The contribution of agroforestry to biodiversity conservation and food sovereignty

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Abstract

Worldwide there are about 1000 million hectares of agroforestry systems (AFS); the most frequent being shaded annual and perennial crops, silvopastoral systems, live fences, and windbreaks. Multistrata AFS such as homegardens can provide households with food and fuelwood as well as with high value products that generate cash while maintaining high biodiversity. The contribution of AFS to biodiversity varies according to the type of AFS, its management, component species, and position in the landscape matrix. The traditional, low intensive management multistrata AFS has the greatest potential to harbor the largest biodiversity. As management intensity increases, biodiversity decreases accordingly, however the inclusion of AFS in the landscape provides greater biodiversity than would otherwise be realized in conventional monoculture agriculture.

Many indigenous communities practice AFS using techniques that include residue management, enhancing nutrient recycling and conservation, and maintaining high species diversity, however often they remain marginalized and poverty and resource degradation prevail. Several international programs and projects are conducting research for development aimed at decreasing rural poverty and hunger while maintaining landscape integrity and ecosystem services. If properly designed and managed, AFS can contribute to achieving sustainable development targets by applying practices that have been used traditionally for generations and promoting innovations that continuously improve upon current best practices. Key to the success of such systems are: how to integrate the traditional knowledge with scientific knowledge on environmental and agricultural strategies to promote the most suitable systems for each situation; what types of AFS products and markets are most appropriate; how can smallholders access markets for trees and other AFS products, allowing them to capture more of their value; how can AFS scale out of particular situations and be disseminated at larger scales regionally and internationally. This presentation shows examples of projects and case studies illustrating these issues and pointing out remaining challenges.