

## PROBLEMS FACED BY THE FARMERS DUE TO THE EFFECTS OF CLIMATE CHANGE

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### ABSTRACT

*Agricultural production activities are generally more vulnerable to climate change than other sectors. Realizing the importance of the problem, a study was conducted in Banaskantha district purposively. Total fifteen villages were randomly selected from each taluka and 10 farmers were randomly selected from each village. Thus, total sample size was 150 farmers. It was observed that most important problems faced by farmers regarding climate change were; less awareness about adaptation measures (78.75 per cent), non-availability of storage facilities (76.67 per cent), poor quality yield of crops lead poor market price (72.00 per cent), non-availability of farm labours (68.67 per cent), non-availability of processing facilities (63.33 per cent), due to high temperature and low rainfall seed bed is become hardso seed takes more time to germinate (60.67 per cent), high wages of farm labours (57.33 per cent) and lack of credit to make up the cost of cultivation (52.68 per cent).*

**Keywords:** climate change; problems; suggestions

### INTRODUCTION

In present era, agriculture sector is affected by various reasons like fragmentation of land, fluctuations in market prices, depleting natural resources, erratic monsoon conditions, climate change etc. During succeeding era, global agriculture production is declining due to these reasons and climate change is one of the important factors. Climate is the primary determinant of agriculture production as it directly affects the crop yield and livestock productivity. Most of the farmers do not have a clear cut understanding on causes of climate change and what are its implications in farming. In fact, some farmers are even skeptical that climate change is real. Others are doubtful that weather it would affect agriculture. So, understanding the dynamics is very important from adoption point of view. If one do not understand what to adopt, the selection of most appropriate and timely adaptive strategies become problematic. Looking to the importance and urgency of the problem, a study was carried out to know the problems faced by the farmers due to the effects of climate change.

### OBJECTIVES

(a) To know the problems faced by the farmers due to the effects of climate change

(b) To know the Suggestions of farmers to mitigate the effects of climate change

### METHODOLOGY

The study was conducted in Banaskantha district. Uneven erratic rainfall coupled with high temperature and high wind velocity due to arid and semi-arid region creates water shortage in soil of Banaskantha district. Hence, it was selected for the study to understand the perception of farmers about effect of climate change in the district. Among 14 talukas of Banaskantha district Vav, Tharad and Suigamtalukas are most affected by varying climatic conditions like lower rainfall and abbrent temperature comparing to other talukas of Banaskantha District. Therefore, these three talukas Vav, Tharad and Suigam were selected purposively. Ten respondents were selected randomly from each village and final sample was constituted with 150 respondents. Ex-post facto research design was adopted for this study. The data were collected by personal interview method with the help of structured interview schedule. The collected data were coded, classified, tabulated and analyzed in order to make the findings meaningful in light of objectives for drawing meaningful interpretation.

**RESULTS AND DISCUSSION**

**Problems faced by the farmers**

**Table 1: Problems faced by the farmers due to the effects of climate change**

**n=150**

Sr. No.	Problems	Most important	Important	Least important
1	Due to high temperature and low rainfall seed bed is become hardso seed takes more time to germinate	91 (60.67)	36 (24.00)	23 (15.33)
2	Lack of credit to make up the cost of cultivation	79 (52.68)	51 (34.00)	20 (13.32)
3	Ineffectiveness of indigenou agricultural practices	74 (49.33)	47 (31.32)	29 (19.35)
4	Poor quality yield of crops lead poor market price	108 (72.00)	33 (22.00)	9 (06.00)
5	Poor response to crises related to climate change by the Government	66 (44.00)	70 (46.67)	14 (09.33)
6	Poor information about early warning system	40 (26.67)	61 (40.65)	49 (32.68)
7	Lowering of water table for irrigation	33 (22.00)	75 (50.00)	42 (28.00)
8	Limited access to improved crop varieties	58 (38.70)	68 (45.30)	24 (16.00)
9	Lack of access to improved livestock breeds	48 (32.00)	56 (37.34)	46 (30.66)
10	Non-availability of storage facilities	115 (76.67)	30 (20.00)	5 (03.33)
11	Less awareness about the adaptation measures	118 (78.75)	29 (19.35)	3 (02.00)
12	Non-availability of processing facilities	95 (63.33)	40 (26.67)	15 (10.00)
13	Non-availability of farm labours	103 (68.67)	34 (22.65)	13 (08.68)
14	Higher wages of farm labours	86 (57.33)	39 (26.00)	25 (16.66)
15	Non-availability of irrigation facility	71 (47.35)	49 (32.68)	30 (20.00)

Note: Figures in () parenthesis indicates per cent

It is observed from Table 1 that the most important problems faced by farmers due to effects of climate change were; less awareness about the adaptation measures (78.75 per cent), non-availability of storage facilities (76.67 per cent), poor quality yield of crops lead poor market price (72.00 per cent), non-availability of farm labours (68.67 per cent),non-availability of processing facilities (63.33 per cent), due to high temperature and low rainfall seed bed is become hardso seed takes more time to germinate (60.67 per cent), high wages of farm labours (57.33 per cent) and lack

of credit to make up the cost of cultivation (52.68 per cent), respectively.

Further, lowering of water table for irrigation (50.00 per cent),poor response to crises related to climate change by the Government (46.67 per cent), limited access to improved crop varieties (45.30 per cent), poor information about early warning system (40.65 per cent)andlack of access to improved livestock breeds (37.34 per cent) were the important problems faced by farmers due to effects of climate change. Moreover non-availability of irrigation facility (20.00 per

cent) and ineffectiveness of indigenous agricultural practices (19.00 per cent) were least important problems faced by farmers due to effects of climate change.

### Suggestions of farmers to mitigate the effects of climate change

**Table 2: Suggestions of farmers to mitigate the effects of climate change**

**n=150**

Sr. No.	Suggestions	Frequency	Percent	Rank
1	Appropriate variety should be selected	136	90.67	I
2	Avoid over-use of chemical fertilizers	115	76.70	IV
3	Follow interculturing operation	119	79.30	III
4	Weeding should be done as per the need	108	72.00	V
5	Sowing of crop should be done after obtaining weather information	127	84.65	II
6	Tree cutting should be banned	99	66.00	VI

Valuable suggestions reported by the respondents are presented in Table 2. Farmers reported that appropriate variety should be selected (90.67 per cent), sowing of crop should be done after obtaining weather information (84.65 per cent), follow interculturing at regular interval (79.30 per cent), avoid over-use of chemical fertilizers (76.70 per cent), weeding should be done at regular interval (72.00 per cent) and tree cutting should be banned (66.00 per cent) as important suggestions to mitigate effects of climate change.

### CONCLUSION

It can be concluded that less awareness about adaptation measures, non-availability of storage facilities, poor quality yield of crops lead poor market price, non-availability of farm labours, non-availability of processing facilities, due to high temperature and low rainfall seed bed is become hard so seed takes more time to germinate, high wages of farm labours and lack of credit to make up the cost of cultivation were the most important problems faced by farmers due to effects of climate change. The important suggestion expressed by the farmers were; appropriate variety should be selected, sowing of crop should be done after obtaining weather information, follow interculturing at regular interval, avoid over-use chemical fertilizers, weeding should be done at regular interval and tree cutting should be banned.

### REFERENCES

- Anonymous (2015). Comprehensive District Agricultural Plan (C-DAP) Banaskantha district.
- Dobariya (2011). Knowledge of postgraduate research scholars of Anand agricultural university about global warming. M.Sc. (Agri.) Thesis (Unpublished). Anand Agricultural University, Anand, Gujarat, India
- Jena, A. and Acharya, S. K. (2016). Estimation of peoples perception on climate change effect on agriculture: a participatory and socio-personal analysis. *Indian Research Journal of Extension Education*. 52(1-2):15-19
- Mengistu, D. K. (2011). Farmers perception and knowledge of climate change and their coping strategies to the related hazards: Case study from Adiha, central tigray, Ethiopia. *Journal of Agricultural Sciences*. 2(2): 138-145
- Munhande, C.; Mapfungautsi, R. and Mutanga, P. (2013). Climate risk management: actors, strategies and constraints for small holder farmers in Zimbabwe: a case study of Chivi district. *Journal of sustainable development in Africa*. 15(8): 57-71
- Pathak, H.; Aggarwal, P. K. and Singh, S. D. (2012). Climate change impact, adaptation and mitigation in agriculture: methodology for assessment and application, Division of Environmental Sciences. Indian Agricultural Research Institute, New Delhi. pp xix + 302

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