy

The Limits to Growth proved the inherent limitations of the existing industrial model of economic growth, not any inherent limits to growth itself.

Garry Jacobs & Ivo Šlaus, From Limits to Growth to Limitless Growth

Focusing on growth of the part without reference to its impact on the whole is a formula for social disease.

Economic Crisis and the Science of Economics

The idea of nuclear deterrence is a dangerous fallacy, and that the development of military systems based on nuclear weapons has been a terrible mistake, a false step that needs to be reversed.

John Scales Avery, Flaws in the Concept of Nuclear Deterrence

The first step into the direction of a world parliament would be the establishment of a Parliamentary Assembly at the United Nations.

Andreas Bummel, Social Evolution, Global Governance & a World Parliament

The evolution from physical violence to social power to authorized competence and higher values is an affirmation of the value basis of law.

Winston P. Nagan & Garry Jacobs, New Paradigm for Global Rule of Law

We propose that a new organisation be set up, perhaps called the ‘World Community for Food Reserves’.

John McClintock, From European Union to World Union

A proper and well accepted definition of (forms of) misconduct, reliable means of identification, and effective corrective actions deserve a high priority on the agenda of research institutes, universities, academies and funding organs.

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Jyoti Parikh, Dinoj Kumar Upadhyay & Tanu Singh, Gender Perspectives on Climate Change & Human Security in India
Gender Perspectives on Climate Change & Human Security in India: An Analysis of National Missions on Climate Change

Jyoti Parikh, Executive Director of IRADe; Fellow, World Academy of Art & Science
Dinoj Kumar Upadhyay, Research Analyst, IRADe
Tanu Singh, Research Analyst, IRADe

Abstract

Women play a crucial role in many activities essential for coping with climate change. Indian women appear to be more vulnerable than men to differential impacts of climate change because they share most of the household managing responsibilities but have limited access to participation in decision making and governance. Most of the policies for climate change adaptation and mitigation do not specifically address the vulnerability of women. The National Action Plan for Climate Change (NAPCC), formulated to shape future discourse of climate change adaptation and development, recognizes the differential impacts of climate change on society, but incorporates merely a few gender specific measures. The paper suggests gender specific measures for each mission of the NAPCC to make the adaptation and development process more inclusive and sustainable in India.

Climate change has the potential to turn into a ‘crisis for humankind’ as its potential multiple impacts can exacerbate the scarcity of natural resources, crop failure, hunger, malnutrition and disease, and can undermine economic growth and development in the long run. The core challenge of climate change is the structural impact on the fragile and vulnerable sections of the society which have limited or the least capacity at both social and individual levels to cope with climate catastrophes. Climate change would have severe implications for the progress of mankind and well-being of individuals, which are the main planks of human security. Contrary to the conventional notion of security, human security encompasses an inclusive agenda of human development including life, livelihood, access to food and water, health, and environmental sustainability. Thus, fundamental elements of human security are explicitly and implicitly interlinked with vulnerabilities induced by climate change. Women comprise a considerable percentage of the world’s poorest and disadvantaged people, and therefore, are likely to be disproportionately affected by the adverse impacts of climate change. They are marginalized and deprived of the basic right to a decent life in our society due to various social, cultural, political and economic constraints. They share the maximum of burdens in managing the households, but have relatively less or limited access to health care, employment, economic opportunities, political participation and role in decision making pro-
cesses. Compared to their responsibilities, better access to resources and opportunities would make them less vulnerable to climate-change-induced development challenges and natural calamities. India is one of the countries that is most vulnerable and risk prone to potential impacts of climate change. Indian women score lowest on some development indicators. Such factors could particularly have serious implications for the well-being of women.

From the gender point of view, men and women have different roles and responsibilities, which result in differences in vulnerability and ability to cope with change. Furthermore, vulnerabilities among women are also due to their limited adaptive capacity that stems from predominating issues like illiteracy, inequality in social rights, inadequate access to information and resources, and limited health care facilities. India is at the 112th position in the Global Gender Gap Index that examines the gap between men and women in four fundamental categories: economic participation and opportunity, educational attainment, health and survival and political empowerment. India figures very low on both the HDI and GDI as it ranks 134 and 114 respectively. Wages for women in India are much lower compared to those of men. Forty-nine percent of Indian women live in poverty and only 36 percent participate in the labor force. In terms of health and survival, according to NFHS-3, more than one-third of Indian women were suffering from Chronic Energy Deficiency during 2005-06, over half the women in the 15-49 age group suffered from Iron Deficiency Anemia. 59 percent of pregnant women are anemic. As far as political empowerment is concerned, though women’s participation in panchayats (rural local government) has increased due to the 33 percent reservation scheme in India (now Government of India has extended up to 50 percent), their representation in parliament and state assemblies of many states has not gone beyond eight and ten percent respectively. Women’s participation in decision making process is also limited.

Apart from these unfavourable indicators, various social and household responsibilities contribute to women’s vulnerabilities. Women are largely responsible for household management and water and fuel collection in their communities, which are difficult, time-consuming tasks due to environmental changes. Generally women fulfill these tasks and engage in work outside their homes. 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. Land inundation damages infrastructure, roads and houses. Inundation also results in large-scale migration that increases hardship for women. Women are more likely to suffer heat stress due to biological reasons. Climate change will affect people’s health. Generally women look after their children and elderly family members when they are sick. If such demands on them increase, women will be less able to pursue income-generating activities.

Climate-change-induced natural disasters affect women and men differently. The cyclone and flood of 1991 in Bangladesh killed two-three times as many women as men, and in

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districts worst hit by tsunami, more women were killed than men.\textsuperscript{10} Many other reports have focused on how women have been disadvantaged across caste, class, and occupations in the tsunami relief and recovery operations by conventional gender norms or gender-neutral/blind state policies. Moreover, women have less access to resources that are essential for disaster preparedness and mitigation, and rehabilitation. An increase in extreme events puts extra burden of devastation and destruction on women, who have to keep the family together after floods and storms, and put food on the plate.\textsuperscript{11}

Gendered divisions of labor often result in overrepresentation of women in agricultural and informal sectors, which are more vulnerable to climate change. Many poor women are also actively engaged in agricultural activities, including paddy cultivation and fishing, which will be affected by changing weather patterns in India. Loss of livelihood will increase their vulnerability and marginalization.\textsuperscript{12} Indian women, in general, are also responsible for tasks such as food collection and energy supply for the household as well as many caregiving tasks such as caring for the children, sick, elderly, the home and assets.\textsuperscript{13} For instance, in hill and mountain regions, and in arid and semi-arid areas where forests have disappeared and agriculture remains poor, women spend between six and ten hours daily collecting the resources they need to meet their basic survival needs.\textsuperscript{14}

1. An Analysis of India’s ‘National Action Plan on Climate Change’

To deal with challenges of climate change, India’s National Action Plan on Climate Change (NAPCC) was announced by the Government of India in 2008. The NAPCC includes eight national missions with separate mandate for each mission. Each national mission is formulated by its respective ministry which will also implement it for the remaining part of the current 11\textsuperscript{th} Five Year Plan (2007-2012) and the 12\textsuperscript{th} Five Year Plan (2012-2017).\textsuperscript{15, 16} In the last three years, comprehensive documents have been prepared by the respective ministries of the Government of India. All of these missions have some relevance to gender because they all aim for adaptation and mitigation and have to work under overarching concerns for inclusive and sustainable development. The NAPCC recognizes the importance of gender in climate change and development discourse. It states “with climate change there would be increasing scarcity of water, reductions in yields of biomass, and increased risks to human health with children, women and the elderly in a household becoming the most vulnerable. With the possibility of decline in the availability of food grains, the threat of malnutrition may also increase. All these would add to deprivations that women already encounter and so in each of the Adaptation programmes special attention should be paid to the aspects of gender”.\textsuperscript{17} But this understanding has not been translated into the NAPCC’s assessment of the effects of climate change or its outlines of mechanisms that could support people to adapt. Partly, this has to do with the lack of gender/sex-disaggregated data on climate risks, and the relatively poor documentation of adaptation programmes, or the lessons they can provide, in terms of building resilient communities.\textsuperscript{18, 19} Since all the eight national missions would be integrated with various flagship programmes for development, capacity building, and empowerment of central and state governments, inclusion of gender in the national missions will benefit women as well as lead to successful and efficient implementation of the missions.

National Solar Mission (NSM) notes that as a tropical country, India has immense potential for solar energy.\textsuperscript{20} Therefore, the mission aims to tap the potential of solar power
and envisions routes for conversion of solar radiation into heat and electricity, namely solar thermal energy and solar photovoltaic system. Women can not only be beneficiaries but can also be involved in production, decision making and management of the energy cycle. Many gender issues can be associated with the mission by providing women access to energy and electricity, lighting for their households, and livelihoods. Street lighting can help to provide them a sense of security, and solar appliances – solar water heater, solar cookers, solar pumps and solar dryers – could reduce their workload. Access to adequate energy will ease the process of supplying water and help in irrigation, enhance food security through better crop productivity and income from agro-food processing and pollution-free fuel, for prevention of heart and lung diseases. It also helps to generate extra income from agri-waste processing and storage, diversification of crop production, or higher yields via modern farming tools/techniques, ability to process materials locally, storage, diversification of off-farm activities like dairy products, and other small scale businesses.

National Mission for Enhanced Energy Efficiency (NMEEE) has a mandate to adopt a market-based mechanism to enhance cost effectiveness of improvements in energy efficiency in energy-intensive large industries and facilities, accelerating the shift to energy-efficient appliances to make them more affordable, providing energy-efficient financing platform and developing fiscal instruments to promote energy efficiency. The NMEEE should also consider gender measures for attaining its goals of energy efficiency. The household and residential sectors consume significant percentage of fossil fuel energy as well as electricity. Women empowered with knowledge and training of energy utilization can save energy in this sector. Capacity of women should be enhanced to optimize energy efficiency and the usage of domestic appliances.

The National Mission on Sustainable Habitat (NMSH) intends to make habitat sustainable through improvements in basic infrastructure and by providing basic services such as transportation, modern energy services, waste management, etc. Such initiatives would definitely empower women and contribute to their development. The mission can emphasize on gender issues by making special provisions for women for sustainable energy access; robust public health and transportation system, and increase women’s participation in urban planning at the local level. In addition, there should be measures for building material for ensuring safety.

Water is linked to the crises of climate change, energy and food supplies and prices, and troubled financial markets. The National Water Mission focuses on conservation, preservation, efficiency, integrated water resources management and equitable distribution. India’s per capita availability of water, on the basis of the 2011 population census, has fallen below the global threshold. The access to potable water is the primary concern of every household and mainly managed by women. In rural areas they travel far from their habitat to fetch water. Gender issues are related to this mission in multiple ways: to provide women easy access to potable water in their locality, a role in water management, in planning on the principle of integrated water resources development and management, in water conservation and water resource project management. Women can be the primary agent for promoting usage of water in a sustainable manner.

Himalayan ecosystem is fragile and diverse and includes over 51 million people who practice hill agriculture, and remains vulnerable to climate change. Sustainability of the
Himalayan ecosystem is crucial for the livelihood of about 1.3 billion people in Asia. Particularly, Himalayan ecosystem is critical for the Indian landmass for environmental sustainability and economic development. The National Mission for Sustaining the Himalayan Ecosystem focuses on national and institutional capacities, strengthening of existing institutions, standardization of observational systems, decoupling of changes from natural and anthropogenic causes, prediction/projection of future trends and assessment of possible impacts, governance for sustaining Himalayan ecosystem and building a state of the art institution in glaciology. The Mission is quite comprehensive and covers almost every aspect of Himalayan ecosystem, and therefore, there is a need to include a concrete gender-oriented policy framework for women’s empowerment and a greater role of women in the adaptation strategies. Specific programmes should be formulated for knowledge and capacity building of women. Women should be allowed greater participation in the decision making process of institutions, and in planning and implementation of developmental programmes. Since the National Mission talks about community participation in adaptation, mitigation and coping mechanisms inclusive of farming and traditional health care systems, it should be ensured that women get their due representation. Women can be more useful in increasing the growth of flora and fauna.

National Mission for a Green India aims to increase forest/tree cover on 5 mha of forest/non-forest lands and improve quality of forest cover on another 5 mha (a total of 10 mha), and improve ecosystem services including biodiversity, hydrological services, carbon sequestration as a result of treatment of 10 mha and increase forest-based livelihood income of about 3 million households living in and around the forests and also enhance annual CO₂ sequestration by 50 to 60 million tonnes in the year 2020. The key innovations of the mission include focusing on the quality of forests, ecosystem services biodiversity, water and improved biomass, carbon sequestration, and addressing ecosystems like grasslands, wetlands, urban and peri-urban, and implementation aspects as well. Women’s role is crucial in forest management, food security, livelihood through non-timber forest products, and in preserving the entire ecosystem and biodiversity. Particularly in the context of energy, women manage the entire energy chain from collecting, transporting and managing cooking fuel in the rural and remote areas. Integrated Energy Policy (IEP, 2006) states to provide fuel within one kilometer of their habitat. Their role in social forestry and communities is also crucial. Unless women are factored in explicitly at all levels, the intended outcome may not materialize.

National Mission for Sustainable Agriculture (NMSA) has devised strategies to make Indian agriculture more resilient to climate change, and therefore, intends to identify and develop new varieties of crops, especially climate resistant ones, and alternative cropping patterns capable of withstanding extremes of weather, long dry spells, flooding, and variable moisture availability. The Mission, therefore, seeks to transform Indian agriculture into a climate resilient production system through suitable adaptation and mitigation measures in the domain of crops and animal husbandry. The implementation of NMSA up to the end
of the twelfth Five Year Plan would require additional budgetary support of INR 1080 billion.\(^2^9\) The Mission should have provisions for enhancing food and nutrition security for women and for providing them rights in land tenure, food processing and storage and post-harvest management. Information and knowledge dissemination are also crucial for reducing vulnerability of women in the agriculture sector.

National Mission on Strategic Knowledge for Climate Change aims to identify the challenges of, and the responses to climate change. A strong and strategic knowledge system is essential for identifying, formulating, planning and implementing policy-driven actions while maintaining the necessary economic growth rate.\(^3^0\) The Mission should boost up applied research into various aspects of climate change as well as collect gender-specific data for formulating specific measures for the policies and programmes for women, particularly vulnerability assessments, health problems, energy and socio-economic implications.

To sum up, it has been shown that there is gender differentiation regarding the impact of climate change due to different roles that gender plays and its different capabilities and situations. To ensure well-being of women and promote their development, National Missions on climate change should address the concerns of women and incorporate gender-sensitive measures to make adaptation strategy more robust.

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**Notes**


29. “National Mission For Sustainable Agriculture Strategies for Meeting the Challenges of Climate Change,” *Department of Agriculture and Cooperation, Ministry of Agriculture 2010.*

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