Climate Resilient Supply Chain Packages
The Alliance for Resilient Coffee
Feed the Future - **Alliance for Resilient Coffee** is a consortium of seven leading non-governmental organizations and research institutions working at the intersection of climate change and smallholder family coffee production to make coffee farming and sourcing operations climate-smart.

It is not easy to differentiate the value and impact of the different climate change adaptation approaches on the market. This is why we've consolidated the most promising solutions and tools into four packages. They are not only tailored to the needs of your business, but also to the needs of farmers in regions where you are sourcing coffee from.

**We Understand Climate**

The packages reflect the zoom-in approach of our consortium, starting with a global context overview and ending with on-farm intervention. They are created to prepare your coffee operations for the impacts of climate change, adapted to the situation, needs and budget of your company.

*With the combination of complementary climate approaches from different leading NGO's, proven strategies and practices to make the coffee industry climate smart are delivered. By investing in our packages, you will get climate expertise at its best.*
Package Overview
A Holistic Approach

The content of the packages combines the long-term expertise of our different consortium partners. They are provided to your company either indirectly through a Training of Trainer approach or directly through implementation by our consortium partners.
The consortium partners, responsible for implementing each of the packages are mentioned in the package description. Knowledge transfer to third parties is possible.

**About our Packages**

_A Holistic Approach_

**Global Level**

- **01** Global Climate Risk Screening

**Country Level**

- **02** Climate Country Risk Profile

**Region Specific - Landscape Level**

- **03** Regional Climate Risk

**Farm Level**

- **04** Climate Smart Farming
Global Climate Risk Screening Package

Global: Getting to know the vulnerability of your coffee sourcing areas

Our Global Climate Risk Screening Package is a climate specific evaluation that provides a global understanding of how climate change affects the countries where you are sourcing coffee.

The Stress Test analyzes and provides:

- Long-term climate projection data until 2050 to assess the level of climate impact on your global coffee sourcing areas.
- Expected impacts on climatic suitability for coffee production at sourcing regions in 2050.
- Precipitation and temperature observations from 1981-2018 to assess significant trends in key climate variables.

Figure A: Global Climate Impact Map

As part of the package you will receive a visual overview of climate change impacts on your global sourcing areas. Additional data analysis to complement the maps will be provided, particularly around historic trends and access to climate modelers to help interpret the Global Climate Impact Map and other results.

Stress test findings allow you to identify coffee origins that are being threatened by climate change and need to be prioritized in climate-smart activities. Knowing what countries are most vulnerable and exposed to short term and long term effects is the starting point for your company to develop specific intervention strategies.

Advisory services on global sourcing strategy based on findings
Country Risk Profile Package

Obtaining climate smart recommendations for a specific coffee country

The Country Risk Profile Package offers general information of national coffee production such as economic relevance of coffee, policy framework of coffee production systems, challenges in the national coffee sector and identifies the most promising climate-smart adaptation practices available in the country. As part of the analysis, a gradient map is created, analyzing observed and projected climate trends within the country.

The gradient map provides a climate change forecast for the upcoming 20 years, identifying coffee regions within a country:

- Suitable for coffee production
- Most threatened by climate hazards but can become suitable with correct on-farm training and use of climate-smart practices
- Coffee areas that will be lost due to climate change impacts
- Initial recommendations for climate-smart interventions

Figure B: Gradient Map
The gradient map shows regional levels of climate impacts. Red indicates areas that will need to gradually move out of coffee production, yellow areas need significant climate-smart adaptation practices to secure coffee production while green areas are likely to remain suitable; however, climate-smart practices need to be taken up to minimize risks and improve coffee production.

With an in-depth analysis of a specific country’s climate risk to coffee production and a mapping of the vulnerabilities and risks posed across your coffee value chains, you will be able to identify which regions within your country of interest need specific climate-smart interventions.

Advisory services on global sourcing strategy based on findings
The Regional Climate Risk Package assesses regional (landscape level) characteristics of a coffee sourcing region, beyond a single supply chain. You will receive an assessment of important indicators tailored to each region such as:

<table>
<thead>
<tr>
<th>01 Natural Capital</th>
<th>percentage of forest cover and of endemic species habitat cover; deforestation rate; water resources and management.</th>
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<tr>
<td>02 Production</td>
<td>coffee sustainability by altitude; production area; access to trainings; status of coffee producer organizations.</td>
</tr>
<tr>
<td>03 Human well-being</td>
<td>number of households with access to water and electricity; use of cooking fuel; migration rate; household income information.</td>
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</table>

The Landscape Assessment Framework (LAF), provides your company with initial recommendations for climate-smart interventions, insights on strategies, implementation projects, managing resources and an action plan with concrete steps and recommendations that seek to make coffee farms in the region climate smart. Information and recommended strategies to improve forest protection, biodiversity, human well-being and income diversification for farming households are provided in addition to specific knowledge.

LAF evaluates and offers:

- An online dashboard summary card to capture overlying trends and major characteristic at the landscape level, including climate related changes.

- A series of graphs, charts and maps with insights regarding relevant socio-economic and environmental indicators.

- Guidelines and initial recommendations on how to make coffee areas more climate resilient.
A holistic evaluation of climate change impacts in a specific sourcing area permits you to understand how a changing climate is affecting the environmental, social and economic relationships of farmers and their communities in a specific region of your interest. This allows you to develop a pinpointed sustainability strategy beyond coffee production, based on a concrete action plan that leads to the involvement of other relevant stakeholders.
Climate Smart Farming Package

Increasing the resilience of coffee farming households in your supply chain

The Climate Smart Farming Package contains tools from different farm-level experts, starting with a vulnerability assessment that provides an action plan on how to implement climate-smart agricultural practices. With this training design, interventions are tailor-made to the individual needs of farms in your supply chain, ensuring high climate resilience. Ultimately, the package is expected to make coffee farming an attractive and profitable career option for the next generation of farmers.

The package helps to identify climate change impacts on productivity and quality of coffee, specific to your supply chain. The vulnerability tool evaluates how vulnerable your coffee supply chain is in a systematic way. The package offers:

Vulnerability assessment

Farming households within a coffee region are affected to varying degrees by climate change due to different topographical locations of farms and their capacity for adaptation. They have different needs for climate-smart agricultural tools to become climate resilient.

The vulnerability assessment serves as a baseline for relevant climate information. The results provide a guideline and allow the measurement of progress of farmers in your sourcing region towards climate resilience, including their adaptation capacity, exposure and sensitivity over time. The results of the assessment create a tailor-made and prioritized climate-smart training approach for your supply chain.

Figure C: Vulnerability Assessment

Vulnerability map. Red dots indicate farmers with low resilience while blue dots are farmers who have already high resistance capacities.
Climate change adaptation modules:

Demonstration Plots

In order to show farmers the viability of climate-smart agricultural practices and evaluate current practices, demonstration plots will be established on selected farms. They serve as training venues to prove and present the benefits of the recommended interventions. On all demonstration plots, climate data such as soil, temperature and rainfall will be collected and used to ensure the effectiveness of climate-smart practices. The option of diversifying coffee with other crops for substantial or commercial use is also available.

On-farm trials (OFTT)

In Arabica project regions, on-farm technology trials, part of the World Coffee Research Global Coffee Monitoring Program worldwide network can be set up and implemented with farmers in your supply chain. Each trial within your sourcing region evaluates which combination of improved, resilient varieties and climate-smart agriculture practices contributes most to farmers’ profitability, production and quality. This provides you with rich data on avenues for improving farmer incomes in your supply chain while at the same time contributes to a global data set on the economic sustainability of different climate-smart farming practices.

Farmer Training

Coffee farmers in your supply chain recieve traning in the coffee&climate approach, based on the results of the vulnerability assessment and learnings from the demo plots and on-farm trials. Trainings start with practices that can be implemented at the moment to avoid farmers feeling overwhelmed and to ensure a step by step implementation process.
Climate adaptation at the household-level is not just the implementation of agronomic knowledge at coffee farms. It goes beyond coffee production. In addition to the climate smart farming interventions, it is possible to add the following components to the package:

**Gender Household Training**

Although the climate smart training approach of the package focuses on inclusion, it does not represent a holistic gender training to empower coffee farming families in your supply chain. We believe that all family members should benefit from climate-smart coffee production. Therefore, the additional gender component supports farming families towards achieving a balanced family life, improving their household decision process and promoting coffee production as a family business. These interventions not only lead to a better family life, but also boost coffee productivity and quality among farming families.

**Youth Empowerment**

Youth are the catalysts for breaking new ground and opening the door to spread climate adaptation practices in their coffee communities. They also represent the future of the supply chains in which your company operates. In Youth Farmer Field Schools (YFFS) and training plots, young people are coached in agribusiness development. The curriculum includes agronomy on climate-smart coffee production and other key seasonal crops; business planning and development as well as courses on entrepreneurship and gender.
Small-scale coffee farmers are a significant part of the solution to current, global, climate-change challenges. Coffee plots, managed as agroforestry systems, imitate forest habitats that sustain plant and animal species and can sequester and maintain high levels of Soil Organic Carbon (SOC). However, without a tool to quantify, it is hard to tell this story. Adding The Cool Farm Tool to the package gives farmers the capacity to measure, track and better understand the environmental impact of their farming system; promote best practices for climate resiliency, improved crop health and productivity, and allows farmers and company partners alike to tell the story to buyers and/or the end coffee consumer. https://coolfarmtool.org/

The Climate-Smart Farming Package offers:

- A comprehensive analysis of the vulnerability of farmers in your supply chain to climate risk.

- A field-tested set of practices for adaptation taken from the (1) coffee&climate toolbox; (2) IITA stepwise investment pathway and (3) WCR variety trials (e.g. cover crops, biochar, gypsum, resilient varieties)

- Establishment of climate-smart demonstration plots with scientific equipment to provide quantitative data (e.g. to calculate cost benefit of practices, etc.)

- Options for diversification with non-coffee crops (for subsistence or commercial use)

- Possibility to include Gender component, Youth component and Cool Farm Tool.
Pick Your Choice

Choose the package that suits you best or combine elements to create a package tailored to your needs!

Matching USAID funding is available.
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<th>Benefits</th>
<th>Global Climate Risk Screening</th>
<th>Country Risk Profile</th>
<th>Regional Climate Risk</th>
<th>Climate Smart Farming</th>
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Let's have a cup of coffee to discuss how we can make your coffee supply chain resilient to climate change!

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https://www.allianceforresilientcoffee.org