



## Mitigating high levels of cadmium in cacao in Colombia and Ecuador

---

This project is aimed at improving the institutional capacity of Colombia and Ecuador to manage cadmium concentrations in cacao and cocoa products to comply with European Union (EU) regulations and the Codex limits of naturally occurring contaminants in chocolate. The expected impact of the project is that the cacao sector in Colombia and Ecuador remains competitive and maintains or even expands its area of production. It is hoped that the growth of the cacao sector will result in an increase in employment and a reduction in poverty, particularly in rural areas.

**STDF/PG/681**

**Status**

On-going

**Start Date**

01/09/2020

**Project Value (US\$)**

\$617,999

**STDF Contribution (US\$)**

\$516,989

**Beneficiaries**

Colombia

Ecuador

**Implementing Entities**

KU Leuven

**Partners**

Federación Nacional de Cacaoteros (Fedecacao) - Colombia

Escuela Politécnica del Litoral (ESPOL) - Ecuador

International Center for Tropical Agriculture (CIAT)

Wageningen University & Research

**Background**

The EU established cadmium limits in 2019 for cacao-derived products. In 2018, the Codex Alimentarius Commission defined limits for contamination of naturally occurring contaminants in chocolate. Also in 2018, the state of California agreed on even stricter cadmium limits for chocolate products, above which consumers will be warned through product labelling.

These limits mainly affect the cacao sector in the Andean region, where the soil is naturally richer in cadmium than other cacao-producing regions. Surveys of the extent of cadmium concentrations in beans from the region indicate that between 30% and

50% are above acceptable limits. Local institutions are not prepared to cope with these new standards, neither in terms of surveillance nor the implementation of good agricultural practices.

## **Expected Results**

### **Harmonization of methods for cacao sampling and the measurement of cadmium levels in cocoa and soils according to international standards**

The first activity will set up ring tests with representative cacao bean and soil samples to determine cadmium levels. Second, empirical research will be conducted on treatment methods for bean sample and sampling sizes (homogeneity tests) in the field. This is expected to lead to guidelines for laboratories and assist the governments in setting up accreditation schemes to prepare the countries for adequate inspection and certification programs.

### **Improved mapping baselines and mapping capacity for the zoning of vulnerable areas**

A map of vulnerable areas in the two countries, based on harmonized methods and data on cadmium levels in cacao beans, will be developed. Data will be collated and complemented through the sampling of cacao beans and geostatistical analysis to produce cacao maps for soil and bean cadmium concentrations in Colombia and Ecuador.

### **Development of scientifically sound and context-relevant guidelines on good agricultural practices**

Existing strategies, literature and information from ongoing projects will be used to develop guidelines for cacao producers and the governments. This will result in an easy-to-interpret handbook developed for strategies to mitigate cadmium levels. This work will contribute to the work of the Codex Committee on Contaminants in Food towards the development of a code of practice for the prevention and reduction of cadmium contamination in cocoa beans.