# STUDY ON THE IMPACT OF FISHERIES ON JALARI COMMUNITY OF PHEWA LAKE REGION POKHARA WITH A NOTE ON ITS ETHNOICHTHYOLOGICAL KNOWLEDGE

A Dissertation

Submitted for Partial fulfillment of the requirement

For the master's Degree of science

In Zoology

With special paper Fish and Fisheries

By
Sarala Devkota
T.U. Registration No.5-2-48-2882-2004
T.U.Examination Roll No.5864
Batch No. 2064/o65

To
Central Department of Zoology
Institute of Science and Technology
Tribhuvan University, Kritipur
Kathmandu, Nepal
March, 2011

## **DECLARATION**

	Sarala Devkota
Date:	••••••
have been specifically acknowledged by reference	to the authors or institutions.
has not been submited ealsewhere for the award of	any degree. All sources of information
I hereby declare that the work presented in this dis	ssertation has been done by myself, and

#### RECOMMENDATION

It is my pleasure to mention here that Miss Sarala Devkota completed her dissertation work entitled "STUDY ON THE IMPACT OF FISHERIES ON JALARI COMMUNITY OF THE **PHEWA** LAKE REGION WITH A **NOTE** ON IT'S ETHNOICTHYOLOGICAL KNOWLEDGE" under my guidance and supervision. This is the candidate's original work aiming to document relevant information on Jalari community with the relation to fish and fisheries. To the best of my knowledge, this dissertation work has not been submitted for any other degree.

.....

Supervisor
Dr. Usha Lohani
Associate Professor
Central Department of Zoolog
Tribhuvan UniversityKritipur
Kathmandu, Nepal

## LETTER OF APPROVAL

On the recommendation of supervisor Associate Prof. Dr. Usha Lohani, this dissertation work of Miss Sarala Devkota has been accepted as partial fullfillment of master's Degree of Zoology of IOST, T.U.
Prof. Dr.Ranjana Gupta
Head of Department
Central Department of Zoology
T.U. Kritipur, Kathmandu
Nepal

Date:....

## **CERTIFICATE OF APPROVAL**

This Dissertion submitted by Miss Sarala Devkota entitled "STUDY ON THE IMPACT OF FISHERIES ON JALARI COMMUNITY OF PHEWA LAKE REGION POKHARA WITH ON ITS ETHNOICHYOLOGICAL KNOWLEDGE" has been approved as partal fulfilment for the master's Degree in zoology of IOST, T.U.

**EXPERT COMMITTEE** 

External Examiner	Head of the Department
Internal Examiner	Superviser
internal Examiner	Superviser
Date:	

ACKNOWLEDGEMENTS

I am very much indebted to my respected supervisor Dr. Usha Lohani, Associate

Professor, Tribhuvan University, Kritipur for her immense help, constant guidance and

inspiration without whom this work would not have been possible.

I am also grateful to Professor Dr. Jiwan Shrestha and Professor Surya Ratna Gubaju for

their valuable sugessions and uninterrupted guidance during the investigation process. I

would also lke to thank other teachers and staffs of Central Department of Zoology for

their co operation.

I would like to express my heartfelt gratitute to Mrs. Shanti Jalari, Lake side Pokhara and

Dr. J.D. Bista and Mr. Aagni Nepal from Pokhara Fishery Centre, for giving me

valuiable suggestions during my field work.

I would also like to take this opportunity to thank my family members my father Mr.

Rajendra Devkota and my mother Mrs. Kamala Devkota for their encouragement and

continous help during my field work. I want like to thank all my friends and all others

who have directly or indirectly helped me in this dissertation work.

Sarala Devkota

Regd.No.: 5-2-48-2883-2004

Batch: 2064/065

**Roll No.: 5863** 

vi

#### **ABSTRACT**

The present study entitled "Study on the impact of fisheries on Jalari community of the Phewa lake region with a note on it's ethnoicthyological knowledge" deals with the fish and fishery activities, fish diversity of Phewa lake and socio economic status of the Jalari community living in the vicinity. The study also documents ethnoichthyological knowledge of the community. Because of the close man and fish interaction this body of knowledge is deeply rooted in their culture. The literacy status of fisher community is found to be very poor. Altogether 21 species of fish fauna under 16 genera, 6 families and 5 orders have been recorded. The fish population in the lake is decreasing due to different human activities and natural calamities such as heavy flooding and erosion. One of the main reasons for decreasing local fish population is because of the exotic species of fishes and use of unconventional and harlmful fishing methods. Majority of the Jalaris are illiterate but their indigeneous knowledge could be used as a useful tool for the protection of some of the important fish species.

# TABLE OF CONTENTS

	Page No.
CHAPTER -ONE	
1. INTRODUCTION	1-9
1.1General Background	1
1.2 Freshwater Resources of Nepal	1
1.2.1 Snow	2
1.2.2 River	3
1.2.3 Ground Water	4
1.2.4 Lakes	4
1.2.5 Reservor	4
1.2.6 Hot Spring	5
1.3 Status of Fisheries and aquaculture in Nepal	6
1.3.1 Aquaculture	6
1.4 Aims and Objectives	7
1.5 Limitation of the study	8
1.6 Justification of the study	8
CHAPTER-TWO	
LITERATURE REVIEW	9-16
2.1 Physography of Nepal	9
2.2 Phewa Lake Watershed	11
2.2.1 Demographic status near Phewa watershed	12
2.2.2 Characteristic feature of Phewa Lake	12
2.2.3 Fauna of the Phewa watershed Area	12
2.3 Jalari Community Residing in the Phewa Watershed area	13
2.4 Women in Fisheries	14
2.5 Cage fish culture in Phewa Lake	14
2.6 Fish Diversity And Fishery status in Pokhara Valley	15

### **CHAPTER-THREE** 3. MATERIALS AND METHODS 17-22 3.1 Study Area 17 3.2 Source and types of Data 18 3.2.1 Data on fish diversity and distribution 18 3.2.2 Household level survey 19 3.2.3 Structured interview 19 3.2.4 Direct Observation 20 3.2.5 Participatory Rural Appraisal (PRA) 20 3.2.6 Case study 20 21 3.3 Laboratory Work 21 3.4 Statistical Analysis CHAPTER -FOUR 4. OBSERVATION AND RESULT 23-40 23 4.1 Socio-economic status of Jalari Community 23 4.1.1 Age 4.1.2 Educational status of Jalari Communit 23 24 4.1.3 Occupations and annual household income 4.1.4 Family structure and size **26** 4.2 FisheryResources 26 4.2.1 Systematic position of icthyofauna of Phewa Lake 27 4.2.2 Fish Distribution Pttern and Frequency occurance in Phewa Lake **30** 4.2.3 Important Fishes of Phewa Lake with their **Ecological Behaviour** 33 4.3 Fishing practices and fishing implements usd in Phewa Lake 35 4.3.1 Nets 36

**36** 

36

**37** 

4.3.2 Fishing with mosquito net

4.3.2 Local Balchhi (Hook and Line)

4.4 Non-conventional methods of Fishing

37
37
37
38
38
39
41
44-45
44
45
46-5

# LIST OF TABLES

	Page No.
Table1: Estimated waters surface Area of Nepal	5
Table 2: Respondents classified according to their age	23
Table3: Literacy status of Jalari community	24
Table5: Family structure of Jalari community	25
Table6: List of Fishes found in Phewa Lake	27
Table7: Classification and nomiclature of icthyofauna of the Phewa La	ake 29
Table8: Frequency occurance of fishes in Phewa lake	31
Table9: Fish catch composition and frequency distribution in Phewa l	ake 32
Table 10: Fishes mainly used by locol community for medicinal other purposes	40

# LIST OF FIGURE

<b>D</b>	TAT.
Page	INO.

Figure1: Bathymetric map of Phewa Lake	17
Figure2: Phewa Lake with the study area	18
Figure3: Pie-chart showing educational status of Jalari community	24
Figure 4: Pie-chart showing fish composition orderwise in Phewa Lake	30