Cacao Agroforestry & Climate Adaptation

EUDR Context

Field	Value
eudr_commodity	cacao
country_focus	Colombia
eudr_article9_field	deforestation_risk_assessment
eudr_evidence_type	satellite_verification
deforestation_risk	low
last_updated	2026-05-26

Overview

Cacao is inherently an understory crop that evolved under tropical forest canopy, making shade-grown agroforestry the production system most aligned with both EUDR objectives and climate resilience. Cacao agroforestry systems integrate cacao trees with upper-canopy timber species, fruit trees, and nitrogen-fixing shade species, creating multi-strata systems that maintain forest-like structure. These systems are characterized by high structural and floristic diversity, with common companion species including timber trees (Cordia alliodora, Cedrela odorata), fruit trees (avocado, citrus), nitrogen fixers (Inga spp., Erythrina spp.), and native canopy species.

From an EUDR perspective, shade-grown cacao agroforestry represents a low-deforestation-risk production model because it preserves tree cover, maintains carbon stocks, and does not require forest clearing. Satellite-based deforestation monitoring systems can distinguish between shaded agroforestry (which retains canopy cover) and full-sun monoculture (which removes it), providing an additional verification layer for EUDR compliance. Research in the Colombian Amazon has demonstrated that cacao agroforestry landscapes store significantly more carbon per hectare than pastureland, contributing to both EUDR compliance and climate mitigation.

Climate adaptation is critical for cacao's long-term viability. A 2026 study warned that Colombia may lose one-fifth of its suitable cacao areas by 2050 due to rising temperatures, with northern Colombia, parts of the Orinoquia plains, and scattered Pacific coast zones facing the steepest declines. Shade-grown agroforestry systems provide natural climate buffering through canopy microclimate regulation, reduced soil moisture evaporation, and wind protection — making them more resilient to temperature extremes than full-sun systems.

Colombian Context

Colombia's cacao agroforestry tradition is strong, particularly in Santander where most cacao is grown under shade canopy alongside timber and fruit trees. The Cocoa, Forests and Peace agreement (signed in 2018) promotes cocoa agroforestry models that limit the agricultural frontier and protect forest margins. In the Colombian Amazon (Caqueta, Putumayo), the World Cocoa Foundation has supported sustainable cacao as an alternative livelihood to coca cultivation, using agroforestry models that integrate native tree species.

Research at CIAT (now part of the Alliance of Bioversity International and CIAT) has mapped cacao production system types across Colombia, finding that multifunctional agroforestry systems deliver acceptable cacao yields while contributing to food security, economic diversification, and climate resilience. Key cacao varieties cultivated in Colombia include regional clones selected for fine-flavor profiles and disease resistance (particularly to frosty pod rot, Moniliophthora roreri), as well as improved clones from Corpoica (now AGROSAVIA) breeding programs.

The intersection of cacao agroforestry with silvopastoral systems is particularly relevant in Colombia's agricultural frontier zones, where cattle ranching is the primary deforestation driver. Integrating cacao agroforestry corridors into silvopastoral landscapes creates tree-cover connectivity that supports both EUDR compliance and biodiversity conservation. This landscape-level approach links cacao production directly to the existing taxonomy node CT-EX-007 (Silvopastoral systems).

Cleantech Taxonomy Nodes

Key existing nodes: CT-AF-002 (Forests and Woodlands — the forest preservation dimension of shade-grown cacao), CT-EX-005 (Community-led reforestation and agroforestry — smallholder cacao agroforestry as a reforestation pathway), CT-EX-007 (Silvopastoral systems — landscape integration of cacao agroforestry with cattle areas), CT-EX-001 (Drought-resistant crop varieties — climate-adapted cacao genetics), CT-EX-003 (Heat adaptation for agriculture — shade canopy as heat mitigation).

Proposed new nodes: CT-EX-023 (Cacao agroforestry carbon and biodiversity monitoring) — covers tools for measuring and verifying the carbon storage and biodiversity outcomes of cacao agroforestry systems, supporting both carbon credit generation and EUDR evidence of forest-positive production. CT-EX-026 (Cacao climate adaptation and varietal resilience) — covers genetic improvement programs, climate-smart varietal selection, and adaptation strategies to maintain cacao productivity under changing climate conditions.

Revisión #1
Creado 2026-05-27 03:57:25 UTC por Gideon Blaauw
Actualizado 2026-05-27 03:57:25 UTC por Gideon Blaauw