



Climate Smart Agriculture Awareness among Farm Women in Ratnagiri District

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Abstract

It is crucial to empower farm women to respond to climate change challenges. Recognising and promoting awareness about the gender dimensions of climate change all contribute to effective climate change adaptation. Climate-smart agriculture (CSA) is one interdisciplinary strategy for addressing the interconnected challenges of food security and climate change, with the clear goal of increasing food security, productivity and income, adaptability to climate change, and agricultural system efficiency. The study intended to assess the awareness level of farm women on climate-smart agriculture, taking indicators on climate change, causes of climate change, and climate variables influencing the production as major dimensions. The sample comprised 30 farm women chosen at random from two villages in the Ratnagiri district of Maharashtra. The majority of the respondents, viz 90.00 percent, 73.33 percent, and 70.00 percent, had a medium level of awareness of indicators on climate change, causes of climate change, and climate variables influencing production, respectively. More than half of the respondents fell into the middle category in terms of age, education, family size, and annual income. 66.67 percent of respondents had nuclear families, and the remaining possessed joint families. 56.67 percent of farm women were members of a single organization, while 43.33 percent were members of multiple organizations.



Keywords: Climate change, Awareness. Farm workers, Productivity , Adaptability

Introduction

“Climate change” is a change that is recognized directly or indirectly by human activity that alters the composition of the global atmosphere (UNFCCC). Agriculture is essentially sensitive to climatic changes and is one of the most vulnerable sectors. Climate change directly affects agriculture production and production efficiency. It affects agriculture in terms of productivity, agricultural practices, environmental effects, rural space, and adaptation. Climate change is visibly occurring across the globe, impacting the conditions, experiences, and livelihoods of populations in multiple ways. Unfavourable weather conditions such as delayed monsoon, intermitted dry spells, erratic rainfall and prolonged droughts etc., are the major concern to the farmers. Climate change is today’s most debated environmental issue. It is an important issue because it can affect all aspects of the society and the livelihood of people especially the rural farmers. Climate change is the biggest threat to agriculture in India, but farmers are still not fully aware of climate change and its indicators, causes, and impacts. Although women are important food producers and providers, they have limited access to and control of resources. On the other hand, because of their central role in agriculture, women are great agents of social change. Climate-smart agriculture (CSA) is an approach to ensure food security, increase productivity and incomes, build resilience to climate change, and reduce emissions from agricultural systems.

Objective

To study the climate smart agriculture awareness among farm women in Ratnagiri district

Methodology

Ratnagiri district was selected for the present study. The survey was carried out to determine farm women's awareness of climate-smart agriculture. An ex-post facto research design was used in this study. The random sample approach was used to pick 30 respondents. The information was gathered through first hand interviews with farm women. In the current study, statistical methods such as frequency, percentage, arithmetic mean, and standard deviation were used for interpretation and making conclusions.



Results

Table 1 Distribution according to Personal and socio-economic profile of farm women

Sl. No	Component	Categories	Frequency	Percentage
1.	Age	Young (upto 35 years)	2	06.67
		Middle (36-55 years)	20	66.67
		Old (above 55 years)	8	26.66
2.	Education	Low (primary school, 1-4 th std)	0	00.00
		Medium (middle and high school, 5-10 th and 11-12 th std)	23	76.67
		High (above 12 th std, graduation)	7	23.33
3.	Family size	Small (upto 2 members)	4	13.33
		Medium (3-5 member)	20	66.67
		Large (above 5 members)	6	20.00
4.	Family type	Nuclear	20	66.67
		Joint	10	33.33
5.	Annual income	Low (< 50,000)	12	40.00
		Medium (50,001 to 1,00,000)	14	46.67
		High (> 1,00,001)	4	13.33
6.	Social participation	Member of one organization	17	56.67
		Member of more than one organization	13	43.33

The data in table 1 showed that the majority (76.67 percent) of the respondents had medium level of education (middle and high school, 5-10th and 11-12th std), followed by 23.33 percent with high level of education (above 12th std, graduation), and none of them with low level of education. The majority (66.67 percent) of respondents belonged to families with medium size (3-5 members), followed by 20.00 percent with large family size (above 5 members), and 13.33 percent with small family size (upto 2 members). Two third (66.67 per cent) of respondents belonged to 'nuclear' families and one third (33.33 per cent) of them belonged to 'joint' families.



1. Annual Income:

- Low (< 50,000): 12 individuals (40.00%)
- Medium (50,001 to 1,00,000): 14 individuals (46.67%)
- High (> 1,00,001): 4 individuals (13.33%)

Explanation: The distribution of annual income shows that a slightly higher percentage of individuals fall into the medium-income category (46.67%), with 40.00% falling into the low-income category.

2. Social Participation:

- Member of one organization: 17 individuals (56.67%)
- Member of more than one organization: 13 individuals (43.33%)

Explanation: A majority of the participants (56.67%) are members of at least one organization, suggesting a significant level of social engagement within the surveyed population.

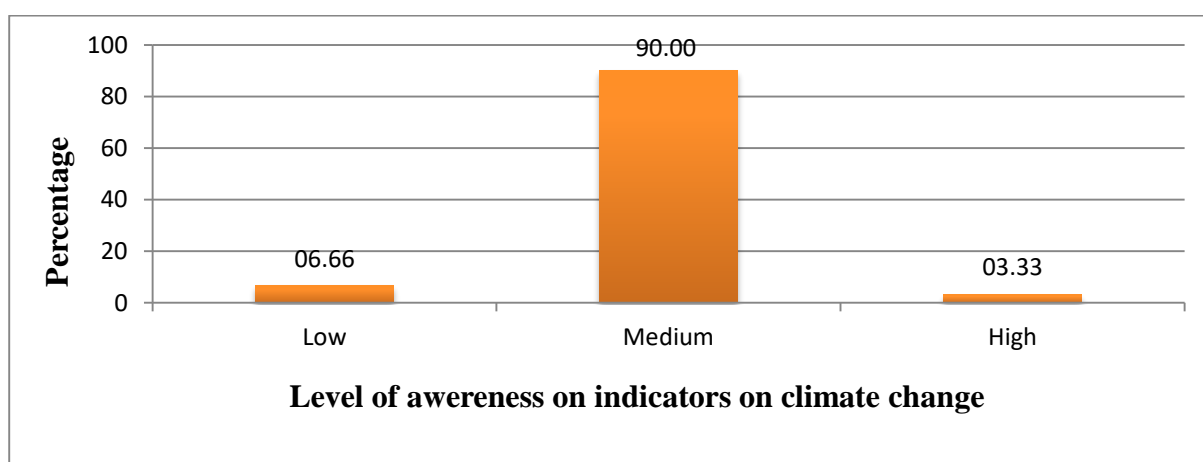
Table 2 Distribution of respondents according to the level of awareness of indicators on climate change

Sl. No.	Indicators /Phenomenon	Level of awareness in Percentage (%)		
		Fully aware	Somewhat	Not aware
1.	Increase in melting of the glacier	16 (53.33)	10 (33.33)	04 (13.34)
2.	Increase in temperature	24 (80.00)	02 (06.66)	04 (13.34)
3.	Changes in water	18 (60.00)	09 (30.00)	03 (10.00)
4.	Irregular and erratic rainfall	24 (80.00)	03 (10.00)	03 (10.00)
5.	Change in length of season (Short winter, Long summer)	24 (80.00)	04 (13.34)	02 (06.66)
6.	Change in intensity and frequency of storm	20 (66.66)	05 (16.77)	05 (16.77)
7.	Decline of soil productivity	24 (80.00)	03 (10.00)	03 (10.00)
8.	Occurrence of extreme event (Cold wave, Heatwave, Heavy fog)	17 (56.67)	11 (36.77)	02 (06.66)
9.	Frequent flood	26(86.77)	04 (13.33)	00 (00.00)



The data in Table 2 awareness of farm women regarding the level of awareness on indicators on climate change revealed that the great majority of the farm women, 86.77 per cent, were fully aware of the frequent flood, followed by 36.77 per cent were somewhat aware of the occurrence of extreme event (Cold wave, Heatwave, Heavy fog) and 16.77 per cent were not aware of change in intensity and frequency of storm.

Fig. 1 Distribution of respondents according to the level of awareness on indicators of climate change



The fig.1 shows that the majority (90.00 percent) of respondents had a medium level of awareness of indicators of climate change, followed by 06.66 per cent and 03.33 per cent had low and high levels of awareness of indicators of climate change, respectively.

Table.3 Distribution of respondents according to the level of Awareness on Causes of Climate Change

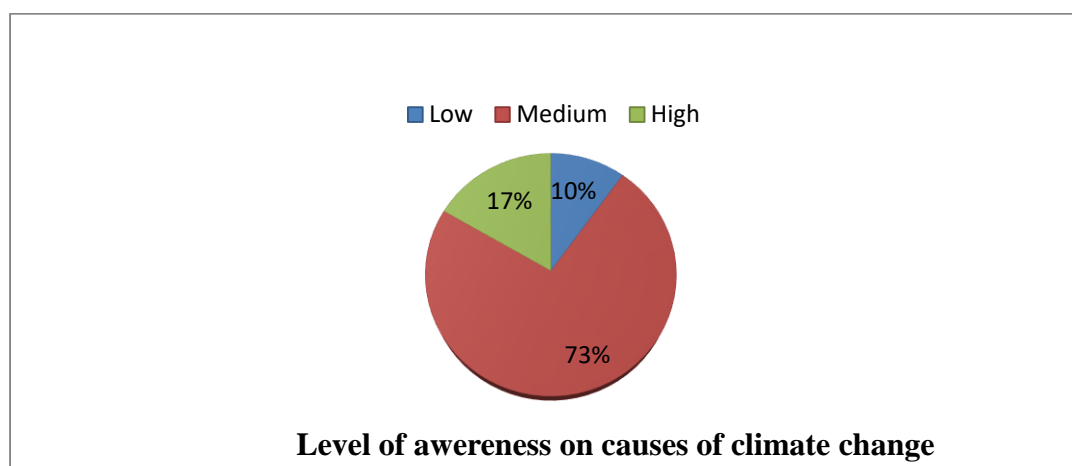
Sl. No.	Statement	Level of awareness in Percentage (%)		
		Fully aware	Somewhat	Not aware
1.	Increase in number of vehicles	26 (86.77)	03 (10.00)	01 (03.33)
2.	Overpopulation	19 (63.44)	10 (33.33)	01 (03.33)
3.	Use of Pesticides	26 (86.77)	02 (06.66)	02 (06.66)
4.	Burning of fossils and farm waste	21 (70.00)	06 (20.00)	03 (10.00)
5.	Industries and factories	22 (73.33)	05 (16.77)	03 (10.00)
6.	Global Warming	27 (90.00)	00 (00.00)	03 (10.00)



7.	Use of electrical appliances	14 (46.77)	09 (30.00)	07 (23.33)
8.	Pollution	25 (83.33)	05 (16.77)	00 (00.00)
9.	Rapid urbanization	23 (76.77)	06 (20.00)	01 (03.33)
10.	Natural Disaster	29 (96.77)	01 (03.33)	00 (00.00)

The data in table 3 awareness of farm women regarding causes of climate change observed that, great majority of the farm women 96.77 per cent were fully aware of natural disaster, followed by 33.33 per cent were somewhat aware of overpopulation and 23.33 per cent were not aware of use of electrical appliances.

Fig. 2 Level of awareness on causes of climate change



The fig. 2 indicated that nearly three fourth i.e., 73.00 per cent of respondent had medium, 17.00 per cent had high and 10.00 per cent had low level of awareness on causes of climate change.

Table.4 Distribution of respondents according to the Level of Awareness on climate variable influencing production

Sl. No.	Incidence	Degree of change in percentage (%)			
		Extreme	Moderate	Negligible	None
1.	Increased temperature	24 (80.00)	05 (16.77)	01 (03.33)	00 (00.00)
2.	Drought	11 (36.77)	17 (56.77)	01 (03.33)	01 (03.33)
3.	Flood	24 (80.00)	05 (16.77)	01 (03.33)	00 (00.00)
4.	Change in growing season	11 (36.77)	13 (43.33)	06 (20.00)	00 (00.00)



The data in table 4 awareness of farm women regarding climate variable influencing production showed that the majority of the farm women, 80.00 percent were the extreme level of awareness of increased temperature and flood, followed by 56.77 percent, were the moderate level of aware of drought, and 20.22 percent were the negligible level of aware about change in the growing season.

Fig. 3 Level of awareness on climate variable influencing production

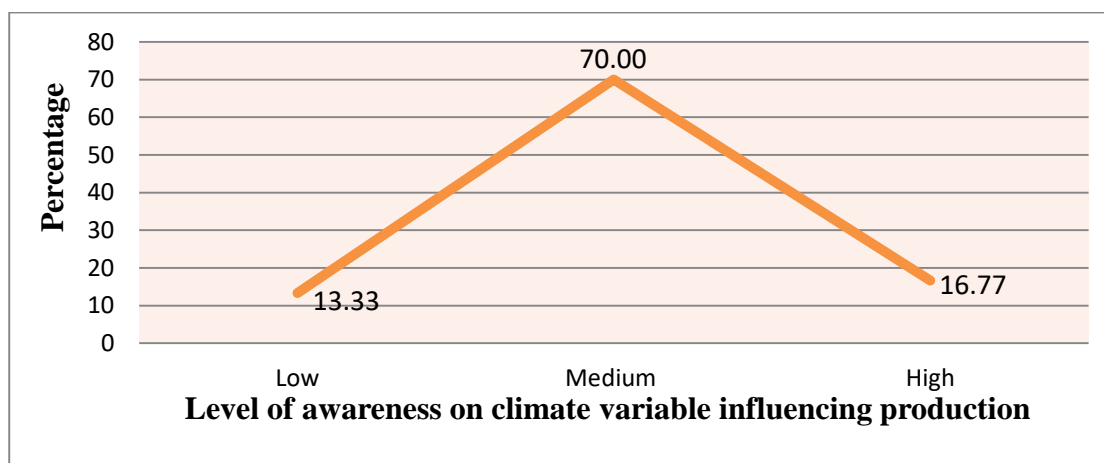


Fig. 3 showed that the majority, i.e., 70.00 percent of the respondents, had medium level of awareness, followed by 16.77 percent, and 13.33 percent with high and low levels of awareness on climate variables influencing production.

Conclusion

The study on Climate Smart Agriculture (CSA) awareness among farm women in Ratnagiri district highlights the critical role of women in promoting sustainable agricultural practices. Findings reveal a varying degree of awareness among the respondents regarding CSA practices, with some familiarity with basic concepts but significant gaps in advanced knowledge and implementation. This underscores the need for targeted interventions, such as capacity-building programs and outreach efforts, to enhance their understanding and application of CSA practices. Empowering farm women with relevant skills and knowledge is



pivotal for the successful adoption of CSA, particularly in a region like Ratnagiri, where agriculture is heavily influenced by climatic conditions. Collaborative efforts involving governmental bodies, non-governmental organizations, and local communities can facilitate this process by providing accessible training, resources, and support systems. Ultimately, strengthening the CSA awareness of farm women can lead to more resilient agricultural systems, improved livelihoods, and a sustainable future for the farming communities in the district. This study serves as a foundational step for developing focused strategies to bridge the awareness and implementation gaps, contributing to the broader goals of climate resilience and agricultural sustainability.

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