

Physicochemical characteristics and identification of the algae of Thettiyar river, Thiruvananthapuram district

Thettiyar river is starting from Aiyroopara,pothencode panchayath of Thiruvananthapuram district, and ends in Kadinamkulam estuary. It has a length of 88 km and a width of about 3m. The depth is about 1.50m. It passes through Pothencode, Andoorakonam, Kazhakkuttom, and finally ends in the Kadinamkulam estuary. Each part of the river was variously named by local peoples. They are Thenganamcodechira, Madathilkulam, Oruvamoola, Moozhibhagam, Panimoola, Kurangart hamoola, Pallippuram, Vetturoad, Kazhakkuttom and Kadinamkulam. Local peoples are mainly depending on this river for bathing, washing, and irrigation purposes. Village region of Thettiyar was less polluted, the only problem facing this area was siltdeposition due to landslides. These regions are flourished with plants because of soil deposition. Another serious issue regarding Thettiyar was most of the portion inhabited by local people so some portion the width was very low, appeared like small canals. The thickly populated regions especially Kazhakkutom region Thettiyar was more polluted because of sewage disposal, waste from towns, shops etc. If Thettiyar was protected we can solve water scarcity problem. In pothencode village during summer water scarcity problem was severe and provide water from the panchayath through big plastic tanks for bathing, washing etc. It is costly because of transpoting water from vehicles, man power etc. So if we give protection to our Thettiyar it is a boon for the villagers, local communities etc. The present investigation is based on the physico-chemical characteristics of surface water at Thettiyar, Thiruvananthapuram district. The study includes Air temperature , water temperature, waterpH, salinity, electrical conductance, total

dissolved solids, phosphate, nitrite, nitrate, sodium, potassium, microbial study, algal distribution etc. The average of the results in Thettiyar indicates air and water temperatures were 32⁰C and 27⁰C. Salinity is 101 ppm and electrical conductance was 160 Ms. Average of total dissolved solid is 113 ppm. Phosphate 0.17 ppm, nitrite 0.25 ppm and nitrates 0.4 ppm respectively. The level of sodium and potassium were 12 ppm and 5 ppm. Microbial concentrations or total coliforms in Thettiyar were higher. Different types of algae such as Spirogyra, Ulothrix, Oedogonium etc were identified. From this study, we understood that the physico-chemical characteristics of Thettiyar is within the permissible limit but the amount of total coliforms found to be high. This is due to the increase in anthropogenic activities. The people in nearby areas of Thettiyar depends the river for their washing purposes. That is the reason for the contamination of water and the water is not suitable for drinking purpose.