CHAPTER 4

ZONAL CLASSIFICATION OF AGRICULTURAL DROUGHT

Agricultural drought occurs when there is not enough soil moisture to meet the needs of a particular crop at a particular time. Agriculture is usually the first economic sector to be affected by drought. Agricultural drought is typically witness after a meteorological drought, but before a hydrological drought.

The proper use of soil is largely determined by its physical properties, which determine the flow and storage of water, the movement of air and the ability of the soil to supply nutrients to plants. The common physical properties of the soil are profile, skeleton, porosity, colour, permeability, moisture holding capacity, surface drainage, erosion etc.

The moisture holding capacity of soil is very low (>29%) in the Kozhinjampara and is coming under very high drought affected zone. The moisture holding capacity of low (29-34%) in the Alampadi and is coming under high drought affected zone. Here population density is high and settlements are more here. The main land use in the zone is mainly for plantation crops and mixed crops. The moisture holding capacity of soil is medium (34-38%) in moderate drought affected zone. The places coming under the zone are Keerakaranpadi, Perumparachalla, K.K Pathi, Karadippara and Srambi.

The low drought affected zone having high moisture holding capacity (38-43%). This zone is coming under the places like Kullarayanpalayam, Pazhniyarpalayam, Parakkalam and K.K Challa. The moisture holding capacity is very high (>43%) in Kallandichalla, Paruammanchalla and C P Challa. The population density is comparatively lesser in the zone. The main landuse here is for paddy cultivation. Irrigation facilities are also available in the zone.

DISTRIBUTION OF AVAILABLE NITROGEN IN SOIL

The available Nitrogen is low in almost all parts of the panchayath. Nitrogen is low in Kozhinjampara, Alampadi, Perumparachalla, Paruamman challa, Kulukkapara, Kullarayanplayam, Karadippara, Parakkalam, Srambi, Keerakranpadi and K. K Pathi. Moderate soil fertility is found in C P Challa and Kallandichalla near to Nallepilly panchayath.
DISTRIBUTION OF AVAILABLE PHOSPHORUS IN SOIL

The available Phosphorus is low in Keerkanapadi and Kallandichalla. Moderate fertility is found in Paazhaniyarpalayam, K.K Challa and Keerakanpadi. The high fertility soil is found in Kullaryanpalayam, Nadukalam, Alampadi, Paruaman challa, K.K Pathi, Srambi, Kozhinjampara, Parakkalam and Karadippara.

DISTRIBUTION OF AVAILABLE POTASSIUM IN SOIL

The available Potassium is low in the Nadukalam, Parakkalam, Keerkanpadi, Kallandichalla, K.K Challa and K.K Pathi. Moderate soil fertility is mainly found in Kullarayanpalayam, Pazhaniyrpalayam, Kozhinjampara and Alampadi. These areas are more prone to agricultural drought. Potssium is highly concentrated in C.P Challa, Parummn challa, K.K Pathi and Srambi.

The panchayath has mainly alkaline soil. The Northern part of the panchayath is more prone to agricultural drought. Because, alkaline soils are found in these areas (See Table No: 4.5). Very slightly alkline soils have been found in Kullarayanpalayam, Alampadi, Kallandichalla, Paruammanchalla, and K.K Challa. Slightly alkaline soils have been found in Parakkalam, Karadippara and Perumbarachalla. Medium alkaline soils have been found in Pazhaniyarpalayam, Kozhinjampara and Keerakanpadi. Very slightly acidic soils have been mainly found in Nadukalam, C P Challa and K.K Pathi.