

Lec.10 Agroforestry Systems for seven agroclimatic zones of Tamil Nadu

I. Suitable agroforestry practices for northeastern zone of Tamil Nadu

1. **Districts** : Chennai, Kanchipuram, Thiruvallur, Cudallore, Vellore, Thiruvannamalai, Vilupuram
2. **Annual Rainfal** : 1054 mm
3. **Soil Types** : Red loam, red sandy loam, black clayey and black clay loam to limited extent, saline alluvial in sea coast
4. **Major Crops** : Groundnut, sesame, rice, bajra, ragi and sugarcane
5. **Dominant tree species** : Casuarina equisetifolia, Thespesia populnea, Pongamia pinnata, Lannea coromondalica, Anacardium occidentale
6. **Major agroforestry practices** :
 - a) Monoculture of *Casuarina equisetifolia*
 - b) Intercropping of groundnut, sesame and pulses with *C. equisetifolia*
 - c) Band planting of *Thespesia populnea* and *Lannea coromandalica*
 - d) Monoculture of *Acacia auriculiformis*
 - e) Intercropping groundnut, pulses and minor millets with *Anacardium occidentale*

II. Suitable agroforestry practices for northwestern zone of Tamil Nadu

1. **Districts** : Dharmapuri, Krishnagiri, Salem and Namakkal
2. **Annual Rainfal** : 825 mm in 47 rainy days
3. **Soil Types** : Red to brown, loamy soils
4. **Major Crops** : Groundnut, tapioca, sugarcane and vegetables, ragi, sesame, horsegram and castor
5. **Dominant tree species** : *Delonix elata*, *Pongamia pinnata*, *Ailanthus excelsa*, *Albizia amara* and *Tamarindus indica*
6. **Major agroforestry practices** :
 - a) Bund planting of *Pongamia pinnata* (Dharmapuri), *Delonix elata* and *Albizia amara* (Salem)
 - b) Intercropping tapioca with *Eucalyptus tereticornis*
 - c) Monoculture of *E. tereticornis*

III. Suitable agroforestry practices for cauvery delta zone of Tamil Nadu

1. **Districts** : Tiruchirapalli (part of district), Perambalur (part of district), Pudukottai (part of district), Thanjavur, Nagapattinam and Thiruvarur
2. **Annual Rainfal** : 900 – 1000 mm
3. **Soil Types** : Alluvial in the old delta and red loam with pockets of laterite in the new delta
4. **Major Crops** : Paddy, sugarcane, banana, pulses
5. **Dominant tree species** : *Thespesia populnea*, *Bamboo*, *Acacia nilotica*, *Prosopis juliflora*, *Ailanthus excelsa*, *Casuarina equisetifolia*, *Eucalyptus tereticornis*
6. **Major agroforestry practices** :
 - a) Bund planting of *Acacia nilotica* and *Bambusa bambos* (Thanjavur)
 - b) Intercropping groundnut and coriander with *B. bambos*
 - c) Boundary planting of *Tectona grandis* and *Dalbergia sissoo* along water courses and canals
 - d) Live fence of *Lannea coromandalica* (Nagapattinam)
 - e) Woodlots of *Terminalia arjuna*

IV. Suitable agroforestry practices for western zone of Tamil Nadu

1. **Districts** : Erode, Coimbatore, Karur, Dindigul and Theni
2. **Annual Rainfal** : 638 mm in 45 rainy days
3. **Soil Types** : Thin red with a block of black soil
4. **Major Crops** : Rice, sugarcane, cotton, sorghum, ragi, turmeric, banana, groundnut, Bengal gram, tobacco
5. **Dominant tree species** : Hardwickia binata, Holoptelia integrifolia, Ailanthus excelsa, Acacia leucophloea, Acacia ferruginea, Santalum album
6. **Major agroforestry practices** :
 - a) Bund planting of *Albizia lebbbeck*, *Ailanthus excelsa*, *Hardwickia binata*
 - b) Intercropping tapioca, groundnut, sesame with *E. tereticornis*
 - c) Woodlots of *Ceiba pentandra*
 - d) Silvipasture consists of *Acacia leucophloea* with fodder sorghum, *Cenchrus* spp.
 - e) Fuel plantation of *Prosopis juliflora*

V. Suitable agroforestry practices for southern zone of Tamil Nadu

1. **Districts** : Ramanathapuram, Tirunelveli, Madurai, Pudukottai (part), Sivagangai, Virudhunagar and Thoothukudi
2. **Annual Rainfal** : 776 mm in 43 rainy days
3. **Soil Types** : Black clayey (mid zone), saline coastal alluvium or river alluvium (eastern region), red sandy soil (north eastern side), deep red soil (western region)
4. **Major Crops** : Bajra, cotton, jowar, fodder jowar, minor millets, groundnut, senna, chilli and vegetables
5. **Dominant tree species** : Acacia planifrons, Ceiba pentandra, Bassia latifolia, Prosopis juliflora, Tamarindus indica, Eucalyptus tereticornis, Azadirachta indica
6. **Major agroforestry practices** :
 - a) Woodlots of tamarind and neem
 - b) Silviculture consists of *Leucaena leucocephala*
 - c) Intercropping cereals or pulses with kapok
 - d) Monoculture of *Eucalyptus tereticornis*, *Acacia nilotica*, *A. leucophloea* and *Prosopis juliflora*

VI. Suitable agroforestry practices for high rainfall zone of Tamil Nadu

1. **Districts** : Kanyakumari
2. **Annual Rainfal** : 1500 mm in 64 rainy days
3. **Soil Types** : Deep loam, saline coastal alluvium (south eastern belt)
4. **Major Crops** : Rice, tapioca, coconut, peper, clove, nutmag, cardamom and coffee
5. **Dominant tree species** : *Rubber, tamarind, Calophyllum inophyllum and Albizia falcataria*
6. **Major agroforestry practices** :
 - a) Home garden
 - b) Intercropping food crops, spices and pastures with coconut
 - c) Bund planting of *Albizia falcataria*
 - d) Intercropping food crops with *Calophyllum inophyllum, Bassia latifolia* and *Pongamia pinnata*

VII. Suitable agroforestry practices for hilly zone of Tamil Nadu

1. **Districts** : Nilgiris, Shevroys, Elagiri javadhu, Kolli, Anamalai, Palni and Podhigai Hill ranges
2. **Annual Rainfal** : 1000 mm to 5000 mm
3. **Soil Types** : Laterite
4. **Major Crops** : Tea, coffee, cabbage, cauliflower
5. **Dominant tree species** : *Grevillea robusta*, *Eucalyptus globulus*, *temperate* Acacias, *Terminalias*
6. **Major agroforestry practices** :
 - a) Intercropping potato, beans with *Eucalyptus globulus*
 - b) *Grevillea robusta* and *Erythrina indica* as shade trees in tea and coffee gardens