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Farmers' perception on level of awareness on climate change in zone-III A of Bihar

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Abstract
Bihar is exposed to multi-hazards like floods, drought, hailstorms, cyclones and earthquakes and a number of natural and manmade disasters which affect the productivity of the agriculture sector in spite of having fertile soil, sufficient rainfall and groundwater availability. The following study was conducted in order to analyse the level of awareness on climate change. Flood and Drought is the most prevalent disaster in the study area because of rainfall and temperature variation. The result has revealed that majority of the farmers belonged to medium socioeconomic status and were aware of the changing climatic pattern.

Keywords: Climate change, socio-economic, awareness, agricultural activites

Introduction
Being an agrarian state, agriculture is the key to overall development of the Bihar state economy. Nearly 81% of the population of Bihar is involved in agriculture and allied activities which is much higher than the national average. In the past decades, climate has drastically changed in India in the form of severe drought, erratic rainfall, high temperature etc. which has disturbed the phenology, physiology and productivity of most of the agricultural crops (Kurrey, D. 2016). The changing pattern of climate has led to various forms of drought, which ultimately reduces the quality and quantity of crops produced which were one of the very significant factors for increasing cost of food crops (Mustapha, 2012) [6]. The adverse impacts of climatic variability on agriculture production at farm level gets aggregated to the level of the food system in terms of food shortages and rising prices, which can also endanger food and livelihood security. Perception, awareness and adaptation is required to minimize the risk of climate change. Banerjee (2015) [1] in her study in the 4 villages of Maharashtra and Andhra Pradesh stated that understanding the importance of farmers' perception is extremely important in developing adaptation plans to tackle the increasing effects of climate variability and shocks. During a study at Namibia Montle and Teweldemedhin (2014) [5] found from their study that farmers were aware of the changing scenario of climate change and they had perceived major shifts in temperature and rainfall with negative impacts on their crops and farms. Falaki *et al.* (2013) [3] Observed while studying in Nigeria that more than 50% of the farmers' reported about unpredictable pattern of rainfall due to its deviation from previously known patter within last 30 years. Bihar is exposed to multi-hazards like floods, drought, hailstorms, cyclones and earthquakes and a number of natural and manmade disasters which affect the productivity of the agriculture sector in spite of having fertile soil, sufficient rainfall and groundwater availability. 74% of the total geographical covering the north Bihar region is prone to floods while south Bihar is exposed to droughts. In order to enhance policy towards tackling the challenges climate poses to farmers, it is important to have knowledge of farmers' perception on climate change, choice of adaptation methods and the barriers affecting adaptation to climate change (Henry De-Graft Acquah, 2011). After carrying a proper exercise with the farmers it was revealed that they observed climate change by themselves (Oluwausin, 2014) [12]. The current study seeks to explore farmers' socioeconomic status and their awareness on climate change. This paper Specifically seeks to (1) analyse the socio-economic status of the respondents (2) determine awareness level of farmers on climate change.

Research Methodology
The study was conducted at Bhagalpur and Banka district of Bihar. These districts are in zone III A of Bihar and are located south of the river Ganges. These districts are highly exposed to droughts. Descriptive research design was utilized for this study. Bhagalpur and Banka were chosen purposively. Among 16 blocks of Bhagalpur district 2 blocks namely *Sabour* and *Jagdishpur* and out of 11 blocks of Banka District 2 blocks namely *Belhar* and *Shambhuganj*

were selected randomly for this particular study. Thirty respondents from each village were selected randomly who were majorly dependent on agriculture and allied sectors for their livelihoods. A total of 240 farmers from eight villages of Bhagalpur and Banka were selected randomly for this particular study. Well-structured questionnaire was made for personal interview from all the respondents and to analyse the data, proper statistical techniques were applied.

Results and discussion

The result obtained from present study as well as relevant discussion have been presented under following heads:

Socioeconomic status of the respondents

Table 1: socio-economic status of respondents

S. No.	Categories	Frequency	Percentage
1	Low (11-18)	76	31.66
2	Medium (19-26)	96	40.00
3	High (27-34)	68	28.34
	Total	240	100.00

The above table indicates the socio-economic status level of farmers and it clearly shows that about 40.00 per cent respondents have medium socio-economic status followed by 31.66 per cent low level of socio-economic status and 28.34 per cent high socio-economic status respectively.

Awareness about climate change

Table 2: Distribution of respondents according to their awareness about climate change

Statements	Yes (%)	No (%)
Do you have any idea about climate change?	80	20
Have you observed climate change by yourself?	76	24
Are these changes a problem for you?	68	32
Have these changing pattern of climate affected your agricultural activities?	71	29

The above table indicates the level of awareness of farmers about changing scenario of climatic pattern and it clearly depicts that 80 per cent of the respondents agreed on having an idea about climate change and 76 per cent of them had observed climate change by themselves. 68 per cent and 71 per cent of those respondents had favourable disposition on the fact that changing climate scenario is a problem for them and these changing pattern of climate affected their agricultural activities respectively.

Conclusion

The present study was conducted to analyse the awareness level of farmers on climate change. The study investigated the socio-economic status of the farmers as well as level of awareness of farmers about climate change in order to assess its impacts on agricultural activities. Descriptive analysis of farmers' interview revealed that majority of the farmers belonged to medium socio-economic status. The farmers agreed on having aware of the climate change and also perceived these changes problematic for them as well as their agricultural activities.

References

1. Banerjee RR. Farmers' perception of climate change, impact and adaptation strategies: a case study of four villages in the semi-arid regions of India. Natural Hazards. 2015; 75(3):2829-2845.
2. Das A. Farmers Perception on Climate Change in Semi-Arid Tropic Region of India. ICRISAT, 2010.
3. Falaki AA, Akangbe JA, Ayinde OE. Analysis of climate change and rural farmers' perception in North Central Nigeria. Journal of Human Ecology. 2013; 43:133-140.
4. Haque MA, Yamamoto SS, Malik AA, Sauerborn R. Households' perception of climate change and human health risks: A community perspective. Environmental Health, 2012, 11.
5. Montle BP, Teweldemedhin MY. Assessment of farmers' perceptions and the economic impact of climate change in Namibia: case study on small-scale irrigation farmers (SSIFs) of Ndonga Linena irrigation project. Journal of Development and Agricultural Economics. 2014; 6(11):443-454.
6. Mustapha SB, Sanda AH, Shehu H. Farmers' Perception of Climate Change in Central Agricultural Zone of Borno State, Nigeria. Journal of Environment and Earth Science. 2012; 2(11):21-27.
7. Ogalleh SA, Vogl CR, Eitzinger J, Hauser M. Local perceptions and responses to climate change and variability: the case of Laikipia District, Kenya. Sustainability. 2012; 4(12):3302-3325.
8. Singh CS, Anima K, Kumar B, Gautam Kumari A. Environmental challenge due to climate change in Bihar, Developing state of India. Journal of Natural Sciences Research. 2014; 4(13):21-28.
9. Roco L, Engler A, Bravo-Ureta BE, Jara-Rojas R. Farmers' perception of climate change in Mediterranean Chile. Reg Environ Change. 2015; 15:867-879.
10. Roy LB, Bhushan M, Kumar R. Climate change in Bihar, India: A case study. Journal of Water Resource and Hydraulic Engineering. 2016; 5(3):140-146.
11. Sarkar S, Padaria RN. Farmers' awareness and risk perception about climate change in coastal ecosystem of west Bengal. Indian. Journal of Extension Education. 2010; 10(2):32-38.
12. Oluwatusin FM. The perception of and adaptation to climate change among cocoa farm household in Ondo state, Nigeria. Academic Journal of Interdisciplinary studies. 2014; 3(1):147-156.