Organization for Social Science Research in Eastern and Southern Africa

Ethio-Latin Coffee Community of Practice Project

Proceeding of a webinar on:

Women, Coffee, and Climate: Women's Empowerment for Socio-ecological Resilience of Coffee Value-chain against Climate Change in Ethiopia

April 2023

Addis Ababa, Ethiopia

Introduction

The Women, Coffee and Climate project, implemented by the Spanish Cooperation Agency (AECID) Ethiopia in collaboration with partners from Ethiopia, Colombia, and Honduras, is aimed at empowering women in the coffee value chain amidst the challenges of climate change. Supported by the EU DeSIRA program, this project is being jointly executed with esteemed organizations such as the Ethiopian Coffee Tea Authority, Ethiopia Forestry Development, Ethiopian Institute of Agricultural Research/Jimma Agricultural Research Center, Ethiopian Women in Coffee (EWiC), and Organisation for Social Science Research in Eastern and Southern Africa (OSSREA), along with other partners such as TECNICAFE from Colombia and CONACAFE from Honduras.

As part of our efforts, OSSREA has organized a webinar held on April 19th, 2023, on the Zoom meeting platform. The primary objective of this webinar was to raise awareness about the profound impacts of climate change on the coffee sector. Furthermore, we aimed to facilitate knowledge-sharing and exchange of best practices to promote sustainable and resilient coffee production in the face of these challenges.

Through engaging presentations and insightful discussions, the webinar sought to deepen participants' understanding of the specific challenges faced by coffee farmers and communities due to climate change. It also aimed to provide strategies for mitigating greenhouse gas emissions and adapting to the effects of climate change on coffee production. Additionally, the webinar fostered greater collaboration and engagement among participants and stakeholders in the coffee sector to collectively address the challenges posed by climate change and promote sustainability and resilience.

By the conclusion of the webinar, our aspiration was for participants to feel motivated and inspired to take action in support of sustainable and resilient coffee production within their own communities and worldwide. This webinar aligns with our project's operational plan, which includes various activities aimed at fostering socio-ecological resilience and women's empowerment within the coffee value chain in the face of climate change.

We extend our sincere gratitude to all the participants and stakeholders who contributed to the success of this webinar, as their valuable insights and active engagement played a crucial role in achieving its objectives.

Welcome

The webinar commenced at 4:00 pm with a warm welcome from Mr. Alemu Tesfaye, Regional Programs Manager at OSSREA. Mr. Alemu expressed his gratitude to all the participants for their active involvement in the meeting and acknowledged their presence. He set the tone for the session by outlining the purpose of the webinar and establishing the expectations from participants.

He emphasized that the primary objective of the webinar was to enhance awareness regarding the profound impacts of climate change on the coffee sector. Additionally, he highlighted the intention to facilitate the sharing of knowledge and best practices for promoting sustainable and resilient coffee production in the face of these challenges. Mr. Alemu underlined that through engaging presentations and discussions, the webinar aimed to provide participants with a deeper understanding of the specific challenges faced by coffee farmers and communities due to climate change. Moreover, it aimed to present strategies for mitigating greenhouse gas emissions and adapting to the effects of climate change on coffee production.

Furthermore, he stressed the significance of fostering greater engagement and collaboration among participants and stakeholders within the coffee sector to collectively address the challenges posed by climate change and promote sustainability and resilience. Mr. Alemu expressed his belief that by the end of the webinar, participants would be motivated and inspired to take action in support of sustainable and resilient coffee production, not only in their own communities but also on a global scale.

Following his welcome address, Mr. Alemu provided a brief overview of the webinar agenda and addressed housekeeping matters. With this, he graciously handed over the floor to the first presenter, Dr. Zenebe Mekonnen, Senior Researcher & Director of Climate Science Research Directorate at Ethiopian Forestry Development (EFD), to deliver a presentation titled "Understanding the Impact of Climate Change on Coffee."

Presentations

Dr. Zenebe Mekonnen began his presentation by expressing his gratitude to the participants for their active engagement in the webinar and appreciating the organizers for arranging such an important event. He proceeded to highlight several key points, including:

- The global, continental, and national trends of climate change and their implications on coffee production in Ethiopia.
- The temperature and rainfall patterns of the past century, emphasizing the need to align with the goals set in the Paris Declaration.
- The ranking of coffee production by countries, with Ethiopia, Brazil, and Indonesia being the leading contributors.
- A comparative analysis of coffee quality across different harvested areas.
- The ways in which climate change affects coffee production, including the impact of temperature change on photosynthesis, the physiology of coffee plants, and ultimately, the yield of Coffee Arabica.
- The direct and indirect consequences of climate change on coffee production, such as sustainability issues for specialty coffee and alterations to the bio-climatic environment of indigenous Coffee Arabica.
- Case studies from various countries highlighting the real impact that coffee producers have already experienced due to climate change.
- Projections showing a potential 25% reduction in Coffee Arabica production due to the effects of climate change.
- Simulated impacts of climate change on coffee production from 2030 to 2090, indicating a concerning future where indigenous coffee species, particularly Coffee Arabica, may no longer thrive.
- The potential extinction of indigenous coffee species, with a worst-case scenario suggesting that by the 2080s, unless specialty coffee is implemented, indigenous coffee will lose suitability and be replaced by other crops.
- Specific risks faced by Harar coffee in the 2070s-2090s, as well as the Bale and Arsi coffee species in the 2090s.

- The impact of drought, rising temperatures, and changing rainfall patterns on coffee quality and the coffee value chain.
- The disproportionate effect of climate change on women within the coffee industry.

Following the presentation, Mr. Alemu Tesfaye, the moderator, expressed his gratitude to Dr. Zenebe Mekonnen for his enlightening insights. He briefly recapped the main issues raised during the presentation and opened the floor for discussion.

During the discussion, a participant raised questions about the future balance in coffee production, given the prediction that certain areas would become unsuitable. Additionally, the participant inquired about the geographical variation in the impact of climate change on coffee suitability. In response, Dr. Zenebe Mekonnen emphasized that areas previously unsuitable for coffee production may become suitable in the future for specialty coffee species, while some currently suitable areas may lose their suitability. He stressed the importance of implementing climate-smart coffee production strategies to enhance productivity and reduce greenhouse gas emissions, as evidence suggests that maintaining the status quo will not suffice.

Regarding the impact on different geographic areas, Dr. Zenebe explained that climate change's effects on coffee suitability will vary. He highlighted that the impact will be negative for the Bale and Hararge specialty coffees but positive for Nekemte specialty coffee. However, he emphasized that all areas producing indigenous coffee species will ultimately experience the negative effects of climate change.

The webinar proceeded with engaging discussions and the exploration of the topics presented, allowing participants to share their ideas and insights. Following this, the moderator expressed his gratitude once again to the participants and Dr. Zenebe Mekonen before inviting him to deliver his second presentation titled "Strategies for Mitigating Climate Change in the Coffee Sector." Dr. Zenebe Mekonen covered the following key points:

- Potential adaptation strategies against climate change in coffee production, including farm relocation, irrigation, shade management, mulching, terracing, pruning, and fair-trade management. He discussed their implications for coffee production, the benefits they offer, and the mechanisms through which they are effective.

- The significance of implementing climate-smart coffee production practices and fair-trade initiatives to ensure farmers' resilience.
- The importance of involving farmers in fair-trade initiatives through various trade unions as a means of climate change adaptation and mitigation strategies in the coffee supply chain. He highlighted the positive impacts made by the Oromia Coffee Trade Union and Yirga-Chefe Coffee Trade Union in their contributions to the coffee supply chain.
- Findings from a study conducted by Oxfam in Uganda, which explored the choice of coffee farming systems and the observed variation in yield quantity and quality across different plot types, including forest systems, polyculture systems, banana/food intercrops, shade monocrops, and full sun monocrops. This emphasized the need to develop strategies that balance the advantages and disadvantages of these plot types on coffee production quantity and quality.
- The changing trend of coffee suitability areas in Ethiopia over different time periods from 1960 to 2099. Dr. Mekonen explained that intervention plays a crucial role in expanding suitable areas for coffee production, while the absence of intervention could have adverse effects.
- The benefits of climate-smart coffee production, including increased productivity, enhanced resilience to climate risks, and reduced greenhouse gas emissions.
- The steady growth of coffee production over time and the projected tripled demand for coffee by 2050.
- The rising global demand for environmentally friendly products, driving the acceleration of sustainability initiatives among coffee producers and retailers.
- The importance of understanding the relationship between coffee sustainability and greenhouse gas emissions throughout the production cycle, including mitigation strategies and reducing environmental impacts.
- Case studies from Costa Rica, Brazil, and Tanzania, illustrating the level of greenhouse gas emissions at different stages of the coffee value chain and showcasing successful climate-smart practices to balance emissions and sustainability.
- Comparative data on the impacts of different carbon sink methods in managing carbon emissions from coffee production centers.

- The reasons why women are more vulnerable to climate stress and shocks, such as limited access and control over livelihood assets and time constraints.
- The significant contribution of women to manual labor in coffee production at the lower level, contrasted with their limited representation in higher-end value chains.
- After the presentation, the moderator expressed his gratitude once again to Dr. Zenebe Mekonen for his insightful presentation. He provided a brief recap of the main points covered and opened the floor for further discussion. Participants posed questions on various topics, including:
- Clarifying the similarities and differences between mitigation and adaptation measures.
- Exploring the impact of relocating coffee farms on coffee quality, considering its close association with shade.
- Investigating whether the contribution to greenhouse gas emissions varies among different coffee species.
- Seeking recommendations to support women vulnerable to climate change within the coffee sector.
- Balancing the effects of shade on coffee quality and quantity.

Dr. Zenebe Mekonen responded to the participants' questions by highlighting the interconnectedness of mitigation and adaptation measures, emphasizing that they are two sides of the same coin. He emphasized that mitigation interventions play a crucial role in supporting adaptation efforts.

Regarding the relocation of coffee farms, Dr. Zenebe suggested that it should be accompanied by the introduction of improved specialty coffee varieties and the planting of shade trees. He clarified that the level of greenhouse gas emissions is influenced by farming practices and processes along the value chain, rather than being solely dependent on the type of coffee species. He debunked the misconception that Coffee Arabica, despite constituting more than 60% of global coffee cultivation, is the main contributor to emissions.

In terms of supporting vulnerable women in the coffee sector, Dr. Zenebe stressed the need for government involvement to organize them into cooperatives. Additionally, he emphasized the

importance of empowering women through training programs to enhance their participation in the international coffee market.

Furthermore, Dr. Zenebe emphasized the significance of shade management in coffee production. He underscored the need to maintain a balanced approach by managing the crown coverage of shade trees to not exceed 30%. This ensures that sunlight is not blocked from reaching the coffee trees, avoiding interference with the photosynthetic rate and preventing the abortion of coffee flowers due to exposure to direct sunlight.

In conclusion, Dr. Zenebe reiterated the importance of these strategies and practices for sustainable and resilient coffee production.

Following that, the moderator invited the next presenter, Mr. Javier Hoyos, Technological Manager of the Coffee and Coffee Innovation Technological Park at TECNiCAFÉ, to deliver a presentation on "Adaptation to Climate Change in the Coffee Sector."

Mr. Javier Hoyos commenced his presentation by expressing his gratitude to the participants and the webinar organizers. He proceeded to highlight the following key points:

- The experience from Colombia in mitigating the impact of climate change, specifically emphasizing the success of a project involving the National Federation of Coffee of Colombia and its members.
- A study from Colombia indicating a decrease in coffee cultivation areas over time and the urgent need for immediate action through the development of global and country-level strategies.
- The importance of giving more attention to sustainability rather than solely focusing on productivity.
- The prevalence of monoculture production systems in many countries, exerting pressure on coffee production.
- The manifestation of negative effects of climate change worldwide through frequent catastrophes such as heavy rainfalls, floods, wildfires, hurricanes, etc.
- The significant losses in coffee production attributed to climate change, with emissions from more developed countries being a major cause.

- Trends in emission levels, with the USA leading in emissions during the 1960s and China currently reaching the highest levels.
- Successful productive and protective systems based on traditional shade farming in Latin American countries, which contribute to a balanced ecosystem and various biodiversity benefits.
- The case of shade-grown coffee production in wild forests in Peru, which not only harnessed wood for commercial purposes but also aided in reforesting native trees.
- Improvements in the overshaded and high-density agroforestry system in Costa Rica through the regulation of shade in a geometrically designed manner.
- The economic and environmental benefits of the shading system in coffee production, including enhanced access to medicinal plants, increased organic matter, soil erosion protection, reduced flood risk, and improved productivity.
- The availability of various types of shade systems based on geographic characteristics.
- Different models for shade tree plantation based on coffee species and shade space.
- Cropping approaches based on wind and sun direction.
- The importance of applying agroecology as a system that minimizes the negative impacts of conventional agriculture on the environment. This involves optimizing and raising awareness about the use of natural resources, preserving land and soil use, and reducing the reliance on toxic products.

In conclusion, Mr. Hoyos emphasized the need to embrace agroecology and its principles to address the environmental challenges faced by the coffee sector and promote sustainable practices.

After that, the moderator expressed his gratitude to the presenter and the translator and invited participants to engage in a discussion. One participant posed questions regarding the types of shade tree species used in Colombia and inquired about the suitability of Eucalyptus trees for coffee shade.

The presenter responded by explaining that in Colombia, a combination of various species such as legumes and Avocado trees were utilized for coffee shade. He also highlighted the complementary economic benefits associated with using these types of shade trees.

Regarding the second question, Mr. Javier Hoyos clarified that Eucalyptus trees could be used for shading in coffee production under a full sun system, with a maximum of 20 trees per hectare. However, he cautioned against using Eucalyptus trees in areas with limited water availability, as they have high water demands and could negatively affect coffee tree productivity.

In conclusion, the moderator, Mr. Alemu Tesfaye, expressed his appreciation to the presenters, translator, and participants for their involvement in the webinar. He conveyed his hope that the webinar had inspired and motivated participants to take action in their communities and promote sustainable and climate-resilient coffee production. He emphasized that the webinar was part of a community of practice established under the project "Ethio-Latin Coffee."

Furthermore, Mr. Tesfaye called upon participants to collaborate for a brighter future for coffee farmers, their families, and communities. He concluded the webinar by extending an invitation to participate in an upcoming related webinar scheduled to take place within a month.

The webinar adjourned at 6:00 pm, marking the conclusion of the session.

Note:

- For more **HERE** you will find the recording of the webinar.