

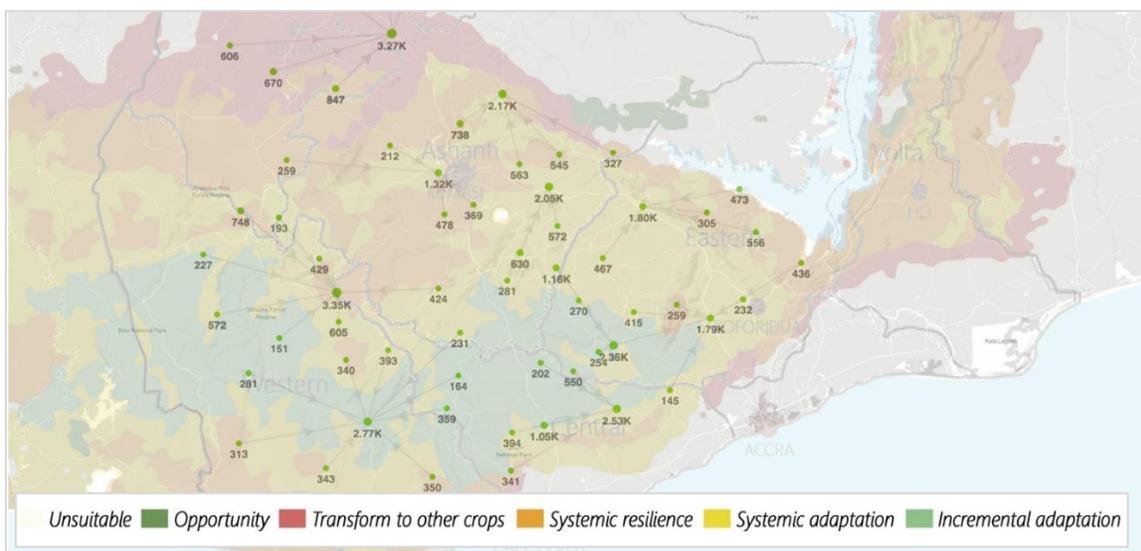
Project Name: Cost of Inaction Calculator

Description: Sourcemap and CIAT are working to create a Cost of Inaction (COI) Calculator: an online platform that translates agricultural climate change risk into potential lost production to smallholders (in USD). The COI Calculator is an advanced modeling platform, combining CIAT agricultural climate risk data and Sourcemap supply chain mapping technology into an easy-to-use platform that the private and public sectors can deploy to identify smallholder producers' adaptation needs; leveraging data to design site- and crop-specific solutions that ensure sustainable supply chains.

The COI Calculator will identify the actual cost of business-as-usual for each farm in a given supply chain; helping users identify the producers and crops where investment to mitigate the impacts of climate change will be most impactful. Users upload data to the online platform, which automatically calculates the most likely COI value for each farm and supplier, based on historical variability and future climate scenarios. Users can upload multiple scenarios to help plan for a sustainable supply chain into the future. The COI Calculator democratizes long-term and strategic climate change planning for a wide range of stakeholders, bridging the gap between emerging climate science and the tactics of climate adaptation.

The COI Calculator builds on existing data and proven technology to deliver a fully functional public platform within 12 months as a proof of concept. At launch, the scope will focus on cocoa production in Ghana. In the second phase (year 2), the platform will be expanded to provide advanced risk analytics and cover the rest of the CIAT product and regional portfolio.

The COI Calculator will be designed and developed to ensure that the platform is useful and usable for a wide range of stakeholders, including regional managers, farmers and cooperatives, traders and manufacturers, governments, and non-governmental organizations.



COI Calculator displaying: 1) CIAT's climate change impact zones for cocoa in Ghana, compared to 2) Cocoa farm and cocoa cooperative locations in Ghana and their projected costs of inaction (USD) for not appropriately adapting to climate risks.

The Need: Today, 80 percent of the food in Asia and Sub-Saharan Africa is grown by 500 million small-scale farms. Despite the great volume of food produced by smallholder farmers, they generally have low access to technology, resources, and global markets. Smallholder sourcing programs provide a unique opportunity to make large-scale livelihood investments, given that smallholders comprise over 30 percent of the world's population and the majority of the world's poor. And with the global population expected to exceed nine billion people by the year 2050, we are going to need to produce a lot more food—a lot more sustainably.

Global food companies are betting big on smallholders as the key to feeding the world and fighting climate change. In September, Mars committed to invest \$1 billion in its value chain, promoting sustainable farming as a means to reducing greenhouse-gas emissions and reversing the impacts of climate change. In a written statement, Mars CEO Grant Reid said that "the engine of global business — its supply chain — is broken and requires transformational, cross-industry collaboration to fix it."

Although brands and governments are working to account for climate change's projected impacts on global food production, the complexity of current models makes it difficult to drive actionable decisions. The COI Calculator will spur the transformational, cross-industry collaboration that Reid calls for; helping identify smallholder producers' climate adaptation needs to ensure sustainable supply chains.

Impact: By allowing users to easily model agricultural supply chains and climate risk exposure, in terms of lost revenue to smallholders, the COI Calculator will streamline decision-making and increase the resilience of agricultural value chains to climate change. Leveraging Sourcemap's supply chain mapping technology along with CIAT's climate risk projections, the COI Calculator will measure the cost of doing business-as-usual for each farmer in a given supply chain; helping users identify the producers and crops for which investments will be most impactful for the coming decades. The COI Calculator democratizes long-term and strategic climate change planning for a wide range of stakeholders, bridging the gap between emerging climate science and the tactics of climate adaptation.

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