

## IMPACT OF CLIMATE CHANGE AND GENDER DISCRIMINATION ON WOMAN HEALTH IN INDIA: A LEGAL ANALYSIS

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### Abstract

Human beings are part of environment and therefore any alteration in the environment will definitely impact on the health of us. And it has been now globally accepted that several anthropogenic activities have resulted in Climate Change leading to global warming and other environmental disasters. All these no doubt will definitely contribute to the deterioration of human health. Further, gender inequality is also a product that has been nourished by most of the developing societies in the world. As a consequent to such gender inequalities women often remains at the receiving end. Such gender inequalities coupled with Climate Change have led to a warning stage to the women population. This is even more relevant in India since India is a patriarchal as well as a developing nation.

This paper will therefore try to understand the link between climate change, gender inequality and their impacts on women in India along with few policies that have been adopted from time to time to counter such impacts.

### I INTRODUCTION

United Nations Framework Convention on Climate Change (UNFCCC) mentioned that women especially economically poor, face the higher risks of climate change.<sup>1</sup> The reason behind this is basically based on social grounds. Instances of gender-based inequalities also contribute to a significant stage of vulnerabilities to the position of women across the world. The problem is more if the nation is a developing nation. Near about 1.3 billion people in the world lives below the

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<sup>1</sup> United Nations Framework Convention on Climate Change, Introduction to Gender and Climate Change (Feb. 02, 2019, 12:12 AM) <https://unfccc.int/topics/gender/the-big-picture/introduction-to-gender-climate-change>.

poverty line amongst whom 70% are women.<sup>2</sup> This shows that a majority of women population is poor. Therefore, women health issues are more in India since it is a patriarchal country and is also a developing nation. In India majority of women suffers from diseases like respiratory and cardiovascular diseases mostly due to poor air quality which further leads to higher disposition of particulate matter in lung tissue as well as increased rates of anemia.<sup>3</sup> In fact, poor air quality even affects negative birth outcomes resulting into stillbirth, intrauterine growth restrictions and congenital defects. Women, since they spend a greater time at home therefore, they are continuously exposed to traditional indoor stoves for cooking and heating. Even in the aftermath of any disaster women are at the receiving end due to physical, sexual and domestic violence. Continuous short-distance moves and forced migration contributes significantly to the pathetic surviving conditions for economically poor groups like women who lacks representation in the migration analysis. However, these are only few instances; the gravity of the issue is indeed much deeper. India being both a geographically as well as culturally diversified, it becomes very difficult to deal with every aspect of such diversity in detail. So, in order to have an in-depth study of the issue this Article will specifically focus on physical health issues excluding mental and that also limited to diseases caused due to climate change in general. The research will deal with the topic in general in order to have an understanding about the relationship between gender and climate change, the impact of climate change on women's health, the scenario in India and the laws and policies framed to mitigate such issues.

## **II GENDER AND HEALTH**

The World Health Organization (WHO) Report 2011 regarding the the relationship between gender and health provided that cultural norms and values in a given value system that dictates the roles of men and women are the principal factors that creates gender differences. Further such inequalities are also caused when those norms dignify one group more in detriment to another group. For example if a cultural norm restricts a woman to go to a clinic for health checkup while men are free

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<sup>2</sup> *The World Reports 2002: reducing risks promoting health life 2002, WHO (2002).*

<sup>3</sup> *Clean LH et al. The Association between fetal coronary heart disease and ambient particulate air pollution: are female at greater risk? EHP (Feb. 02, 2019, 01:17 AM) <https://doi.org/10.1289/ehp.8190>.*

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to go then it is obvious that there will be differences between men and women, and this becomes a clear evidence that how gender based norms may impact health of a particular gender.<sup>4</sup>

In India the problem of gender inequality is massive. This fact is even approved by the World Economic Forum.<sup>5</sup> The 2019 Human Development Report of United Nations Development Program ranked India as 129 amongst 189 countries on the basis of gender inequality. Gender constitutes as one of the major factors for social detriments of health. It is found that in India boys are more preferred in providing health care facilities as compared to girls. The amount of resources allocated to females in their household and public sphere can be taken as a measuring factor to determine the extent of gender inequality that prevails in India. In India this discrimination begins even before the birth of the girl child since they face very high rate of abortions. And this inequality continues throughout their life. Amartya Sen observed that a lower share in the household resources of women contributes directly and significantly to their lower share in bargaining process. In 2006 a study by Choi revealed that in rural areas boys receives better immunization than girls.<sup>6</sup>

### III IMPACT OF CLIMATE CHANGE ON WOMEN'S HEALTH

Climate change includes several health effecting impacts like excessive heat, extreme weather conditions, poor air quality and even meteorological changes. These risks are again enhanced through the medium of cultural, physiological and socio-economic vulnerabilities. This relationship was beautifully drafted by Cecilia Soresen and others in an Article titled 'Climate Change and Women's Health: Impacts and Policy Direction'<sup>7</sup> that can be briefly analyzed herein in the following manner-

Extreme heat events due to climate change might lead to severe consequences on women since women have reduced heat dissipation due to sweating and decreased effective radiative cooling and thus might lead to morbidity and mortality related to heat and also defective reproductive results such as pre-delivery, congenital defects, gestational hypertension and pre-eclampsia. Similarly,

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<sup>4</sup> *Gender Climate Change and Health*, WHO, (Feb. 12, 2019, 11:18 PM) <https://www.who.int/globalchange/Gender-Climate-Change-and-Health.pdf>.

<sup>5</sup> Anita Raj, *Gender Equality and Universal Health Coverage in India*, 377, *Lancet* (Feb. 12, 2019, 12:11 AM) [https://www.thelancet.com/lancet/article/PIIS0140-6735\(10\)1012-5/FULLTEXT/fulltext](https://www.thelancet.com/lancet/article/PIIS0140-6735(10)1012-5/FULLTEXT/fulltext).

<sup>6</sup> *Ibid.*

<sup>7</sup> Cecilia Soresen, et al. *Climate Change and women's health: Impacts and Policy Directions* 15 *PLOS* (Feb. 12, 2019, 12:54 AM) <https://doi.org/10.1371/journal>.

increased O<sub>3</sub> at ground level due to rise in temperatures and combustion of fossil fuels causing defective air quality often results into cardiovascular and respiratory diseases since women are exposed to more dispositions of inhaled substances in their lungs therefore, they might suffer from secondary anemia, and women also has a higher sensitivity to toxicological exposure. As per economic and cultural vulnerabilities are concerned women are mostly found in utilization of biomass in traditional indoor stoves for cooking activities that produces carbon monoxide, particulate matter and hydrocarbons resulting to near about 24% of ambient air pollution from PM<sub>2.5</sub>. Again, in climate-related disasters, women faces more death and their life expectancy reduces. They face high rates of physiological and sexual violence particularly those who belong to marginalized sections of the society during migration to escape such disasters and also those who give birth to their child faces threat of severe complications including preeclampsia, low birthrate infants and excessive bleeding. Due to their poor social status, women need to wait for relatives for evacuation since they are mostly homebound looking after their children and elderly. Women with disabilities, adolescence girls and aged face more abuses due to their low access to educational, family and other support systems and their access to local health care clinics are also very poor. Food insecurity caused due to damages resulting from shifting rainfall temperature patterns causes higher risks of micro and macro nutrient deficiencies for women as well as they suffer from cognitive impairments like poor attention, low memory strength, impaired sensory perception, etc. due to anemia and also undergoes growth restriction and potential mortality due to malnutrition. Since they are more sensitive to food insecurity due to their needs during menstruation, pregnancy and nursing. Due to water insecurity and water borne diseases they may suffer from contamination resulting in viral, bacterial and protozoan infections including toxic exposures and also from increases exposure to heat since they are required to travel long distances for procuring water which may again cause uterine blood flow resulting to prolong labor during pregnancy. Vector borne diseases resulting from geographical alterations due to temperature changes, precipitation and ecology may make pregnant women suffer from more vulnerabilities. As a result of increased production of CO<sub>2</sub> a chemoattractant for mosquito, the peripheral flow of blood that generates heat favors mosquitoes in locating hoots thereby causing threat to pregnant woman to mosquito-borne diseases. The risk of malaria for pregnant women becomes 3 times higher than that of non-pregnant women. Diseases such as microcephaly, CNS, malformations and impaired cognitive development

can be caused due to Zika virus and complications like cesarean delivery, eclampsia and growth retractions are caused by dengue virus.<sup>8</sup>

Even though the middle- and low-income groups are not the major culprits for causing climate change, yet they are the major victims of health issues caused due to climate change which further increases the global health disparity. The tropical regions are the major victims of climate change related health issues who face significant alteration in the human-pathogen relationships<sup>9</sup>

#### IV IMPACT OF CLIMATE CHANGE ON WOMEN'S HEALTH IN INDIA

It is now obvious to say that climate change plays a significant role in the decoration of women health. India, moreover being a developing nation as well as the existence of some of the illegal and illogical traditional customary norms that leads to gender inequality the position of women's health is even more dangerous and vulnerable. The health care facilities in India are even not adequate to serve the purpose. Most of the professionally trained physicians are concentrated in the urban areas for which the rural population have to confine themselves to the access of mostly unqualified and traditional methods of healthcare that produces varying results,<sup>10</sup> Further it has been found that nearly 25% of the physicians that claims to be allopathic (mainstream medical) actually have no training at all.<sup>11</sup> We must also acknowledge the fact that there is also a lack of female health workers, it has been found that two-thirds of health workers are men, while female physician amounts to only 6% which means 0.5 female physicians amongst 10,000 individuals in rural areas.<sup>12</sup> Again, there exists a high rate of disparity between rural and urban areas in terms of maternal health care reliefs, since it has been found by the National Family Health Survey conducted by the Government of India in 1998-99 that the maternal mortality rates in rural areas is 132% higher than the urban areas.<sup>13</sup>

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<sup>8</sup> *Ibid.*

<sup>9</sup> *Ibid.*

<sup>10</sup> Aparna Pandey et al. *Gender Differences in Healthcare-seeking during Common Illness in a Rural Community of West Bengal*, 29 (4), JOH 306 (Feb. 12, 2019, 01:12 AM) doi.2307/23498918.

<sup>11</sup> Moban Rao & Krishna Rao, *Human Resources for Healthy in India*, 377 (765), *Lancet* (Feb. 12, 2019, 02:11 AM) [https://www.lancet.com/journals/lancet/article/PIIS0140-6738\(10\)61888-0/FULLTEXT](https://www.lancet.com/journals/lancet/article/PIIS0140-6738(10)61888-0/FULLTEXT).

<sup>12</sup> *Ibid.*

<sup>13</sup> Paul C Adamson et al. *Are marginalized women being left behind? A population based study of institutionalized deliveries in Karnataka, India*, BMC, (Feb. 12, 2019, 02:33 AM) <https://doi.org/10.186/1471-2456-12-30>.

India is still a poverty stricken country and due to its unique geographical diversity, she is likely to experience a significant number of health issues related to climate change although there is also a lack of proper data documenting the real number of victims in this regard. As regards water-borne diseases Ministry of Health family Welfare provided a report where near about 40 million people are estimated to suffer from such diseases every year which further makes a loss of around 73 million number of workdays causing a further loss of about US\$600 million in each year. This leads to serious threat to both health and economic sector of the country WHO reported that around 900,000 people die yearly due to drinking of contaminated water and breathing polluted air. The Ministry of Health made an estimate that around 1.5 million children die every year while the WHO further added 5 million cases more due to cholera. Around 79% of rural population does not have proper access to pure drinking water. Due to combined effects of population growth with climate change, availability of water is expected to reduce from 1,820 m<sup>3</sup> to 1000 m<sup>3</sup> by 2025. As per heat stress is concerned in 2010 the temperature was recorded to reach about 50<sup>0</sup> C in summer in India. It resulted in severe drought, suffering of livestock, increased number of medical patients due to heatstroke while in some regions both health and agriculture were affected. It was found that out of 12 cities in the world Delhi was reported to have an increase rate of mortality with an increase of 1<sup>o</sup> C in temperature above 29<sup>0</sup> C and also reported that people of age group between 0-14 years had more mortality rates compared to people of >65 years of age. Further study on air pollution impacts revealed that emergency visits increased by 20% due to such pollution. Another shocking fact reveals that around 32% of deaths in South Asia are due to burning solid fuels in houses that are small and unventilated. India has also a huge number of victims suffering from vector-borne diseases where the country is recorded to have 2 million confined cases of malaria. A recent study estimated around 200,000 deaths in India due to malaria in each year below 70 years of age and 55,000 deaths in early childhood. While 6 regions were reported to have 65% of malaria cases which are as follows- Jharkhand, Orissa, Chhattisgarh, Madhya Pradesh, West Bengal and the North Eastern Region. While, WHO reported that in India disability-adjusted life lost due to the impact of vector-borne diseases is around 4.2 million. It was reported that shifting of rainfall and temperature increase in 20<sup>th</sup> century will contribute in a significant manner to increase the abundance of vectors.<sup>14</sup>

Amongst the tribal population of women huge number of cases of breast lumps has been reported in the Adivasi community of Adilabad in Telangana. It is very pathetic to know that even routine

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<sup>14</sup> Kathleen F. Bush et. al. *Impacts of Climate Change on Public Health in India: Future Research Direction*, 119 (6) EHP 765, (Feb. 12, 2019, 02:45 AM) <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3114809/#hp-119-765>.

mammalian infections were unknown in the remote areas of Gond, Pandhan, Kolam and Thotti.<sup>15</sup> It has been already observed that food insecurity leads to malnutrition amongst women, and food insecurity is a resulting factor of climate change. India is now held as a country consisting of the highest number of women suffering from malnutrition amongst the developing nations across the world. In 2000, a study revealed that 70% of non-pregnant women and 75% of pregnant women suffers from anemia.<sup>16</sup> As per instances of breast cancer is concerned, it was observed in 2002, that 70% of such cases will be from the developing world amongst whom India alone will consists of one-fifth of such cases.<sup>17</sup> Between 1992-2006, India amounted to 20% of all maternal deaths in the world and 60% of female mortality in the world are due to cardiovascular diseases. A study in 2011 found that out of 100 boys and girls suffering from heart diseases, 70 boys will manage to have a surgery while only 22 girls will receive such surgery.<sup>18</sup> There are many such facts to prove the vulnerability of women health in India due to climate change and the socio-cultural and economic conditions in the country.

## V INTERNATIONAL LEGAL AND POLICY FAMEWORK ON THIS ISSUE

Although humanity took a long time in realizing the impact of climate change yet it tried to adopt several initiatives and is even trying at present, since now no longer it is an option rather a necessity for the purpose of saving the world community from the adverse effects of climate change. Based on the reports of IPCC whose definition of climate change also included natural changes resulting to such change of climate, UNFCCC was drafted which dealt with the concept of climate change to include only the anthropogenic activities that resulted into climate change and became the first ever comprehensive international legal framework dealing comprehensively with the ever increasing problem of climate change. Later Kyoto Protocol followed by a number of COPs each year exhibited the dedicated efforts of the world community to mitigate these issues, however the results are still not that satisfactory. All these instruments also dealt with health and gender aspect, for

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<sup>15</sup> S Harpal Singh, *Survey of tribal women shows breasts abnormalities*, Hindu (Feb. 13, 2019, 12:14 AM) <https://www.thehindu.com/news/national/tamil-nadu/survey-of-women-shows-up-breast-abnormalities/article7096809.ece>.

<sup>16</sup> Alessandro Tarrozi, *Some facts about Boys versus Girls Health Indicators from 1993-2005*, 58 (2), O.A, 296 (Feb. 13, 2019, 12:57 AM) <https://doi.org/10.1093/cesifo/ifs03>.

<sup>17</sup> Anita Shetty, *India faces growing breast cancer epidermics*, 378, Lancet, 992, (2012), (Feb. 13, 2019, 01:19 AM) [https://doi:10.1016/s0140-6736\(12\)60415-2](https://doi:10.1016/s0140-6736(12)60415-2).

<sup>18</sup> Mangesh Pednekar et, al. *Illiteracy low educational status, and cardiovascular mortality in India*, BMC, (Feb. 14, 2019, 11:11 PM) <https://doi.org/10.1186/1471-2458-11-567>.



instance Article 4 f of UNFCCC provided that before initiating any adaptation or mitigation measures, they must estimate the health benefits or the negative impacts as well as the environmental and economic conditions. The UNFCCC can be expected to achieve the sustainable development agenda which includes both inter and intra generational equity.

The Sustainable Development Goals (SDGs) were also initiated to set different targets for a better world, out of which some of those targets specifically dealt with poverty (SDG 1); gender equality (SDG 5); sustainability (SDG 11) and climate action (SDG 13) however, there were energy related indicators in the health goals but they lacked health related indicators in the energy or climate goals and this created discomfort in achieving these SDGs. In 2015 the Sendai Framework, an international covenant attributed increase in disasters is a result of climate change and women are the major stakeholders. It called for preparing plans and policies including all relevant institutions for facilitating the participants from all sectors and reducing the risks of the major stakeholders from the impacts of climate change. This framework has a massive strength since it includes 38 indicators to measure the progress made in achieving the 7 targets set by this covenant. While some success was achieved by the United Nations International Strategies for Disaster Management UNSDR in UNFCCC COP 21 and COP 22 introduced a Gender Action Plan in 2017 which called for implementing adaptation, capacity building, mitigation, technology transfer and financial measures with gender perspective.<sup>19</sup>

On December 2012, the UNFCCC Secretariat adopted a new method of adaptation under the banner of Momentum for Change: Women for Results where the best of the lighthouse projects for mitigating climate change and encouraging women leadership in such initiatives are awarded each year. This campaign is showing relative progress in this matter across the globe.<sup>20</sup>

## **VI INDIAN LEGAL AND POLICY FAMEWORK ON CLIMATE CHANGE, HEALTH AND WOMEN EMPOWERENT**

India has adopted many policies and initiatives to deal with the problem of climate change. For instance, India has submitted its Nationally Determined Contributions recently as fulfillment of her

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<sup>19</sup> *Gender, Climate Change and Health, WHO, (Feb. 14, 2019, 12:19 AM) <https://www.who.int/globalchange/GenderClimateChangeHealthfinal.pdf>.*

<sup>20</sup> *Women for Results, UNFCCC, (Feb. 13, 2019, 01:13 AM) <https://unfccc.int/climat-action/momentum-for-change/women-for-results>.*

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partial obligation under Paris Agreement. Further, several policies such as National Solar Action Plan, are also adopted. India has made a commitment to reduce the share of conventional non-renewable source of energy by increasing the sources of clean and renewable energy.

Similarly, initiatives were also taken by the Indian government to address to the issue of gender inequality. For instance, in 1992 the National Commission for Women was established with the objective of dealing with several gender inequality issues such as rape, guardianship, family welfare, etc. that women face in their day-day life. However, due to the slow pace of Judiciary and strong hold of the illegal cultural norms the Commission has not been able to perform in a manner as expected.<sup>21</sup>

Most importantly the National Policy on Empowerment of Women, 2001 provides for several mechanisms to empower women. The greatest achievement of this policy is that it strives for achieving targets that are most vital for women empowerment like improving housing and sanitation facilities for them, defining the rights of girls and establishing institutional frameworks to secure those rights for the girls, making women active participants in environmental policy discussions and scientific and technological innovations. It makes a long step ahead in achieving the Constitutional goal of gender equality as its prime objective.<sup>22</sup>

For dealing with women health issues especially in the rural areas the government established the National Rural Health Mission (NRHM) with the objectives of reducing infant and maternal mortality rates in the rural areas. In addition to this Family Welfare Programmers were also launched at different levels across the country.<sup>23</sup> However, again the researches in 2011 revealed that although notable success has been achieved by such initiatives, yet a lot is still to be achieve.<sup>24</sup>

After observing the outcomes of the National Health Policies of 1983 and 2002 and due to the change of the needs of the present time, the National Health Policy of 2017 was adopted. This Policy aimed for several aspects but most notably the diseases that were attributed to be caused due to climate change were also dealt generally. For instances specific goals were set to reduce premature death from cardiovascular diseases, respiratory diseases, etc. to 25% by 2025. It also provided

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<sup>21</sup> Sonal Dosbi & Bindi Gandbi, *Women in India: the Contexts and Impacts of HIV/AIDS*, 17, JIHBSE, 413, (Feb. 15, 2019, 10:11 PM) <https://doi.org/10.80/10911350802068300>.

<sup>22</sup> *National Policy for the Empowerment of Women (2001)*, Ministry of Women & Child Development, GOI (Feb. 16, 2019, 10:13 PM) <https://wcd.nic.in/womendevelopment/national-policy-women-empowerment>.

<sup>23</sup> Ministry of Health and Family Welfare, *Government of India*, (2013).

<sup>24</sup> Harish Nair et.al. *Quality of Maternal Healthcare in India: Has the rural health mission made a difference*, 1 (1), JRH, 79.

extension of better-quality health care facilities to all at affordable costs. It further called for coordinated action in seven vital areas including Nirvaya Nari- Action against gender violence and reducing indoor and outdoor air pollution. However, this policy has been criticized for being allotted with insufficient funds.<sup>25</sup>

There are many such policies that have been adopted but the above w\are most important for understanding the nature of the efforts that had been put by the government. However, no single policy has been found directly interlinking the issues of climate change. Gender inequality and women health. Further, the goals set by most of these policies are highly ambitious setting targets that are mostly impossible to achieve at the preliminary levels without mitigating the basic issues like education, awareness, bargaining power on women in a patriarchal society like India. Since these targets can only be achieved if the women are made aware about their rights and also about the mechanisms for exercising these rights. Furthermore, these policies are drafted with inappropriate fund allocation systems for which these policies suffer from lack of implementation concerns. Again, most importantly these policies focus on improving the conditions of women by taking protective measures for them while their rights are mostly violated either by their male counterparts or active socio-cultural norms. Thus, these policies must focus also on limiting the domination of male counterparts and altering those stagnant and conservative cultural norms.

In the meantime, the adaptation measures are showing good signs of progress. For instance, the Bhungroo project which has been awarded under the Momentum for Change: Women for Results. This project is basically related to irrigation where water during the rainy season is stored underground and is pumped out during dry seasons. This has enabled the women to ensure food security to avoid malnutrition, thereby catering the ill impacts of climate change.<sup>26</sup> Similarly one another example being the Indian NGO, Swayam Shikshan Prayog which had been empowering rural women to become entrepreneurs in sectors like clean energy, sanitation, safe water, sustainable agriculture, health and nutrition, etc. this NGO since 2009 has trained around 60,000 women across India under this campaign.<sup>27</sup>

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<sup>25</sup> National Health Policy, 017, Vilaspedia, (Feb. 15, 2019, 11:34 PM) <https://vikaspedia.in/health/nrbm/national-health-policy/national-health-policy-2017>.

<sup>26</sup> Tranaya Singh, *This man is helping to fight both dry spells and water logging with a unique RWH technology*, TBI, (Feb. 11:47, PM) <https://www.thebetterindia.com/62677/water-management-gujarat-bhungroo/>.

<sup>27</sup> India, *Rural Community Leaders Combatting Climate Change*, (Feb. 15, 2019, 01:11 AM) <https://unfccc.int/unfccc2016/project.html?p=india-community-led-clean-energy-projects>.

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## **VII CONCLUSION**

Climate change has brought about a major threat to the entire humanity and this threat is even more on women especially those residing in the developing and the least developed nations under the Below Poverty Line. No doubt policies and laws are framed from time to time and this process will continue even further. But for a comprehensive solution it won't be just enough to limit the responsibilities on the part of the policy makers and the government only. Since now adaptation is no longer an option rather a greater necessity therefore creative ideas are now the need of the hour. Even the policies shall be framed in a manner to encourage and for making investments in such creative ideas. The Momentum for Change: Women for Results have proved this fact that women are not only the most vulnerable subjects of climate change but are also the pioneers of bringing about a revolution in the process of mitigation of such climate change.