



Cocoa agroforestry in the Brazilian Amazon

Food security and livelihood development in an agricultural frontier

Brazil

Size: 8,515,767 km²
Population: 200.4 million
Capital: Brasilia

Food security is declining

Natural resources in the Brazilian Amazon have been rapidly depleted due to changes in human activities over the past decades. The loss of 75 million hectares of forest and related ecosystem services is leading to a decline in food security.

Cattle ranching is increasingly popular with small agricultural landowners

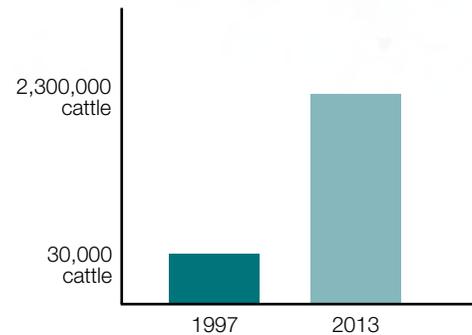
In the eastern municipality of Sao Felix do Xingu (SFX), farmers who once focussed on crop cultivation are now turning to cattle ranching due to agricultural price instability and the emerging regional demand for beef. The adoption of cattle ranching by smallholders raises concerns about livelihood transformation and food security, as well as the environmental costs of ranching expansion in the region.

Raising livestock on a small scale can pose many risks, including:

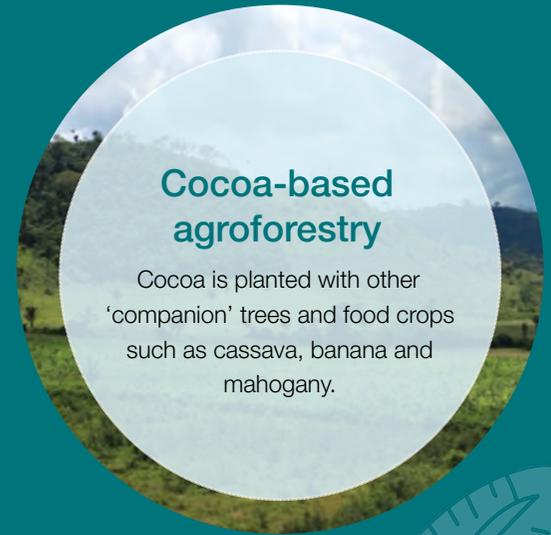
rapid soil degradation, expensive pasture restoration, and uneven market relationships with larger farmers or middlemen. In the current socio-economic context, cocoa-based agroforestry is one of the only alternatives that can out-perform livestock in terms of income generation.

Cocoa-based agroforestry systems represent a profitable long-term alternative to grazing

Cocoa is a global, high-demand commodity with an established market chain and the potential for high economic return. Cocoa-based agroforestry presents a promising opportunity for restoration, while strengthening food security among small-scale farmers in critical Amazon development frontiers.



Increasing by over 2.3 million animals between 1997 and 2013, SFX is now a leading cattle producer in Brazil.



How companion trees work

Cocoa forms the understory below a canopy of companion trees which support a range of functions:

Companion trees provide shading and micro-climatic protection for young cocoa trees

Companion trees can be used and/or sold (food, timber, fuelwood)

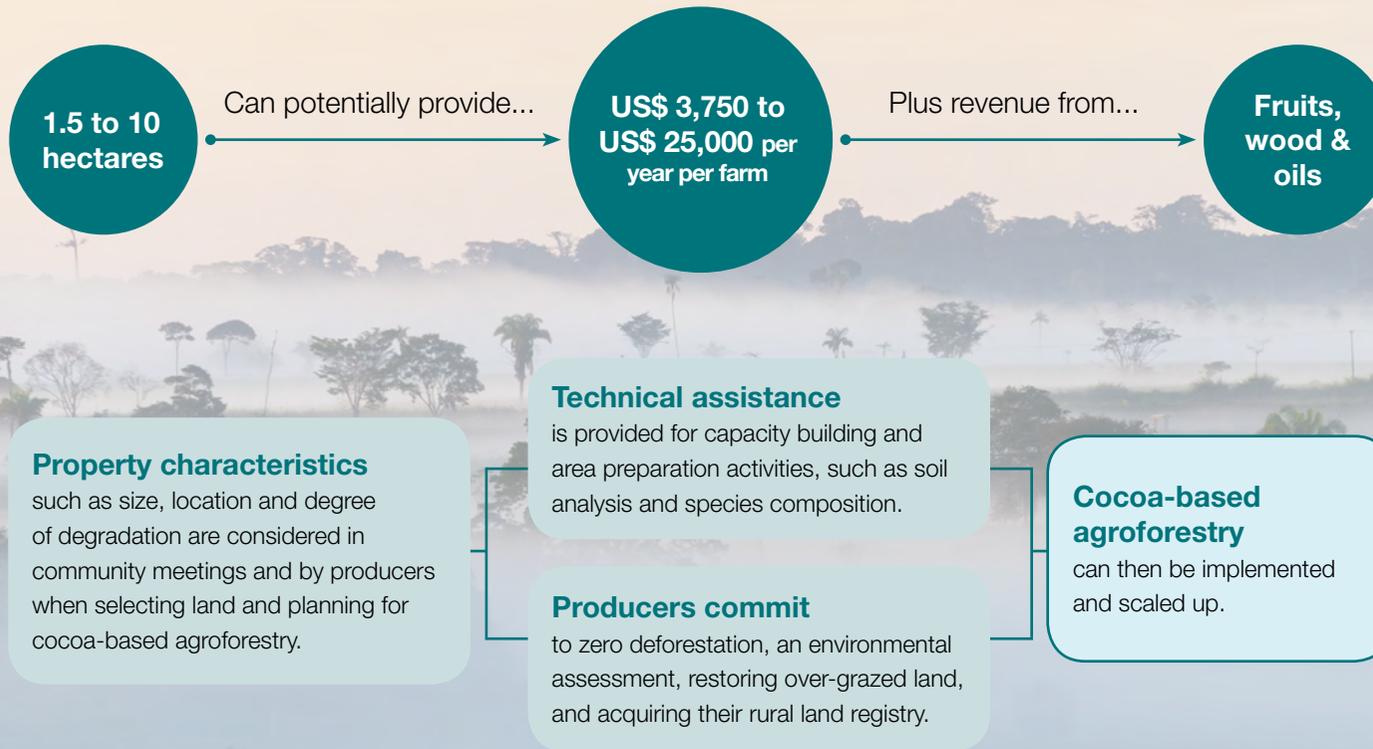
They maintain soil fertility and host pollinators and predators of cocoa-pests

They support natural water, energy and nutrient cycles and promote biodiversity

Global benefits include increased carbon sequestration and reduced emissions compared with the historically common scenario of planting cocoa after forest clearing

Implementing cocoa-based agroforestry

Almost the size of Portugal, SFX is located in one of the most deforested areas of the Amazon. In 2011, The Nature Conservancy and partners began restoring the region's degraded pastures.



The project takes a multi-stakeholder approach, engaging grassroots organisations, government agencies and the private sector. Working with farmers means that mobilisation and adhesion to the project is gradual, but essential to its success and sustainability.

The project now works with over 60 small landholders



Photos: Eivaldo Alves and Márcio Queiroz

Forest Landscape Restoration (FLR) and Food Security

FLR has the potential to re-establish ecological integrity and enhance human well-being in deforested or degraded forest landscapes. It involves people coming together to restore land through seven place-based interventions.

Food security exists when all people have ongoing physical, social and economic access to sufficient, safe and nutritious food. These seven FLR interventions contribute to the security of food resources by increasing agricultural productivity and diversification while reducing resource depletion and vulnerability.

This factsheet illustrates the benefits of agroforestry:



Planted forests



Natural regeneration



Silviculture



Agroforestry



Improved fallow



Mangrove restoration



Erosion control

This factsheet is excerpted from:

Gomes, C., Garcia, E., Alves, E. and Queiroz, M. (2015). 'Cocoa agroforestry system as an alternative for degraded pastureland restoration, food security and livelihoods development among smallholders in a Brazilian Amazon agricultural frontier.' In: Kumar, C., Begeladze, S., Calmon, M. and Saint-Laurent, C. (eds.). *Enhancing food security through forest landscape restoration: Lessons from Burkina Faso, Brazil, Guatemala, Viet Nam, Ghana, Ethiopia and Philippines*, pp. 42-69. Gland, Switzerland: IUCN.

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