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THE CONTRIBUTION OF AGROFORESTRY SYSTEMS TO ECOSYSTEM SERVICES

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ABSTRACT Agroforestry systems are traditional land management systems that have recently been under development in temperate zone. These systems are defined as sustainable ways using land which integrate both agricultural and forestry practices on the same land and at the same time. They are of particular significance to marginal regions and degraded lands where the land use system represents an alternative to land abandonment and afforestation, leads to diversification of land use and offers new socio-economic benefits. Agroforestry systems improve the efficiency of utilisation of natural resources, improve microclimatic conditions within the system, can help mitigate severe soil erosion problems and nutrient losses, enhance landscape biodiversity, lead to an overall high biomass production for material or energy conversion (fuel wood), and thus matching the increasing demand for a self-supplied bioenergy in rural decentralized areas. For this reason, temperate zone agroforestry systems attract more and more public attention as they offer a promising and comprising way for adapting agricultural production to Climate Change and providing comprehensive ecosystem services. A comprehensive assessment of the ecosystem services in agroforestry systems in temperate regions should consider the potential to produce biomass and food, the evaluation of the carbon and nutrient budgets, the assessment of the potential impact of agroforestry on biodiversity at landscape scale and finally the exploration of the sustainability functions and socio-economic cross-cutting issues. These key parameters are relevant to policy makers by providing current and reliable information on the interactions between land management, ecosystem services and society.

Keywords: Agroforestry, Ecosystem services.