

## Adaptation of Farm Women to Climate Change

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### Introduction: -

Change in the state of the climate that can be identified by changes in the mean or the variability of its properties, and that persists for an extended period, typically decades or longer” (IPCC). Carbon is accumulating in the atmosphere at a rate of 3.5 billion tonnes per annum. The global mean temperature is projected to rise 1.4 to 5.8 °C by 2100. Developed countries (41) release 46% of total anthropogenic GHG emission as compared to 54% from 153 developing countries.

### Different Terms Related to Climate Change

- ✚ **Vulnerability to Climate Change** - The degree to which a system is susceptible to, and unable to cope with, adverse effects of climate change, including climate variability and extremes.
- ✚ **Climate Resilience** - The capacity to foresee, predict, and react to climate-related hazardous occurrences, trends, or disturbances is known as climate resilience. Ex: A pumping station installed before a flood may be resilience, but after the flood occurs it is adaptation, by this definition.
- ✚ **Mitigation to Climate Change** - Mitigating climate change entails minimizing and eliminating the release of heat-trapping greenhouse gases into the atmosphere in order to keep the earth from rising to increasingly extreme temperatures. Ex: By switching to low carbon energy sources, such as renewable energies and by increasing the size of forests
- ✚ **Adaptation to Climate Change** - Adjusting to the consequences of anticipated or existing climate change is the process of adaptation. When combined with mitigation, it is one strategy to combat climate change. Ex : reforestation and other habitat conservation, selective breeding for drought-resistant crops.

### Research Studies

Thaker & Dutta 2018, revealed that women farmers are having perception about climate change and reported several changes in their local weather patterns over the



past ten years, including decreasing rainfall patterns, increasing uncertainty in predictability of monsoons, and the associated impacts on agriculture yields.

Lawson *et al.* 2019, highlighted the inter gender difference which shape the adaptation strategy is a pre requisite for adaptation policy planning.

Cholo *et al.* 2020, highlighted that socially constructed genderdivision of labour plays an important role in increasing women's working hours more than for men in Gamo communities.

Diarra *et al.* 2021, revealed that being a man, a head of household and having labour are the most factors that bring farmers to a high level of adoption of adaptation strategies.

### **Gender and Climate Change**

Gender disparities continue to exist globally, impacting the capacityof individuals and communities to adjust to climate change and negatively harming women's social and political rights. As a result, women and men are experiencing climate change in different ways. The adverse consequences of climate change disproportionately affect women.

The ability of women to adapt and be resilient in families and communities may be severely limited by gender inequality. It might also limit the alternatives available for mitigating climate change.

### **The Issue**

Women are responsible for gathering and producing food, collecting water and sourcing fuel for heating and cooking. The poor and most vulnerable people are more affected by extreme weather occurrences like droughts and floods; women make up 70% of the world's impoverished.

Women have heavier burden of domestic work as the result they may withdraw their daughters from school to help out at home. Even natural disastershaving gender implications killing more women than men. Global negotiations have increasingly reflected the growing understanding of gender considerations in climate decision making over the last eight years (COP21).

### **Importance**

According to the UN food and agriculture organization, if women had the same access to productive resources as men, they could increase yields on their farms by 20-30% which could raise the total agricultural output by 2.5- 4%.



Women have proven to be leading the way towards more equitable and sustainable solutions to climate change. So, women are called as the backbone of any developed society.

In India 85% of the rural women are engaged in agriculture. Women grow as much as 80% of India's food. Women are dynamic workers and perform various functions like seed bed preparation, transplanting, weeding, harvesting, threshing, grain cleaning and storage.

### **Feminization of Agriculture**

Economic survey 2017-18 says that with growing rural to urban migration by men, there is 'feminisation' of agriculture sector. It means "Increased proportion of women in agriculture and allied sectors playing multiple roles as cultivators, entrepreneurs, and labourers".

Bihar's agriculture sector is highly feminized, with 50.1% of the total workforce engaged in farming activities being women ('women in the informal economy of Bihar' – ADRI). 70% of all women engaged in cultivation are from households witnessing migration. (Report released in 2014 by IHD, New Delhi).

### **Adaptation Strategies used by Farm Women**

1. Crop and varieties related strategies	Use of drought tolerant varieties & flood tolerant varieties
2. Soil and water conservation strategies	Mulching, Contour farming
3. Changes in agricultural system	Mixed farming, Crop rotation
4. Technology related strategies	PAU seed drill, Hand ridger
5. Other strategies	Early sowing, Late sowing, IPM

### **Problems & Vulnerability of Farm Women**

- ✚ **Invisible, unpaid labour force** - women farmers in India work about 3,300 hours, double the 1,860 hours their male counterparts put into farming yet remains undervalued.
- ✚ **Lack of land ownership** - Indian women own just 12.8% of the country's land.
- ✚ **Financial difficulties** - As a result of a lack of ownership rights, they fail to get credit from the banks which require collateral. Moneylenders charge high rates of interest which are not feasible.

- ✚ **Less exposure to agricultural development** - Financial difficulties and lesser rights are keeping the farm women away from the technology. Giving farm women access to technology could increase the farm yield by 20-30% (FAO).
- ✚ **Suicide** -The data of female farmers remains mostly unreported. According to NCRB as many as 3,53,803 farm suicides have taken place between 1995 and 2018 across the country. 85.81% of the deceased were male farmers, indicating that around 50,188 female farmers had ended their lives in this period.
- ✚ **Agricultural reforms** - The new farm laws have faced a lot of criticism. The majority of marginal women farmers are being impacted by the deregulation of the agricultural market and the deterioration of the government's minimum support price policy.

The previous system made sure they could sell their produce at the closest mandis, but the new regulations will make it harder for them to go farther and look for buyers. Furthermore, because men predominate in Indian society, these women will be pressured by male customers to sell their produce for less money.

## Success Stories

### 1. Rajasthani women farmers combat Climate Change in the desert

60% of the Rajasthan is covered by Thar desert. The region sees around 2 droughts in 2 to 3 years and faces an acute water shortage for 9 -11 months. Mani and Rameshwari are women community leaders from Derasar village in Rajasthan who have successfully combat the adversities of climate change by constructing embankments to prevent runoff and erosion, planted fodder crops, improved crop varieties like pearl millet was introduced. This success is mainly due to the partnership of local community and grass root organization GRAVIS (Gramin Vikas Vigyan Samiti) along with ICRISAT

### 2. Women farmers shine as 'super-heroes' in India's climate fight

Farmer K Rama Devi spends her days teaching climate-resilient agriculture skills, an unassuming champion of women's rights in a rural part of south India where men still take key decisions. The head of a self-help group in Andhra Pradesh state, Devi has never marched in a climate rally nor lobbied world leaders, instead focusing her efforts on the practical details of growing crops in a world suffering the effects of more extreme weather.



The 34-year-old advises fellow female farmers on how mix manure and grow multiple crops on their land and issues warnings that chemical fertilizers can harm their fields and health.

### **Conclusion**

The contribution of women in agricultural and food production is clearly significant. Even though women work more than men, their work is invisible and undervalued. Adaptation capabilities of the women farmers to climate change are hindered due to prevailing gender inequalities in the society i.e., lack of land ownership, access to capital assets and education etc. There is a need to ethnographic research on climate change adaptation that can help to detect the contestation of technologies of power that construct and reinforce hegemonic gender identities and Gender-responsive extension systems to adopt climate smart agriculture. There is a need of providing regular training to women farmers on the activities related to climate change and socializing the concept of gender awareness from the community and religious leaders, forming and empowering the women groups. Now government has also understood the need to empower women farmers in India and hence celebrating women farmer's day on October 15.

### **Way Forward**

Strengthening women's roles in climate-resilient agriculture is a key way forward. Governments should consult with civil society organizations and local communities to include women and men equally in identifying and prioritizing areas of intervention in climate related disaster risk reduction strategies (such as roundtables, focus groups and participatory discussions) in line with Point 5 of the UNDP 10-Point Action Agenda (UNDP, 2022). In addition to developing the policies needed to guide adaptation, governments need to look at large-scale measures such as- reform laws to guarantee women's rights, improve adaptation through better access to land, credit and knowledge, include women and other vulnerable groups in decision-making processes and protect women and children from violence in the aftermath of disasters.

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