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 Rainfall** : 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 coromondalica*
   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 Rainfall** : 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 Rainfall: 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 Rainfall: 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 lebbeck, 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 Rainfall**: 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) Silvipasture 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 Rainfall**: 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 Rainfall: 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