

Agriculture in Balance with Nature

Biodiversity in Agricultural Value Chains

The forest & biodiversity on our plate

Food systems are among the main drivers of **biodiversity loss** and at the same time agriculture is highly dependent on biodiversity. Many crops rely on pollination, soil fertility and water quality.

90% of deforestation is caused by agricultural expansion. Forests are unique ecosystems and home to about **80% of known animal, fungi, and plant species**. Forests provide important ecosystem services and play a crucial role for climate regulation. Yet, there are **1 million** species on the verge of going extinct.

To address **biodiversity loss** and **avoid deforestation**, we are to consider the connection between **consumption, production and agriculture**.

Social and economic aspects

The loss of biodiversity has a devastating socioeconomic impact, including for indigenous peoples and local communities (IPLCs). 70% of the world's poor are dependent on **wild species, which provide crucial ecosystem services. These include pollination, which is key not only for biodiversity but also for livelihoods.**

What about cocoa?

Cocoa is one of the world's largest agricultural **drivers of deforestation**. Farmers, particularly small-scale producers, often do not have **secured land tenure**, which disincentivizes them to invest in **sustainable land management**.

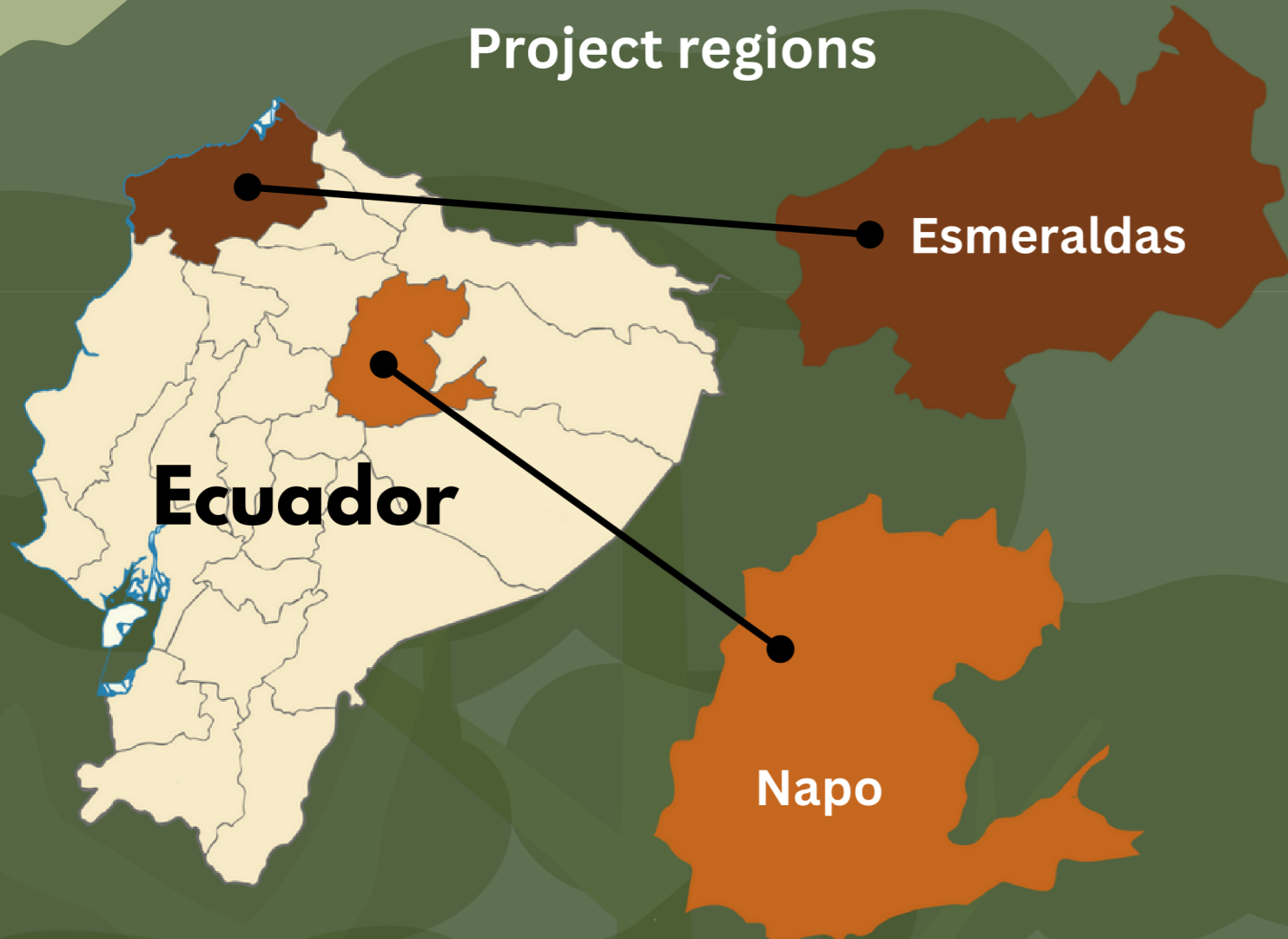
Globally, a large part of the cocoa harvest is exported. The main **value creation** takes place outside of the producing countries, leaving farmers with low incomes and vulnerable to fluctuating market prices.

How do we get to biodiversity-sound cocoa production systems and value chains?

Through sustainable use of naturally occurring cocoa and chakra systems in this case.



Project regions



Cocoa from indigenous Chakra Systems

The project 'Indigenous Amazonian Chakras for a sustainable cocoa supply chain' aims to establish a **sustainable, deforestation-free and transparent cocoa value chain** between Ecuador and Europe. **By taking a socio-ecological approach livelihoods** - including of IPLCs - are secured and **biodiversity** is conserved.

Chakra System

Indigenous agroforestry system based on traditional methods, practices, and knowledge; Chakra = "nature" in Kichwa.

Social benefits

- Culturally sensitive and locally demanded revitalisation of indigenous culture and knowledge
- Empowerment of women and indigenous peoples

Economic benefits

- Income diversification
- Fairness, rights, & equitable distribution of benefits
- Market feasibility through sustainable production & consumption

Political benefits

- Community participation & good local governance

Environmental benefits

- Ecosystem services
 - Organic, deforestation-free cocoa
 - Soil health & quality
 - Climate change resilience
- Biodiversity protection
 - Habitat for pollinators & other animals
 - Bio-corridors
- Genetic and biological diversity
 - Endemic species of cocoa (white cocoa)



Indigenous knowledge

- Chakras are deeply rooted in the culture of the Kichwa people and part of respective indigenous worldview
- **Indigenous knowledge is put into practice** by WIÑAK, Tsatsayaku, Kallari as well as Aprocane in the production, processing, and distribution of cocoa

Sustainable use of wild species

- Up to 100 species that strengthen each other:
 - Naturally occurring & agroforestry-based cocoa
 - Crops: banana, cassava, pineapple, coffee etc.
 - Medicinal plants
 - Other wild species (vanilla, orchids)
- IPLCs sustainably harvest species for subsistence and commercial use

Role of Women

- Traditionally, women manage the Chakra system
- Gender-transformative approach: project empowers women in predominantly male-dominated cooperatives
- Culturally sensitive trainings on leadership

Primary production



Chocolate manufacturer



Chocolate bar



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