Coffee Production And Climate Change Impact In Ethiopia

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Abstract

Scholars agreed that Ethiopia is the center of origin and diversity of arabica coffee. This is because, Ethiopia has wide range of coffee genetic diversity. Around 11,691 arabica coffee germplasm accessions from different coffee growing areas throughout Ethiopia were collected and conserved ex-situ in field gene banks. The major challenges facing the coffee sub-sector is the threat of coffee genetic erosion and various production constraints like disease and pest prevalence, replacement of coffee by other crops, coffee market price fluctuation. These coupled with the increasing patterns of climate change are threatening the natural coffee gene pools as well the coffee sub-sector development in the country. The impact of climate change on degradation of farm lands and natural resources can contribute to reduced agricultural productivity and food insecurity. Data from weather stations of Ethiopia showed that the mean annual temperature has increased by 1.3˚C between 1960 and 2006, at an average rate of 0.28˚C per decade, and by 0.3°C per decade in the south western region. In addition, spring and summer rains have declined by 15-20% since the mid-1970s and late 2000s, in southern, south-western and south-eastern Ethiopia. The mean annual temperature of Ethiopia is projected to increase by 1.1-3.1˚C by the 2060s, and 1.5-5.1˚C by the 2090s. The rising temperatures in coffee landscapes may be one of the most threatening issues facing Ethiopia's coffee subsector. Human-induced land-use change is one of the major sources of greenhouse gas emission, resulting in climate change. The climate resilient green economy report documents that Ethiopia is already exposed to elevated climate variability and a series of extreme weather events. Consequently, the change in climate will have a profound impact on the coffee sub-sector.

Keywords -- Climate Change, Coffee, Genetic Diversity, Sustainability

Professional Biography

Birhanu Tsegaye Sisay has completed his MSc in the field of Agriculture (Horticulture) at the age of 25 years from Haramaya University School of Plant Sciences and BSc in Plant Science from MadaWalabu University. From 2015 up to now, he is serving as Lecturer and Community based researcher at Wolkite University, Ethiopia. He has published one article and has one accepted review article for publication on springer nature journal. He is also professional member of the Ethiopian Coffee Science Society.



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