# FUTURE PLANS/ THRUST AREAS

## Strategies and Framework

### SILVICULTURE & AGROFORESTRY

SAF is main discipline where precision silviculture and agroforestry interventions determines the component of forests, plantations and agroecosystem. The seedling production technology, plantation technology, carbon sequestration and carbon trading, climate resilient trees and agroforestry system, NTFP based agroforestry, tree crop interactions and value chain model development for industrial agroforestry are the core areas of future research along with excellence in Forestry education and extension. As per the Vision 2050 document of Forestry the focused areas are:

- ✓ Evaluation of different Agroforestry systems for land use planning
- ✓ Evaluation and characterisation of new and existing Agroforestry models with major crops, fruits, vegetables, spices, medicinal and aromatic plants, with fast growing and commercially important timber and fruit ideotypes to increase productivity and adoptability
- ✓ To develop and promote industrial based AF models
- ✓ Study Tree-Crop Interface (TCI) of different Agroforestry models to evolve systems with enhanced productivity on judicious resource use
- ✓ To study the allelopathic effect of trees on crops
- ✓ Study Silvics of commercial as well as local Lesser Known Tree Species (LKTS) of Gujarat

- ✓ Promotion of multitier/homestead garden through integrated farming system in south Gujarat
- ✓ Refine architectural management practices like canopy and root management by pruning and training in established plantations for enhancing biomass production, soil binding, nutrient cycling and water yield
- ✓ Development of hi-tech nurseries for production of good quality planting stock of commercial tree species for plantation and agroforestry
- ✓ Improvement of livelihood and socio-economic status of tribal people through Agroforestry
- ✓ Determination of carbon sequestration potential of tree species under different land-use systems
- ✓ Research and development studies on *Meila dubia* for its holistic utilisation
- ✓ To study the below ground root biomass for tree-crop interaction and its impact on resource conservation
- ✓ Promotion of short rotation forest species for industries
- ✓ To check feasibility of long rotation valuable species like Red Sanders (*Pterocarpus santalinus)*, Sandalwood (*Santalum album)*, Agarwood, Arjun, etc. and promotion *via*. agroforestry
- ✓ Development of industrial agroforestry value chain model for paper and pulp, plywood and other industrial woods
- ✓ Carbon trading or carbon finance through different plantation for industries, on degraded lands, shelterbelt plantation, agroforestry, etc., by developing operational guidelines and procedures for carbon credit
- ✓ Development and promotion of aqua-forestry models for coastal regions of Gujarat
- ✓ Development of volumetric equations for important tree species *e.g*. Melia, Casuarina, Eucalyptus, Teak, Australian Babul, Khair, Mango, Leucaena, Terminalia spp., etc.