RECOMMENDATION

Previous history of Tunia river revealed that before commencement of BRPL it was suitable habitat for diversified fishes and even the quality of water was also drinkable as reported by old local people but due to the impact of BRPL (Since 1977 ) effluents it gets polluted at its origin . The deteriorating limnobiotic conditions are not only upsetting the habitat of desirable aquatic organism but also to the natural productivity of the river system .

After comprehensive assessment of topographical , hydrobiological and phycological , characters of Tunia river and toxicological properties of BRPL effluents through the present investigation following recommendations are made to achieve a revival of a balanced aquatic ecosystem of the river and suitable water resource development .

(i) Since daily water requirements of BRPL is very large and a large portion of it is drained out as effluents , it is necessary that BRPL initiates certain steps to reuse/recycle a portion of the effluents so as to reduce volume of discharged effluent from the complex .

(ii) The development of a tertiary treatment plant to reduce the toxic nature of the effluents .

(iii) Water softening by removing the calcium , magnesium and silica from the effluents .
(iv) The critical analysis of both physico-chemical and biological (Phycological) characteristics indicate that at present the impact of BRPL effluents may not be so serious but in future it may bring drastic changes in the river water quality and biological spectrum due to continuous entry of effluents from the complex. The continuous monitoring of these environments is essential for checking the level of pollution.

(v) Awareness programmes could be taken up to make people aware of pollution and the danger associated with oil pollution. A regular programme of monitoring on scientific basis should be started.

(vi) The Control Board for Pollution Control and that of the state should affirm that no accidental spillage/discharge of oil and petroleum products from the complex at any moment to the river Tunia takes place.

(vii) If the flow rate and volume of effluents are drastically reduced to a certain limit then self-purification capacity of the river may be able to diminish the toxicity of the pollutants to some extent.

(viii) The cheapest source of nutrients for mass culturing of algae is the sewage and industrial effluents. The most tolerant algae that are isolated from the BRPL effluents could be later grown on large scale in tertiary waste-water treatment plant and thus pollution is taken care of to a certain extent before discharge into the Tunia river. The old algal mat developed during this process may further use as biofertilizer for rice cultivation after repeated washing. The advantage of such algal species are that they are self sustaining and are very productive.
(ix) Besides the algal flora, Tunia river harboring a large number of micro-organisms which required for urgent identification for ecological restoration of the river system.

(x) From the algal bioassays it is observed that the higher concentration of effluents was found to be toxic to green algae. On the basis of these findings it is recommended that proper dilution (upto 60%) of BRPL effluent is a must before discharging it into Tunia river. The pollution Control Board and other related agencies should exercise proper surveillance to enforce this requirement.

(xi) The Pollution Control Board or other related agencies who are always in need of quick results for quality control measures, short term bioassay experiments may be performed.

(xii) Apart from these, the practice of garbage disposal at the bank of the river, specially at New Bongaigaon area and service latrines located at the catchment area should be stopped legally. If these measures are taken by the concerning authority, the river will regain its life.

Thus, awareness, timely action, monitoring programme and political will are necessary to save this river from complete destruction in near future.