

# Fairtrade & Climate Change: Systematic review, hotspot analysis and survey



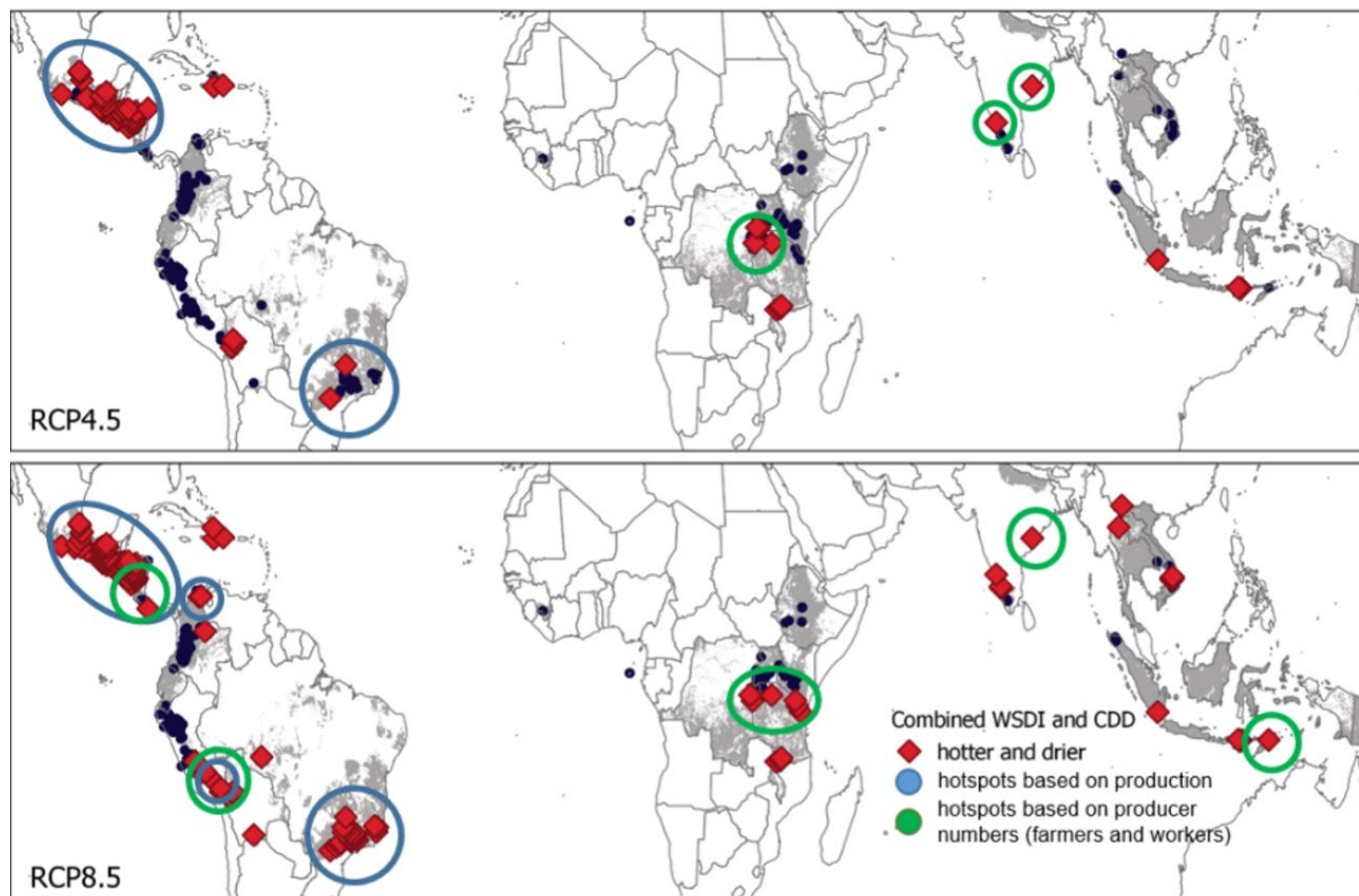
## Study At-a-Glance

Climate change poses a serious threat to agricultural production and to many farmers growing the crops that Fairtrade certifies. Fairtrade International commissioned a study to understand the potential climate change impacts on the production and producers of major Fairtrade crops.

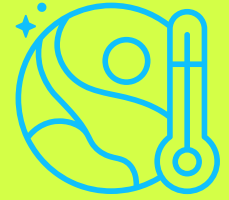
The study includes the regions and Fairtrade commodities likely to be most impacted by climate change, and the specific impacts they will experience (see Image 1 map for coffee).

The researchers, from Vrije University Amsterdam and Bern University of Applied Sciences, used three indicators of climate change impact: warm spell duration index (heatwave, heat stress risk), consecutive dry days (drought risk) and heavy precipitation days (water damage, erosion, pest risk). They also looked at tropical cyclones and depleted water basins. The researchers used a moderate (low-emissions) and an extreme (high-emissions) scenario to calculate a lower and upper range of potential climate impacts for each crop.

**Image 1: Map of hotspots of climate change impacts due to combined warm spell duration index (WSDI) and consecutive dry days (CDD) based on Fairtrade coffee production volumes and numbers of producers affected under the more moderate and more extreme emission scenarios**



# Key Findings



Severe climate change impacts will affect most producers of Fairtrade crops. The greatest change is increased 'warm-spells'

See Image 2



## banana

- More cyclones in the moderate scenario by the end of the century (see Image 3)
- More extreme temperatures in the high-emissions scenario
- Producers in the Caribbean and Central America will be most affected by dry days



## coffee

- More extreme temperatures and more days without rainfall
- Producers in Central and East Africa, South and South East Asia, Caribbean and Central America and South America will be most affected



## cocoa

- More heatwaves and more days without rainfall in all producing areas
- Considerable increases in days with extreme rainfall in the South America, West Africa and Central and East Africa



## tea

- Heat stress in Asia and Africa
- Heat stress and less rain, severely affecting producers in India, Malawi and Tanzania



## sugarcane

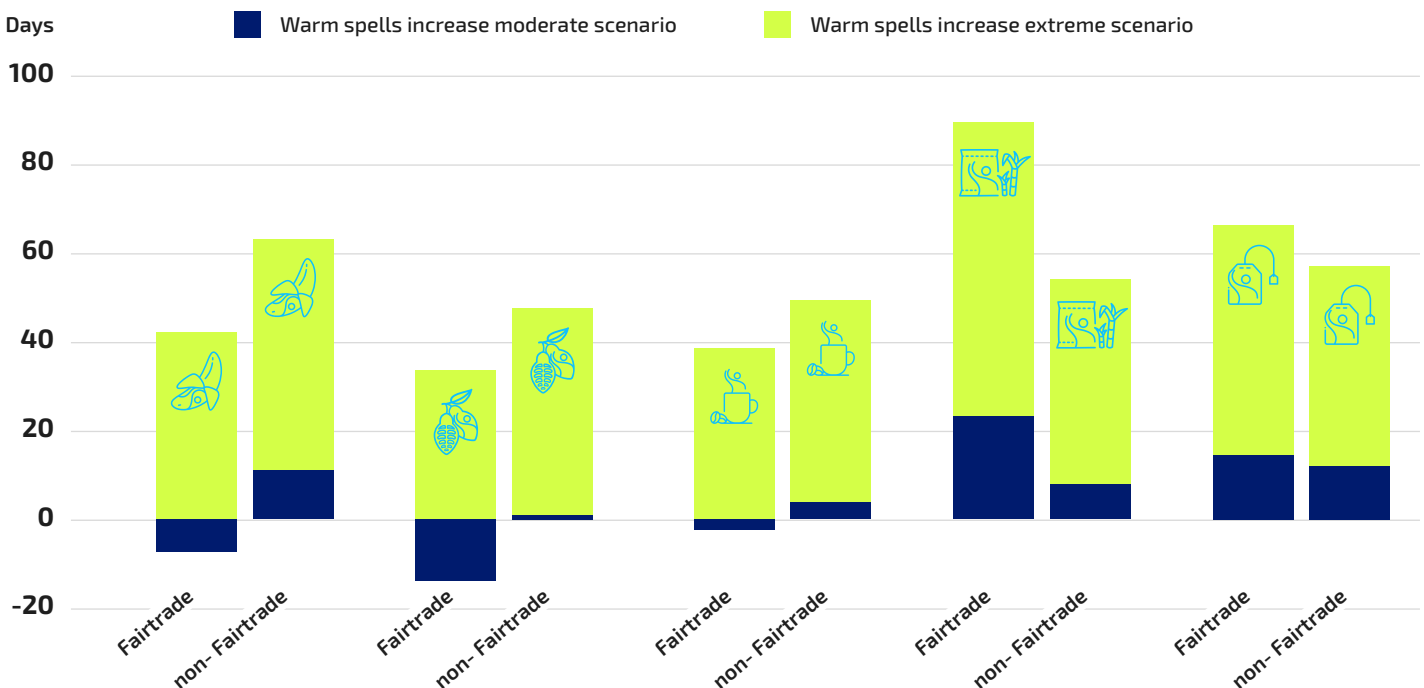
- More heat and drought globally



## cotton

- Increased heat and drought
- Production already takes place in areas where water is scarce today

Image 2: Average increases in warm spells days per year with moderate and extreme climate change scenario for Fairtrade versus non-Fairtrade producers of different crops. The difference in impacts is based on different geographical locations of Fairtrade and non-Fairtrade production areas.



## More regional and crop-specific approaches and better understanding of local perspectives needed



The study shows how impacts differ by crop and location. Therefore, future assessments need to focus on regional and crop-specific approaches to adaptation. In addition, local producer perspectives need to be considered throughout project development and implementation. For example, interviewed Ghanaian farmers are more pessimistic about the future than Indian farmers. Farmers in Ghana predict land degradation and increases in temperature to be the most important impacts of climate change. They also forecast more drought. For them, the increasing impact of pest and diseases is due to their lack of money to fight them, as well as the increasing ineffectiveness of traditional knowledge.

## Producers are already taking measures, but more truly participatory interventions are needed



Fairtrade producer networks and Fairtrade Premium funding, as well as funding sources from commercial partners and donors, support producer organizations to implement climate changes adaptation projects. Challenges to more widespread implementation are funding, as well as knowledge and capacity at the producer organizations, and capacity at producer networks. Measures taken by Fairtrade producers include improved water management, the use of organic inputs, diversification and agroforestry. More adaptation and mitigation projects as well as more participatory interventions are needed. These should be based on localized research to identify what works well and what local challenges can hamper adoption (such as financial or labour shortages).

## Recommendations and actions to support farmers

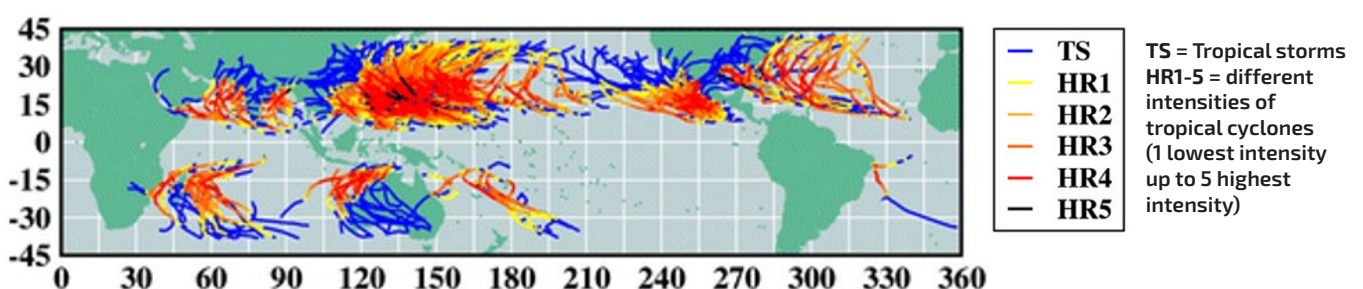
This study provides information on which crops are expected to be impacted by climate change, by region and specific impacts. **In order to plan for resilient adaptation solutions, follow-up studies should focus on capturing local climate change impacts, combining climate modelling data and insights from farmer interviews.** An additional follow-up would be actual testing and prototyping of different adaptation measures in different contexts to understand production impacts, but also costs and other potential trade-offs (such as more water or labour demands). Such tests must combine environmental modelling, agricultural field research and, importantly, farmer participation.



**Support to farmers to adopt the different adaptations is essential, and needs to be based on an understanding of current challenges that limit farmers from changing practices.**

In addition, short-term mechanisms to deal with immediate impacts, such as complete crop failures from extreme weather events (see Image 3), need to be assessed and supported in order to increase farmers' resilience. For example, the Fairtrade producer network in Latin America and the Caribbean, CLAC, already runs a Fund for Climate Eventualities and Catastrophic Events. Based on the predicted climate change impacts, additional funding and a spread to other regions would be justified. Overall, this study has indicated the need to support all farmers, including Fairtrade farmers, to adapt to climate change. For certain farmers this will include changing or diversifying crop or income sources, whereas in areas with less severe impacts measures could include agroforestry and improved shade tree management, mulching, and crop diversification.

Image 3: Extreme cyclones under the moderate scenario for the period 2081-2100 (taken from Knutson et al. 2015).






# How was the study conducted?

Researchers from the Vrije University Amsterdam and Bern University of Applied Sciences performed four different analyses:

1. Literature review on how climate change has so far impacted Fairtrade banana, cocoa, coffee, cotton, sugarcane and tea production in the most important Fairtrade producing areas;
2. A spatially explicit analysis to identify the extent and locations of future climate change extremes;
3. A review of Fairtrade documents regarding future climate change and adaptation;
4. A survey with producer organizations from South India (tea and coffee) and Ghana (cocoa).

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## Fairtrade response

**Fairtrade welcomes this report as a resource for farmers, commercial partners along value chains, and all stakeholders to implement adaptation measures and contribute to farmer resilience.**

The results are alarming and highlight that the threat to the future of many supply chains and farmer livelihoods is very real. Combining the understanding of crop- and location-specific climate change impacts with an understanding of producer perspectives, is key to designing successful context-specific approaches with farmers.

All of these steps will require large investments, and it would not be fair to expect farmers, who contributed least to climate change, to carry the costs alone. Fairtrade is calling on all stakeholders, including commercial partners in the value chains to join forces and support farmers they work with by contributing to solutions to increase farmer resilience and support producers to implement adaptation measures.

We have in recent years strengthened the Fairtrade Standards requirements and increased the programmatic focus on environmental issues and climate change. Yet, the magnitude of the problem calls for more and wider partnerships to support farmers to jointly face the massive climate change challenges ahead.



For more information on how to work with Fairtrade and support farmers in building a sustainable and fair future, contact [partnerships@fairtrade.net](mailto:partnerships@fairtrade.net).