

Agroforestry systems for multifunctional landscape and provision of soil-based ecosystem services

Ghaley, Bhim Bahadur^{1*}; Lehmann, Lisa Mølgaard¹; Smith, Jo²; Westaway, Sally²; Pisanelli, Andrea³; Lauteri, Marco³; Fereres, Elias⁴; Calderón, Rocío⁴; Borek, Robert⁵; Wawer Rafał⁵; Sandor, Mignon⁶; Gliga, Adrian⁶;

¹Department of Plant and Environmental Sciences, University of Copenhagen, Denmark. Email: bbg@plen.ku.dk;

²The Organic Research Centre, United Kingdom. Email: jo.s@organicresearchcentre.com; sally.w@organicresearchcentre.com

³National Research Council, Institute of Agro-environmental and Forest Biology, Italy. Email: andrea.pisanelli@ibaf.cnr.it; marco.lauteri@ibaf.cnr.it

⁴Department of Agronomy, University of Cordoba, Spain. Email: g32camam@uco.es; rcalderonmadrid85@gmail.com

⁵Institute of Soil Science and Plant Cultivation – State Research Institute, Puławy, Poland. Email: rborek@iung.pulawy.pl; huwer@iung.pulawy.pl

⁶University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca, Romania. Email: sandor.mignon@usamvcluj.ro; gligaadrian@gmail.com

*Corresponding author

^{1*}Department of Plant and Environmental Sciences, University of Copenhagen, Højbakkegård Alle 30, 2630 Taastrup, Denmark, Email: bbg@plen.ku.dk

Abstract

Agroforestry systems are encouraged in farming systems due to their multifunctional role in enhancing agronomic productivity, co-production of diversity of food products for balanced nutrition and provision of ecosystem services. There are diversity of agro-forestry systems that exists, but the information on these agro-forestry systems are scarce and unavailable. Hence, the objective of the study is to describe agro-forestry systems for production of range of agricultural produce and ecosystem services. In SustainFARM project, a network of six agroforestry systems integrating arable crops, livestock and biomass crops, were identified to assess the range of agricultural products and provision of ecosystem services. The agro-forestry systems produced food crops (e.g. wheat, barley, rye, oat etc.), vegetables (e.g. tomato, paprika, cucumbers, watermelons, lettuce, cabbage etc.), fruits (e.g. apple, pear, plum, apricot, olive etc.), meat (e.g. sheep, duck, poultry etc.) and dairy products (e.g. milk, cheese etc.) The agroforestry also produced fodder (grass and legume swards) and non-food products like woodchips or firewood for use as source of energy to meet household energy needs. The study demonstrated that the agro-forestry produces diversity of food products and suite of marketable and non-marketable ecosystem services in different production systems across Europe, which underscores the multifunctional role of agroforestry systems. Hence, the study provided a robust field based evidence on diversity of agroforestry systems and their multifunctional role in terms of provision of diversity of food products and ecosystem services in diverse contexts for informed decision making by land managers, advisory services, farmers and policy makers.

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