

International Journal of Statistics and Applied Mathematics

ISSN: 2456-1452
Maths 2023; SP-8(6): 1286-1288
© 2023 Stats & Maths
<https://www.mathsjournal.com>
Received: 28-09-2023
Accepted: 04-11-2023

Pandhiri Kruparani
Post Graduate Student,
Department of Agricultural
Extension Education, Dr.
Panjabrao Deshmukh Krishi
Vidyapeeth, Akola,
Maharashtra, India

Chinchmalatpure UR
Associate professor, Department
of Agricultural Extension
Education, Dr. Panjabrao
Deshmukh Krishi Vidyapeeth,
Akola, Maharashtra, India

Sirnaik SD
Senior Research Assistant,
Department of Agricultural
Extension Education, Dr.
Panjabrao Deshmukh Krishi
Vidyapeeth, Akola,
Maharashtra, India

Corresponding Author:
Pandhiri Kruparani
Post Graduate Student,
Department of Agricultural
Extension Education, Dr.
Panjabrao Deshmukh Krishi
Vidyapeeth, Akola,
Maharashtra, India

Perception of soybean growers towards climate change

Pandhiri Kruparani, Chinchmalatpure UR and Sirnaik SD

DOI: <https://doi.org/10.22271/math.2023.v8.i6Sq.1552>

Abstract

The present investigation was carried out in Akola and Barshitakli tehsils of Akola district of Maharashtra State of India. For the purpose of study 10 villages from Akola district were selected randomly. In this way, a total of 150 farmers were considered as respondents for a study. Exploratory research design was used for study. Data were collected through personal interview method with the help of structural schedule. Then the data was subjected to statistical analysis for interpretation.

It is observed that a majority of farmers (69.33%) of the respondents (SA) that "I believe that Climate change is a reality, I'm sure of it", and another 27.33 percent (A) with the statement. About 79.33 percent of respondents either (DA) or (SDA) with to statement. "I think human activity is responsible for climate change". Similarly, about 80.67 percent of respondents either (A) or (SA) with the statement. "I believe that climate change is occurring elsewhere, but I do not believe it is occurring in my area", about 82.00 percent of respondents (A) that they were concerned because climate change is affecting agriculture in their region. Likewise, 90.00 percent of respondents (SA) and (A) with to statement, "I believe that the current climate change is a result of widespread deforestation". For the statement "I believe that the temperature in my area has increased over the past years", almost (97.33%) either (A) or (SA) with to statement".

The majority (80.00%) of the respondents (SA) and (A) to the statement, "I think Rainfall in my area has changed in my opinion", terms of type and intensity both in. More than half (56.00%) of the respondents (SA) and (A) to the statement in my opinion, soybean will be negatively impacted in the next years due to an increase in pests and diseases in my region brought on by climate change.

Keywords: Soybean, climate change, SDA, agriculture

Introduction

Climate change is one of the global challenges the world facing today in the 21st century. Long-term change in the climate can be identified by changes in mean or changes in variability of its properties and that persists for an extended period, typically decades or longer. Global agricultural production is impacted by the significant environmental problem of climate change. India is also dealing with the issue of rising average temperatures and erratic rainfall, and the Akola region of Maharashtra is not exempted from this.

Climate change refers to any change in climate over time, whether due to natural variability or as a result of human activity. Total annual crop losses in the world agriculture are mainly due to direct weather impacts. Agriculture sector reveals high sensitivity and resilience to climate change. Climate change refers to "a change in the state of the climate that can be identified by changes in the mean and the variability of its properties and that persists for an extended period, typically decades or longer." (IPCC, 2007).

Thus, perception about climate changes and plays an important role to support farm-level decisions during the cropping cycle. The people and their livelihoods are inextricably entwined with their climate and a very small change can affect them and diseases, on water needs, on nutrient requirements and also harvesting and marketing time of the produce. Considering this factual information a study on a 'Perception of soybean growers towards climate change' was proposed with following objectives.

Objectives: To find out soybean growers perception towards climate change.

Methodology

The present investigation was carried out in Akola district of Maharashtra state of India. Out of 11 districts Vidarbha region namely Akola district was selected for study. For the purpose of study 5 villages from each selected tehsil were selected randomly. In this way, a total of 150 farmers were considered as respondents for a study. Exploratory research design was used for study. Data were collected by using simple random sampling method with the help of personal structural

schedule. Mean and standard deviation, frequency, percentage, coefficient of correlation method of statistics was used for interpretation of data.

Perception about climate change

The findings given in table 1 revealed that majority of farmers (71.33%) have medium level of perceptions towards climate change followed by 15.34 percent high and 13.33 percent low perception towards climate change.

Table 1: Overall distribution of respondents according to their perception about climate

Sl. No.	Perception level	Index range	Respondents (n=150)	
			Frequency	Percentage
1.	Low	Up to 69	20	13.33
2.	Medium	70 to 79	107	71.33
3.	High	Above 79	23	15.34
	Total		150	100.00

SD=5.01 Mean= 73.8

Table 2: Statement wise distribution of the respondents according to perception towards climate change (N=150)
It is observed that a majority of farmers (69.33%) of the respondents (SA) that “I believe that Climate change is a reality, I'm sure of it”, and another 27.33 percent agreed with the statement. About 79.33 percent of respondents either disagreed or strongly disagreed with to statement. “I think human activity is responsible for climate change”. Similarly, about 80.67 percent of respondents either agree or strongly agree with the statement. “I believe that climate change is

occurring elsewhere, but I do not believe it is occurring in my area”, about 82.00 percent of respondents agreed that they were concerned because climate change is affecting agriculture in their region. Likewise, 90.00 percent of respondents strongly agree and agree with to statement, “I believe that the current climate change is a result of widespread deforestation”. For the statement “I believe that the temperature in my area has increased over the past years”, almost (97.33%) either agree or strongly agree with to statement”.

Table 2: Statement wise distribution of the respondents according to perception towards climate change (N=150)

Sl. No.	Statements	Respondents(n=150)				
		SA	A	UD	DA	SDA
	I believe that Climate change is a reality, I'm sure of it.	104 (69.33)	41 (27.33)	05 (3.34)	00 (0.00)	00 (0.00)
	I think human activity is responsible for climate change.	40 (26.67)	79 (52.67)	29 (19.33)	01 (0.67)	01 (0.67)
	I believe that climate change is occurring elsewhere, but I do not believe it is occurring in my area.	03 (2.00)	11 (7.33)	15 (10.00)	103 (68.67)	18 (12.00)
	I believe that the current climate change, is a result of widespread deforestation.	53 (35.33)	32 (21.33)	47 (31.33)	10 (6.67)	08 (5.34)
	I believe that the temperature in my area has increased over the past years.	112 (74.67)	35 (23.33)	02 (1.33)	01 (0.67)	00 (0.00)
	I think Rainfall in my area has changed in my opinion, both in terms of type and intensity.	49 (32.67)	71 (47.33)	13 (8.67)	14 (9.33)	03 (2.00)
	In my opinion, soybean will be negatively impacted in the next years due to an increase in pests and diseases in my region brought on by climate change.	27 (18.00)	57 (38.00)	08 (5.33)	33 (22.00)	25 (16.67)
	I believe that summers is more heat effect compared to last years.	44 (29.33)	62 (41.33)	11 (7.33)	24 (16.00)	09 (6.00)
	I am certain that the frequency of drought has decreased.	04 (2.67)	13 (8.67)	27 (18.00)	63 (42.00)	43 (28.67)
	I think the frequency of dry spells has increased in your area.	45 (30.00)	54 (36.00)	20 (13.33)	18 (12.00)	13 (8.67)
	I think the yield of soybean is reducing due to climate change.	27 (18.00)	67 (44.67)	33 (22.00)	17 (11.33)	06 (4.00)
	I believe that monsoon becoming more unpredictable.	61 (40.67)	76 (50.67)	09 (6.00)	03 (2.00)	01 (0.67)
	I am certain that temperature alteration will modify the flowering percentage pod fall.	32 (21.33)	72 (48.00)	31 (20.67)	12 (8.00)	03 (2.00)
	I think climate change is causing soil erosion and salinity which affects soil fertility.	14 (9.33)	95 (63.33)	27 (18.00)	13 (8.67)	01 (0.67)
	I think that changing the sowing date and time would be a better strategy to adapt to climate change.	04 (2.67)	22 (14.67)	19 (12.67)	67 (44.67)	38 (25.33)
	In the coming years, I foresee more water shortage due to climate change.	40 (26.67)	41 (27.33)	29 (19.33)	32 (21.33)	08 (5.33)
	I think, our traditional indigenous knowledge will not help us to cope with the changing climate.	23 (15.33)	45 (30.00)	42 (28.00)	39 (26.00)	01 (0.67)
	I think climate change is causing new weed infestation in crop.	38 (25.33)	75 (50.00)	22 (14.67)	11 (7.33)	04 (2.67)
	I believe climate change is affecting the marketing of soybean.	72 (48.00)	48 (32.00)	18 (12.00)	09 (6.00)	03 (2.00)
	I believe Climate change is affecting the overall, production of soybean and causing financial instability in family.	68 (45.33)	45 (30.00)	7 (4.67)	28 (18.67)	02 (1.33)

The majority (80.00%) of the respondents strongly agreed and agreed to the statement percent agreed with the statement, “I think Rainfall in my area has changed in my opinion”, terms

of type and intensity both in. More than half (56.00%) of the respondents strongly agreed and agreed to the statement in my opinion, soybean will be negatively impacted in the next years

due to an increase in pests and diseases in my region brought on by climate change.

Conclusion

With regards to farmers perception towards climate change it was revealed that majority of the farmers were having medium perception index range. Most of them perceived that the temperature has increased as compared to previous years. Rainfall, changed both in type and intensity. Farmers also believed, climate change affecting the overall, soybean production and causing soil erosion and it causing new weed infestation in the soybean field due to climate change. Climate change is causing many environmental problems and effecting the agriculture field.

References

1. Chouhan G. Famers knowledge of climate change in relation to crop management, M.Sc. agri (Unpub), Thesis, VNMKV Parbhani; c2017.
2. Islam S, Kabir H, Ali S, Sultana S, Mahasin M. Farmers' Knowledge on Climate Change Effects in Agriculture Journal of Agricultural Sciences; c2019. p. 386-394.
3. Joshi S. Farmer's perception about climate changes and strategies to cope-up with climate change in Uttar Pradesh. M.Sc. (Agri), Thesis, Unpublished, G.B. Pant University of Agriculture and Technology, Pantnagar, Uttarakhand; c2016.