

Agroforestry: Benefits and Services

Introduction

- ✚ Millions of people depend on ecosystem services.
- ✚ They are important for the well-being of society.
- ✚ These ecosystem services help reduce the vulnerability of the population (including those distant from it) and economic sector.



Ecosystem Services

- ✚ **What are ecosystems?** They are product of the attributes and functions of the ecosystem that benefits humanity. The function of any ecosystem generates services, but these can only be recognized as such when humanity acknowledges the benefit as a part of their social value.
- ✚ **What services does ecosystems provide?** They provide services at different scales. The Millennium Ecosystem, Assessment propose 3 types of services directly received by people:
 - Supply services
 - The services of regulation
 - Cultural services
- ✚ Ecosystem services contributes to human well-being through security; they provide basic materials necessary for survival, health and social relations.

Forest Ecosystem

- ✚ **Why is Forest Ecosystem important?** Forest Ecosystem, both natural forest and established forest by afforestation and reforestation, constitute one of the most important providers of ecosystem services.
- ✚ **What services do they include?** These services include:
 - Maintenance of air quality and favorable climate
 - Protection of hydrological functions and the provision of hydrological functions
 - The provision of water for consumption
 - The generation and maintenance of soils and their fertility
 - The protection of biological diversity,
 - Biological control of agricultural pest
 - The provision of wood and a wide range of non-timber products etc.

Ecosystem Services provided by Agroforestry

- ✦ **Agroforestry practices can:**
 - Increase biodiversity in food production systems, including soil microbial diversity
 - Provide habitat for multiple species by providing a “buffer zone” against deforestation and act as “green corridors” allowing species to migrate across landscapes.
 - Control soil erosion and improve micro climate on farms.
 - Reduce vulnerability to torrential rains, heat waves, pest infestation and diseases
 - Provide food, fodder for animals, fuelwood, medicines, and financial opportunities
 - Increase several ecosystems services related to water including flood prevention and buffering of flow in streams
 - Improve soil fertility and water use efficiency by integrating trees that can fix nitrogen and provide shade etc.
- ✦ Therefore, scientist, policy makers and development professionals are becoming increasingly aware and interested in AF because of the services it can provide such as:
 - Food and nutrition
 - Carbon sequestration
 - Soil enrichment
 - Biodiversity conservation
 - Improve air and water quality
 - Service of pollinators

FIGURE 1. ECOSYSTEM PROVIDED BY AGROFORESTRY

