



Constraints Faced by the Farmers in Adaptation Activities in Response to Climate Change and their Suggestions to Minimize the Constraints

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ABSTRACT: This paper examines the constraints faced by the farmers in adaptation activities in response to climate change and their suggestions to minimize the constraints. The investigation was carried out in all three districts of the North Konkan Zone i.e. Raigad, Thane and Palghar. Two tahasils from each district and five villages from each tahasil were randomly selected to conduct the study. Majority of the respondents reported 'no information on weather forecast' and irregularity of extension services'. More than sixty per cent (63.33 percent) respondents mentioned 'lack of information about ill effects of climate change' followed by 'inadequate knowledge about recommended mitigation strategies' and 'lack of believe on current weather forecast system. Whereas, mitigating to climate change in agriculture as majority of the respondents suggested 'need of weekly metrological data', and demand 'regular and effective extension services', 'proper advisory system on climate change' followed by 'awareness among the people about ill effects of climate change and its consequences', and need 'proper government policy support during natural calamities'.

Keywords: Constraints, Farmers, Adaptation, Climate change, Suggestions, Minimize

INTRODUCTION

Agriculture is the most important sector in Indian economy that provides food and livelihood security to majority of its population. Agriculture places heavy burden on the environment in the process of providing humanity with food and fiber, while climate is the primary determinant of agricultural productivity. Given the fundamental role of agriculture in human welfare, concern has been expressed by federal agencies and others regarding the potential effects of climate change on agricultural productivity. In India, climate change has been putting additional stress on ecological and socioeconomic systems that already facing tremendous pressures due to rapid urbanization, industrialization and economic development. Climate change is predicted by scientists to have the main impact on agriculture, economy and livelihood of the populations of developing countries and India is one of them, where large parts of the population depend on climate sensitive sectors like agriculture and forestry



for livelihood. In order to understand how farmers would respond to climate change, it is essential to study farmers' perceptions on climate change and its impact on agriculture. As the understanding on global climate and its change is pre requisite to take appropriate initiatives to combat climate change. The only solution for these huge populations seems to be adequate and relevant adaptation strategies. Hence, the investigation entitled "Perception of farmers about climate change and its effect on agriculture in Konkan region of Maharashtra" was carried out in plateau, hilly and coastal area of Konkan of Maharashtra state.

OBJECTIVE

To study the constraints faced by the farmers in adaptation activities in response to climate change and their suggestions to minimize the constraints.

METHODOLOGY

The study was conducted in three selected districts of North Konkan Zone of Maharashtra State during the year 2017-18 and 2018-19. From each selected district 2 tahasils were selected, where 5 villages from each tehsil and 10 farmers from each village were considered to obtain a sample of 300 farmers as respondents who had 15 or more years of farming experience. The data collected from respondents through personal interview and group discussion were coded, tabulated and subjected to statistical analysis in accordance with the objectives of the study. This study was carried out to measure perception of farmers about climate change and effect of climate change on agriculture and allied activities considering as dependent variables.

RESULT AND DISCUSSION

Constraints faced by the farmers in adaptation to climate change.

The present study also assessed farmers constraints experienced by them in using various adaptation practices to mitigate adverse effect of climate change on agriculture and allied activities. The information received by the farmers on constraints was further ranked as per maximum number of responses obtained.



Table No. 1 Constraints faced by the farmers in adaptation to climate change

Sl.No.	Constrains	Frequency	Percentage	Rank
1	No information on weather forecast	236	78.66	I
2	Lack of information about ill effects of climate change	190	63.33	III
3	No knowledge about recommended mitigation strategies	162	54.00	IV
4	Limited resources	102	34.00	IX
5	Non availability of inputs in time	98	32.66	X
6	Irregularity of extension services	215	71.66	II
7	Less/no subsidies on desired agricultural inputs	110	36.66	VIII
8	Poor government policies to combat against natural calamities	118	39.33	VII
9	Lack of believe on current weather forecast system	144	48.00	V
10	No training programmes on natural disaster management	124	41.33	VI

It is observed from the table 1 that, large majority of the respondents reported ‘no information on weather forecast’ 78.66 per cent and irregularity of extension services’ (71.66 per cent). More than sixty per cent (63.33 percent) respondents mentioned ‘lack of information about ill effects of climate change’ followed by ‘inadequate knowledge about recommended mitigation strategies’ (54.00 per cent) and ‘lack of believe on current weather forecast system (48.00 per cent). ‘no training programmes on natural disaster management’ (41.33 per cent), ‘poor government policies to combat against natural calamities’ (39.33 per cent). ‘less/no subsidies on desired agricultural inputs’ (36.66 per cent) ‘limited resources’ (34.00 per cent) and ‘non availability of inputs in time’, (32.00 per cent) were other constraints reported by the respondents.



Suggestions given by farmers to overcome the constraints.

The farmers of the study area were also asked about their suggestions to overcome constrains faced by them in mitigating to climate change in agriculture.

Table No.2 Suggestions given by farmers to overcome the constraints

Sl.No.	Suggestions	Frequency	Percentage	Rank
1	Need of weekly metrological data	218	72.66	I
2	Proper advisory system on climate change	182	60.66	III
3	Regular training on disaster management	138	46.00	VI
4	Provision of good quality agricultural inputs on subsidized rate and in time	115	38.33	VIII
5	Crop insurance scheme for all crops	107	35.66	IX
6	Awareness among the people about ill effects of climate change and its consequences	172	57.33	IV
7	Regular and effective extension services	202	67.33	II
8	Proper government policy support during natural calamities	156	52.00	V
9	Need of location specific water storage structure for utilization of rainwater	123	41.00	VII

It is revealed from the table 2 that, large majority (72.66 per cent) of the respondents suggested ‘need of weekly metrological data’, while 67.63 per cent of the respondents demanded ‘regular and effective extension services’. ‘Proper advisory system on climate change’ also reported by 60.66 per cent of the respondents followed by 57.33 per cent of the respondents suggested ‘awareness among the people about ill effects of climate change and its consequences’. More than one half 52.00 per cent of the respondents need ‘proper government policy support during natural calamities’. Other suggestions such as ‘regular training programme on disaster management (46.00 per cent). Need of location specific water storage structure for utilization of rainwater (41.00 per cent). Provision of good quality



agricultural inputs on subsidized rate and in time (38.00 per cent) and crop insurance scheme for all crops (35.00 per cent) were also suggested by the respondents.

CONCLUSION

It was found in the investigation that more than sixty per cent (63.33 percent) respondents mentioned 'lack of information about ill effects of climate change' followed by 'inadequate knowledge about recommended mitigation strategies' and 'lack of believe on current weather forecast system. Whereas, mitigating to climate change in agriculture as majority of the respondents suggested 'need of weekly metrological data', and demand 'regular and effective extension services', 'proper advisory system on climate change' followed by 'awareness among the people about ill effects of climate change and its consequences', and need 'proper government policy support during natural calamities'.

References

- [1]. Abhishek P.S. (2017) "Effect of climate change on Alphonso mango as perceived by the farmers from south Konkan Costal Zone of Maharashtra" M.Sc. (Agri.) thesis, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli.
- [2]. Adger, W.N., Hug, S., Brown, K., Conway, D. and Hume, M. 2003. Adaptation to climate change in developing world. *Progress in Development Studies* 3 (3): 179-195. URL: <http://dx.doi.org>.
- [3]. Gajendra T. H.(2011) Perspectives of farmer on effect of climate change on agriculture and livestock. M.Sc. (Agri.) thesis University of Agricultural Sciences, Dharwad.
- [4]. Hassan, R. 2010. Implications of climate change for agricultural sector performance in Africa: policy challenges and research agenda. *Journal of African Economies* 19: 77-105.
- [5]. Ishaya, S. and Abaje, I.B. 2008. Indigenous people's perception on climate change and adaptation strategies in Jema'a local government area of Kaduna State, Nigeria. *Journal of Geography and Regional Planning* 1(8): 138-43.
- [6]. Kummar, A. (2010) Economics of Land Use and Cropping Pattern In Northern Transitional Zone Of Agriculture, Dharwad University Of Agriculture Sciences, Dharwad.



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- [7]. Lathad A. M. (2018), "Farming system of tribal farmers from Palghar district, Maharashtra, M.Sc. (Agri.) thesis (unpublished) Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli.
- [8]. Mergewar, A. (2017) Cropping Pattern Followed by Awardee Farmers in Marathwada Region, M. Sc. (Ag) Thesis, College of Agriculture, Parbhani Vasantnao Naik Marathwada Krishi Vidyapeeth Parbhani- (M.S.).