

Destruction of lake victoria's ecological balance

[Business](#), [Industries](#)



Destruction of Lake Victoria's Ecological Balance

Intentional human activities in and around Lake Victoria have led to numerous environmental problems thereby threatening livelihood of communities around the lake and the those who either depend on the lake directly or indirectly in East Africa. Lake Victoria according to Steeves (2004) also known as Lolwe is one of the African great lakes and is the second largest fresh water lake in the entire world but the largest in Africa.

Lake Victoria was named by John Speke after Queen Victoria of the United Kingdom and it measures about 68800 square kilometers in surface area. The lake gets most of its waters from precipitation and rivers. Lake Victoria which occupies a shallow depression has an average depth of about 20 meters and a catchment area of 184 000 square kilometers. The lake supports the largest inland fisheries in Africa.

According to phoenix University Lake, Victoria used to harbor about 400 species of small colorful fish called cichlids. The cichlids played a remarkable role in the lake ecosystem. With remarkable eating habits, the cichlids graze on dead organic material, algae, other cichlid species, shrimp or insects. The fish species thrived in the ecosystem in Lake Victoria and provided the local communities and other human population in the region numbering millions with protein diet. Overdependence of the cichlids led to their depletion by more than half its population fifty years ago thereby altering the aquatic community of the lake. The disappearance has completely interfered with the foodweb, which has led to explosive increase in the population of algae, which is the cichlids main food.

The increase in the population has led to extinction of very many native fish species in Lake Victoria. This has been necessitated by the depletion of oxygen in the areas occupied by the algae (University of phoenix, 2009). When algae die their decomposition consume available oxygen and as a result, fish species that come nearby suffocate and die. This has reduced amount of oxygen available in the lake, which has a direct effect on the fish population that the lake can contain. The areas that were once rich in oxygen and precious cichlids fish species have become barren and the local fishermen hardly get fish in those areas these days. Human activity of fishing the cichlids have led to reduce fish catch today, which cannot feed the population in the region or economically support them. The action of fishing was justifiable and they did not intend to be responsible for status quo.

Another factor that has contributed to the ecological imbalance of Lake Victoria is the introduction of Nile perch (University of phoenix, 2009). The introduction of Nile perch in Lake Victoria was done with an intention to boost the economy of the region as well as to uphold the living standard of the people in the region. The introduction was done with a very good intention for sure but the impact today is completely the opposite. When it was introduced, it really thrived to the extent that some thought it was a better option to introduce the species; little did they know that the situation would not last. Nile perch which is much larger and is a predator, feed on other smaller native fish, which are more delicious and valuable. The increase in the population of Nile perch in 1980s resulted in high rate of loss of the indigenous fish species whose loss completely destabilized the

ecological balance of the lake. Numerous native fish species are extinct because of the introduction of Nile perch in Lake Victoria.

Some other unintentional human activities that have led to environmental problems in and around Lake Victoria include agriculture, deforestation and use of fertilizers (University of phoenix, 2009). The local communities used to cut down trees to obtain firewood to dry the large Nile perch as well as to have more land under agricultural practices to grow more food crops that could feed the rapidly increasing human population in the region. What followed is soil erosion that swept over the deforested and cultivated lands thereby carrying soil particles and fertilizers into the lake. The soil particles and fertilizers increase the turbidity of the lake, which then affected water stratification, and penetration of light energy, which is very essential to the general ecosystem of the lake. Apart from causing turbidity, fertilizers poisoned fish. Most of the activities associated with the introduction of Nile perch were not intentional but they have led to extinction of many species of fish as well as reduction of fish population in the Lake Victoria.

The contribution of scientific activities in saving the situation in the Lake Victoria region has been very significant. Firstly, there has been intensive research in the lake region and its environs, which have made available facts that, explain the situation on the ground (Bruton, 2006). All the above-explained information has been ascertained and action has been taken by governments of the three nations bordering the lake. Laws and policy have been put in place to ensure sustainable fishing in the lake (Scherer, 2009). This has been achieved by controlling fishing periods in that fishing activities are banned during the breeding seasons of fish in Lake Victoria. Fishing

activities have also been banned in the breeding sites of cichlids and other fish species. In addition, the three governments have imposed laws that require a standard fishing nets that do not catch small fish like cichlids and fingerlings. All these efforts have had great effect that has enable the population of cichlids and other native fish species to recover considerably.

There has also been serious campaign on informing the local communities on the sustainable fishing and other environmental practices that has reduce negative impact on the lake. The forestation campaign has also been intensified to prevent further turbidity in the lake. Research has also been done on the effect of the effluent from factories being directed into the lake and a ban has been put imposed to prevent further pollution of the lake by industrial waste and sewage. These have been realized due to the effort of scientists.

Application of scientific methods could have saved the environmental problem that is prevalent in Lake Victoria and its environment. Before the introduction of the Nile perch, if the application of science would have guided the fishing in the lake, the population of cichlids could have not reduced at such a risky rate. Besides, if science would have been involved before the introduction of the Nile perch into Lake Victoria, the side effects of the practice would have been established and the introduction prevented in advance.

References

Bruton, M. (2006). The conservation of the fishes of Lake Victoria, Africa: an ecological

perspective, 27(3). South Africa: Springer Netherlands

Steeves, G. (2004). Lake Victoria-A brief history. Retrieved 14 May 2010 from <http://www.hillcountrycichlidclub.com/articles/Lake%20Victoria%20History.pdf>

University of phoenix. 2009. Environment. Retrieved 14 May 2010 from <https://ecampus.phoenix.edu/classroom/ic/classroom.aspx>

Scherer, D. (2009). Environmental Ethics. Retrieved 14 May 2010 from <https://ecampus.phoenix.edu/classroom/ic/classroom.aspx>