



Cocoa Agroforestry at Ofi: An opportunity for ecologically, economically and socially resilient landscapes

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Léonie. Bonnehin Verrier

Arsène Gondo Gbogbo

Andrew Brooks



Femmes transportant des plants aux champs pour le plantage. Hermankono Garo. Photo Soro Ghegnigui 15 septembre 2021

Context: Cocoa, the driver of deforestation in West Africa.

Côte d'Ivoire and Ghana are the two main cocoa producers with about 60% of the world production. These countries are also known to be the countries with the highest and fastest rate of deforestation linked to agriculture. In Côte d'Ivoire, agriculture is responsible for 62% of deforestation, of which 38% is in the cocoa sector (SEP - REDD+CI 2016).

It has been clearly established that growing cocoa in full sunlight contributes to deforestation and to the emission of greenhouse gases responsible for global warming. It is therefore necessary to change the paradigm: fight against the effects of climate change on cocoa farming, reduce carbon emissions to create favourable conditions for agriculture, including cocoa farming.

Facteurs directs de la déforestation en Côte d'Ivoire		
Expansion de l'agriculture		62 %
Dont :		
1	Cacao	38 %
2	Hévéa	23 %
3	Palmier	11 %
4	Anacarde	7 %
5	Riziculture	6 %
6	Café	5 %
7	Cultures vivrières	5 %
8	Autres cultures	4 %
Source : SEP -REDD+CI FAO, 2016		



- Cocoa as a potential driver for reforestation through agroforestry

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- Due to its status as a driver of deforestation, cocoa now accounts for the majority of agricultural land in West Africa:
 - about 75% of cultivated land (SEP-REDD+, FAO 2016)
 - 2522170 Ha of cocoa farms (CCC 2020) in Côte d'Ivoire
 - Its ecology makes it a natural candidate for cultivation under tree cover
 - Cocoa farming employs the largest number of rural workers;
 - about 1000000 of producers in Côte d'Ivoire (CCC 2020)

The Agroforestry action plan in Ofi supply chain :

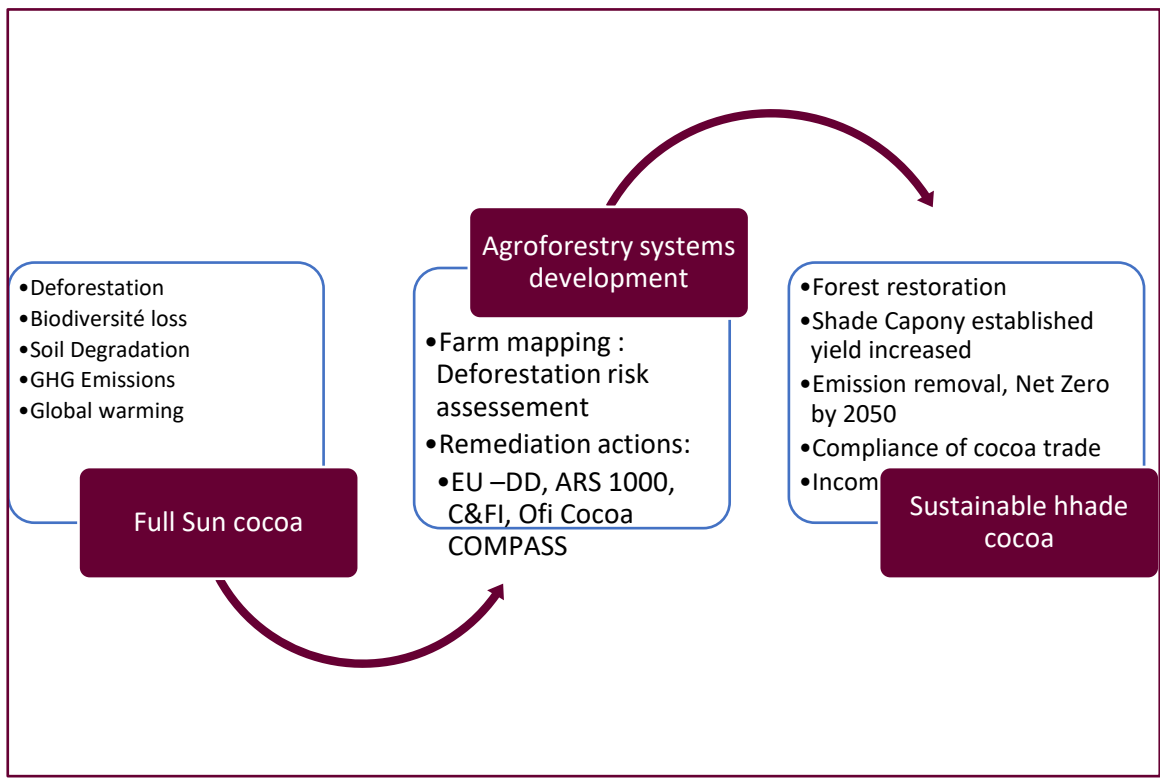
Our Objective:

- putting the entire supply chain under agroforestry by 2025 ;
- Monitor tree survival rate from year N+1 after the planting over 3 years, 80 % survival rate assumed
- Satellite monitoring Global forest Watch ; Ground truthing /sylvicultural monitoring

On- farm agroforestry in the sustainability programmes: Where are we? What are we doing and what is expected?



A transitional phase from full sun Cocoa to shade Cocoa production (2019 to 2025)



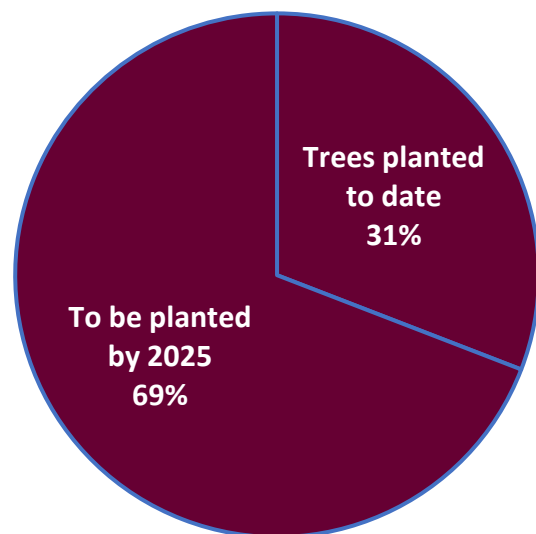
Our Interventions

- Farms Mapping
- Agroforestry on-farm requirement assessment for all sustainability programmes
- Awareness raising and training of extension agents and producers
- Production and distribution of shade trees to cooperatives and producers
- Planting in cocoa plots and maintenance by producers (20 plants/Ha)
- Digitalization of the distribution and planting process (OFIS DSE and ODK records)
- Monitoring and evaluation (survival rate in year N+1 after planting over 3 years: 80% assumed; silvicultural monitoring: ground truthing by tierce party; satellite monitoring with GFW- Pro)

On- farm agroforestry in the sustainability programmes in Côte d'Ivoire : Where are we? What are we doing and what is expected?



Status of shade trees distribution in all sustainability programmes in Côte d'Ivoire (Ofi & Clients) N= 5 923 085 trees



Nota Bene: The remaining 69% of trees are the targets for all sustainability programmes from 2022 to 2025 .(N=4 057 476)

Summary of the baseline data of the supply chain and tree distribution scheme

Designation	Shade trees		Trees already distributed	Trees to be distributed by 2025
	Quantity	%		
Trees requirements (20 trees/ha)	5923085			
Trees distribution scheme				
18-19	571291	10	1865609	4057476
19-20	469634	8		
20-21	824684	14		
21-22	993858	17		
22-23	1021206	17		
23-24	1021206	17		
24-25	1022206	17		
Total				
%		100	31	69

On- farm agroforestry in Ofi sustainability programmes: Where are we? What are we doing and what is expected?



With Agroforestry, let's kill five birds with one stone

On-farm shade trees

Mitigating the effects of global warming: Resilience of cocoa plantations to high tem stress with the shade canopy

Sequestration of CO2 , Reduction / removal of GHG =SBTi Scope3 40 to 50 % by 2030; Net Zero by 2050

Compliance of the cocoa trade with the regulations of the main cocoa markets (EU UK USA)

Biodiversity in the agroecosystems = use of native tree species of which some are vulnerable or endangered according to the IUCN red list

Management of water quality and quantity (reduction of runoff speed, enhancing rainwater infiltration)

Diversification of productions =Development of new less carbon value chains based on non-timber forest products

Species distributed

+ 15 species in total
3 -4 Species /region

Specis

Fraké

Framiré

Niangon

Makoré

Kplé

Acajou

Akpi

Poé

Poivre long

Ilomba

Petit kola

Bois bété

Bilè

Ako

Research Questions



The research questions to be addressed to ensure the compliance of agroforestry systems and the achievement of our objectives relate to the growth and development of planted trees according to species, agroecological zones and agricultural practices:

At what age will the shade canopy become established?

Will the expected carbon volume be achieved?

What is the income diversification potential of agroforestry in cocoa basins?

What is the biodiversity index in the cocoa landscape?

What is the phytosanitary status of cocoa agroforestry landscapes?

What are the tree-cocoa interactions?

Conclusion



In conclusion, I am convinced that cocoa-based agroforestry systems in West Africa can be included in the next edition of the book by Christian Kuchii (1997): THE FORESTS OF HOPE; stories of regeneration