

From Biowaste to Agroecological Value: Lighthouse Demonstrations of Circular Practices in the Famagusta–Larnaka Living Lab (Cyprus)

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Abstract

The Famagusta–Larnaka Living Lab (FLLL), established within the Agroecology Partnership project ecoFABULAnds, operates in the Larnaka and Famagusta districts of Cyprus and focuses on supporting the agroecological transition of small-scale agricultural systems under arid and semi-arid Mediterranean conditions. By applying circular economy principles and promoting the sustainable use of local biomass resources, the Living Lab brings together farmers, SMEs, researchers, local authorities, schools, and civil society organizations to co-create and test innovative solutions for soil restoration, biodiversity enhancement, and resource efficiency. A network of lighthouse sites has been established to demonstrate agroecological practices and circular biowaste management under real farming conditions. These include Orthodoxos–Misos Food Packaging (Xylofagou), where crop rotation and the reuse of treated brackish water support sustainable vegetable production; Farmer’s Fresh & Healthy Products Ltd and EMBIO Diagnostics (Dromolaxia), where food waste and pruning residues are valorised through composting; and the Tsiampartas Agroforestry Field (Aradippou), showcasing biodiversity-based soil regeneration through multi-layer agroforestry systems. Additional lighthouse sites include To Pervoli tou Theodorou (Maroni), an organic olive farm applying sustainable land stewardship practices, Aparthenasa, a regenerative olive-growing estate focused on soil health and terroir-driven production, and Ioannou Farm (Avgorou), where sweet potatoes are cultivated in the fertile red soils of the Kokkinochoria region. Kouloumbri Farm (Dali) serves as a pilot site for the application of biochar and soil amendments in forage production systems, while Ayia Varvara Primary School integrates raised-bed experiments and environmental education activities to promote soil literacy among younger generations. Through workshops, field visits, and stakeholder dialogues, the FLLL facilitates the co-production of knowledge and the identification of agroecological practices adapted to Mediterranean dryland conditions. The initiative aims to develop a replicable model for circular bioeconomy and sustainable land management that can be transferred to other Mediterranean regions facing similar environmental challenges.

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