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Pollution of Water bodies – A study from flood affected areas in Ranni and Seasonal water quality analysis of Pampa river from Erumely (Kottayam District) and Ranni (Pathanamthitta District), Kerala, India

**\*Dr.R.Aruna Devy**

\*Department of Zoology, St.Thomas College, Ranni, PathanmathittaDist., Kerala, India PIN – 689673

**ABSTRACT**

Physical and chemical parameters degrade water causing health issues in living organisms. this study examines the variation in these parameters in Pampa River at Ranny. Water were collected from five different sources at Mamukku,Ranny and tested at CEPCI Kollam. The study showed that the water quality at Ranny is fit domestic use in terms of heavy metals. But BOD levels were elevated thanks to the pressure of organic waste that would be entered thanks to the presence of chemical and sewage wastes in water bodies at Ranny. Among the five heavy metals (Cadmium, Chromium, Lead, Mercury and Copper) Copper and Chromium were below the quality limit and therefore the other three heavy metals Lead, Cadmium and Mercury was below detected level. The regular water treatment methods adopted within the area thanks to recent flood could also be the results of water quality in Ranny with reference to heavy metals. The physical parameters like pH of water sources in Ranny is normal except ground water which slightly acidic thanks to chemicals runoff and wastewater discharge. The TDS levels are normal altogether five sources but BOD levels are elevated thanks to the presence of organic wastes entered from chemical and disposal in water bodies. Water samples from Pampa river of places like Ranni, Erumely, Vadasserikara, Pothamon and Edappavoor were collected seasonally (Sabarimala - pilgrimage season) i.e., during November- December, 2019 and off season January – February, 2020. The analysis of Biological and Physico-chemical parameters like E.Coli, pH, Turbidity, BOD, Chloride, Sulphate and Iron reveals that the water bodies were suffering from anthropogenic and other activities during off - season (January – February,2020) than pilgrimage season (November – December,2019). The results revealed that the studied sites showed more pollution with E.coli during January – February, 2020 i.e., after pilgrimage season, especially Erumely than Ranni. And this might flow from to the unwanted disposal of waste by the pilgrimages. Key words: Heavy metals, Water quality, Physico - qualitative analysis , Ranny.

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