

## International Journal of Advanced Biochemistry Research



ISSN Print: 2617-4693  
 ISSN Online: 2617-4707  
 IJABR 2025; SP-9(2): 447-449  
[www.biochemjournal.com](http://www.biochemjournal.com)  
 Received: 21-12-2024  
 Accepted: 26-01-2025

**Dr. Subuhi Nishad**  
 Assistant Professor, Physical  
 Education Sports Officer  
 Indira Gandhi Krishi  
 Vishwavidyalaya, Raipur,  
 Chhattisgarh, India

**Priya Soni**  
 Ph.D. Scholar, Department of  
 Soil Science, Indira Gandhi  
 Krishi Vishwavidyalaya,  
 Raipur, Chhattisgarh, India

**Corresponding Author:**  
**Dr. Subuhi Nishad**  
 Assistant Professor, Physical  
 Education Sports Officer  
 Indira Gandhi Krishi  
 Vishwavidyalaya, Raipur,  
 Chhattisgarh, India

## Assessing the impact of climate change on women in Chhattisgarh: Health, livelihood, and socioeconomic challenges

Subuhi Nishad and Priya Soni

DOI: <https://doi.org/10.33545/26174693.2025.v9.i2Sf.3809>

### Abstract

Climate change is a growing environmental challenge with far-reaching consequences on health, livelihood, and well-being. This study examines the impact of climate change on women in Chhattisgarh, India, where a significant portion of the population depends on agriculture for their livelihood. A survey-based approach was employed, gathering qualitative and quantitative data from 38 respondents across rural and urban areas. The findings indicate that 97.4% of respondents are aware of climate change, yet only 18.9% reported direct health issues linked to it, primarily heatstroke, dehydration, and respiratory diseases. Additionally, 21.1% of women noted reproductive health changes, while 63.2% experienced some impact on their livelihood, with reduced agricultural productivity and financial burdens being the most cited concerns. Mental health effects were reported by 26.3% of respondents, though a majority remained uncertain. Government and health sector responses were perceived as inadequate by 42.1% of participants. The study highlights the urgent need for targeted interventions, policy improvements, and increased awareness to mitigate climate change's adverse effects on women in vulnerable communities.

**Keywords:** Climate change, health, respondent

### Introduction

Chhattisgarh, located in east-central India, is the ninth largest state of the country. Approximately three-fourths of its population lives in rural areas, with at least one-third of them belonging to scheduled castes or tribes. As the largest exporter of non-basmati rice, Chhattisgarh ranks among the ten states with the lowest per capita Gross State Domestic Product (GSDP). In this "rice bowl of India," 70% of the working population is employed in agriculture, and since most women work in the sector, the state's Female Work Participation Rate (FWPR) has consistently outperformed the national average. Human expectations about the weather and climate can occasionally result in perceptions of climate change that are not backed by observational data. (Rebetz, 2000) [5].

Climate change has become a major concern to society and it is one of the biggest environmental challenges because of its potentially adverse impacts worldwide. India is considered to be especially vulnerable to the impacts of climate change with an extraordinary variety of climatic regions, ranging from tropical in the south to temperate and alpine in the Himalayan north, where elevated regions receive sustained winter snowfall (Shrivastava 2019) [6]. Climate change is likely to affect all the natural ecosystems as well as socio-economic systems as shown by the National Communications Report of India to the UNFCCC (INC, 2004), (Rai 2013) [4].

Climate change impacts on health, including increased exposures to heat, poor air quality, extreme weather events, and altered vector-borne disease transmission, reduced water quality, and decreased food security, affect men and women differently due to biologic, socioeconomic, and cultural factors (Crimmins *et al.*, 2016) [1] (Qureshi 2022) [3]. Women differ from men in their physiologic compensation to elevated temperatures, which contribute to their biologic vulnerability. They dissipate less heat by sweating, have a higher working metabolic rate, and have thicker subcutaneous fat which decreases radioactive cooling (Duncan, 2006) [2].

## Materials and Methods

The present study was carried out in Krishak Nagar, Zora in Raipur District of Chattisgarh State, India. This study entitled a survey-based approach to assess the impact of climate change on health, livelihood, and well-being, with a particular focus on women from different age groups and locations. The study aimed to gather both qualitative and quantitative data on climate-related health concerns, reproductive health, mental health, and economic impacts. Data were collected through questionnaire Forms. The survey was done among various participants, targeting women from both rural and urban areas. The questionnaire was designed to capture demographic details, climate change awareness levels, perceived health effects, livelihood impacts, and mental health concerns. A total of 38 responses were recorded and analyzed.

The study included 38 respondents, representing a diverse range of age groups. The age distribution included participants aged 18–25 (28.9%) and 26–35 (71.1%). Additionally, 73.7% of respondents were from rural areas, while 26.3% were from urban areas. The inclusion criteria required participants to be aware of climate change and willing to share their experiences regarding its effects.

## Results and Discussion

The survey responses provide valuable insights into the perceived impact of climate change on health, livelihood, and well-being, particularly among women from different age groups and locations. The result of the survey has been shown in table no 1.

### Awareness of Climate Change

A significant majority (97.4%) of respondents indicated awareness of climate change and its effects. This suggests that climate change is a well-recognized issue among the surveyed individuals, regardless of their location (rural or urban).

### Health Issues Linked to Climate Change

Only 18.9% of respondents reported experiencing health issues they attributed to climate change. Among those affected, the most common health concerns included heatstroke and dehydration (16.7%), respiratory diseases such as asthma and bronchitis (16.7%), malnutrition due to food scarcity (13.9%), and waterborne diseases (44.4%). This indicates that while a majority have not directly linked health concerns to climate change, those who have primarily experience issues related to extreme weather conditions and environmental degradation.

### Reproductive Health Concerns

The changes in reproductive health due to climate conditions, responses were mixed, with 39.5% of respondents reporting uncertainty, 39.5% indicating no noticeable changes, and 21.1% stating they had experienced reproductive health effects. This suggests that while there may be concerns regarding climate-induced reproductive health risks, more awareness and research are needed in this area.

### Impact on Livelihood

The survey results reveal that climate change has affected the ability to earn a livelihood for many respondents. While 63.2% reported being somewhat affected, 15.8% indicated a

significant impact, and 21.1% reported no effect. Among those affected, 31.6% cited reduced agricultural productivity, 28.9% mentioned loss of employment opportunities, and 39.5% pointed to an increased financial burden due to health expenses. This underscores the economic vulnerability associated with climate-related disruptions, particularly in rural areas.

### Mental Health Impacts

A notable proportion of respondents (26.3%) reported experiencing increased anxiety, depression, or other mental health issues due to climate-related events, while 65.8% were unsure of the impact. This highlights the need for further mental health awareness and support related to climate-induced stressors.

### Perception of Government and Health Sector Response

The government and health sector are doing enough to protect women from climate-related health risks, responses were largely negative or uncertain. Only 15.8% of respondents felt that adequate measures were in place, whereas 42.1% believed that not enough was being done, and another 42.1% were unsure. This indicates a perceived gap in policy implementation and healthcare support in addressing climate-related health challenges for women.

**Table 1:** Climate change and its effect on health livelihood, and well-being, particularly among women

Category	Response Options	Percentage (%)
Age Group	18-25	28.9%
	26-35	71.1%
Location	Rural	73.7%
	Urban	26.3%
Awareness of Climate Change	Yes	97.4%
Health Issues Linked to Climate Change	Yes	18.9%
	No	81.1%
Type of Health Issues	Heatstroke/Dehydration	16.7%
	Respiratory Diseases	16.7%
	Malnutrition	13.9%
	Waterborne Diseases	44.4%
Reproductive Health Changes	Yes	21.1%
	No	39.5%
	Not Sure	39.5%
Livelihood Impact	Yes	15.8%
	No	21.1%
	Somewhat	63.2%
How Livelihood is Affected	Reduced Agricultural Productivity	31.6%
	Loss of Employment	28.9%
	Increased Financial Burden	39.5%
Mental Health Impact	Yes	7.9%
	No	26.3%
	Not Sure	65.8%
Government & Health Sector Response	Yes	15.8%
	No	42.1%
	Not Sure	42.1%

## Conclusion

These findings emphasize the need for targeted interventions, including better healthcare access, economic support, and awareness programs to address climate change-related challenges. Strengthening policies and improving adaptation strategies can help mitigate the adverse effects, particularly for women in vulnerable communities.

Chhattisgarh is highly dependent on agriculture and has a significant rural population, addressing climate change impacts requires a multi-faceted approach. Strengthening adaptive measures, increasing climate-related education, and implementing targeted policies can help mitigate the adverse effects on women's health and livelihoods. Future research should focus on long-term health monitoring and the socio-economic consequences of climate change, ensuring that mitigation strategies are effectively implemented at both local and national levels.

### References

1. Crimmins EM, Zhang Y, Saito Y. Trends over 4 decades in disability-free life expectancy in the United States. *American Journal of Public Health*. 2016;106(7):1287-1293.
2. Duncan A. *Performance and Identity in the Classical World*. Cambridge: Cambridge University Press; 2006.
3. Qureshi A, Toorray NK, Parganiha OP. Farmers' perception about the impact of long-term climate change on agriculture in the Plain Zone of Chhattisgarh, India. *International Journal of Environment and Climate Change*. 2022;12(11):3736-3744.
4. Rai PK. Environmental and socio-economic impacts of global climate change: An overview on mitigation approaches. *Environmental Skeptics and Critics*. 2013;2(4):126.
5. Rebetz M. Public expectations as an element of human perceptions of climate change. *Climatic Change*. 2000;32:495-509.
6. Shrivastava SC, Shrivastava OL. Impact of climate change on agriculture in Chhattisgarh. *Mind and Society*. 2019;8(3-4):20-27.