



RESEARCH PROGRAM ON
**Climate Change,
Agriculture and
Food Security**



Informing Costa Rica's Nationally Appropriate Mitigation Actions in the coffee sector

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CCAFS Outcome Case

Center	International Center for Tropical Agriculture (CIAT)
Year	2015
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Flagship	Policies and Institutions
Geographic focus	Latin America

Summary

Coffee production in Costa Rica employs up to 150,000 people, representing 8% of the Costa Rican workforce, and accounts for nearly 10% of national greenhouse gas (GHG) emissions. In order to reach the national goal of carbon neutrality by 2021 and contribute to international climate protection measures, the first agricultural Nationally Appropriate Mitigation Action (NAMA) was developed by the country. The NAMA Support Project (NSP), "Low-emission coffee NAMA Costa Rica" (NAMA-Café) collaborates with the main actors in the coffee value chain in Costa Rica and uses closely integrated technical and financial cooperation instruments. Greenhouse gas emissions will be decreased through practices such as efficient fertilizer use and use of shade trees, these practices will be scaled up using capacity building measures and financial incentives. The NSP will further increase economic sustainability of coffee production by facilitating access to differentiated markets. This close collaboration with cooperatives and mills, in addition to multipliers like the national extension services, and the regulated financial sector, will contribute to a transformation of Costa Rica's coffee sector. Projected emission reductions are about 120,000 tonnes CO₂/year.

Research by scientists at the International Center for Tropical Agriculture (CIAT) helped secure the funding for the Costa Rican coffee NAMA. The NAMA proposal partly leverages on impact assessments and mitigation options for coffee systems that CIAT shared with the Ministry of Agriculture and Livestock (MAG), the Gesellschaft fuer Internationale Zusammenarbeit (GIZ), the Instituto de Café de Costa Rica (ICAFFE) and the NAMA facility review mission. CIAT also trained MAG employees on these results, which were used as background information for the NAMA.

Key facts

- The agricultural sector accounts for 37% of national GHG emissions or 4.6Mt of CO₂/year, 25 % of this figure comes from the coffee sector (10% of overall emissions or 1.15 Mt CO₂/year).
- Costa Rica was one of the first countries to set the target to become carbon neutral in 2021. The country is implementing a National Climate Change Strategy, listing the agriculture sector as one of the main areas of intervention for mitigation actions.
- Costa Rica's government developed a Coffee NAMA (NAMA-Café) to be implemented over 10

years starting in 2013.

- It is estimated that investments of USD 30 million will be needed for full implementation of the NAMA.

Lessons: key elements of success

- **Working across the value chain:** the NSP will work with the main actors along the coffee value chain in Costa Rica. They will cooperate with farmers, coffee mills, extension services, the fertilizer industry and international coffee buyers.
- **Closely interlinked use of technical and financial cooperation instruments:** to address the main barriers for increased up-take of low emission practices and technologies, both technical and financial cooperation instruments are used.
- A high level of commitment from the government, good national coordination structures, good cooperation of international donors and implementing agencies.

Further reading

- [How a project supports Costa Rica reach ambitious mitigation targets in agriculture](#)
- [Implementation of the NAMA Support Project- Low Carbon Coffee Costa Rica](#)

Related research outputs

- Baca M, Läderach P, Hagggar J, Schroth G, Ovalle O. 2014. An Integrated Framework for Assessing Vulnerability to Climate Change and Developing Adaptation Strategies for Coffee Growing Families in Mesoamerica. PLoS ONE 9(2): e88463.doi:10.1371/journal.pone.0088463
- Bunn C, Läderach P, Rivera OO, Kirschke D. 2015. A bitter cup: climate change profile of global production of Arabica and Robusta coffee. Climatic Change (2015) 129:89–101 DOI 10.1007/s10584-014-1306-x
- Ovalle-Rivera et al.2015.Projected Shifts in Coffea arabica Suitability among Major Global Producing Regions Due to Climate Change. PLoS ONE 10(4): e0124155. DOI:10.1371/journal.pone.0124155
- Rahn E, Läderach P, Baca M, Cressy C, Schroth G, Malin D, van Rikxoort H, Shriver J . 2014. Climate change adaptation, mitigation and livelihood benefits in coffee production: where are the synergies? Mitig Adapt Strateg Glob Change. 2014. 19:1119–1137: DOI 10.1007/s11027-013-9467-x
- van Rikxoort H, Schroth G, Läderach P, Rodríguez-Sánchez B. 2014. Carbon footprints and carbon stocks reveal climate-friendly coffee production. Agronomy for Sustainable Development. 34 (4) 887-897: DOI 10.1007/s13593-014-0223-8

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