AgroSylviMob

Erasmus+ Project – KA220_Cooperation Partnership (2023/26)

PROJECT IN AGROFORESTERY : CREATE INCLUSIVE TRAINING PATHS

Kick off in Rouffach 29/11-1/12/2023

1st WORKSHOP (28/11/2023)

- What is Agroforestery?

- Why Agroforestery?

- How Agroforestery?

The example of Agroforestery in Mayotte Island

What is Agroforestery?

"Agroforestry is the development of the soil with a combination (simultaneous or sequential) of woody trees and crops or animals in order to obtain products or services useful to humans" (Torquebiau, 2007)

What is Agroforestery?

5 types of Agroforestry

- Crops under tree cover: market gardening, berries
- Agroforest: forest plantations (shade plants like coffee, cocoa, vanilla, etc.). °
- Agroforestry in line availability
- Animal agroforestry
- Sequential agroforestry

Structuration de l'espace agroforestier en ilots

0,48 ha

4 ilots de culture

Typologie d'ilots forestiers

RITA MAYOTTE
Réseau d'innovation
et de transfert agricole

Type 1	Type 2	Type 3

Agroforestry island in low Density and Tree cover

Agroforestry island with high Tree density Fruit Trees & Cover Variable Tree

Agroforestry island in Forest atmosphere

Agroforestry island in low Density and Tree cover:

- < 200 Trees/ha   // Weak blanket Tree // Little Valuation of trees

- Low value-added sales • Market gardening • Pineapple

- Self-consumption • Food crops • Food Supply

Agroforestry island with high Tree density Fruit Trees & Cover Variable Tree

- >= 200 Trees/ha // Blanket Tree variable // Presence of the tree Important, managed by Strategy of replacement

- High value-added sales (Aromatic, perfume and medicinal plants) • Market gardening • Orchards - fruit trees

- Self-consumption • Food crops • Food Supply • Feeding Animal•

Agroforestry island in Forest atmosphere

- >= 200 trees/ha // • At least 50% Species Classified Forestry (OFDM)• Strong coverage // Agroforests with less anthropogenic action

- High value-added sales (Aromatic, perfume and medicinal plants UNDER Forest)

- Self-consumption • Feeding Animal •

Which crop, which tree??

Tree Woody; H >= 7m at maturity

- Foresters (e.g. Acacia mengium)

- Fruit trees (e.g. mango tree)

- Food (breadfruit)

- PAPAM (e.g. Ylang)

Shrubby Woody; H <= 7m at maturity

- Fruit trees (e.g. guava tree)

- PAPAM (e.g. coffee)

- Fodder (e.g. brown avocado)

Herbaceous

Non-woody plants

- Fruit tree (e.g. passion fruit)

- Market gardening (e.g. chilli)

- Food crops (e.g. bananas)

- Fodder (e.g. cane fodder)

- PAPAM (e.g. turmeric)

For what??

For the farmers

- Improved production
- Modification of the microclimate favorable
- Better pathogen control Pests
- Improved fertility
- Sociological amenities (landscape, comfort to work…

For the society

- Better management of natural hazards and against erosion
- Climate Change Mitigation
- Protection of aquifers
- Protection of biodiversity

Variable performance of agroforestry systems

Low-input systems with tree management that relies primarily on replacement of non-productive species by fruit species + tree size.

• Agronomic: high species richness - on average 11 different species exploited (+/-8).

• Environmental: A potential biodiversity that is a priori homogeneous between the different SAFs.

•Economic:
  • A substantial family workforce: 1.45 FTE/UAA operated, of which about 25% are family workers
  • Value added between €3,000 and €8,000/year depending on production allocation strategies and superficy.

Biodiversity service and regulation of pests

Effect of tree diversity:
- Variability in susceptibility of crop plants
- Variation in plot or leaf/soil microclimate
- Barrier effect on the diseases
- Diversity of ecological niches

Factors and requirements

Climate Change Mitigation ➢ Conversion of an agricultural plot into a system agroforestry.

Increase in production ➢ Balance to be found with shading and quality of yield.

Contribution to the creation of suitable habitat for biodiversity ➢ Involves having uncultivated areas under the sufficiently wide and grassy trees, trees developed and integrated management in a framework Green.

Supporting Pollinator Populations ➢ Implies that there is significant biodiversity.

Soil protection➢ Involves having enough trees well positioned in relation to the Flows

Beware of antagonisms!

o Production (yield) vs Microclimatic

o Parcel water balance / support for low water levels watercourse

o Nitrate control / carbon sequestration

Not so easy…

- Absence of mechanization and arduousness of the work

- Complex planning and difficulty in integrating a supply chain stable marketing

- Complexe Mastery of the Diversity of species

- Competition (space, light, mineral, water, etc.)

Agreological practices

Agroforesterie animale

Husson Clara. Mars 2023
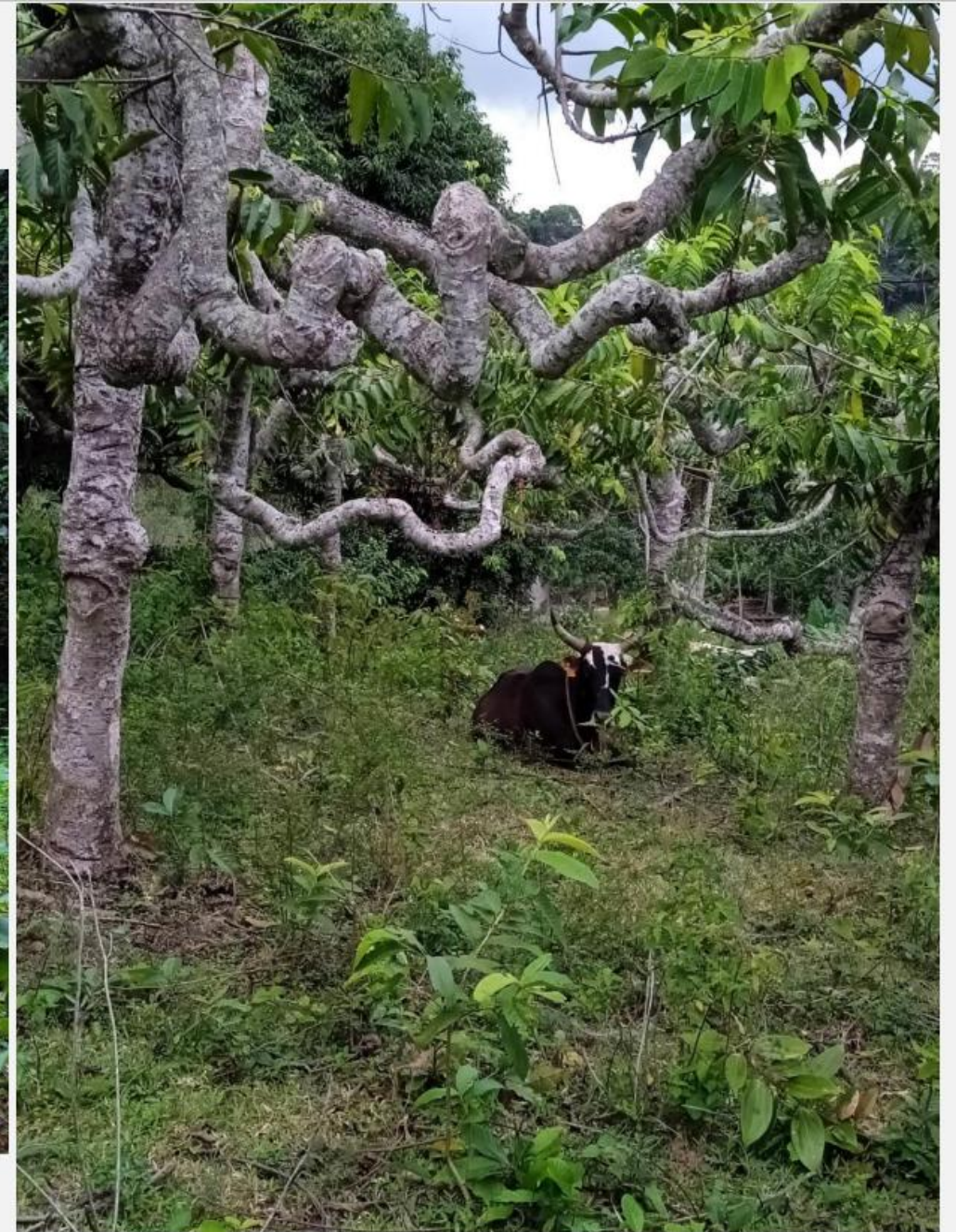
Paillage et cultures intercalaires

Couverture du sol

Amélioration de la productivité

Husson Clara. Mars 2023

Exemples d'auxiliaires

Pucerons et larve de syrphe

Pucerons et larve de coccinelle