

**FISH DIVERSITY AND FISHERY RESOURCES OF  
RANIKHOLA, SIKKIM, INDIA**



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**Recommendation Letter**

This is to certify that Mr. Prakash Sharma has successfully completed his dissertation work entitled "**Fish Diversity and Fishery Resources of Rani khola, Sikkim, India**" for the partial fulfillment of M.Sc. Degree in Zoology under my supervision. His work is original piece and is not submitted for any degree before.

Therefore, I recommend his work for further approval.

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**Approval Letter**

On the recommendation of Supervisor Professor Dr. Jiwan Shrestha, this dissertation work of Mr. Prakash Sharma entitled "**Fish Diversity and Fishery Resources of Rani khola, Sikkim, India**" is approved for the examination and submitted to the Tribhuvan University for partial fulfillment of requirements of Master's Degree of Science in Zoology with fish and fisheries as a special paper.

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**ACCEPTANCE**

We all the members of the acceptance committee have gone through this dissertation entitled "**Fish Diversity and Fishery Resources of Rani kholaSikkim,India**" and found Mr. Prakash Sharma qualified for awarding M.Sc Degree in zoology with Fish and Fisheries as a special paper.

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## **Declaration**

I hereby declare that the work presented in this thesis has been done by myself and has not been submitted elsewhere for the award of any degree. All sources of information have been specially acknowledged by references to the author(s) or institution(s).

Prakash sharma

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## ABSTRACT

The present study entitled "Fish Diversity and Fishery Resources of Rani khola , Sikkim India" deals with the distribution, diversity and frequency occurrence of fish and invertebrates in Rani khola. The study also attempts to unveil the water quality of Rani khola, present socio- economic status of the fishermen living in the vicinity of Rani khola and existing fishing practices in Rani khola.

Altogether eight species of fish fauna under two orders, two families, two genera, twelve species of invertebrates under three phyla, five classes and twelve orders were collected. The most common and dominant species of fish recorded was *Schizothoracichthys progastus* with the highest frequency occurrence of 23.41 %. All the invertebrates recorded during the field visits were found uniformly distributed where as the distribution of fishes remained mid range migratory as well as residential. The physico-chemical parameters of water were found very ideal providing a suitable environment for all the aquatic fauna. The water temperature ranges from 6.3 to 16<sup>0</sup>C. Other parameters such as dissolved oxygen were found very optimum with an average value of 9.7 mg/l and free carbon dioxide were found with an average value of 3.15mg/l.No published literature available on fish diversity of Rani khola. The socio-economic condition of the fishermen living in the vicinity of Rani khola were found quite poor and 40% of them were totally illiterate. They were known to use the various types of conventional as well as non conventional fishing methods like netting, using, basket cage, rod and line, snare loops, blasting, poisoning, grabbing. The riverine environment of the Rani khola is degrading rapidly due to both natural and manmade causes leading to sharp declination in diversity and fish population.

The major problems of this river are sand and stone mining over exploitations of fish with illegal fishing practices, soil erosion and unusual flooding.

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