

Review on Impact of Climate Change on Agribusiness Sector in Maharashtra State

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Abstract: Agriculture is backbone of our economy in Maharashtra state, climate change is having direct relation with the production in agriculture and indirect relation with the business of agriculture companies. The state is facing lot of problems due to the draught and sudden change in climatic conditions so around 60% of Maharashtra population who directly and indirectly depend upon agriculture are facing the problems of income through agriculture such as farmers, dealers, distributors and the production units of seeds, fertilizers and pesticides and related products. Due to the draught the farmers are facing water scarcity and because of heavy rainfall the farmers are facing huge loss in production so in both the conditions the cost of production increases and the companies who are in production of agriculture inputs are also facing huge loss and sometime profit. In this study author visited agriculture graduates and belonging to farming community of agriculture related business to find out the impact of sudden climate change on the crop production, agribusiness and its allied sectors. The survey has done along with the questionnaire to find out the socio economic loss of the agribusiness sector due to the global warming and also the ground water depletion and the future difficulties if the same scenario continues for the years and years. In year 2019 because of heavy rain fall in western Maharashtra and draught in vidharbh and marathwada area the crop production and business of big giants of agribusiness are affected heavily so in this paper the direct and indirect impact of climate change is highlighted with the actual meeting of agriculture people in that area for finding the solutions to this problem in future course of action.

Keywords: Climate change, Drought, Agribusiness, Crop production, Global warming.

1. Introduction

Agriculture plays an important role in economic development of India, agriculture accounts around 14% GDP and 11% exports. In last decade many technological changes happened in this sector, many techniques adopted by farmers to increase the production and their income. Organic farming also played important role in the development of agriculture. Many foreign companies invested in agriculture of India as this sector is having huge scope in business.

Agribusiness is the business related to agriculture, in this business thousands of companies are playing important role as far as development is concern. In this business there are some

input companies such as seeds, fertilizers, pesticides, micro nutrients etc., and some output companies such as exports, food processing, banks and microfinance organizations. Every company is offering the goods and services to the farmers from the sowing to the post-harvest for contributing to the farmer's income along with their business growth. In this decade many companies are started their business in Maharashtra as Maharashtra is known for agriculture as many crops such as Wheat, Maize, sorghum, soybean, barley, pulses, grapes, pomegranates, vegetables etc are having major production in Maharashtra.

The major challenge that the agriculture sector is facing is climate change, unpredictable rainfall, draught because of global warming, this year Maharashtra state faced lot of challenges due to this climate change, the various parts of the state are affected heavily and occurred huge losses in terms of income and in terms of resource utilization.

In this paper main focus is on the impact of climate change on agribusiness sector and measures to find out the remedial action to minimize this impact as the forecasting of weather is also unpredictable. Around 100 dealers and distributors are visited in this study from various parts of Maharashtra to understand the impact on agriculture sector because of draught, floods, cold and hot temperatures. The company's business is affected due to this climate change is studies to understand the future course of action to develop entrepreneurship.

2. Review of literature

Goswami et al. (2006) written in his paper that there is continuous increase in rainfall over the India and it will increase in hazards like increase in surface temperature by 2 to 4 degree, changes in rainfall during monsoon and even non monsoon months, increase in rain intensity by 1-4mm per day, GDP will drop by 5% and hence impact on crop yields and related business of agriculture as a whole system.

Brown (2009) focused on the ground water as a major source of utilization of water under irrigation, 15 percent of food is produced by mining of ground water. The groundwater level is decreasing day by day as over extraction is main cause and it

will be very critical with huge losses to agriculture sector in next 20 years.

Ahmad et al. (2011) stated in research paper that 46% of Indian geographical area is under agriculture, a large percentage of land falls in rain-fed region and generates 55 percent of Indian agriculture outcome. More than 80% of the farmers are small scale producers of agriculture products and they have very less capacity to deal with the weather and climate change

Sanjay rode (2011) studied in his research that the water demand is increasing in Maharashtra state because of population growth and changing cropping pattern. The equal distribution of rainfall is not seen in the state as government is supporting more industrialization than agriculture. in order to reduce the scarcity of water the government should allow the farm ponds, rain water harvesting and various other measures.

Parmeshwar Udmale et. al. (2014) seen in his research that the draught is a huge challenge to some areas of Maharashtra, the objective of study is to understand the perception of the farmers on the impact of draught on their socio economic environment. The study shows decrease in income level of farmers due to ground water depletion and climate change is big problem in coming future.

3. Objective of study

In view of above discussion, the research is focus various problems associated with the agriculture business due to climate change with following objectives

1. To understand the impact of climate change on agribusiness sector
2. To analyze the feedback of various respondents on climate change and their income level

4. Research methodology

In the methodology of research primary data is collected from 100 respondents of various parts of Maharashtra to understand the impact of climate change on agriculture and agribusiness sector with the help of structured questionnaire. The sampling method used is random sampling and the target respondents are students of agribusiness colleges.

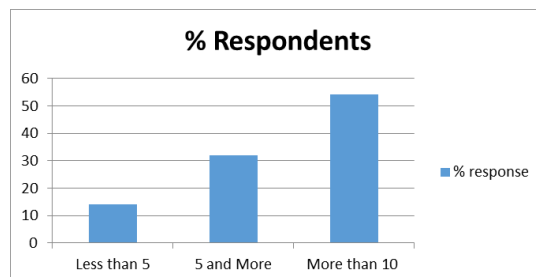
5. Data analysis and results

Out of 100 respondents more than 70% of the respondents are well aware about the impact of climate change and agree upon the losses in agribusiness incurred are higher as compared to last few years due to which the cost of production is increasing and farmers are becoming poor and poor.

The questionnaire comprises of following questions and on the basis of responses the representation of data is shown in the column chart.

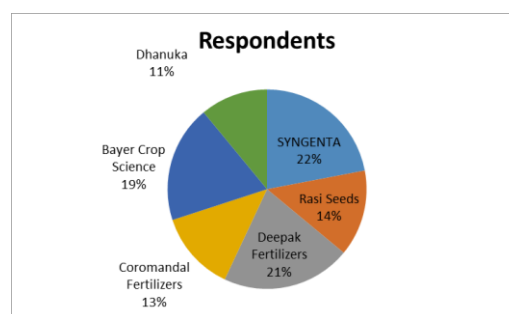
The survey was done and in that survey various results are generated.

1. How many agriculture companies you know who are giving products and services to agriculture?



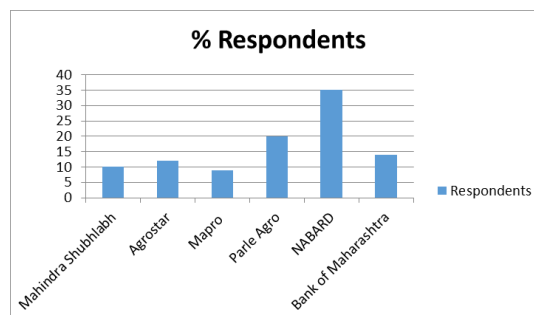
More than 50% of agriculture graduates are aware about more than 10 companies of agribusiness sector which are giving products and services to agriculture.

2. Which input sector company products you are using in your far for various purposes right from sowing to post harvest?



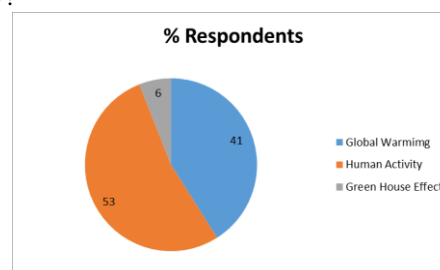
Top 6 agriculture companies are asked to the respondents which they are using in their farm so the majorly all company products and services are used by the respondents.

3. Which output sector company products you are using in your farm for various purposes right from sowing to post harvest?



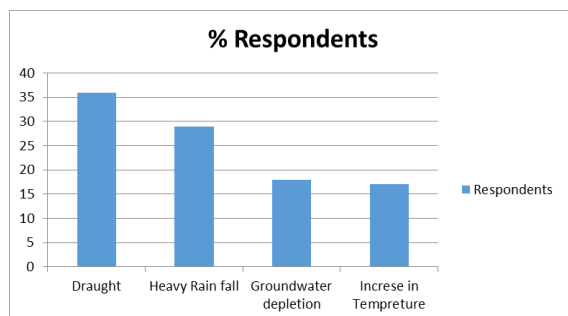
The output companies are majorly exports, food processing and banks which are giving services to the farmers.

4. What are the reasons of climate change from your point of view?



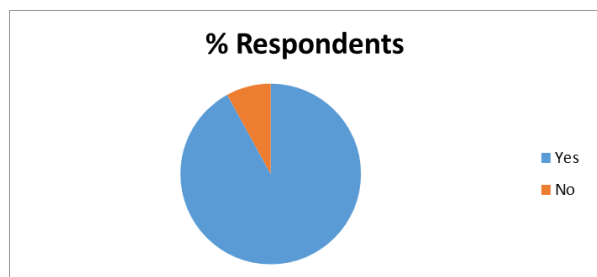
53% respondents are saying that the human activities like industrialization, urbanization are the reasons of climate change and global warming and green house effect are also factors for climate change.

5. What are the impacts of climate change on agriculture?



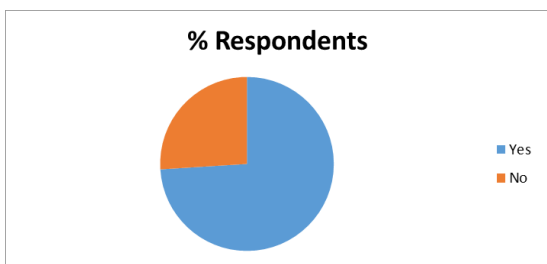
36% respondents are saying drought is the major impact of climate change followed by heavy rainfall, ground water depletion and increase in temperature?

6. Does income level decreases of farmers and cost of production increases due to climate change.



92% of students are saying that because of climate change the cost of production increases and income level decreases?

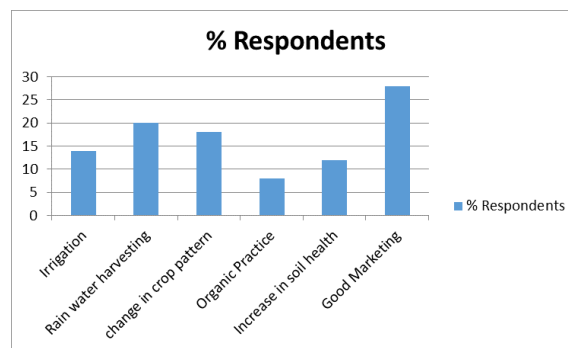
7. Does climate change affects the income of agribusiness companies which are stated in above question.



The 74% students who are agriculture graduates who know more than 10 companies of agriculture which are offering products and services are responded that the income level of agribusiness companies affected because of climate change.

8. How to manage the impact of climate change to increase the

food security and income of income of agriculture sector.



The various measures to reduce the impact of climate change in Maharashtra is discussed and mix response received in this context.

6. Conclusion

In the study of primary responses received from the students of agribusiness colleges who are having farming background and having worked in their farms, it is seen that more than 70% of respondents are experienced the impact of climate change on agribusiness sector in their own farms in various parts of Maharashtra state.

Drought, heavy rainfall, ground water depletion and increase in temperature is seen as effect of climate change in Maharashtra state. The farmers and various companies in input as well as output of agriculture which are giving products and services to the agriculture field are also affected with loss in their income level.

The various measures are suggested in this study to minimize the adverse effect of climate change are effective irrigation management, Rain water harvesting, farm ponds, change in crop pattern, use of organic practice in the farm to get the chemical free farm produce which is good for health of the human being, increase in the soil health by different crops at different climatic conditions, farmers marketing of products both online as well as offline to get the maximize profit by minimizing the middle level people who are incurring many losses to the farmers.

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