

WORKING TOWARDS A SUSTAINABLE FUTURE TACKLING THE EFFECTS OF CLIMATE CHANGE

In many tropical and subtropical regions where coffee, cocoa and tea are grown, climate change can be an environmental disaster for producers. Decreased water availability, new or different pests and diseases and more extreme climatic events are threatening the quality and quantity of crops and in turn producer's income.

Tackling climate change is crucial to UTZ's mission of making sustainable farming the norm.

Identify
climate change
impacts and
risks.



Help group
members
adapt.

Implement
water saving
measures.



Diversify
agricultural
production.



THE PROBLEM

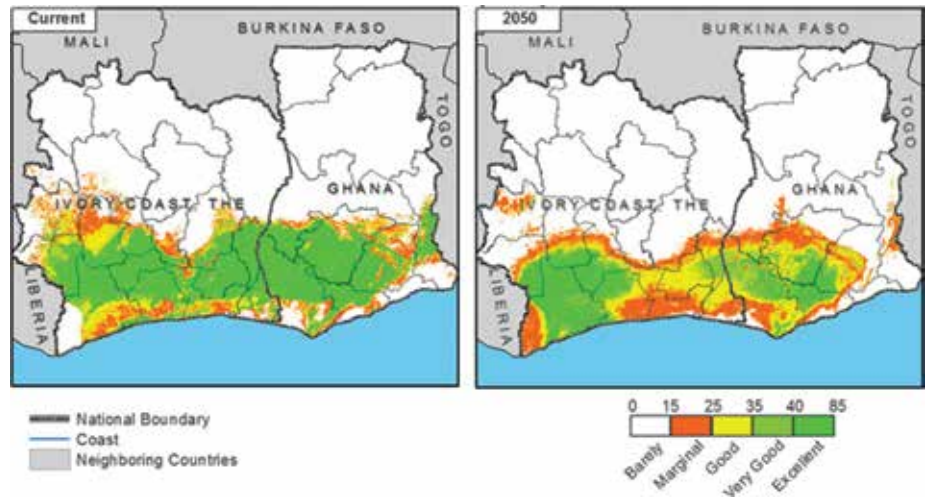
Farmers rely heavily on the environment and are often the first to be affected by the impacts of climate change.

Coffee, tea and cocoa are all crops that need very specific conditions to thrive. Temperature, rainfall, altitude, access to water and soil type can all have a major impact on the success or failure of a harvest, and climate change is having a significant effect on all these conditions.

By 2050 it is expected that the annual temperature globally will have risen to such an extent that many coffee, tea, and cocoa production areas are too hot to grow the crops. In cocoa regions in Côte d'Ivoire and Ghana the impact of rising temperatures means there will be a dramatically smaller area suitable for cocoa production by 2050.

Droughts and changing rainy season's means producers need to be able to adapt and find other ways to maintain their yields. In countries like Vietnam – the world's leading producer of Robusta coffee – rainfall is decreasing dramatically; in the first four months of 2015 there was 86% less rainfall compared to the same period the year beforeⁱ.

In the tea sector the changing climate has meant that tea plantations in Assam, India - one of the world's leading tea production areas – have seen the timing of harvests change having an impact on both farming practices and pricesⁱⁱ.



The green area shows the optimal area for cocoa production, demonstrating that by 2050 the area available in both Côte d'Ivoire and Ghana will have dramatically decreasedⁱⁱⁱ.

AGRICULTURAL CONTRIBUTION TO CLIMATE CHANGE

Producers are not just affected by climate change – they are also contributors. Agricultural production contributes to approximately 14% of global greenhouse gas emissions, a key factor in rising temperatures, and if land use changes and forestry are also included, the sector accounts for up to one third of global emissions^{iv}.

Coffee, cocoa and tea producers contribute to climate change through deforestation, misuse of waste and excessive use of water during processing and excessive and imbalanced use of fertilizers. Therefore it is important to address both producers' abilities to adapt to the effects of climate change as well as mitigate the impact they are having on the climate.

WHAT DOES THE UTZ CODE SAY?

The UTZ Code of Conduct lays out specific control points (requirements) that producers must comply with in order to be UTZ certified. There are three main points within the Code of Conduct that relate directly to climate change:

- Documented measures are taken to assist group members in adapting to important climate change impacts identified in risk assessments.
- The producer diversifies agricultural production and/or other sources of income to adapt to market and/or climate change.
- Training in environmental topics must always include a climate change component.



ⁱ <http://www.bloomberg.com/news/articles/2015-05-13/coffee-farmers-in-vietnam-seen-hoarding-most-beans-in-five-years>
ⁱⁱ www.bbc.com/news/science-environment-26754121

ⁱⁱⁱ Study reference: Läderach et al. (2013) "Predicting the future climatic suitability for cocoa farming of the world's leading producer countries, Ghana and Côte d'Ivoire". Climate Change 119:841-854.

^{iv} Intergovernmental Panel on Climate Change (IPCC), 2007. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, 2007. Cambridge University Press, Cambridge, UK.

TAKING ACTION

UTZ envisions a world where sustainable farming is the norm; this means promoting sustainable agricultural practices that help tackle climate change and other environmental issues and allow producers to be able to adapt to the effects of adverse weather conditions. Through the UTZ program we tackle climate in three key ways – **adaptation, mitigation, and productivity.**

ADAPTATION

For individual producers, it's vital that they find ways to adapt their farming practices to adjust to the changing climate.

Training on methods to help producers implement good agricultural practices is a vital part of the UTZ program. Amongst other key approaches producers learn about:

- Planting **shade trees** like avocado and bananas to shade and protect plants against the effects of increased heat, erosion, and heavy rainfall. – an added bonus of this method is that by using food crops farmers can also diversify their income!
- New **irrigation methods** that make sure that plants get the water they need at the right time, even when there are less rains.
- **Soil management**, by covering soil well with mulch or other materials soil can retain its moisture for longer. Better care for soil can also help prevent erosion, a problem exacerbated by climate change.
- **Record keeping**, which allows them to monitor rainfall and therefore observe climate change trends in order to be able to take measures to adapt.
- **Tailor-made trainings** in assessing risks in order to identify specific measures to implement, as the effect of climate change differs significantly among regions.

MITIGATION

As a major contributor to greenhouse gas emissions (GHG) the agricultural sector needs to also address how to reduce their own impact on climate change. Through improved agricultural practices UTZ producers learn about:

- **Maintaining and increasing forest cover** in and around production areas, not only increases the soil organic matter and fertility but also prevents deforestation.
- Ways in which to **clean waste water** after the coffee processing cycle – which helps both ensure clean water for the community and cut down on GHG emissions.
- **Correct use of fertilizer** application which helps to mitigate climate change through the lower GHG emissions.

PRODUCTIVITY

A key aspect of the UTZ program is helping farmers to improve their productivity, this allows them to have the opportunity of higher yields and therefore higher incomes, but it is also important in tackling climate change because:

- Increasing productivity of the land used can **prevent expansion and thus deforestation.**
- It can increase resilience; higher productivity can increase income which in turn can allow for **more investment in adaptation measures.**
- If less land is needed to be more productive it can **reduce the carbon footprint of the crop.**

“The biggest change on Aggenbagskraal as a result of UTZ certification has been in terms of the environment. I have undergone a mind shift and am now more aware of the natural environment and better agricultural practices in terms of this... We have a responsibility towards nature and the environment to utilize and manage it correctly.”

Francois du Plessis,
UTZ certified Rooibos
producer, Aggenbagskraal
Farm, South Africa



IN PRACTICE

UTZ also actively works on developing and implementing innovations that help to adapt farming systems to future climates, this allows UTZ producers to see greater impacts and to contribute to a better environment.

ADAPTATION

Working with partners and producers, UTZ pilots projects that help farmers adapt to changes in their environments. Recent projects include:

Coffee Climate Care project

To combat the rising temperatures and extreme weather patterns producers in Vietnam are facing, UTZ has been running a 3 year project to help producers recognize and identify the risks they face and introduce measures that will enable them to adapt.

The farmers in the project experience severe effects of climate change including very dry periods with insufficient irrigation water, increased temperatures, intensified erosion and new pests. Understanding the causes and the effects of climate change has led to the implementation of adaptation measures, such as planting shade trees, installing wind breaks, covering crops, and improved irrigation and fertilizer management.

The project helps the producers themselves carry out assessments to determine their vulnerability to climate change, and pilot adaptation practices; producers are then able to train others in these adaptation methods. This means that they will be able to monitor the changing effects of climate change and take steps to adapt even if the impacts change.

UTZ carried out this project with the DE Foundation, and DEG - Deutsche Investitions- und Entwicklungsgesellschaft

MITIGATION

Coffee Wastewater to Energy project

Carried out with coffee producers in Central America this project looked to tackle two key issues:

1. Coffee processing demands large quantities of fresh water and energy;
2. The waste water generated is often released back into the water streams without being cleaned, thus infecting the local population's water and generates significant greenhouse gas (GHG) emissions.

The project in Central America tackled each of these challenges and enabled coffee producers to reduce water consumption, treat wastewater and turn methane into a new energy source. The project worked by reusing wastewater in the coffee washing process, then treating and cleaning it before it is discharged. The water is treated in a biodigester that captures methane emissions that are then used as a biogas fuel to run machinery and even household stoves.

The impact was not only a lower GHG footprint, but also reduced use of water, less need to chop down local forests for firewood and a safer environment for the producers and the local community. The findings from the project are now being shared with UTZ producers globally.



Fatima Blandón, Nicaraguan coffee farmer, cooking with biogas

UTZ carried out this project with Aceres, Climate Neutral Group and Solidaridad.

CREATING IMPACT

Building awareness through the Code of Conduct and training in good agricultural practices all have an impact on producers abilities to adapt and mitigate the impacts of climate change and their awareness of environmental issues.

A study carried out with Cocoa farmers in Indonesia in 2012 found that those farmers who were certified were taking more measures to tackle soil erosion than those non-certified.

Mulching or planted soil cover:



Certified farmers **50%**

Non-certified farmers **17%**

Maintaining or planting of shade trees / crop cover during land preparation:



Certified farmers **84%**

Non-certified farmers **66%**