Analysis of Present and Future Climate Scenarios of Tea Growing Areas in Northeast India

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Abstract

The analysis focused on the tea growing areas of Northeast India to provide predictions of the future climate scenarios and its suitability of current tea-growing areas to continue growing tea by 2020 and 2050. The results show that the change in suitability under progressive climate change is site-specific. The applied methodology involves combination of current climate data with future climate change predictions from different models for 2020 and 2050. The results suggest that there will be some districts which may become unsuitable for tea by 2050 and will make planters look for alternative crops while there will be districts which will remain suitable for tea growing but would require change in management practices to adapt to the evolving conditions and environment. It may be the fact that there may be suitability of new areas for tea growing where tea has never been grown before. The serious loss of suitability of tea to future climate predictions implies a high importance of crop diversification for tea in India. The data of the current climate and the climate change was used as input to DIVA GIS Model. A moderate variation in rainfall pattern and temperature is well observed between 2020 and 2050. It shows that the overall climate will become less seasonal in terms of variation through the years as temperature in some districts are likely to increase by about 1ºC by 2020 and 2ºC by 2050 followed by variations in monthly precipitation during the peak production months.

Keywords: Climate Change, Tea, DIVA GIS, Predictions, Scenarios