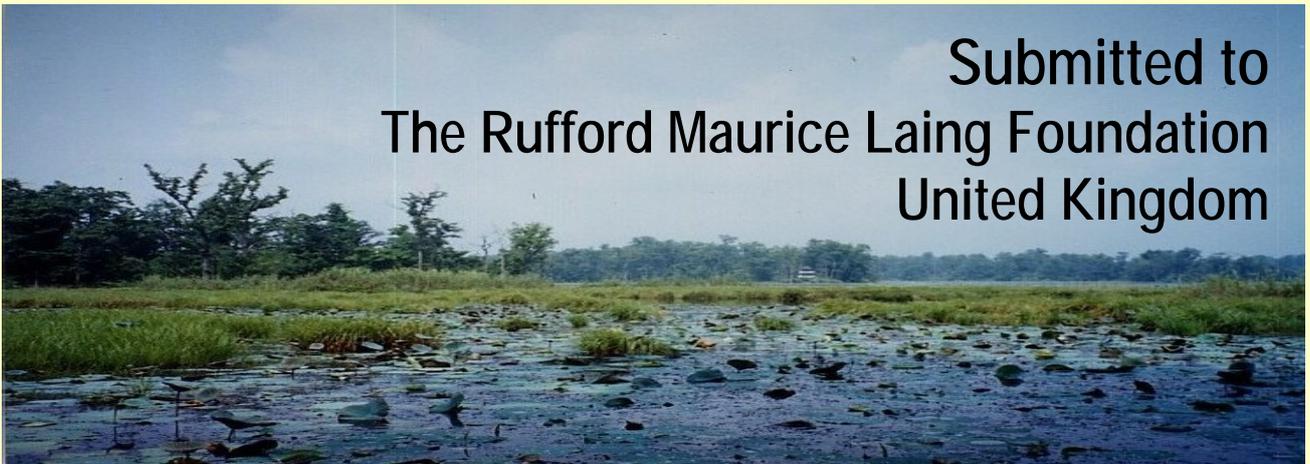


Ghodaghodi Conservation Education Project

Ghodaghodi Lake, Kailali, Nepal

Gandhiv Kafle



Submitted to
The Rufford Maurice Laing Foundation
United Kingdom

Project Report

January 2007



FULL FINAL REPORT

**CREATION OF COMMUNITY AWARENESS ON
WETLAND CONSERVATION FOR BIRDS
AMONG INDIGENOUS PEOPLE AROUND
GHODAGHODI LAKE, KAILALI, NEPAL**

Gandhiv Kafle

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TABLE OF CONTENTS

1. Introduction

- 1.1. Background 1
- 1.2. Key Conservation Issues 1
- 1.3. The Need of Conservation Education and Awareness 2

2. Objectives 3

3. Project Area and Target Groups

- 3.1. Overview of Project Site 4
- 3.2. Target Groups 6

4. Resources and Methods

- 4.1. Resources 7
- 4.2. Methods 8

5. Activities and Outputs

- 5.1. School Teaching Program 9
- 5.2. Curriculum for School Teaching 11
- 5.3. Bird Watching Campaign 13
- 5.4. Drawing Competition 15
- 5.5. Essay Competition 16
- 5.6. Quiz Contest 17
- 5.7. Wetland Race 18
- 5.8. Plant Identification Race 19
- 5.9. Formation of Conservation Clubs 19
- 5.10. Focus Group Discussion and Adult Non-Formal Education 26
- 5.11. Publication and Dissemination 28
- 5.12. Networking 30
- 5.13. Video Show 33
- 5.14. Closing Ceremony 33

6. Evaluation of Project Outputs

- 6.1. Indicators for Project Evaluation 34
- 6.2. Evaluation of the Change in Level of Knowledge of Students 35
- 6.3. Feedback Report: School Program 37
- 6.4. Feedback Report: Focus Group Discussion and Adult Non-Formal Education 37
- 6.5. Major Indicators for Success of Networking 37

7. Lessons Learned 38

8. Future Prospects 39

9. Annex

Annex 1: Project Team 40

Annex 2: Adult Non-Formal Education 42

Annex 3: Identification Of Daily Activities of Focus Groups (E.G. Fishermen, Women, Farmer, Gothalas Etc.) 43

Annex 4: Exploration of Forest and Wetland Resource Use Pattern: Pair Wise Ranking 44

Annex 5: Identification of Problems and Needs 45

Annex 6: Bird Recording Form 46

Annex 7: Observation Form 47

Annex 8: Training-Workshop and Instructor Evaluation 48

Annex 9: Evaluating Participant Success (Birds and Bird Watching) 49

List of Boxes

Box 1. About Ghodaghodi Lake 4

Box 2. Globally Threatened Birds Found In Ghodaghodi Lake 5

Box 3. Project Activities 9

Box 4. Adult Friends of Ghodaghodi 23

List of Tables

Table 1. Project Methods 8

Table 2. Curriculum for Environmental Education in Schools 12

Table 3. Birds Recorded By Students in Ghodaghodi Lake 14

Table 4. Winners of Drawing Competition 16

Table 5. Topics of Essay 17

Table 6. Winners of Essay Competition 17

Table 7. Winners of Quiz Contest 18

Table 8. Plants Identified By Students 19

Table 9. Newly-Formed Wetland Clubs 20

Table 10. Executive Committee of Taranagar Wetland Club 21

Table 11. Executive Committee of Dashrath Wetland Club 22

Table 12. Executive Committee of Sitakund Wetland Club 22

Table 13. Committee of Adult Friends of Ghodaghodi – Phulbari Women Group 24

Table 14. Committee of Adult Friends of Ghodaghodi – Phulbari Men Group 24

Table 15. Committee of Adult Friends of Ghodaghodi – Tegnawa Men Group 25

Table 16. Indicators for Evaluation of Project Outputs 34

Table 17. Marks Difference of Students 35

1. INTRODUCTION

1.1. BACKGROUND

Ghodaghodi Lake is a Ramsar Site and an Important Bird Area (IBA) of Nepal. It covers 2,563 hectares which is remarkable for its rich biodiversity and connectivity between the Terai plains and the Siwalik of Nepal.

Around 140 species of birds have been recorded from Ghodaghodi Lake and Nakhrodi Lake including six globally threatened species. It represents over 16% of the national avifaunal species. Likewise, many species of mammals, reptiles, molluscs, fishes, terrestrial plants and aquatic macrophytes including threatened species have been recorded in the area. The lake is an important religious place with a shrine dedicated to Ghodaghodi deity. Indigenous Tharu people celebrate a traditional festival Agan Panchami during December by worshipping, offering animals and taking holy bath in the lake.

The inhabitants of Ghodaghodi Lake Area are the indigenous *Tharus*, hill-migrants and other occupational caste groups. *Tharus*, one of the most underprivileged tribes in the lowland Nepal, represent about half of the population of the area. *Tharus* are mostly involved in fishing and agriculture. Tharu women, who are shy and avoid outsiders, are involved in collecting snails, fish and other wetland resources. In general, those households that cannot produce enough food for annual subsistence are involved in wage earning (mostly agricultural or forestry), sharecropping, fishing, and collection and sale of Non-Timber Forest Products (NTFPs). The forest around the lake faces pressure from the intense activities of both *Tharus* and hill-migrants.

1.2. KEY CONSERVATION ISSUES

Ghodaghodi Lake Area has not been designated as protected area yet. Despite its rich natural resources and socio-cultural diversity, the lake area is beset with multitude of environmental problems. Growing human and livestock population, immigration from adjoining hilly areas and easy accessibility has further complicated these problems. The pressure of immigrants from adjoining hill areas and indigenous *Tharus* result in intensive use of the lake for traditional fishing and agricultural services. The major factors putting pressure on the site's ecology include:

- High dependency of local people on forest and wetland resources
- Increasing human encroachment along the lake shores and adjoining forests for settlements and agricultural expansion
- Proliferation of alien invasive species

- Natural eutrophication accelerated by religious and agricultural activities
- Erosion on upstream areas and lake sedimentation
- Drainage of lake water for irrigation
- Highway traffic at the southern edge
- Unplanned infrastructure development at the lake shores
- Use of pesticides, herbicides and inorganic fertilisers on agricultural land and poisons for fishing on wetland areas
- Overgrazing on adjacent forest
- Poaching and hunting
- Smuggling of Sal or Sakhuwa *Shorea robusta* and Khair *Acacia catechu* timber
- Low literacy rate of indigenous Tharu people
- Insufficiency of environmental education and awareness among local community on biodiversity value of Ghodaghodi Lake Complex

Thus the manifestation of continuous, unplanned and irrational human interventions occurring in the area could invite a conservation crisis in the area if we fail to intervene now. Integrated conservation and development programmes that benefit the community and help to maintain the biological diversity of the lake are necessary.

1.3. THE NEED OF CONSERVATION EDUCATION AND AWARENESS

Ghodaghodi Lake is facing a number of threats to bird diversity by human interference. Indigenous *Tharu* community and hill-migrants use the lake resources in different ways to fulfil their subsistence needs. The *Tharu* community members are mostly illiterate and they haven't yet known importance of wetlands to biodiversity conservation. They have weak, undiversified and insecure local livelihoods, based mostly on direct exploitation of natural resources. They have little or no option in their patterns of exploitation. Their illiteracy becomes a major factor to continue activities that threaten the biodiversity. So it is essential to aware them about the importance of wetlands to birds continued survival, their activities and negative consequent impacts on wetland resources. We have to motivate them in such a way that they can recognise the value of wetlands themselves, increase their knowledge and become sensitive to issues of wetland management and threats to biodiversity.

We have to motivate them in such a way that they can recognise the value of wetlands themselves, increase their knowledge and become sensitive to issues of wetland management and threats to biodiversity.

2. OBJECTIVES

The project aims to create awareness and impart knowledge amongst indigenous Tharu community and school students about the importance of wetlands and facilitate a process by which they can play their part in reducing threats to birds continued survival and improve natural environment of the wetland ecosystems. In this manner, they can recognise the value of wetlands themselves, increase their knowledge gradually and become sensitive to issues of wetland ecosystem and bird conservation.

3. PROJECT AREA AND TARGET GROUPS

This awareness project was carried out at and around Ghodaghodi Lake Area of Nepal. Ghodaghodi Lake Area is a Ramsar Site and an Important Bird Area of Nepal.

3.1. OVERVIEW OF PROJECT SITE

Ghodaghodi Lake Area falls in the Village Development Committees of Darakh, Ramshikharjhala and Sandepani within Kailali District, in the Zone of Seti, western Nepal. The lake is an important religious place with a shrine dedicated to Ghodaghodi deity. Indigenous Tharu people celebrate a traditional festival *Agan Panchami* during December by worshipping, offering animals and taking holy bath in the lake.

BOX 1. ABOUT GHODAGHODI LAKE

- **Status:** Ramsar Site, Important Bird Area, Unprotected
- **Ramsar Designation Date:** 13-08-2003
- **Location:** Kailali District of Seti Zone, Tropical Region.
- **Coordinates:** 28°41'03'' N, 80°56'43''E
- **Altitude:** 205 m
- **Area:** 2563 hectare

It is a large and shallow lake with finger-like projections. It is characterized with various types of wetlands including a number of rivers and their floodplains, ox-bow lakes, swamps, marshes, reservoirs, ponds, water storage areas and paddy fields. It includes three types of tropical deciduous forests namely Sal *Shorea robusta* forest, Asna or Saj *Terminalia alata* forest and mixed deciduous riverine forest.

More than 30 mammal species have been recorded from the area including Endangered: Tiger *Panthera tigris* and Hispid Hare *Caprolagus hispidus*; Vulnerable: Smooth-Coated Otter *Lutra perpscillata*, Common Otter *Lutra lutra*, Dhole *Cuon alpinus*, Swamp Deer *Cervus duvaucelli*, Clouded Leopard *Neofelis nebulosa* and Sloth Bear *Melaurus ursinus*; Least Risk: Rhesus Macaque *Macaca mulatta* and Hanuman Langur *Semnopithecus entellus*; and Data Deficient: Bengal Fox *Vulpes bengalensis*. Other significant species include Leopard *Panthera pardus*, Jackal *Canis aureus*, Wild Boar *Sus scrofa*, Jungle Cat *Felis chaus*, Fishing Cat *Prionailurus viverrinus*, Mongoose *Herpestes edwardii*, Spotted Deer *Axis axis*, Hog Deer *Axis porcinus* and Barking Deer *Munitacus muntjak*.

A total of 140 bird species has been recorded in the Ghodaghodi Lake and Nakhrodi Lake including the globally threatened White-rumped Vulture *Gyps bengalensis*, Slender-billed Vulture *Gyps tenuirostris*, Lesser Adjutant *Leptoptilos*

javanicus, Ferruginous Pochard *Aythya nyroca*, Darter *Anhinga melanogaster* and Indian-spotted Eagle *Aquila hastata*.

More than 25 fish species have been recorded from the lake including Threatened: *Puntius chola*; and the Endemics: *Notopterus notopterus* and *Oxygaster bacaila*.

**BOX 2. GLOBALLY THREATENED BIRDS
FOUND IN GHODAGHODI LAKE**

- **White-rumped vulture** *Gyps bengalensis*
- **Slender-billed vulture** *Gyps tenuirostris*
- **Lesser adjutant** *Leptoptilos javanicus*
- **Ferruginous pochard** *Aythya nyroca*
- **Darter** *Anhinga melanogaster*
- **Indian-spotted eagle** *Aquila hastata*

The status of amphibians is still unknown in the area. A total of 10 reptile species has been recorded from the area including Critically Endangered: Red-Crowned Roofed Turtle *Kachuga kachuga*; Endangered: Three-Striped Roof Turtle *Kachuga dhongka*; Vulnerable: Marsh Crocodile *Crocodylus palustris*; and Least Risk: Asiatic Rock Python *Python molurus*. More than 30 species of butterflies have been recorded from the area.

More than 470 plant species have been recorded in the area including Globally Vulnerable: Satisal *Dalbergia latifolia* and Nationally Threatened: Vijaysal *Pterocarpus marsupium*, *Operculina turpethum*, Tatelo *Oroxylum indicum*, Kurilo *Asparagus racemosus*, *Butea monosperma*, *Curculigo orchioides*, Pipla *Piper longum* and Aap or Mango *Mangifera indica*. Four species recorded in this area namely Khair *Acacia catechu*, Simal *Bombax ceiba*, Vijaysal *Pterocarpus marsupium* and Sal or Sakhuwa *Shorea robusta* have been protected under Forest Act 1993 of Nepal. The lake area is an excellent source of wild genetic material for cultivated varieties namely Wild Mango *Mangifera indica*, Wild Rice *Oryza rufipogon* and Wild Perilla *Perilla frutescens*.

The proposed site supports 74,500 people from 1100 families, with an average family size of 7.2 persons per household (2001 Census). The population growth rate in the Village Development Committees in the Project area is even higher than the district growth rate and ranges from 6.74–8.07 percent per annum. The majority of the population within the Project site belongs to the Tharu community who are recognized as a terai indigenous community and wetland-dependent ethnic group. The people of hill-origin, mostly Chhetri, Brahmin, Magar and other occupational castes, form the second largest ethnic group (47.0 percent). Other terai-origin groups make up the remaining 1.7 percent of the population. Emigration from the Project area is estimated to be minimal, while immigration into the area is very high. People from the northern hilly districts of Dadeldhura, Baitadi and Doti make up the bulk of immigrants. Information on annual immigration is unavailable.

3.2. TARGET GROUPS

3.2.1. Target groups at Ghodaghodi Lake Area

The target groups of this project were school students, indigenous Tharu people and local community groups (community forest user groups, women, fishermen, herdsman). The details of these target groups are mentioned below.

3.2.1.1. Selection of schools

Three schools were selected for wetland education as follows:

- 1) Sitakunda Secondary School, Ramshikharjhala VDC,
- 2) Dasarath Secondary School, Sadepani VDC, and
- 3) Rastriya School, Sadepani VDC.

Students of classes 5-9 were involved in the project. Training-workshop and awareness campaign was conducted among them. A Wetland Club was formed in each school with the representatives of classes 5-9.

3.2.1.2. Selection of local communities

Two Community Forest User Groups (CFUGs) were selected for program activities as follows:

- 1) Tegnawa female CFUG, Darakha -5, Ghodaghodi , Kailali, and
- 2) Phulbari CFUG, Ramshikharjhala VDC - 9, Seukalia , Kailali

Both community forests surround the lake area. Three adult groups were formed from these forest user groups for focus group discussion and adult non-formal education. Three committees entitled 'Adult Friends of Ghodaghodi' were formed among which two groups include only women and one group include both men and women.

3.2.2. Target groups at national and international level

The target groups of networking and publication activities of the project were as follows:

1. College students
2. School teachers
3. College teachers
4. Professionals (forestry, wetland, wildlife)

These stakeholders joined the online discussion forum (<http://groups.yahoo.com/group/wetlandfriends>) and participated in active discussion and information sharing with network members. They had had free access of the online version of publications on the project website produced by the project team.

4. RESOURCES AND METHODS

4.1. RESOURCES

The major resources needed to implement the project are as follows:

- 1 team leader
- 6 volunteers
- One local person
- One advisor and reviewer
- One Camera
- 8 Binoculars
- 8 Bird guide books
- Literatures for educational kits
- Extension materials
- Consumables and field gears
- Stationeries
- One Computer
- Audio-visual equipments and films
- Training-workshop hall
- Cycles, motorbike and minibus hire

4.2. METHODS

The project methods and purpose of using are as follows:

TABLE 1. PROJECT METHODS

METHODS	PURPOSE
Planning and team arrangement	to make a detail project plan; to select and empower volunteers
School teaching program	to provide introductory knowledge on birds, wetlands, forests and their importance to school students
Bird watching campaign	to impart practical knowledge on bird watching, facilitate self-motivation on bird conservation and threat reduction among students
Focus group discussion	to form separate groups such as fishermen, herdsman, women etc. for interaction, education and motivation
Adult non-formal education	to aware the adults of different status (i.e. women, fishermen etc) about the threats from their activities and ways of reducing them
Formation and capacity building of wetland clubs	to facilitate local people to feel self-responsible and ensure continuity of conservation efforts in long-run at local level
Publication and dissemination	to widen the local knowledge; to provide basis for knowledge acquisition by students and knowledge dissemination by facilitators
Website development and hosting	to make educational materials available for free download access and ensure information dissemination and awareness on long-run
Formation of online network of conservationists	to bring the conservationists in a common forum for discussion on wetland issues
Students' competitions	to evaluate the effectiveness of awareness activities among school students
Report preparation and dissemination	to prepare a final report including activities conducted, outcomes achieved and future developments

5. ACTIVITIES AND OUTPUTS

A range of activities were carried out during the project period. A checklist of major activities is presented in the following box.

BOX 3. PROJECT ACTIVITIES

- Volunteer selection and empowerment (for project purpose)
- Community consultation and stakeholder meeting
- Wetland clubs formation and training
- Work plan preparation for clubs
- Curriculum preparation
- School teaching program
- Bird watching field campaign
- Drawing competition
- Essay competition
- Quiz contest
- Wetland race
- Plant identification race
- Formation of conservation committees of adults
- Focus group discussion
- Adult education
- Distribution of educational materials
- Audio-visual show
- Project website development
- Formation of online discussion forum
- Preparation of educational materials (electronic plus hard copies)
- Report preparation

The details of each project activity and its outputs are explained below:

5.1. SCHOOL TEACHING PROGRAM

School teaching activity was conducted among students of classes 5-9 in the following schools:

1. Sitakunda Secondary School, Ramshikharjhala VDC,
2. Dasarath Secondary School, Sadepani VDC, and
3. Rastriya Secondary School, Sadepani VDC.

An innovative approach was used in school teaching. The project team first provided training to the committee members of three newly-formed wetland clubs. Later, they were mobilised in school teaching program with direct facilitation and instructions of project team.

Three wetland clubs have been formed in three schools around Ghodaghodi Lake: 1) Dashrath Wetland Club in Dashrath Secondary School, 2) Sitakunda Wetland Club in Sitakunda Secondary School, and 3) Taranagar Wetland Club in

Rastriya Secondary School. These 'Wetland Clubs' are formed for the first time in Nepal. So, its sustainability is yet to be emerged and developed. Each club consists of 15 committee members. All students of the school of 5-9 classes are general members of the club.



The 15 committee members of each wetland club were empowered through training-workshop and awareness campaign in each school. The major activities during this workshop and campaign are - indoor training on wetlands and biodiversity, bird watching, wetland race, drawing

competition, essay competition, quiz contest, plant identification race, play card display , audio-visual show and wall magazine publication. The indoor training activities were carried out in respected school and the outdoor activities were

conducted at Ghodaghodi Lake Area in natural environment.



Then, the project team facilitated the school teaching program among students of classes 5-9 mobilizing the trained wetland club members in each school.

5.2. CURRICULUM FOR SCHOOL TEACHING

The following curriculum was developed from 4-days writeshop at Institute of Forestry, Pokhara. This curriculum was finalized after a thorough review and enhancement with school teachers at the project area. Then, it was used for school teaching among students around Ghodaghodi Lake.

The detail curriculum is presented in table 2.

Outputs:

1. Altogether, 450 school students around Ghodaghodi Lake have gained introductory knowledge on birds, bats, bird watching, wetlands, forests, biodiversity and environment from this activity.
2. 45 committee members of newly-formed wetland clubs have gained basic knowledge and skill on conducting school teaching program in their own initiative in each school.
3. A curriculum of wetland education has been developed suitable for school students of classes 5-9.
4. School teaching program has been included in work plan of each wetland club.

TABLE 2. CURRICULUM FOR ENVIRONMENTAL EDUCATION IN SCHOOLS

UNITS	SUBUNITS
<p>1. Biodiversity and Environment</p>	<p>a. What is biodiversity? b. Forms of biodiversity c. Why conserve biodiversity d. Status of biodiversity in Nepal e. Threats to biodiversity f. How to conserve biodiversity g. What is environment? h. Environmental problems i. How to conserve environment</p>
<p>2. Forests</p>	<p>a. What is forest? b. Types of forests c. Why conserve forests d. Status of forests in Nepal e. Threats to forests f. How to conserve forests</p>
<p>3. Wetlands</p>	<p>a. What is wetland? b. Types of wetlands c. Why conserve wetlands d. Status of wetlands in Nepal e. Introduction to Ramsar and Ramsar Sites f. Ramsar sites of Nepal g. Criteria for designing Ramsar sites h. Threats to wetlands i. How to conserve wetlands</p>
<p>4. Birds</p>	<p>a. What is bird? b. Evolution of birds c. Body parts of birds d. Why conserve birds e. Habitats of birds f. Threats to birds g. Status of birds in Nepal h. Reasons for decline of birds in Nepal i. How to conserve birds</p>
<p>5. Bird Watching or Birding</p>	<p>a. What is bird watching? b. Why bird watching c. Methods of bird watching d. Methods of finding more birds e. Requirements for bird watching f. Factors affecting bird watching g. Code of conduct for bird watching h. How to identify birds i. Bird recording j. Selection, use and care of binoculars and field guide k. Characteristics of good bird watcher l. Characteristics of good bird guide m. Organizing a bird walk n. Establishing a local bird club</p>
<p>6. Bats: Myths and Realities</p>	<p>a. What is bat? b. Myths about bats c. Evolution of bats d. Habitats of bats e. Body parts of bats f. Why conserve bats g. Status of bats in Nepal h. Reasons for decline of bats in Nepal i. How to conserve bats j. Stories related to bats k. Games related to bats</p>

5.3. BIRD WATCHING CAMPAIGN

Bird watching campaign was carried out in two phases. In the first phase, 15 committee members of each wetland club were trained on bird watching techniques in natural settings of Ghodaghodi Lake Area. Three groups, including 5 club members were formed in each club. Each group was guided by a project team member. A House Martin was captured at the lake area and demonstrated how to identify birds. Altogether 45 committee members of three wetland clubs were trained. It is expected that the wetland clubs will be able to conduct bird

watching to its members after this training.



In the second phase, we facilitate the committee members of the club in mobilizing the school students of classes 5-9 for bird watching around the lake area. Groups, including 25-30 students were formed in each school. Each group was guided by a club member. Each group filled a form (shown in annex 6)

recording all the bird species recorded. Project team facilitated and monitored the activity among all groups. Altogether 450-500 school students of three schools have gained introductory knowledge on birds and bird watching from this activity.

The birds recorded by the students in the lake area with the facilitation of project team are as follows:

TABLE 3. BIRDS RECORDED BY STUDENTS IN GHODAGHODI LAKE

S.N.	COMMON NAME	SCIENTIFIC NAME
1.	Cattle egret	<i>Bubulcus ibis</i>
2.	Black ibis	<i>Pseudibis papillosa</i>
3.	Black kite	<i>Milvus migrans</i>
4.	Common coot	<i>Fulica atra</i>
5.	Common greenshank	<i>Tringa nebularia</i>
6.	Common kingfisher	<i>Alcedo atthis</i>
7.	Common moorhen	<i>Gallinula chloropus</i>
8.	Common pochard	<i>Aythya ferina</i>
9.	Common sandpiper	<i>Actitis hypoleucos</i>
10.	Common teal	<i>Anas crecca</i>
11.	Cotton pigmy goose	<i>Nettapus coromandelianus</i>
12.	Crested serpent eagle	<i>Spilornis cheela</i>
13.	Darter	<i>Anhinga melanogaster</i>
14.	Eurasian wigeon	<i>Anas penelope</i>
15.	Gadwall	<i>Anas strepera</i>
16.	Great egret	<i>Casmerodius albus</i>
17.	Green sandpiper	<i>Tringa ochropus</i>
18.	Grey heron	<i>Ardea cinerea</i>
19.	Indian pond heron	<i>Ardeola grayii</i>
20.	Intermediate egret	<i>Mesophoyx intermedia</i>
21.	Lesser whistling-duck	<i>Dendrocygna javanica</i>
22.	Little cormorant	<i>Phalacrocorax niger</i>
23.	Little egret	<i>Egretta garzetta</i>
24.	Northern pintail	<i>Anas acuta</i>
25.	Northern shoveler	<i>Anas clypeata</i>
26.	Purple heron	<i>Ardea purpurea</i>
27.	Purple swamphen	<i>Porphyrio porphyrio</i>
28.	Red-wattled lapwing	<i>Vanellus indicus</i>
29.	River ten	<i>Sterna aurantia</i>
30.	Stork-billed kingfisher	<i>Halcyon capensis</i>
31.	White-breasted waterhen	<i>Amaurornis phoenicurus</i>
32.	White-throated kingfisher	<i>Halcyon smyrnensis</i>
33.	Wolly-necked stork	<i>Ciconia episcopus</i>

Outputs:

1. Altogether, 450 school students around Ghodaghodi Lake have gained introductory knowledge on birds, bird watching, bird identification and use and care of binoculars from this activity.
2. 45 committee members of newly-formed wetland clubs have gained basic knowledge and skill on conducting bird watching program in their own initiative in each school.
3. Bird watching program has been included in work plan of each wetland club.

5.4. DRAWING COMPETITION

15 committee members of each wetland club were trained on how to carry out drawing competition among school students. Altogether 45 committee members of three wetland clubs were trained.

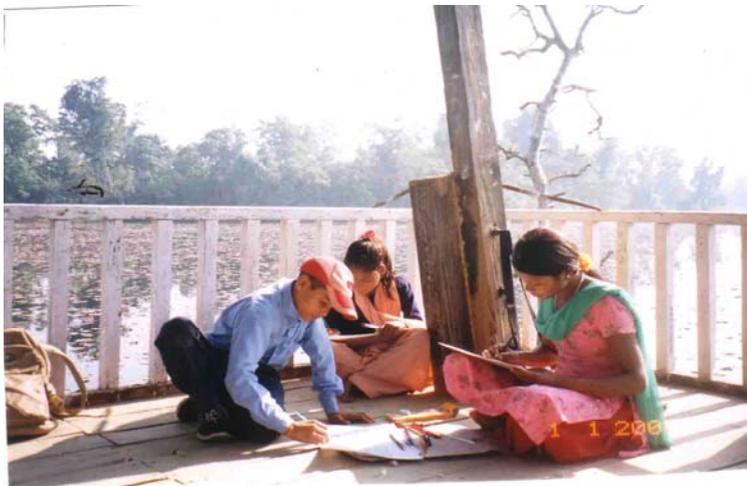
Drawing competition was also arranged between these students. Five groups were formed including three club members each. Drawing sheet was provided to each club member with color pencils, pencil and eraser. Each member was asked to draw a picture related to wetland within two hours. This activity was carried out around the lake in natural lake scenery. Altogether 45 club members participated in the drawing competition.



The picture drawn by the students were evaluated by project team and science teacher of respected school. Results were synthesized group-wise within school, but individual-wise among school. Prize was distributed to winners.

Evaluators:

- Project team (Gandhiv Kafle, Hari Adhikari, Bharat Bhatta, Mohan K. C.)
- Science teachers of respective schools



Drawing competition has been included in work plan of each wetland club. The winners of the drawing competition are as follows:

TABLE 4. WINNERS OF DRAWING COMPETITION

NAME OF SCHOOL	NAME OF STUDENT
Sitakunda Secondary School	Pradip Bam Bebika Chaudhary Swastika Chaudhary
Dashrath Secondary School	Upendra Rana Rita Gharti Darshan Bam
Rastriya Secondary School	Yashoda Ali Gokul Singh Dhama Radha Panta

Outputs:

1. 45 committee members of newly-formed wetland clubs have gained basic knowledge and skill on conducting drawing competition program in their own initiative in each school.
2. Drawing competition has been included in work plan of each wetland club.

5.5. ESSAY COMPETITION

15 committee members of each wetland club were trained on how to carryout essay competition among school students. Altogether 45 committee members of three wetland clubs were trained.

Essay competition was also arranged between these students. Five groups were formed including three club members each. Paper sheet was provided to each club member with dot-pen. Common topic was provided to the participants and they were asked to write essay within half an hour time. This activity was carried out around the lake in natural settings. Altogether 45 club members participated in the essay competition.

The topics provided to the students are as follows:

TABLE 5. TOPICS OF ESSAY

S.N.	SCHOOL	ESSAY TOPIC
1.	Sitakunda Secondary School	Role of students on biodiversity conservation
2.	Dashrath Secondary School	Role of students on biodiversity conservation
3.	Rastriya Secondary School	Birds and bird watching

Evaluators: Project team

Essay competition has been included in work plan of each wetland club. The winners of the essay competition are as follows:

TABLE 6. WINNERS OF ESSAY COMPETITION

NAME OF SCHOOL	NAME OF STUDENT
Sitakunda Secondary School	Ananda Joshi Birjan Rasali Laxmi Shahi
Dashrath Secondary School	Sita Chaudhary Rita Adhikari Haris Deuba
Rastriya Secondary School	Prem Bahadur Sunar Rita Acharya Heema Chaudhary

Outputs:

1. 45 committee members of newly-formed wetland clubs have gained basic knowledge and skill on conducting essay competition program in their own initiative in each school.
2. Essay competition program has been included in work plan of each wetland club.

5.6. QUIZ CONTEST

15 committee members of each wetland club were trained on how to carryout quiz competition among school students. Altogether 45 committee members of three wetland clubs were trained.

Quiz contest was carried out among the club members of the wetland clubs. Five groups were formed, each containing three students and questions were asked about birds, wetlands, ramsar sites, bats, bird watching, biodiversity, forests and

environment. This activity was carried out around the lake in natural settings. Altogether 45 club members participated in the quiz contest. Quiz contest has been included in work plan of each wetland club.

The question pattern was as follows:

- Wetlands and birds: 50%
- Biodiversity and environment: 20%
- Ghodaghodi Lake: 10%
- Science: 10%
- Miscellaneous: 10%

The winners of the quiz contest are as follows:

NAME OF SCHOOL	NAME OF STUDENT
Sitakunda Secondary School	Abhishek Ojha Swastika Chaudhary Gita Joshi
Dashrath Secondary School	Usha Bhatta Bimal Bist Gagan Bist
Rastriya Secondary School	Heema Chaudhary Prem Bahadur Sunar Rita Acharya

Outputs:

1. 45 committee members of newly-formed wetland clubs have gained basic knowledge and skill on conducting quiz contest program in their own initiative in each school.
2. Essay competition has been included in work plan of each wetland club.

5.7. WETLAND RACE

Wetland race was carried out among the club members to demonstrate them the present condition of the lake and adjacent forest. 15 committee members of each wetland club were participated in the race. A form was distributed to each member to note the details observed (annex 7). The participants were facilitated by the project team. Altogether 45 committee members of three wetland clubs were involved.

Outputs:

1. 45 committee members of newly-formed wetland clubs have gained basic knowledge and skill on identifying the linkage between human activities and their effects on wetlands. They become capable to conduct wetland race program in their own initiative in each school.

2. Wetland race has been included in work plan of each wetland club.

5.8. PLANT IDENTIFICATION RACE

Plant identification race was carried out among the students to teach them basic techniques on plant identification. Groups were formed each containing five students and a form was distributed for each group to note the details (annex 7). The participants were facilitated by the project team. Altogether 45 committee members of three wetland clubs were involved. The plants identified by the students are as follows:

TABLE 8. PLANTS IDENTIFIED BY STUDENTS

S.N.	NEPALI NAME	SCIENTIFIC NAME
1.	Sal	<i>Shorea robusta</i>
2.	Asna	<i>Terminalia tomentosa</i>
3.	Bet	<i>Calamus tenuis</i>
4.	Buddhairo	<i>Lagerstroemia parviflora</i>
5.	Karma	<i>Adina cordifolia</i>
6.	Sisau	<i>Dalbergia sissoo</i>
7.	Khair	<i>Acacia catechu</i>
8.	Tanki	<i>Bauhinia purpurea</i>
9.	Simal	<i>Bombax ceiba</i>
10.	Mango	<i>Mangifera indica</i>
11.	Bijaysal	<i>Dalbergia latifolia</i>
12.	Tantari	<i>Dillenia pentagyna</i>
13.	Sindhure	<i>Mallotus philippensis</i>
14.	Champ	<i>Michellia champaca</i>
15.	Amala	<i>Phyllanthus emblica</i>

Outputs:

1. 45 committee members of newly-formed wetland clubs have gained basic knowledge and skill on identifying the plants found at Ghodaghodi Lake Area. They become capable to conduct plant identification race program in their own initiative in each school.
2. Plant identification race has been included in work plan of each wetland club.

5.9. FORMATION OF CONSERVATION CLUBS

Conservation clubs were formed in schools and community. The clubs formed in schools were named as 'wetland clubs' and in community were named as 'Adult Wetland Groups'.

5.9.1. Formation of Wetland Clubs in Schools

Altogether three wetland clubs were formed in three schools around the Ghodaghodi Lake. Each club consists of 15 executive committee members including both boys and girls. The science teacher of the respective school and a

representative of Wetland Friends of Nepal (project team) are the advisors of the club. Principal of the school is the patron of the club in his/her school. The newly-formed wetland clubs are as follows:

TABLE 9. NEWLY-FORMED WETLAND CLUBS

S. N.	SCHOOL	WETLAND CLUB	NUMBER OF COMMITTEE MEMBERS	NUMBER OF GIRLS IN COMMITTEE
1.	Rastriya Secondary School, Sadepani VDC	Taranagar Wetland Club	15	6 (40%)
2.	Dashrath Secondary School, Sadepani VDC	Dasarath Wetland Club	15	7 (46.67%)
3.	Sitakunda Secondary School, Ramshikharjhala VDC	Sitakunda Wetland Club	15	8 (53.33%)



The details of committee members of each club are presented below.

a. Executive Committee of Taranagar Wetland Club

TABLE 10. EXECUTIVE COMMITTEE OF TARANAGAR WETLAND CLUB

S.N.	TITLE	NAME	SEX	CLASS
1.	President	Jagadish Chaudhary	Male	8
2.	Vice President	Heema Chaudhary	Female	9
3.	Secretary	Prem Bahadur Sunar	Male	8
4.	Joint Secretary	Om Prakash Chaudhary	Male	9
5.	Treasurer	Rita Acharya	Female	6
6.	Member	Yashoda Ali	Female	8
7.	Member	Gokul Singh Dhami	Male	6
8.	Member	Radha Panta	Female	7
9.	Member	Jeeban Kumari Chaudhary	Female	8
10.	Member	Surendra Chaudhary	Male	9
11.	Member	Amrita Jaishi	Female	7
12.	Member	Shiva Raj Khanal	Male	7
13.	Member	Prabin Chaudhary	Male	7
14.	Member	Dammar Bahadur Chaudhary	Male	9
15.	Member	Khusi Ram Chaudhary	Male	8



b. Executive Committee of Dashrath Wetland Club

TABLE 11. EXECUTIVE COMMITTEE OF DASHRATH WETLAND CLUB

S.N.	TITLE	NAME	SEX	CLASS
1.	President	Haris Deuba	Male	9
2.	Vice President	Chandra Chaudhary	Female	8
3.	Secretary	Usha Bhatta	Female	9
4.	Joint Secretary	Rita Gharti	Female	7
5.	Treasurer	Gagan Bist	Male	8
6.	Member	Binod Bhandari	Male	6
7.	Member	Upendra Rana	Male	7
8.	Member	Sita Chaudhary	Female	6
9.	Member	Rita Adhikari	Female	6
10.	Member	Topraj Bhandara	Male	7
11.	Member	Darshan Bam	Male	7
12.	Member	Mamta Bhandari	Female	7
13.	Member	Arjun Baduwal	Male	8
14.	Member	Sita Bist	Female	8
15.	Member	Bimal Bist	Male	5

c. Executive Committee of Sitakund Wetland Club

TABLE 12. EXECUTIVE COMMITTEE OF SITAKUND WETLAND CLUB

S.N.	TITLE	NAME	SEX	CLASS
1.	President	Anju Joshi	Female	8
2.	Vice President	Bharat Shahi	Male	6
3.	Secretary	Sushila Chaudhary	Female	8
4.	Joint Secretary	Surendra Prasad Chaudhary	Male	6
5.	Treasurer	Laxmi Shahi	Female	9
6.	Member	Bandana Kumari Chaudhary	Female	6
7.	Member	Birjan Rasali	Male	7
8.	Member	Abhishek Ojha	Male	8
9.	Member	Man Bahadur Chaudhary	Male	8
10.	Member	Pradip Bam	Male	9
11.	Member	Ananda Joshi	Male	7
12.	Member	Gita Joshi	Female	6
13.	Member	Bebika Chaudhary	Female	5
14.	Member	Manila Chaudhary	Female	7
15.	Member	Swastika Chaudhary	Female	7

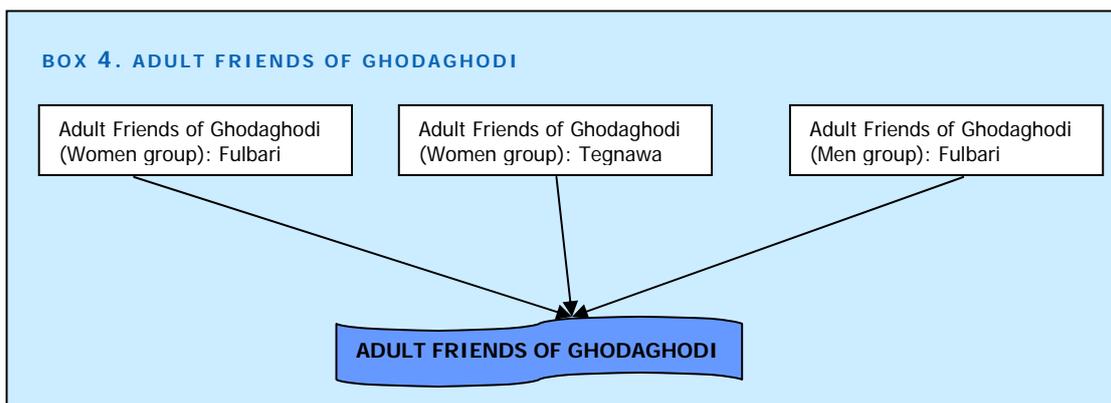
The 15 committee members were empowered through training-workshop and awareness campaign in each school. A work plan has been prepared for each club in participatory manner with club members, project team and school teachers. Each club has agreed to celebrate World Wetlands Day (Feb. 2, 2007) with some awareness activities, to publish wall magazine trimonthly, to conduct regular meetings, to conduct school cleaning campaign etc. These are the wetland clubs formed for the first time in Nepal. So, their sustainability is yet to be emerged and developed.

Outputs:

1. Three wetland clubs were formed in three schools around the Ghodaghodi Lake.
2. A work plan has been prepared for each club in participatory manner.

5.9.2. Formation of Adult Wetland Groups in Local Community

Altogether four conservation committees were formed among two Community Forest User Groups (CFUG) - Phulbari CFUG and Tegnawa CFUG around the Ghodaghodi Lake. Among them, two committees (one in Phulbari CFUG and other in Tegnawa CFUG) consists of only women, one committee (in Phulbari CFUG) with only men and one steering committee including users of both CFs. They were entitled 'Adult Friends of Ghodaghodi'. They were empowered through focus group discussion and adult non-formal education. The list of newly formed adult wetland groups is as follows:



1. Name of group: Adult Friends of Ghodaghodi: Women group
Location: Phulbari Community Forest User Group, Ramshikharjhala VDC - 9, Seukalia , Kailali
Committee members

TABLE 13. COMMITTEE OF ADULT FRIENDS OF GHODAGHODI – PHULBARI WOMEN GROUP

TITLE	NAME	OCCUPATION	ADDRESS
Coordinator	Radha Devi Chaudhary	Agriculture	Ramshikharjhala -9 , Seukalia
Member	Hira Devi Chaudhary	Agriculture	Ramshikharjhala -9, Seukalia
Member	Manpati Devi Chaudhary	Agriculture	Ramshikharjhala -9 , Seukalia
Member	Shova Devi Chaudhary	Agriculture	Ramshikharjhala -9 , Seukalia
Member	Sarita Devi Chaudhary	Agriculture	Ramshikharjhala -9 , Seukalia
Member	Lahani Chaudhary	Agriculture	Ramshikharjhala -9 , Seukalia
Member	Sarita Chaudhary (B)	Agriculture	Ramshikharjhala -9 , Seukalia
Member	Ram Devi Chaudhary	Agriculture	Ramshikharjhala -9 , Seukalia
Member	Kalpana Chaudhary	Agriculture	Ramshikharjhala -9 , Seukalia

2. Name of the group: Adult Friends of Ghodaghodi: Men group
Location: Phulbari Community Forest User Group, Ramshikharjhala VDC - 9, Seukalia , Kailali
Committee members

TABLE 14. COMMITTEE OF ADULT FRIENDS OF GHODAGHODI – PHULBARI MEN GROUP

TITLE	NAME	OCCUPATION	ADDRESS
Coordinator	Man Bahadur Chaudhary	Agriculture	Ramshikharjhala -9 Seukalia, Kailali
Member	Lahu Ram Chaudhary	Agriculture	Ramshikharjhala -9 Seukalia, Kailali
Member	Bhagi Ram Chaudhary	Agriculture	Ramshikharjhala -9 Seukalia, Kailali
Member	Puni Ram Chaudhary	Agriculture	Ramshikharjhala -9 Seukalia, Kailali
Member	Ram Din Chaudhary	Agriculture	Ramshikharjhala -9 Seukalia, Kailali
Member	Ram Bahadur Chaudhary	Agriculture	Ramshikharjhala -9 Seukalia, Kailali
Member	Som Dutt Chaudhary	Agriculture	Ramshikharjhala -9 Seukalia, Kailali
Member	Shova Ram Chaudhary	Agriculture	Ramshikharjhala -9 Seukalia, Kailali
Member	Ram Lakhan Chaudhary	Agriculture	Ramshikharjhala -9 Seukalia, Kailali

3. Name of group: Adult Friends of Ghodaghodi: Women group
Location: Tegnawa female community forest user group, Darakha -5, Ghodaghodi , Kailali
Committee members

TABLE 15. COMMITTEE OF ADULT FRIENDS OF GHODAGHODI – TEGNAWA MEN GROUP

TITLE	NAME	OCCUPATION	ADDRESS
Coordinator	Santu Chetri	Agriculture	Darakh -5 Ghodaghodi, Kailali
Member	Muna Joshi	Agriculture	Ramshikharjhala – 7 Bishphanta, Kailali
Member	Saraswati Gautam	Agriculture	Darakh -5 Sukhad , Kailali
Member	Maina Devi Dhakal	Agriculture	Darakh -5 Sukhad , Kailali
Member	Chanda Gautam	Agriculture	Darakh -5 Sukhad , Kailali
Member	Gyanu Acharya	Agriculture	Darakh -5 , Ghodaghodi , Kailali
Member	Shova Devi Rawat	Agriculture	Ramshikharjhala – 7 Bishphanta, Kailali
Member	Lalita Acharya	Agriculture	Darakh -5 , Ghodaghodi , Kailali
Member	Shanti Bom	Agriculture	Darakh -5 , Ghodaghodi , Kailali

**Commitments made by Adult Friends of Ghodaghodi (Women Group):
Phulbari**

1. Maintenance of lake bank for the protection of the lake
2. Periodic removal of Water hyacinth from the lake
3. Gardening around the lake
4. Protection against illegal fishing
5. Patrolling around the lake and the forest.



Commitments made by Adult Friends of Ghodaghodi (Women Group): Tegnawa

1. Protection against the illegal fishing
2. Assisting the lake conservation by conserving the forest
3. Patrolling around the forest and the lake.

Commitments made by Adult Friends of Ghodaghodi (Men Group): Phulbari

1. Lake bank construction for the protection of the lake
2. Removal of Water hyacinth in monthly basis from the lake water
3. Patrolling around the lake and the forest.

Overall commitments made by Adult Friends of Ghodaghodi (Steering Committee)

1. Regular patrolling to forest and wetland areas
2. Removal of Water hyacinth in monthly basis from the lake water

Outputs:

1. Altogether three conservation committees were formed among two Community Forest User Groups (CFUGs).

5.10. FOCUS GROUP DISCUSSION AND ADULT NON-FORMAL EDUCATION

Focus group discussion and adult non-formal education were conducted among the users of two community forests (CFs) - Phulbari CF and Tegnawa CF around Ghodaghodi Lake. Three separate focus groups of women, fishermen and local farmers were formed for focus group discussions in each CF. 77 participants were involved in focus group discussion. The major objective of focus group discussion was to identify how the local people perceive the avifaunal value of wetland ecosystem and whether they understand the impact of their day-to-day activities on birds and wetland ecosystem. After focus group discussions, non-formal literacy classes were conducted among the participants to increase understanding on existing and emerging threats from their day-to-day activities and ways of reducing them, to provide knowledge on importance of wetland and forest for bird conservation, and to motivate them in changing their attitude towards conservation. Four conservation committees were formed in two CFs among which two committees consists of only women, one committee with only men and one steering committee including users of both CFs. They were entitled 'Adult Friends of Ghodaghodi'. They were empowered through focus group discussion and literacy classes. The committees made some important commitments towards forest and wetland conservation at the Ghodaghodi area even after the phase out of the project. Pair wise ranking was conducted to prioritise the resource use from the forest and wetland ecosystem. Posters and fact sheets on conservation of birds, wetlands, forests and non-timber forest

products (NTFPs) were distributed among the participants. The objective questionnaire was developed and distributed to the participants to evaluate the effectiveness of the program in creating awareness on wetland conservation for birds among the participants.

Focus group discussion revealed information on day-to-day activities of local people on forest and wetland, resource use pattern, problems and threats to birds and wetland ecosystem, need of the local people, locally perceived options to enhance local livelihood and to reduce pressure on wetlands, and their perception on value of wetland for birds' survival. We provide education on importance of wetlands for bird conservation, the impact of human activities on birds, wetlands and forests, importance of birds, importance of Ghodaghodi Lake at local, national and international level, role of local people in bird and wetland conservation and future priorities in conservation.

It was found that migrants from adjoining hilly area have better understanding on the value of the wetland for bird conservation. But the case of indigenous *Tharus* was quite different. About 80 percent of indigenous *Tharu* people in the focus groups do not understand the relationship between the birds' survival and wetland ecosystem. About 92 percent of them showed ignorance towards the term 'biodiversity', however, they had good understanding on the value of plants, especially non-timber forest products at and around the lake, in local terms. Participants of Phulbari CF, who were completely indigenous *Tharus* only, showed their dissatisfaction on that the outsiders (funding agencies and elite-dominated community-based organizations) used to discriminate them in conservation, development and awareness activities. They have practiced rotational grazing on four small blocks of community forest land to reduce the grazing pressure on the forest. They have faced problem in extraction of the timber, fuel wood and fodder from the forest because the operational plan of the forest has not been renewed even after five years. It has prevented them in using the forest resources especially timber. They are highly interested in establishing a community based nursery to produce seedlings for plantation in marginal and private lands. The participants demonstrated their need of programs to promote agro forestry so that they can reduce the dependency on the forests for fuel wood and fodder. The major non-timber forest products in the area were bamboo, rattan, kurilo (*Asparagus racemosus*), citronella (*Cymbopogon winterianus*), amala (*Phyllanthus emblica*), palmarosa (*Cymbopogon martini*), Pipla, marich and mentha (*Mentha arvenses*). They have not obtained trainings and manuals on cultivation and management of non-timber forest products. If managed properly providing technical support to users, these NTFPs could generate local income and employment. The users are facing the problem of marketing even if the CF holds significant amount and diversity of NTFPs like pipla, bamboo etc. The users have interest to contribute in Ghodaghodi lake conservation for wise use of wetland

resources, but it could not happen because the outsiders (funding agencies and active community-based organizations) have not adopted inclusive and integrated approach to include the Phulbari CFUG members for the conservation of the lake.

The case of Tegnawa CF users was somewhat different. The government authority had relocated about 15 households from the shore of the lake during last few years but still they have not been paid the compensation for the relocation. It has created nuisance on daily subsistence to some of the users and they have fear that the government authority may relocate them again to another place even though they are far from the lake (below the highway). They do not want to go anywhere from there habitation again due to their dependency on wetland resources including water for irrigation from the lake. The relocated area has now been planted with grass species and fodder trees. Local women groups have managed this area. The users of Tegnawa CF are highly benefited from irrigation of agricultural land. The source of irrigation is Ghodaghodi Lake. Use of catapult for hunting of water birds by kids and cattle herders was a problem in this area. The problems of NTFP management training, nursery establishment and community forest operational plan renewal were reported as in Phulbari CF. Collection of fodder, fuel wood and poles was observed as the major activity in the forest. Fishing, irrigation and collection of wetland plants such as lotus seeds were the major activities in the lake area.

Outputs:

1. About 150 local people including 77 indigenous Tharus obtained basic knowledge on importance of wetlands for bird conservation, the impact of human activities on birds, wetlands and forests, importance of birds, importance of Ghodaghodi Lake at local, national and international level, role of local people in bird and wetland conservation and future priorities in conservation.
2. Day-to-day activities of local people on forest and wetland, resource use pattern, problems and threats to birds and wetland ecosystem, need of the local people, locally perceived options to enhance local livelihood and to reduce pressure on wetlands, and their perception on value of wetland for birds' survival were explored in participatory manner. It will guide planning of community awareness program focusing on priority areas.

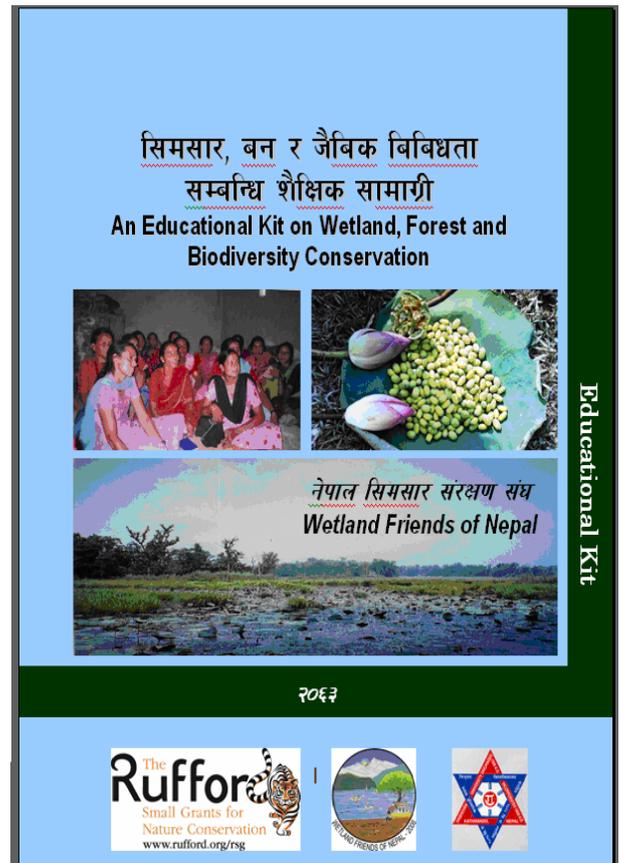
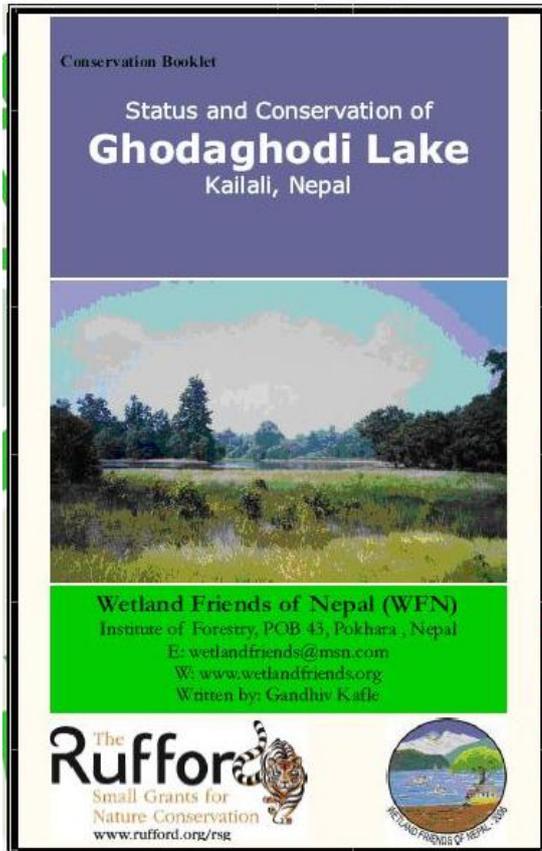
5.11. PUBLICATION AND DISSEMINATION

Educational kits were prepared in different subject areas such as birds, wetlands, forests, protected areas, Ramsar sites etc. These kits have been included in the project website www.wetlandfriends.org/publications.htm for free download

access. They were also printed as leaflets and distributed to the participants around Ghodaghodi Lake during the project.

Outputs:

1. The educational kits prepared (as leaflets) and distributed during the project are as follows:
 1. Wetlands and Ramsar Sites
 2. Ramsar Sites of Nepal
 3. Birds and their Importance
 4. Important Bird Areas (IBAs) of Nepal
 5. Threats to Waterbirds of Nepal
 6. Checklist of wetland-dependent birds found in Ghodaghodi Lake, Kailali, Nepal
 7. Profile of Globally Threatened Birds Found in Ghodaghodi Lake, Kailali, Nepal
 8. Forests and their Importance
 9. Forest Types of Nepal
 10. Threats to Forests of Nepal and their Effects with Reference to Terai and Siwaliks
 11. Protected Areas of Terai-Siwaliks of Nepal
 12. IUCN species endangerment status categories
 13. Definitions of IUCN protected areas management categories
2. Two publications have been printed in binding form in Nepali Language and distributed to the participants in school and local communities. They are:
 - a. An introduction to birds, wetlands and forest conservation in Nepal
 - b. A factsheet entitled 'Status and Conservation of Ghodaghodi Lake, Kailali, Nepal'
3. The school students and local community get basic knowledge on wetlands, birds, bird watching and wetland environment with the help of these publications.

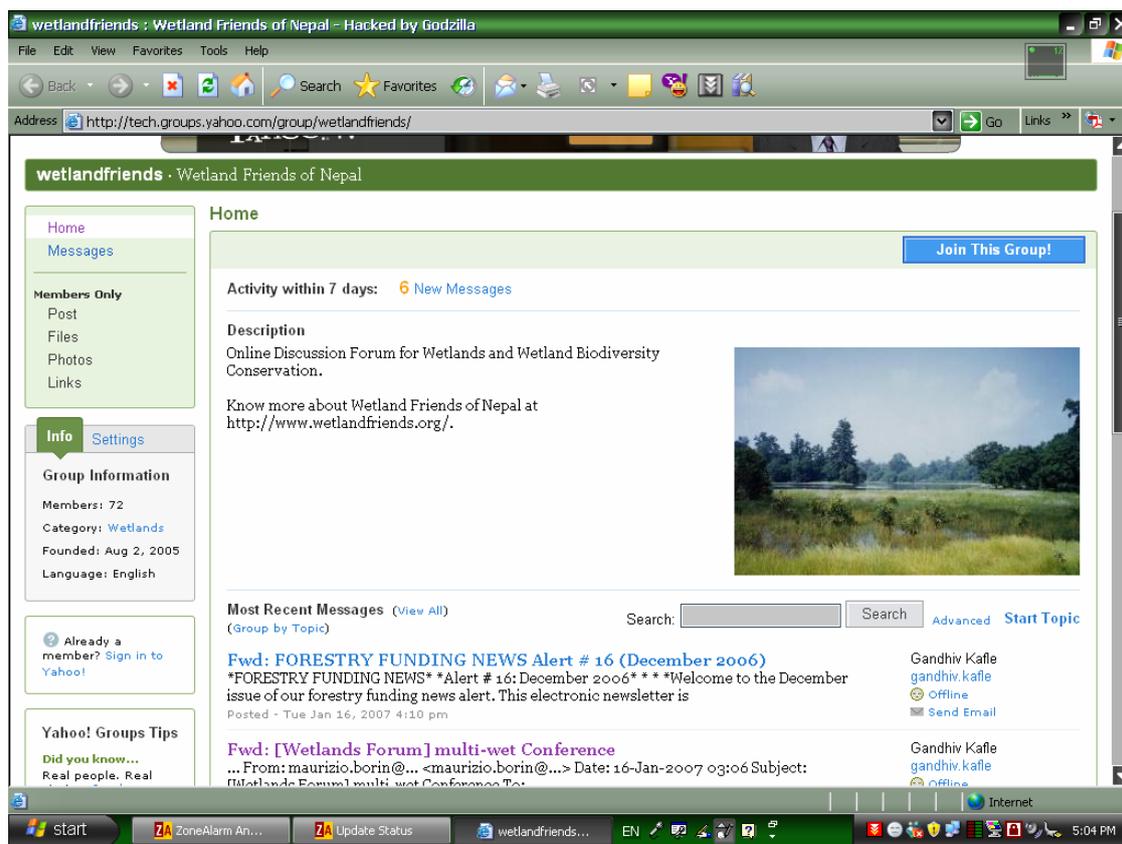


5.12. NETWORKING

We have been implementing three approaches of networking as follows:

5.12.1. Individual Networking of Conservationists

Individual networking mainly involves fostering online forum of university professors, teachers, scientists, researchers, journalists, government officials, NGO activists and students for discussion and information sharing on wetland issues. Our e-mail group is viewable at <http://groups.yahoo.com/group/wetlandfriends>. It has been created in August 2, 2005. Upto December 2006, more than 70 conservationists have joined this network. Information on how to subscribe to this group is available in its website.



Outputs:

1. An online discussion forum has been established at <http://groups.yahoo.com/group/wetlandfriends>.
2. More than 65 network members have made active discussion and postings. They have easily accessed up-to-date news, publications and information related to wetlands and biodiversity through this email list.

5.12.2. Institutional Networking

Institutional networking mainly involves the following:

- Establishing a volunteer wetland working group entitled 'Wetland Friends of Nepal (WFN) including nature conservationists and enthusiasts. We are now planning for official inception of this group at Ghodaghodi Lake.
- Online networking of national and international institutions/organizations involved in wetlands conservation for coordination and information sharing on wetland conservation programs – We have built up institutional networking with Wetlands International, Ramsar Convention Bureau, Bird Conservation Nepal and Freshwater Action Network. A network of conservation organisations has been created, which is accessible at www.wetlandfriends.org/links.htm. Useful

resources for wetlands and biodiversity conservationists have been compiled in www.wetlandfriends.org/resources.htm.

- Establishing three wetland clubs at three schools around Ghodaghodi Lake.
- Establishing three adult groups entitled 'Adult Friends of Ghodaghodi' incorporating women, indigenous Tharus and farmers. and local community, and fostering networking on conservation activities – Our spatial network is as follows:

Wetland Friends of Nepal (central authority) – Wetland Friends of [name of site] (in different sites) - [Name of school/college] Wetland Club (in different schools/colleges). **For example**, Wetland Friends of Nepal (WFN) – Wetland Friends of Ghodaghodi – Dashrath Wetland Club

Outputs:

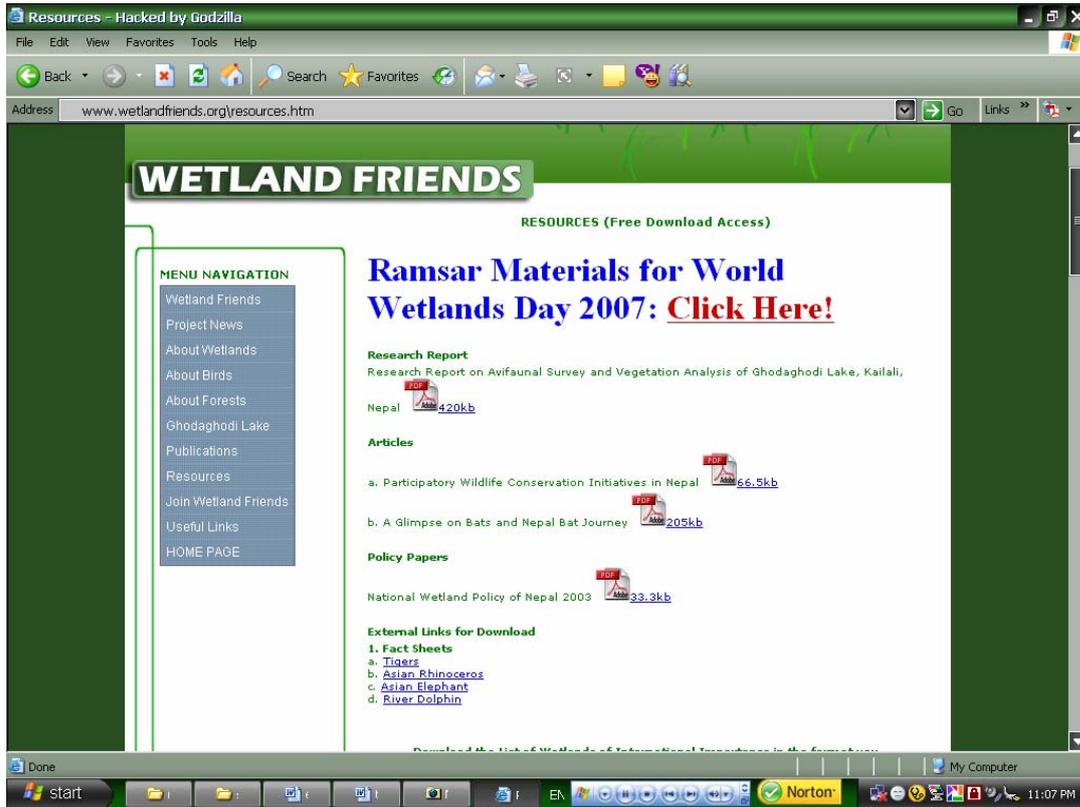
1. A volunteer wetland working group entitled 'Wetland Friends of Nepal (WFN)' has been established including nature conservationists and enthusiasts. This group has been affiliated to Institute of Forestry, Pokhara, Nepal.
2. A network of conservation organisations has been created, which is accessible at www.wetlandfriends.org/links.htm.

5.12.3. Informational Networking

Informational networking mainly aims to disseminate the conservation values and issues of Ramsar sites of Nepal through informative websites. Our website on Ghodaghodi Lake Area (a Ramsar site) can be viewed at <http://www.wetlandfriends.org>. This website includes separate web pages for students with wetlands and biodiversity related information. WFN's online educational kits are available in www.wetlandfriends.org/publications.htm. We have created a rich collection of resources for wetland conservationists at www.wetlandfriends.org/resources.htm.

Outputs:

1. Project website 'Wetland Friends' www.wetlandfriends.org has been launched.
2. Educational kits are included in the project website for free download access.
3. More than 2000 visitors have been visited the project website within one year period.
4. Useful resources for wetlands and biodiversity conservationists have been compiled in www.wetlandfriends.org/resources.htm. So, publication and resources available in public domain for free access.



5.13. VIDEO SHOW

Movies on bird conservation were shown in each school to make the training-workshop more effective. During the program, Documentary films: *The Life of Birds* (David Attenborough, Episode 1- 10) were shown.

Outputs:

More than 450 persons (school students, teachers and local community members) have gained knowledge on the lifestyle of birds visually.

5.14. CLOSING CEREMONY

Closing ceremony was conducted at Dashrath Secondary School, Sadepani. About 60 persons participated in the event including club members, principals of schools, NGO representatives and local key persons. Daya Ram Chaudhary – Chair of local NGO Ghodaghodi Area Conservation and Awareness Forum (GACAF) was the chief Guest. The speakers emphasized for the sustainability of the clubs during their speech. A video of birds was shown in the event. A musical program was also shown.

6. EVALUATION OF PROJECT OUTPUTS

Evaluation is a basic process to know to what extent the proposed objectives are fulfilled during the project. The evaluation of an awareness program is more challenging. However, it can be assessed by evaluating the indicators for each activity of the project. Some indicators have been developed for this project, which is discussed in the following sections.

6.1. INDICATORS FOR PROJECT EVALUATION

The following indicators have been developed to evaluate the project outputs.

TABLE 16. INDICATORS FOR EVALUATION OF PROJECT OUTPUTS

PROGRAM	INDICATOR OF SUCCESS
School program	<ul style="list-style-type: none"> ▪ Photographs ▪ Letter from school ▪ Student's performance ▪ Feedback report ▪ Review and recognition of project achievements by different organisations
Formation of wetland clubs	<ul style="list-style-type: none"> ▪ Photographs ▪ Letter of confirmation from school ▪ Name of committee members and advisors ▪ Minutes of club's meetings ▪ Report ▪ Review and recognition of project achievements by different organisations
Formation of adult conservation committees	<ul style="list-style-type: none"> ▪ Photographs ▪ Name of committee members ▪ Minutes of committees' meetings ▪ Report ▪ Review and recognition of project achievements by different organisations
Focus group discussion and adult non-formal education	<ul style="list-style-type: none"> ▪ Photographs ▪ Feedback report ▪ Review and recognition of project achievements by different organisations
Networking	<ul style="list-style-type: none"> ▪ Website address and content – www.wetlandfriends.org ▪ Online forum and content – http://groups.yahoo.com/group/wetlandfriends ▪ Number of network members ▪ Number of project website visitors ▪ Review and recognition of project achievements by different organisations
Publication	<ul style="list-style-type: none"> ▪ Educational kits on project web for free download access - www.wetlandfriends.org/publications.htm ▪ Educational materials submitted to the RMLF ▪ Useful resources on project web for free download access - www.wetlandfriends.org/resources.htm ▪ Review and recognition of project achievements by different organisations

6.2. EVALUATION OF THE CHANGE IN LEVEL OF KNOWLEDGE OF STUDENTS

Evaluation is an important part of any project. The club members were pre-evaluated with a questionnaire and the same questionnaire was given at the end of the program by which the level of increase in knowledge among the students was assessed. The questions were related to wetlands, biodiversity and environment conservation. The level of increase of 45 students is presented below. From the result we can conclude that the training-workshop and awareness campaign was effective and the level of increase in knowledge was significant.

TABLE 17. MARKS DIFFERENCE OF STUDENTS

S.N.	PRE TEST MARK (%)	POST MARK (%)	DIFFERENCE
1.	31	66	35
2.	45	55	10
3.	43	50	7
4.	35	35	0
5.	67	90	23
6.	43	58	15
7.	45	50	5
8.	43	89	46
9.	44	73	29
10.	54	67	13
11.	51	70	19
12.	53	66	13
13.	35	35	0
14.	42	65	23
15.	27	65	38
16.	56	73	17
17.	76	80	4
18.	45	55	10
19.	56	56	0
20.	65	87	22
21.	24	55	31
22.	52	75	23
23.	78	89	11
24.	80	90	10
25.	21	67	46
26.	23	33	10
27.	43	78	35
28.	45	89	44
29.	56	70	14
30.	55	65	10
31.	56	67	62
32.	45	70	25
33.	54	64	10
34.	34	64	30
35.	35	55	20
36.	36	36	0
37.	54	50	-4
38.	34	34	0
39.	42	55	13
40.	31	40	9
41.	65	75	10
42.	34	55	21
43.	43	76	33
44.	45	56	11
45.	56	56	0

6.3. FEEDBACK REPORT: SCHOOL PROGRAM

Almost all of the participated students showed interest towards the wetland education in out-of-classroom environment. All students liked bird watching program. About 95% participants learned confidently to use and care the binocular and field guide and to identify birds. Almost all of the participants agreed that they knew the effects of human activities on lake and water birds, and the ways to reduce the human impact from this awareness campaign. The club members committed to be involved actively in the newly-formed wetland clubs and to implement the work plan. However, they requested some sort of facilitation and post formation support to increase their efficiency.

6.4. FEEDBACK REPORT: FOCUS GROUP DISCUSSION AND ADULT NON-FORMAL EDUCATION

Almost all of the participants showed positive attitude towards focus group discussion and non-formal literacy classes. However, more than 75 percent of participants demanded more facilitation in making them able to conduct focus group discussion themselves per month. Almost all participants agreed that focus group discussion and non-formal literacy classes have improved their understanding on effects of their activities on wetland ecosystem and birds. The participants reported decline of vultures in the Ghodaghodi lake area and showed their interest to know its cause. The participants expected and welcomed replication of the similar programs to enhance their knowledge on birds, wetlands and forests. The participants demands programs to promote wetland-agroforestry to reduce the dependency on forest and wetland resources.

6.5. MAJOR INDICATORS FOR SUCCESS OF NETWORKING

1. More than 70 conservationists joined the online discussion forum and participated in discussion and information sharing.
2. More than 2000 visitors visited the project website within a year period.
3. Project website has been listed in websites of different conservation organizations such as Ramsar, Nepalese Foresters, World Bird Link, Mountain Birds etc.
4. The website has been regularly updated. For example, the website focuses currently on World Wetlands Day 2007 including related resources in the website.
5. Our work is reviewed and highlighted by different organizations.

7. LESSONS LEARNED

This project was focussed in creating conservation awareness among school students and local people. Some of the lessons learned during the project period are as follows:

1. The level of motivation in learning varies between students and local people. School students can easily be motivated and mobilized in environmental educational activities. They have keen interest to explore the beauty of nature in out-of-classroom activities. In the case of adults, their level of motivation is directly linked with sustainable livelihood opportunities, emphasizing the integration of wetland education with livelihood strategies.
2. Local people are more interested in the educational materials in local language due to easy understanding. So future projects need to translate the English version or publish new educational materials in local language.
3. Online networking is the robust approach in creating conservation awareness among large mass at a time.

8. FUTURE PROSPECTS

Based on this project experience, the priority areas of future actions are as follows:

- Formation and empowerment of more wetland clubs
- Preparation of communication strategy for wetland clubs
- Establishing national wetland club network
- Establishing a wetland information centre
- Publication and dissemination of educational materials and journals in local language, both hard copies and online versions
- Preparation of wetland education curriculum for different levels and implementation
- Fostering the online network of conservationists
- Expansion of formal and non-formal wetland education among local people
- Participatory biodiversity surveys and documentation

9. ANNEXES

ANNEX 1: PROJECT TEAM

Designation	Name	Affiliation	Photograph
Team Leader	Gandhiv Kafle	Wetland Friends of Nepal, Pokhara	
Volunteer	Mohan K. C.	Bat Friends, Pokhara	
Volunteer	Hari Adhikari	Bird Conservation Nepal, Pokhara Branch	

Volunteer	Bharat Bhatta	Shelf Help Environment Awareness Camp, Pokhara	
Volunteer	Umesh Chaudhary	Shelf Help Environment Awareness Camp, Pokhara	
Volunteer	Ashok Ram	Bird Conservation Nepal, Pokhara Branch	
Volunteer	Prakash Bhattarai	Bird Conservation Nepal, Pokhara Branch	
Volunteer	Neeru Thapa	M. Sc. Student in Natural Resource Management and Rural Development, Institute of Forestry, Pokhara	

Web Design and Hosting

Rajob Shrestha, Pokhara City, Pokhara (www.pokharacity.com)

Internet Service Provider

World Link, Pokhara (www.wlink.com.np)

Secretarial Service Provider

Shrestha Computer Services, Institute of Forestry, Pokhara

Reviewer of Publications

Prof. Mohan Krishna Balla, Institute of Forestry, Pokhara, Nepal

ANNEX 2: ADULT NON-FORMAL EDUCATION

Activity: Conduct non-formal classes among adults on wetland conservation

Objective: To provide knowledge of adults on threats from their activities and ways of reducing them; to change attitude of local people towards conservation

Guideline

After rapport building and focus group discussion, make group for adult non-formal education. There should be at least three groups including all types of users such as women, fishermen, farmers, etc.

Decide time and location for classes discussing with the group members.

Conduct classes with charts,..... in simple and understandable way in participatory manner. Use your skill to make this program effective.

Be focussed to achieve the objectives mentioned above.

Form "Adult Friends of Ghodaghodi" – a committee including 3-7 members. You need to include the members of focus group discussion also. Select coordinator and members. Develop a common commitment e.g. to continue informal focus group discussion, awareness program, prohibit the fire on adjacent forest, forest patrolling, cleaning the periphery of lake, seeking alternative resource use etc. Note down full details of committee: Names, addresses, age, name and area of adjacent forest to the committee

Take the group to Ghodaghodi Lake to show the threats and aware them

Evaluation questions

We like the program.

We have understood the effects of our activities on birds and wetlands.

Wetland conservation is essential to ensure survival of waterbirds.

We welcome this type of programs in our village.

We also need programs to promote agroforestry so that we can reduce the dependency on wetlands.

We (Committee) will need some initial support to continue our activities.

**ANNEX 3: IDENTIFICATION OF DAILY ACTIVITIES OF FOCUS GROUPS
(E.G. FISHERMEN, WOMEN, FARMER, GOTHALAS ETC.)**

Program: Focus group discussion

Location:

Date:

Purpose: to identify the activities of local people that affects on wetland environment

Time	Activities ofgroup
Morning	
Day	
Evening	

ANNEX 4: EXPLORATION OF FOREST AND WETLAND RESOURCE USE PATTERN: PAIR WISE RANKING

Date:

Location:

Activity: Adult non-formal education

Use of forest

Grazing						
Firewood collection						
Fodder collection						
Poles cutting						
Timber extraction						
Litter collection						
	Grazing	Firewood collection	Fodder collection	Poles cutting	Timber extraction	Litter collection

Use of wetland

Fishing								
Lotus seed collection								
Swimming								
Irrigation								
Drinking water								
Religious								
Hunting								
Domestic waste disposal								
	Fishing	Lotus seed collection	Swimming	Irrigation	Drinking water	Religious	Hunting	Domestic waste disposal

Other uses:

ANNEX 5: IDENTIFICATION OF PROBLEMS AND NEEDS

Program: Adult non-formal education and focus group discussion

Location:

Date:

Identify problems on:

Agro forestry

Land

Forest resource use

Wetland resource use

Identify needs on:

Needs on agro-forestry

Needs on sustainable land use

Needs on forest resource use

Needs on wetland resource use

Guidelines:

1. Problems refer to the constraints on using and managing the agroforestry, forest and wetland.
2. Needs refer to the expectation of the users in near future to improve agroforestry, forest and wetland resource use and conservation.

ANNEX 6: BIRD RECORDING FORM

चरा अवलोकन फारम

मिति:

ठाउँको नाम:

समय (कति बजे):

मौषम: घाम लागेको कुहिरो/हुस्सु लागेको हावा चलेको

बासस्थान: वन कृषि जग्गा ताल/पोखरी

क्र.स.	अंग्रेजी नाम	नेपाली नाम	कति संख्या	कसरी चिन्यौ
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२				
३				
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६				
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११				
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२१				
२२				
२३				
२४				
२५				

हेर्ने को को ?

ANNEX 7: OBSERVATION FORM

अवलोकन प्रतिबेदन फारम

शिर्षक (Topic):

मिति (Date):

स्कूलको नाम (School):

हेरेको कहाँ (Observation where: Forest, wetland, agricultural land):

हेर्ने को को (Group members):

के के गयौ (what you did):

के के देख्यौ (Findings (what you observed):

फाईदा छ कि बेफाईदा ? किन ? (Benefit or not, if yes why?)

संरक्षण गर्नुपर्छ कि पर्दैन ? पर्छ भने कसरी ? (Conservation or not, if yes how?)

ANNEX 8: TRAINING-WORKSHOP AND INSTRUCTOR EVALUATION

Trainer:

Date:

Please rate the session by circling the most appropriate responses.

1. Was the session content relevant to your needs?

Yes No Somewhat

Comment:

2. Overall the session was:

Excellent Good Fair Poor

Comment:

3. Please comment on the session length?

Just right Too short Too long

4. The best part of this session was:

5. The worst part of this session was:

6. Related topics I would like to spend time on next workshop:

7. Please rate the presenter.

Excellent Good Fair Poor

Comments:

8. I like the overall program and next program is welcomed.

Agree Disagree

9. Other comments:

Thank you!

ANNEX 9: EVALUATING PARTICIPANT SUCCESS (BIRDS AND BIRD WATCHING)

Trainer:

Date:

Please rate the session by circling the most appropriate responses.

1. Did the session add new knowledge and skill on bird identification?
Yes No Somewhat
Comment:
2. Was the session useful for you to learn about use and care of binoculars?
Yes No Somewhat
Comment:
3. Did the session make you capable to identify water birds in your area?
Yes No Somewhat
Comment:
4. Did the session make you capable to use the field guide to identify new bird species?
Yes No Somewhat
Comment:
5. Are you able to draw the figure of bird and name its body parts?
Yes No Somewhat
Comment:
6. Did the session make you capable to understand the effects of human activities on wetland environment and biodiversity?
Yes No Somewhat
Comment:
7. Are you able to name the globally threatened birds found in Ghodaghodi Lake?
Yes No Somewhat
Comment:
8. Are you able to identify the globally threatened birds found in Ghodaghodi Lake?
Yes No Somewhat
Comment:

9. Are you able to select trail that are appropriate for bird watching?
Yes No Somewhat
Comment:
10. Are you able to select habitats that are appropriate for specific types of birds?
Yes No Somewhat
Comment:
11. Are you confident that you can start bird watching and bird identification yourself?
Yes No Somewhat
Comment:
12. Do you understand the importance of birds and threats to them?
Yes No Somewhat
Comment:
13. Do you like the program?
Yes No Somewhat
Comment:
14. Do you believe that wetland conservation is essential to ensure survival of water birds?
Yes No Somewhat
Comment:
15. We welcome this type of programs in future in our village.
Yes No
Comment:
16. Other comments

Thank you!

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Rufford Small Grants for Nature Conservation (RSGs) are aimed at small conservation programmes and pilot projects. They were set up in 1999 by **The Rufford Maurice Laing Foundation**.

Rufford Small Grant For Nature Conservation

What is it?

A grant of up to £5,000 available for nature conservation projects

Who/what is eligible?

Individuals or small groups
Projects outside the first world

Critical components of the application

Impact must be pragmatic, measurable and long lasting
The grant must make up the majority of the total budget
Funds must be used predominantly in the field
The application will not be reviewed unless the **application form** is filled out in full and three references are submitted
The project should generally be approx. 12-18 months duration

Who/what is generally not eligible?

Projects in first world countries
Pure research
Expeditions
A conference or seminar

RSGs At A Glance

RSG's are available to individuals and small groups.

Applications can be made at any time of the year, decisions are usually made within three months.

We generally look for projects of about a year's duration.

Applications from non-first world areas are strongly encouraged.

Innovation Award

The Rufford Small Grants for Nature Conservation are excited to announce the new '**Innovation Award**'.

This Award is available to a new, substantial project which could have ground breaking effects in nature conservation in the developing world. For this we are offering a 'one-off' grant of up to £50,000.

In the first instance, ideas should be submitted via email to josh@rufford.org.