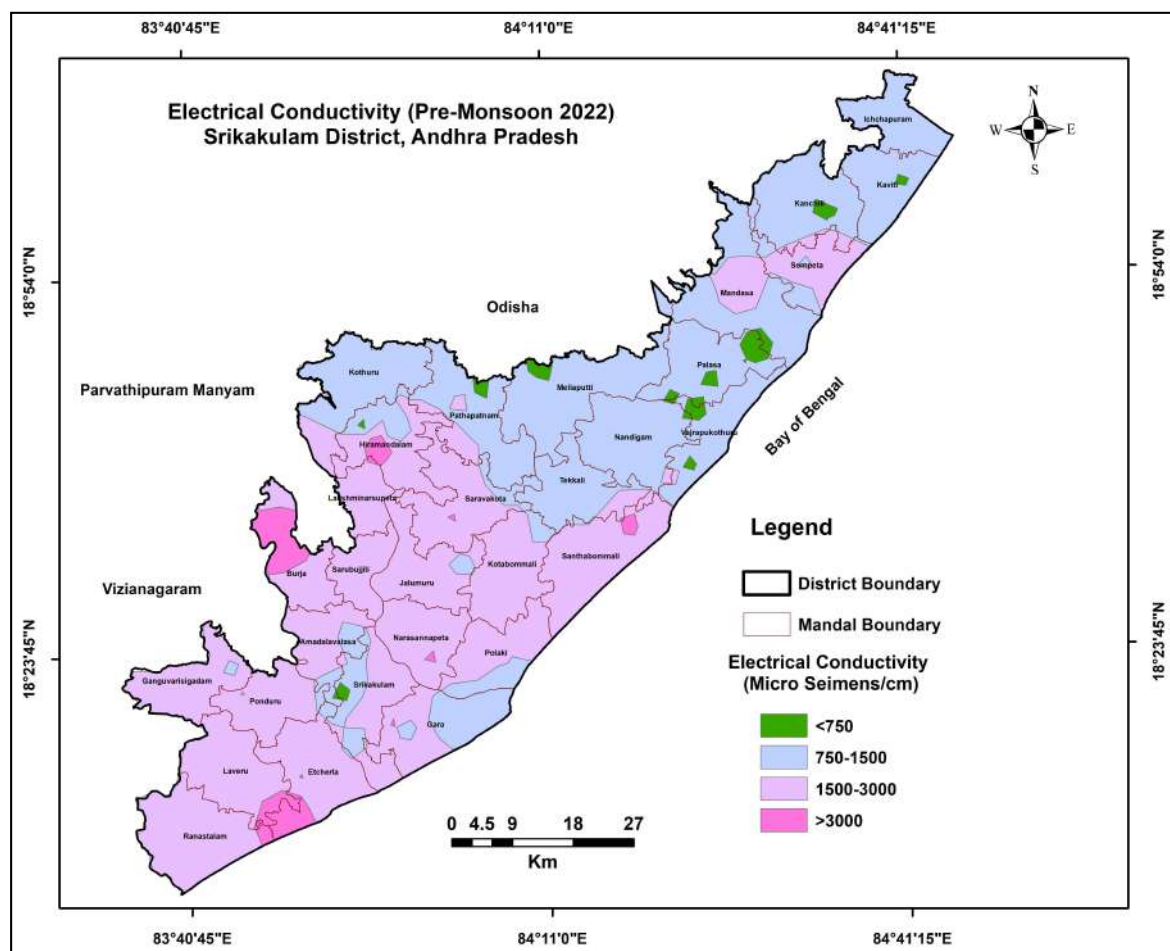


## 2.3 Hydro chemical Studies

To understand chemical nature of groundwater, 72 water sample data (CGWB monitoring well-41, Key Well-31) during the pre-monsoon season of 2022 are collected and analysed for parameters namely pH, EC (in  $\mu\text{S}/\text{cm}$  at  $25^\circ\text{C}$ ), TH, Ca, Mg, Na, K,  $\text{CO}_3$ ,  $\text{HCO}_3$ , Cl,  $\text{SO}_4$ ,  $\text{NO}_3$  and F.

### 2.3.1 Pre-monsoon:

Groundwater from the area is mildly alkaline to alkaline in nature with pH in the range of 6.74-8.15 (Avg: 7.49). Electrical conductivity varies from 190-4500 (avg: 1656)  $\mu\text{Siemens}/\text{cm}$ . In 53 % of area EC is within 1500 - 3000  $\mu\text{Siemens}/\text{cm}$ ; in 43 % area, it is 750-1500  $\mu\text{Siemens}/\text{cm}$ ; in 3 % area it is  $> 3000$   $\mu\text{Siemens}/\text{cm}$ ; in 1 % area and EC is  $< 750$   $\mu\text{Siemens}/\text{cm}$ , (**Fig.2.8**). Nitrate concentration in 71% of samples is beyond permissible limits of 45 mg/L, varies between 0.53 – 278.3 mg/L (**Fig.2.9**). Fluoride concentration varies from 0.06-1.45 mg/L and all samples falling under permissible limits of 1.5 mg/L (**Fig 2.10**).



**Fig.2.8:** Distribution of Electrical conductivity (Pre-monsoon)