



# WHAT IS SYNERGY?

Synergy is the essence of agroecology, as it represents the vital ecological interactions between different elements of the agroecosystem in both time and space.

Instead of focusing on external inputs and specialisation, it relies on the interactions between plants, animals, trees, soil and water to create a system that imitates and reinforces the complexity of nature in order to mitigate climate change, create economic diversity and enhance biodiversity.

# WHAT PRACTICES ENHANCE SYNERGIES IN FARMING AND FOOD SYSTEMS?

Agroforestry

Crop Rotations

Intercropping Pastoralism

Mixed Farming

Integrated rice systems

## Mixed Farming

Mixed farming consists in deliberately integrating crop and livestock production in order to enhance complementarities and synergies. Mixed farming can occur at the plot, farm, community or landscape level in either a spatial or temporal interaction.

Includes:

- The integration of crops and animals on a single farm.
- The integration of crops and animals on a single farm, while sharing space either at the same time or in rotation.
- Neighbouring farms working in collaboration with one another and allowing animals to graze on arable land.
- The exchange of resources like manure or straw between neighbouring farms.



# Transhumance

A type of pastoralism that moves livestock between geographic locations depending on the season.

During winter, late autumn and early spring pastoralists graze on arable lands, while during summer, late spring and early autumn, pastoralists bring their animals to mountainous regions maintaining woody vegetation in grassland landscapes and in forests.

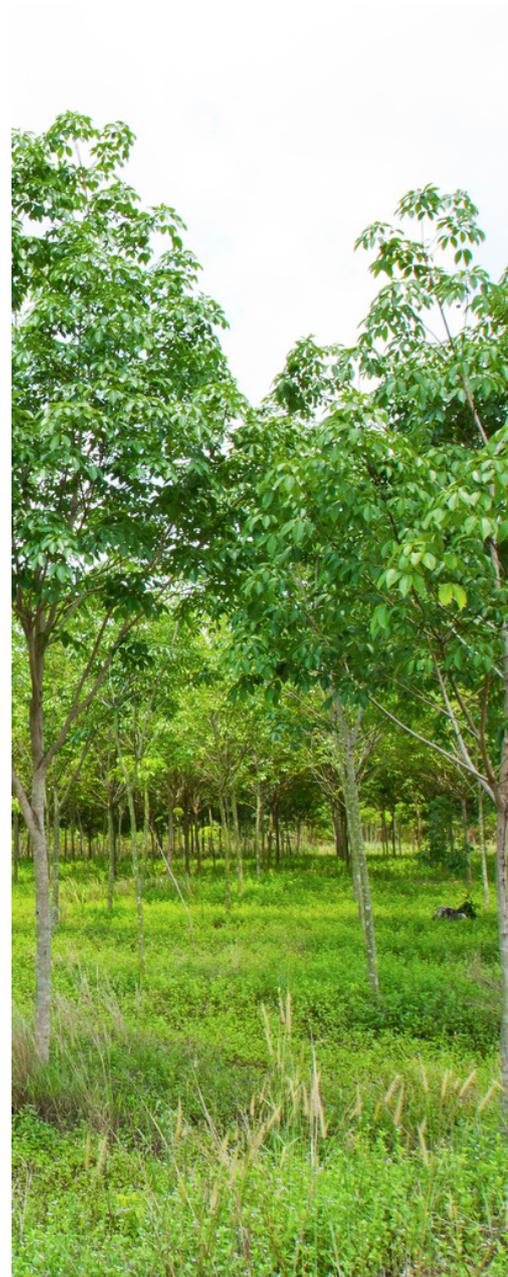


# Agroforestry

The intentional integration of woody perennials (trees, shrubs) with livestock and/or crops within agriculture.

Includes:

- **Silvopasture:** combining woody forage with pasture and animals
- **Silvoarable:** intercropping woody vegetation with annual or perennial crops
- **Hedgerows, windbreaks and riparian strips:** lines of natural or planted perennial vegetations bordering croplands to protect livestock, crops, soil and water quality
- **Forest farming:** naturally occurring forested areas used for production or harvest of natural speciality crops (such as mushrooms or medicines)
- **Homegardens:** combining trees and/or shrubs with vegetable production in the built environment, includes allotments





# Biological Nitrogen Fixation

It consists in using plants or animals to fix nitrogen in the soil instead of synthetic inputs. Biological Nitrogen Fixation contributes to soil health, climate change mitigation and adaptation.

Examples:

- Planting pulses by intercropping or in rotations
- Establishing crop and livestock integration in order to benefit from the nitrogen in animal manure.
- Using integrated rice systems which combine rice cultivation with fish or ducks in order to naturally fertilize.



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