priority.

D – 36

Ratambe is a newly built reservoir for the main purposes of hydroelectric power generation and irrigation. The main objectives of the study were to find out the trophic evolution, the limnological status of the reservoir and the impact of Uma Oya on the reservoir trophy. Sampling was done from 1993 to 1997 once a month from 11.00 h (am) to 1400 h (pm).

The reservoir was not thermally stratified the temperature varied from 25 ± 1.2 º C to 28 ± 2 º C at the surface. The vertical dissolved Oxygen concentration varied from 3 ± 1.2 mg/ L to 7.5 ± 1 mg/ L. the bottom water was slightly acidic with a pH of 6.6 and the surface pH varied from 7.6 ± 1.2. The conductivity of the surface waters were high during droughts from 8 to 120 µS/ cm.

There was a significant increase in all the chemical properties at the UMa OYA entry point of the reservoir. Conductivity, Orthophosphate, Secchi disk transparency were 140 ± 2 µS/ cm, 0.7 µg/ L, 0.5 ± 0.5m respectively. The Alkalinity, Nitrate, Hardness and Sulfate also were significantly high.

The mean transparency, the maximum Orthophosphate and Nitrate concentrations observed in the reservoir were 1.0 to 1.5m, 0.56 µg/ L and 1.1 ppm respectively. Sulfate varied from 0.03 ppm to 0.07 ppm. The mean Alkalinity varied from 0.4 mmol/ L to 0.9 mmol/ L. The mean water hardness was 0.35 ± 0.15 mmol/ L.

The zooplankton and phytoplankton densities were higher at the surface water from 0 to 5 m and gradually declined with increasing depth. The Uma Oya is responsible in bringing large quantities of sediment and nutrients in to the reservoir.