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Avinash Kumar



Avinash Kumar has completed his Ph.D. in International Investment Law from the Dept. of Law & Governance, Central University of South Bihar. His research work is on "International Investment Agreement and State's right to regulate Foreign Investment." He qualified UGC-NET and has been selected for the prestigious ICSSR Doctoral Fellowship. He is an alumnus of the Faculty of Law, University of Delhi. Formerly he has been elected as Students Union President of Law Centre-1, University of Delhi. Moreover, he completed his LL.M. from the University of Delhi (2014-16), dissertation on "Cross-border Merger & Acquisition"; LL.B. from the University of Delhi (2011-14), and B.A. (Hons.) from Maharaja Agrasen College, University of Delhi. He has also obtained P.G. Diploma in IPR from the Indian Society of International Law, New Delhi. He has qualified UGC - NET examination and has been awarded ICSSR - Doctoral Fellowship. He has published six-plus articles and presented 9 plus papers in national and international seminars/conferences. He

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CLIMATE CHANGE: A DOUBLE BLOW TO INDIA'S GENDER STRUGGLE

*Safa Shameem and Sandhya S**

ABSTRACT

Climate change endangers women's lives more than it does men's. Women account for half of the world's population, making them one of the most valuable human resources in both the organised and unorganised sectors. However, they are also facing climate injustice. Natural catastrophes have a particularly negative impact on women due to systemic disparities in social, economic, and cultural status. Gender norms and responsibilities also play an important role in determining vulnerability to the impacts of the climate crisis. Women are frequently exploited, discriminated against, have limited access to resources and lack representation in decision making. Women participation in policy and politics are especially low in developing countries. They are more likely than men to be impoverished and are also subjected to systematic violence during times of unrest. Through this paper, the authors have endeavoured to analyse how climatic variations worsens existing gender disparities in relation to different sectors in India.

Key words: Climate change, women, health.

INTRODUCTION

Humans, for as long as they have inhabited the earth, the only planet known to harbour life have altered their environments to a considerable extent, both positively as well as negatively. As we lurch into an uncertain future, we are all faced with the unprecedented challenge of the irreversible climate system. Studies show that humans have dealt with issues of climate change since the dawn of agriculture 10,000 years ago. However, the impacts of climate risks affect different countries, in myriad ways. It is particularly the developing countries that are more exposed to the negative impacts of climate change. The disadvantaged groups among these developing countries further suffer disproportionately. Various international conventions have thus taken a holistic approach towards climate change by involving sustainable usage of resources and mostly used in the context of being environmentally conscious, the term 'sustainability' has gained popularity exponentially in the past few decades. Sustainability is an interdisciplinary approach that considers ecological, social and economic dimensions recognising that all must be considered together to find lasting prosperity.¹

The United Nations regarded climate change as a serious issue in the year 1992. From the Rio Earth Summit in 1992 to the Agenda for Sustainable Development in 2015, world governments through international agreements have been attempting to govern their nations with greener policies and sustainable development frameworks. As of today, progress is being made in various parts of the world, but actions to meet the Goals are not yet advancing at the pace required. India is one of the 193 member states of the 2030 Agenda for Sustainable Development which involves 17 interdisciplinary goals that the members pledged to achieve by way of a 15-year plan. The Agenda in its last decade focuses on tackling growing poverty, empowering women and girls and addressing climate emergencies, all of which are interrelated where one cannot be viewed independently by compromising on the other.

* IV BBA LLB, sandhya.18451@sjcl.edu.in

¹ University of Alberta, *what is sustainability?* <https://www.mcgill.ca/sustainability/files/sustainability/what-is-sustainability.pdf>

CLIMATE CHANGE AND GENDER

Climate change has been an urgent matter of concern for a few decades around the globe, with its harsh ramifications deterring and altering human existence and their way of life. Apart from the apparent environmental and economic reverberations of this phenomenon, it plays a catalytic role in aggravating social, cultural and political issues. It has evolved through various generations and has had a far-reaching impact over the lives of women. There's no doubt that this planetary phenomenon has impacted all, some more than others. However its consequences are being moulded by persistent gender inequality.

Countries, especially developing, have been and continue to combat gender-related issues by tackling various roots such as literacy, oppressive cultural practices, etc. However, in developing countries like India, policymakers fail to take into consideration how climate change and its repercussions also play a crucial role as an inevitable stressor in widening existing gender gaps. In such countries, with women and children already being subject to discrimination pervasively, climate change and its consequences on women and their status in society go unrecognised.

Predefined roles and restrictions imposed on women since time immemorial have made them vulnerable to numerous economic and social deficits. However, with sustainable development and green policies being the need of the hour, governments, while framing and implementing policies for sustainable growth, tend to overlook the correlation between women being subject to more discrimination and alarming global warming rates and its irreversible consequences. Studies have shown that women depend on natural resources more than men and now, due to its fast depletion and limited replenishing capabilities, women are repressed more in an already unequal community. Therefore, as polar caps melt and the resources dwindle, women are disproportionately affected. They account for 80% of those displaced by climate change.²

According to the World Economic Forum's World Gender Gap Report in 2021, India slipped 28 places and ranked 140th among 156 countries. The report states that among other factors, one of the prominent driving factors is the decrease in the women-labour force participation rate, which remains at 22.3%. Apart from socio-cultural oppression, developing countries show very limited women representing the nation. In India, as of February 2021, only 14.4% of seats at the Indian Parliament were held by women.³ This inadequacy in representation at the national level reflects poorly on the country's decision making and its policies, and thus, solutions to fundamentally intersectional issues require a holistic perspective.

Women are more susceptible to health disorders arising out of climate change, due to their economic and social disabilities. Their lack of access to basic human resources in addition to societal barriers further renders them vulnerable to the adverse effects of global heating.

SECTOR WISE ANALYSIS

The impact of climate change across the three sectors entirely reliant on natural resources for sustenance and commercial purposes are discussed below.

² Mary Halton, *Climate change 'impacts women more than men'*, BBC News (Mar 8, 2018), <https://www.bbc.com/news/science-environment-43294221>

³ Women Count, UN Women, <https://data.unwomen.org/country/india>

Agriculture

The agriculture sector has been instrumental in supporting the livelihoods of rural communities as people residing in rural areas, particularly in India, are largely dependent on farming for income. It is integrally tied to the realization of human rights, such as the right to self-determination and access to food, among others. Agriculture provides a living for around 58% of India's population.⁴ These activities are significantly influenced by change in climatic conditions. Crops and cattle are extremely susceptible to even modest climatic changes, and developing countries, particularly those that rely on rain-fed agriculture seem to be the hardest hit due to the variations in climate.

Women contribute considerably to the agricultural sector in greater numbers than men, however, they still do not reap the benefits of their work as it is regarded as financially unproductive, thus, maintaining sustainable livelihoods in a deteriorating environment is a gendered issue.

According to the periodic labour force survey 2020 report, around 85% of the agriculture workforce comprises women. They're responsible for producing up to 90% of rural population's food.⁵ Reports also suggest that most rural women work more than 16 hours a day. Taking care of the household, preparing meals, collecting resources and labouring in the fields are all part of their work. Despite being a significant contributor towards agriculture production, they face structural constraints in terms of accessing basic natural resources. Further, when food is scarce due to crop failures, women prioritise providing for the male members and children while cutting back on their intake, compromising their health and nourishment. This has further resulted in reproductive health complications, a study reported that around 87 percent of a small sample of agricultural labourers in rural India had uterine prolapse.⁶ Apart from producing severe physical discomfort, these health problems also wreak havoc on marital relations. Because of their uterine prolapse, domestic abuse from their husbands and in-laws is common, with some husbands even abandoning their wives.⁷

Gender differences, combined with limited access to natural resources, poor literacy, societal customs, lack of influence in decision making and restricted ownership rights over land, make women particularly vulnerable to vagaries of climate, which further exacerbates existing gender disparities.⁸

Women, due to their domestic roles are often required to do most of the primary tasks which include collecting water, fuelwood, food and other resources. Each of these natural resources is substantially impacted by the dry season and other climate-induced issues. The dry season poses a serious obstacle to farming, resulting in limited water availability, which further requires women to travel long distances while under stress to fetch water. As a result, they are exposed to intensifying heat waves their safety is jeopardised. They also have limited opportunities to obtain an education or engage in income-generating activities. Additionally, due to water scarcity, consumption of water applied for irrigation takes precedence over household necessities and this, in turn, has significant implications on health and hygiene.

Furthermore, women do not have easy access to economic and financial resources. It's pertinent to note that most financial programs and services, in the rural sector, are intended to benefit the male

⁴ Indian Agriculture and Allied Industries Industry Report, (Nov 2017), <https://www.ibef.org/industry.aspx>

⁵ George Dimitrov, *Effects of Climate change on Women*, Research Review Journals, (May 15, 2019), https://www.researchgate.net/publication/333292491_Effects_of_Climate_change_on_Women

⁶ Ravindran et al, *Women's Experiences of Utero-Vaginal Prolapse: A Qualitative Study From Tamil Nadu, India*, (2000), <http://www.ruwsec.org/wp-content/uploads/2011/11/41.pdf>

⁷ Bonetti et al., 2004, *Listening to "Felt Needs": Investigating Genital Prolapse in Western Nepal*, (May 18, 2004), Taylor & Francis Online, <https://www.tandfonline.com/doi/full/10.1016/S0968-8080%2804%2923110-X>

⁸ Kevin Watkins et al, *Fighting climate change: Human solidarity in a divided world*, Human Development Report, (2007), https://hdr.undp.org/sites/default/files/reports/268/hdr_20072008_en_complete.pdf

head of the family and they often fail to acknowledge the role of women farmers having their own share of economic hardships and constraints.⁹

Though the government has made efforts, in launching different schemes to make credit more accessible to farmers, such as the Kisan Credit Card scheme and more recently, the Pradhan Mantri Dhan-Yojana (PMDJY), women's lack of awareness aggravated gender biases, restraining a substantial number of women from taking advantage of the programme.

PMDJY has been more fruitful as it has resulted in greater financial inclusion by benefitting approximately 55% of rural women with bank accounts, however, this doesn't serve any purpose unless they use the account. The gender divide in the use of bank accounts remains wide, owing to rural women's lack of financial awareness, and this is another barrier to obtaining financial resources. Reports show that only 24% of India's population is financially literate.¹⁰ This also puts women farmers at risk of losing their limited assets in the event of droughts, floods, and other natural disasters.

In rural areas, whenever the crops are hugely affected by climate-related issues, rural men migrate to towns or elsewhere, in search of jobs outside agriculture, thereby leaving women stranded and burdened with additional responsibility. This has also resulted in feminisation of agriculture. Although things have changed since the 1960s and more women are able to manage their farms without the help of men, the fact remains that women still have limited access to credit and other resources, and own smaller plots of land in comparison to their male counterparts.¹¹ Further, women are mostly prevented from travelling, working or even finding safety in other places, due to socio-cultural conventions and household responsibilities.

Census (2015)¹² reveals that only around 13.87% of rural women hold land. India also ranks 149th out of 153 countries in terms of economic involvement and participation opportunities for women.¹³ Men make practically all of the decisions in almost all fields, from household to agriculture which also acts as a hindering factor. When women try to contribute and share their knowledge, they frequently feel neglected. Society continues to disregard their opinions, describing rural women as "farmwives"¹⁴ instead of considering them as actual farmers, and thereby further undermine their capabilities.

Climate change just adds to the complexity of the already difficult scenario by further marginalising women and making it more difficult for them to acquire, own and control land or exercise decision making power with respect to the same.

This reveals that rural women face gender inequalities in terms of their social and economic position. Climate change just adds to the stressors that already exist in women's lives, aggravating their vulnerability. As evidenced by several reports, women are also more subject to domestic abuse, sexual harassment and human trafficking during times of conflict.¹⁵

⁹ D. Fletschener & L. Kenney, *Rural Women's access to financial services: Credit, savings and insurance*, Gender and Agriculture, (Feb 19, 2014), https://link.springer.com/chapter/10.1007/978-94-017-8616-4_8

¹⁰ Ratika Rana, *The Importance Of Financial Literacy: Why It Needs To Be Included In Our Education System*, The Logical Indian, (Dec 17, 2021), <https://thelogicalindian.com/education/financial-literacy-32666>

¹¹ Ann Whitehead, *The Gendered Impacts of Liberalization Policies on African Agricultural Economies and Rural Livelihoods*, . United Nations Institute for Social Development, (2008).

¹² Annual Report, Department Of Agriculture, Cooperation & Farmers Welfare, (2018-19), Government of India, https://agricoop.nic.in/sites/default/files/AR_2018-19_Final_for_Print.pdf

¹³ WEF, *Global Gender Gap Report 2020*, World Economic Forum, (2020), https://www3.weforum.org/docs/WEF_GGGR_2020.pdf

¹⁴ Seith Abeka et al, *Women Farmers Adapting to Climate Change*, UNSCN, (Aug, 2012), <https://www.unscn.org/uploads/web/news/Women-farmers-adapting-to-Climate-Change.pdf>

¹⁵ Davis I et al., *Tsunami, gender and recovery*, Special issue for International Day for Disaster Risk Reduction, Gujarat, All India Disaster Management Institute, (2005).

Fisheries

The fisheries and aquaculture sector is a high revenue-generating sector providing employment to over 59.5 million people around the world. With the sector being constantly affected by the dire effects of climate change and States countering the phenomenon through restrictions on fishing limits and practices, the sector still prospers, subject to persistent challenges. One of the main reasons for this is the rate of renewal and regeneration of the resource as compared to other sectors fully dependent on nature. Another reason for this ever-growing industry to not fail despite challenges is the ease to do business in it and the wide scope of employment in it. The industry employs workers in various jobs such as fishing, trainers for fishing, sport fishing, food and meat processing units and marketing, distribution and exports.

However, according to the Food and Agriculture Organisation's report,¹⁶ only 14% of the total employed persons in the sector are women. Women are not only under-recognised but are also underpaid. This is substantiated with the reasoning that they don't possess enough qualifications and thus, they are employed in unstable positions, particularly in the secondary sector where tracing income becomes difficult.

India is the second-largest fish producing country in the world, with a fish production of 11.41 million metric tonnes in the year 2016-17. It is a sector employing over 14 million people in the country, in both the marine sector and inland fisheries. According to the Fisheries Statistics India, 2020, women constitute 44% of the fisherfolk population as compared to men who cover 56%. Even though women represent a huge portion of the workforce in this sector, they, more than often, tend to go unrecognised and are ignored. Women, in comparison to men, have numerous social and economic constraints including lack of control and access to land, cultural restraints, dual responsibilities of managing the household as well as economic activities while employed in this industry.

Resilience to climate change highly depends on capability to adapt, exposure and vulnerability. As this depends on awareness of social and financial programmes and assistance, women face more concentrated repercussions when working in the fisheries sector in India.

People who depend on fishing and aquaculture for their livelihood are prone to extreme climatic consequences such as cyclones, hurricanes, floods, etc. Male monopoly over active marine fishing in harsh, unprecedented sea conditions lead to frequent deaths of such fishermen. Thus, women are put in a questionable position, as they are left helpless on the shore, with limited means to generate revenue for their households.

One of the most accentuated impacts of global warming is the increase in temperature in the oceans which leads to loss of healthy breeding grounds for fish and crustaceans which in turn affects the quantum of production.

Women make up a sizable proportion of the labour force in the processing industry. This industry, in most countries, pays by the piece, i.e. the worker is paid for every unit they process. This further serves as a disadvantage in addition to the already existing notion that the work performed by women are less significant and thus, this system makes it tough for fisherwomen to subsist in business. They are underpaid in comparison to their male counterparts.

They generally do not take part in the fishing process but play a vital role in post-harvest activities. As post-harvest activities extensively depend on the quantum and quality of the catch, their wages fluctuate accordingly, sometimes even threatening their job security.

Women's employment in the sector is highly volatile due to the highly seasonal nature of the harvest and the deterioration of fish quality as a result of disruptions in the food chain and plastic pollution.

¹⁶ FAO, *State of World Fisheries and Aquaculture 2020*, <https://www.fao.org/documents/card/en/c/ca9229en/>

The majority of those employed as small scale fish vendors in rural as well as urban areas are also women. They have two sources to procure the commodity, either from their families who are small scale fishermen themselves or from large scale fishing companies. Small scale fishermen already face issues like limited catch coupled with lack of storage availability, and thus, women risk a backlash in the form of lower sales and earnings. To buy from large scale fishermen, vendors have to procure credit from moneylenders, which additionally disadvantages women as they comparatively have restricted access to such credit. Women are also engaged in seaweed cultivation and protection of reefs. Due to the depletion of coral reefs and increased salinity owing to warmer ocean temperatures, the produce does not pass quality checks.

The nature of work for fisherfolk coupled with inaccessibility to roads for travelling compels them to reside close to coastlines. In comparison to men who go into the ocean for active fishing, women are usually employed at the coast, tending to boats and their upkeep, stitching fishnets, and so on. Their livelihood on the coast is highly vulnerable due to extreme weather conditions and an increase in the frequency and intensity of natural disasters such as cyclones, tsunamis, floods, etc. In coastal states like Andhra Pradesh, Odisha and Tamil Nadu, fishermen and women are forced to abandon their residence and migrate to another state searching for more stable jobs.¹⁷ The Sunderbans in the Bengal delta witnessed large numbers of fisherfolk migrating into the cities in search of better jobs and skill development.¹⁸ This was due to a stark fall in the quantum of catch.

Men and women migrate generally due to various reasons such as extreme coastal weather, flooding and shoreline erosion. However, it is expedient to note that even if the push factors are common for both men and women, illiteracy, lack of skills and social constraints push women deeper into the depths of poverty and victims of sexual crimes.

The female literacy rate in India as of 2011 is 65.46% as compared to men, who have a literacy rate of 82.14%. With this dire disadvantage already at hand, skill development for women becomes more problematic and far-reaching. Women migrating to cities are mostly hired as domestic help in houses and other establishments. Language constraints and a new working environment make them more vulnerable to harassment and violence at the workplace. With the fisheries and aquaculture industry becoming more capital intensive, fisherwomen are prone to unemployment and forced to migrate away from their families to sustain their livelihood.

As women face more occupational restrictions and are socially restrained to work on the coast and not encouraged to perform jobs requiring them to work on boats at the sea, their access to help during emergencies is hindered. At times of natural calamities, the chances of survival of women are lower as compared to men as they aren't familiar with survival tactics.

It is pertinent that 100% of the population is represented and involved in decision making bodies and credit societies for comprehensive policies with significant impacts. This implies that women, including indigenous women, who have intricate, grass root knowledge about the natural resources they depend on for their livelihood and how to use it efficiently and sustainably and their participation in future plan of action is imperative. To throw some light on the ground reality and to substantiate this argument, an example of the FISHCOPFED, the Central co-operative society for fishermen and women in India. The Board of Directors of this national body providing support to thousands of fishermen affected across the country,

¹⁷ Manish Kumar, *India's 'Ghost Villages': A Changing Environment Is Forcing People To Leave Home*, The Wire, (Feb 07, 2022), <https://science.thewire.in/environment/india-ghost-villages-changing-environment-forcing-people-leave-home/>

¹⁸ Sahana Ghosh, *Migration aiding Sundarbans youth, women adapt to climate uncertainties*, Mongabay series, (Dec 24, 2018), <https://india.mongabay.com/2018/12/migration-aiding-sundarbans-youth-women-adapt-to-climate-uncertainties/>

houses only male members at this managerial post,¹⁹ portraying an outright underrepresentation of women. This is just one instance of how women are restricted from taking up leadership roles involving multi parted decision making. It is expedient for women to take up such roles and address how climate change aggravates the already persisting issues which further pushes them to a blindspot during policy making.

Forests and Protected Areas

The total forest and tree cover of the country is 80.9 million hectares, which is 24.62% of the geographical area of the country,²⁰ and around 4,526 villages are situated in such forest regions.²¹ Villagers in these areas depend on resources of the forest for both self-sustenance as well as commercial purposes.

Numerous research shows that men migrate more than women from such villages to the cities in search of education, skill development and better employment. As a result, women are forced to stay back in villages and fend for themselves by relying on forests. Coal, fuelwood, water and food are thus, important resources for most forest women. In many localities, women are in charge of collecting these for sustaining their families. They will most certainly be burdened by the arduous task of transporting these resources over long distances. Prior to deforestation, women would walk 1–2 kilometres for fuelwood. However, around 8 years later, they were required to cover a distance of 8-10 km to obtain enough fuelwood to make a single meal.²²

Additionally, due to food insecurity, pregnant women are unable to obtain the nutrition they require, and due to chronic under-nutrition, they are more likely to face certain reproductive issues. According to a study conducted in India, women who cooked with biomass fuels were more likely to suffer from stillbirths in comparison to those who cook with LPG, electricity or biogas.²³

Various regions in India such as Odisha, Madhya Pradesh and Chhattisgarh have seen the highest number of recurring and seasonal forest fires in the country which has increased 2.7 times compared to the previous year.²⁴ The Global Forest Resources Assessment 2020 acknowledged the link to this phenomenon with climate change. With rise in temperatures, forests are more susceptible to forest fires because of piled dry leaves and various forms of anthropogenic intervention.

Forest fires, reduced rainfall and anthropogenic activities such as clearing land for agricultural purposes, construction, raw materials for industrial purposes and unregulated tourism amount to pollution and loss of forest cover. While all this accelerates global warming, this also leads to loss of wildlife habitat. Animals are forced to move from place to place in search of suitable habitat and food. As women walk long distances for the purpose of collecting wood and water, the frequency of such conflicts is higher. Women and children are highly vulnerable in such circumstances as the majority of them are not trained to defend and protect themselves.

¹⁹ <http://www.fishcopfed.in/OfficersOfFishcopfed>

²⁰ India State of Forests Report of, 2021.

²¹ Forest villages, Ministry of Tribal Affairs, (Dec 28, 2017), <https://pib.gov.in/PressReleasePage.aspx?PRID=1514479>

²² Kitts and Roberts, *The health gap beyond pregnancy and reproduction*, (1996). In: M. Wan et al, *Forests, women and health: opportunities and challenges for conservation*, CIFOR, (2011), https://www.cifor.org/publications/pdf_files/articles/AWan1101.pdf

²³ Mishra et al., *Cooking smoke and tobacco smoke as risk factors for stillbirth*, International Journal of Environmental Health Research, (Jan 2006).

²⁴ Vivek Mishra, Forest Survey Report 2021, Down To Earth, (Jan 13, 2022), <https://www.downtoearth.org.in/news/forests/forest-survey-report-2021-india-s-mountainous-states-already-facing-climate-change-lose-forest-cover-81116>

Tribal women constitute half the population of tribal communities in the country. They are known to have extensive knowledge on medicinal herbs and crop plants which are crucial to maintain ecological balance. For instance, in different parts of India such as the North Eastern states, parts of Central India and South India, forest areas are cleared off by cutting down trees and burning them. The ashes are collected as they are rich in plant nutrients and the land is left barren for a year for the soil to regain fertility. Opposed to this unfortunately common practice by farmers, tribals do not completely fell trees. They retain certain horticultural and agricultural species and preserve them in such areas, which help in protecting endangered species.²⁵

With extensive forest land evacuation plans in the name of sustainable infrastructure coupled with lack of participation of such indigenous groups in community welfare associations and other government bodies, their homes, livelihood are threatened and their valuable knowledge on sustainable living is disregarded.

CONCLUSION

Through this paper, the authors have delved into the main issues related to climate change that women face in their struggle to enhance their families' livelihood. The following observations were made:

- Women face more discrimination economically as well as socially due to changes caused by climate change. Their domestic roles as primary caregivers often make them disproportionate users of natural resources. They are underpaid and have less access towards resources.
- Because the majority of women in these sectors work in the unorganised sector, where daily wages are determined by the quantity of produce or by the piece/unit, their income is highly unstable due to deterred produce.
- Women are underrepresented in decision making bodies and their access to credit is highly restricted due to lack of ownership rights over land, social norms and insufficient guidance and awareness on fluctuating markets. Indigenous women and their knowledge on sustainably managing resources are ignored.
- Lack of specific legal frameworks and policies to educate, support and assist women. Existing policies are generic and fail to cover distinctive challenges faced by women in such sectors, leaving them handicapped irrespective of the law upholding them as equal to men.

Sustainable development cannot be achieved without tackling the issues encompassing climate change, which in turn cannot be done without addressing the problems of gender inequality. Climate change and inequalities based on gender are inextricably linked. While the climate crisis continues to unfavourably impact them the hardest, more women these days are at the forefront of climate action movements around the world, it has also prompted them to claim power in the face of adversity.

With the planet being assaulted and provoked on a regular basis, it is high time we view the issue of climate change through a gendered lens. Providing forums for women to express their views is one way to go about it. They should also be involved in policy and decision-making, to be able to rewrite the rules of society. While we are faced with the prospect of extinction, empowered women who are made part of the solution will ultimately improve the environment and help us engineer our way out of this gradually progressing pandemonium.

²⁵ Dr. Seema Menon, *Role of Tribal Women in Sustainable Development*, (May 2016), [https://www.worldwidejournals.com/indian-journal-of-applied-research\(IJAR\)/recent_issues_pdf/2016/May/May_2016_1492146683__83.pdf](https://www.worldwidejournals.com/indian-journal-of-applied-research(IJAR)/recent_issues_pdf/2016/May/May_2016_1492146683__83.pdf)