

## D-26: Preliminary investigation on food habits of fish in Kotmale reservoir

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The present study was carried out from March to October 1992 to investigate the food habits of fish in Kotmale reservoir.

Fish samples were collected from the reservoir and species composition was determined. For determination of species composition and population density of plankton, samples were collected at a sampling site close to the dam.

The relationship between the environmental food levels and the composition of gut content of the fish were determined by enumeration of plankton samples and gut content analysis. As *Microcystis* algal bloom appeared during the study period, digestibility of *Microcystis* sp. by *Oreochromis mossambicus* was also studied.

The dominant fish species found in the reservoir were *O. mossambicus*, *Cyprinus carpio*, *Puntius sarana* and *Tor khudree*. Gut of the *O. mossambicus* contained mainly *Microcystis* sp. during the bloom period. *T. khudree* and *P. sarana* were herbivores in the habitat. The utilization of phytoplankton by *C. carpio* was low, compared to *O. mossambicus*. Seasonal differences in the gut contents of fish showed marked correlation with the environmental food of the reservoir. Gut of adult *O. mossambicus* contained phytoplankton including *Microcystis* sp. than the other fish types in the reservoir.

pH value of the stomach of *O. mossambicus* reaches below 2 converting *Microcystis* sp. into a soluble form. Microscopic examinations of gut contents revealed absence of green pigments in *Microcystis* sp. ingested by the fish and inability to obtain a *Microcystis* sp. culture by inoculating faeces into sterilized culture media.