
PROTECT, RESTORE AND PROMOTE SUSTAINABLE USE OF TERRESTRIAL ECOSYSTEMS, SUSTAINABLY MANAGE FORESTS, COMBAT DESERTIFICATION, AND HALT AND REVERSE LAND DEGRADATION AND HALT BIODIVERSITY LOSS

**THE - Impact Rankings 2025**

## 15.2.5. Sustainable Management of Land for Agriculture

The Kalasalingam Academy of Research and Education (KARE) has Agricultural Farm at Campus, Alagapuri and Gopinayakanpatti for students class purpose and for large scale cultivation of different field crops. The farm at Alagapuri has wide range annual and perennial horticultural crops. The Management of KARE is always fallows sustainable crop management practices in all the aspects of crop production. The KARE aims maintain the Sustainability the farm is classified as wet land, Garden land and dry land where the ecological specific crop cultivation practices were adopted. Seed is the primary living source for any agricultural activity. The crop growth depends always on the basis of Qualitative characters of seed. To produce quality seed KARE is a registered seed producer under Government of Tamil Nadu and involved in quality seed production of both Agricultural and Horticultural crops. To meet the crop nutrient requirement on campus *in-situ* resource recycling technology is adopted. The crop residues and all agricultural farm wastes are collected and cut into small pieces using shredder and the materials was formed as long narrow bed with 1m width and allowed for microbial decomposition. To enrich the microbial decomposition process cow dung slurry is sprinkled and manually turned once in forthright for aeration. To enrich the compost nutrient content, the decomposed material is fed in to vermicompost tank and earthworm are released. The vermi compost is collected, sieved and used as an organic manure source for crop field. To faster the initial microbial decomposing process, the NPOF waste decomposer is used for mass multiplication. The Nutrient rich vermicompost reduce the external fertilizer requirement and helps in sustainable nutrient management of Crops. To maintain the soil health green manaure

crop of Sun hemp and Daincha are culitivated once in a year and *in-situ* incorporated in to the soil. The farm available green leaf manure crops of Neem, Pungam and *Thespesia* were collected and incorporated in to the soil for sustaining the soil health status. For the constant improvement of soil fertility status and health in all ecosystem any one pulses crop is cultivated in all field once in a year. For the Insect and Pest management KARE always adopt the integrated pest management methods were more focus on non chemical methods. As a proverb said KARE always prevents the Pest rather than control by adapting non-chemical methods. The method includes Yellow or Blue sticky trap, Pheromons, Parasitoid and Leaf extracts and plant oils. For the weed management in crops, Integrated weed management practices were followed during the critical crop weed competition period there by its conserve the biodiversity of species. The mechanical weed management methods *viz.,* manual and power weeders are used for weed management. Weeds removed by hand weeding are collected and converted in to the nutrient rich organic manure sources for crops. To prove KARE sustainability, in campus farm a Integrated Farming system model was established with proper recycling of resources. This model Components includes Crop + Poultry + Fish Farming. The crop chaff grains are used as poultry feed material and the dropping of poultry is used as a feed for fish and fish pond tank silt were used as manure for crops. The resource flow indicates that the mutual benefit of once component from another and thereby the sustainability.

Microbial Composting Unit


Vermicompost Unit


Integrated Farming system Model