



**Ghodaghodi Municipality
Office of Municipal Executive**

Sukhad, Kailali
Sudurpaschim Province, Nepal

COMPREHENSIVE MASTER PLAN OF GHODAGHODI LAKE AREA



**Comprehensive Ghodaghodi Lake and Tourism Development Board
(CGLTDB)**

Foreword



Namaste everyone!

I am pleased to state that we have prepared a Comprehensive master plan of Ghodaghodi Lake Area (GLA) to which we want to see a fully conserved and developed GLA as a main tourist destination of Nepal in near future.

Ghodaghodi Lake Area (GLA) situated in Ghodaghodi Municipality Kailali Nepal is an attractive destination for domestic and international tourists. The Lake area is surrounded by subtropical tropical deciduous forest. The area is unique in geographical, ecological, and socio-economical characteristics. And the Lake is a Ramsar Site that received recognition as a wetland of international importance on the 13th of August 2003 under the Ramsar Convention. The forest and wetlands of this area also function as wildlife corridor between the Terai and Churia hills. The Ghodaghodi Lake is able to fulfil two indicators out of eight defined indicators of *Ramsar* site at the international level in 2003 that offers habitat for more than 20,000 individuals of wetland dependent birds in the area and support 1% population of Cotton Pygmy Goose (*Nettapus Coromandelianus*) in South Asia region. As one point of interest, the municipality aims to achieve further indicators.

Therefore, in order to conserve and manage the GLA properly under Local Government Operation Act 2074, Ghodaghodi municipality (GM) has formed "Comprehensive Ghodaghodi Lake and Tourism Development Board" (CGLTDB) and assigned overall responsibilities and authorities for GLA conservation and tourism development. Now the CGLTDB under the guidance and supervision of municipality has prepared a comprehensive master plan with a vision to develop and transform GLA as a unique main tourist destination. The destination accelerates the optimal growth bound economic development through sustainable tourism and the missions; creating and enhancing positive impact on the income and living standards of local people through offering meaningful experience to tourists visiting GLA, and developing GLA a first 'bird sanctuary' in Nepal through mobilizing local community people with their own experiences and local techniques.

I would like to thank to all the elected municipal members and Khagendra Bahadur Singh, Acting Chief Administrative Officer for their valuable suggestions and feedbacks in preparation of this master plan and improvement with unanimous decision. I would like to thank to the Zoological Society of London (ZSL) for providing us technical and financial support for GLA conservation and for preparation of this master plan. Likewise my thanks go to GIZ (CD-MUN) for pre-feasibility study of GLA. I also would like to thank to master plan preparation team of experts Dr. Pranil Upadhyaya, team leader (tourism expert), Dr. Ram Bahadur Chaudhary, socio-economic expert and Mr. Sameer Poudyal, architecture engineer.

I thank to Mr. Dayaram Chaudhary, Executive vice chairperson and all of the CGLTDB members for their hard work and taking decisions as required in time for effective management of preparation of this master plan. At last but not least, I would like to thank to all the intellectual personalities, stakeholders and public-private representatives for their valuable thoughts, suggestions and feedbacks in preparation of this master plan.

Further, this master plan entirely describes about the concept, assessment, implementation methodologies & process, and monitoring & evaluation tools and techniques. So I would to request to all the stakeholders, I/NGOs, Public-private sectors and concerned ones to be involved in the GLA conservation and tourism development to apply its direction and guidelines which will help us to have a develop a beautiful tourist destination GLA

Mamata Prasad Chaudhary
Mayor
Ghodaghodi Municipality, Kailali
June 2020

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ABBREVIATIONS

AHVC	Agriculture High Value Commodities
ATM	Automatic Teller Machine
BCN	Bird Conservation Network
BOOT	Build, Own, Operate and Transfer
CBOs	Community Based Organizations
CF	Community Forest
CFUGs	Community Forest Users' Groups
CGLTDB	Comprehensive Ghodaghodi Lake and Tourism Development Board
Cos	Civic Organizations
CSUWN	Conservation and Sustainable Use of Wetlands in Nepal
DFSC	Department of Forest and Soil Conservation
DFTQC	Department of Food Technology and Quality Control
DNPWC	Department of National Parks and Wildlife Conservation
DPR	Detailed Project Report
FAM	Organize Familiarizations
FGD	Focal Group Discussion
GACPAF	Ghodaghodi Area Conservation & People Awareness Forum
GCCI	Ghodaghodi Chamber of Commerce and Industry
GHT	Great Himalayan Trail
GLA	Ghodaghodi Lake Area
GM	Ghodaghodi Municipality
GoN	Government of Nepal
GPS	Global Positioning System
HN	Himalayan Nature
IBBA	Important Bird and Biodiversity Area
ICE	Information Communication Education
ICS	Improved Cooking Stove
IGP	Income Generating Programme
INCLUDE	Inclusive Development of the Economy Programme
INGOs	International Non-Government Organizations
KBA	Key Biodiversity Areas
LGOA	Nepal's Local Government Operation Act
MoFE	Ministry of Forest and Environment
MoITFE	Ministry of Industry, Tourism, Forest and Environment
MoVs	Means of Verifications
NATTA	Nepal Association of Tour and Travel Agents
NCA	Natural Capital Assessment
NGOs	Non-Government Organizations
NTO	National Tourist Organization
NTSP	National Tourism Strategy Plan
R & R	Recreation and Research -Zoological, Eco
RW	<i>Ramsar</i> Wetland
SHAN	<i>Shivalik</i> Hills Arc of Nature
TAGs	Tourism Action Groups
TAL	<i>Terai</i> Arc Landscape
TOs	Tour Operators
TWC	Trans-boundary Wildlife Corridor
USP	Unique Selling Point
VNY 2020	Visit Nepal Year 2020
WNTA	West Nepal Tourism Alliance
ZSL	Zoological Society of London

BACKGROUND AND INTRODUCTION OF MASTER PLAN

CHAPTER

1

1.1 Background of Master Plan Formulation of Ghodaghodi Lake Area

The post election local bodies are in the state of readiness with necessary space and resources for intervening for the much-awaited needs of inclusive development at local areas. Local governments have important functions for preserving and promoting their touristic resources/sites. Therefore, they are expected to develop tourism development strategies and respective action plans. The objectives of developing these strategies and plans are to protect cultural and natural heritage, generate own revenue and promote local economic development. These bodies with peoples' mandate are guided by Nepal's Local Government Operation Act (LGOA) 2074. This act provides wide range of responsibilities to municipalities in regard to tourism development, e.g. the development of local level development plans and projects to identify, implement, manage, monitor and evaluate innovative tourism services and works, facilitation for tourism services and works, collection of tourism fees while streamlining the tourism-based revenue and expense mechanism. This is also in line with the Government of Nepal (GoN's) endorsed National Tourism Strategy Plan (NTSP, 2016-25). The plan consists of ten years of vision and five years of action plan. It envisions the diversion of the flow of tourists in new destinations, generating the income for place and people, which are excluded and strengthening disbursement of tourism over the country by developing new destinations and their infrastructures in an equitable approach (MoCTCA, 2016).

Amidst a number of local destination areas, Ghodaghodi Lake Area (GLA) in Ghodaghodi Municipality (GM) in Kailali district under Sudurpaschim province is the largest natural freshwater lake system in Nepal's low land. GLA remains highly potential for the development of tourism due to it's a number of attributes. These include its current identify as an Important Bird and Biodiversity Areas (IBBA), its current designation as a wetland of international importance under Ramsar Wetland Convention on 13th August 2003 and its location in the mid of Bardiya National Park to the East and Shuklafanta National Park to the West. These identity and position of GLA is strategic from the view point of tourism. The positioning of Ghodaghodi Municipality within Sudurpaschim province and the recently revealed policy and programs by this province with higher emphasis on tourism sector offers soaring opportunity for the development of tourism and benefit (MoITFE, 2018). Furthermore, Ghodaghodi Municipality issued annual policy, programs and budgets for fiscal years 2074/75, 75/76 and 2076/77 for the development of this municipality commonly reveal about the lack of strong foundation for the prosperity of this new municipality but its utmost priority and vision for the planned development backed up by sustainable development roadmaps for key sectors like education, health, agriculture, infrastructure, ecotourism and media. Giving priority to overall development, management and promotion of tourism sector and its induced other development possibilities, Ghodaghodi Municipality established Comprehensive Ghodaghodi Lake and Tourism Development Board (CGLTDB) as its specialized institutional wing by putting CGLTDB in its annual policy, program and budget for fiscal year 2074/75. A *Brihat Ghodaghodi Tal Tatha Paryatan Bikas Boardko Karyabidhi 2074* (Comprehensive Ghodaghodi Lake and Tourism Development Board's work procedure 2074) is also issued for the smooth operation and management of this board. Ghodaghodi Municipality had included its program of the formulation of a master plan for the tourism sector in its annual policy, plan and budget of 2074/75 (GM, 2074).

However, there is lack of a strategic master plan (commonly accepted tourism development strategies, respective action plans and projects) with conceivable associations of the private sector and/or local community that could clearly define Ghodaghodi Municipality's role in tourism development. On the one hand, this lake area is facing environmental problems like degradation of wetland, forest resources and land as well as change in land use. On the other hand, despite the possibility of sustainable tourism activities due to richness of wetland biodiversity and habitat of globally threatened species, diverse landscape from *Terai* to *Churia* range, place of indigenous *Tharu* lifestyle and religious importance, the area has not received enough attention to develop it as touristic destination. Although the site is visited by thousands of visitors every year, integrated approach towards management of sustainable tourism activities seems missing. This has not only bottlenecked its capability to intervene for necessary infrastructure development, protect tourism related heritage and build sustainable source of income through tourism but also constrained local people's demand-oriented capacity (as based on inherited strength and opportunity availing at local landscape) on self-sustaining model. In this context, this final document entitled "**Comprehensive Master Plan of Ghodaghodi Lake Area** " is formulated.

1.2. Vision, Mission, Goal and Objectives of the Master Plan

Vision:

This master plan visions to develop and transform Ghodaghodi Municipality (GM) as a unique main tourist destination instead of add on destination which accelerates the optimal growth bound economic development through sustainable tourism.

Mission:

- Creating and enhancing positive impact on the income and living standards of local people of Ghodaghodi Municipality through offering meaningful experience to tourists visiting Ghodaghodi Lake Area (GLA).
- Developing GLA as a first 'Bird Sanctuary' hub in Nepal and for protection of critically important biological corridor (*Basanta* Corridor) through mobilizing local community people with their own experiences and local techniques.

Goals:

- Institutionalizing GLA conservation and management community based organizations such as consumer groups, women groups and youth clubs of deprived, disadvantaged and marginalized groups including freed *kamaiya* through organizational development, local capital creation and its mobilization and skill enhancement focusing on natural resource conservation & management and socio-economic development interventions at municipal level by the end of 2088 BS.
- Providing touristic services to the tourists through well-equipped and environment friendly infrastructures facilities that will generate internal revenue for GM and creating job opportunity for youths by 2088 BS.
- Increasing incomes of community people of GM including women and youths of disadvantaged, deprived freed *kamaiya* and marginalized groups who are directly involve in using natural capital of GLA through skill and knowledge enhancement by the end of 2088 BS.
- Increasing incomes of community people and internal revenue of GM through GLA conservation and tourism development like on basic infrastructure construction, conservation of flora and fauna, social awareness creation campaigns, development of hospitality and quality services delivery to the tourists within next ten years.
- Developing GLA as bird sanctuary destination through GLA wetland conservation and management and the conservation of natural capital such as birds, local fishes, *Ghonghi/Ghongha* (snails), *Sutahi* (Bivalve) crocodiles, *Ajingar* snakes (Burmese rock python), turtles and *Tame-Salak* (Indian Pangolin) in associated Lakes and Rivers by 2088 BS.
- Conserving and managing GLA watersheds and wetlands as for tourism development destination through the mobilization of CFUGs and GLA conservation, management groups and other conservation groups including development agencies by the end of 2088 BS.

Objectives:

- Sensitize on natural importance of GLA conservation and management together with tourism destination development of GLA and form, reform or revitalize GLA conservation and management groups..
- Conserve and manage natural capital resources of GLA and its sustainable use by GLA conservation and management groups for their income generation activities.
- Support for participatory grazing management, riparian forest management and management on use of pesticides and chemical fertilizers that likely can have negative impact on GLA's ecological integrity.
- Support, build and standardize tourism related basic infrastructures facilities for touristic value creation within GLA.
- Provide services of infrastructure facilities to the tourists through the public-private mobilization and that will generate incomes for community of GM and revenue for GM.

- Enhancing capacity of women and youths of disadvantaged, deprived freed *kamaiya* and marginalized groups on quality services delivery to tourists.
- Create social awareness conducting campaigns on World's Environment Day (5 June), World's Soil Erosion (*Bhushangraksharan*) Day (8 August), World's Water Day (22 March), Celebration of Plantation Day, World's against Women Violence Alleviation Day (25 November), World's Mountain Day (11 Dec), World's Biodiversity Day (29 Dec.) and World's Wetland Day (2 February).
- Help build and standardize tourism related basic infrastructures, conserve heritages including wetlands and watersheds and strengthen capacities of tourism service providers through realistic strategic action plans of the Ghodaghodi master plan.
- Support to institutionalize public-private partnership culture- based collaborative approach in the development of GM as a sustainable tourism destination.
- Formulate tourism based revenue generation and increment strategy of GM in order to enable for more investment in tourism sector in future.
- Clearing and pulling out floating grass, shrubs, bushes like *narkat*, *bais* etc. from Ghodaghodi and Nakror Lake.
- Improving natural shapes of associated lakes with Ghodaghodi Lake for conservation of birds, reptiles, fishes, *Tame-salak* (Indian Pangolin) and other species.
- Conserving natural capitals for biodiversity conservation and management.
- Enhancing capacity of CFUGs and GLA conservation, management groups and other conservation groups on watersheds and wetlands conservation and management.
- Build check-dams in the lakes for water level increase and in the rivers for small irrigation and to control river.
- To control the soil and lake banks erosion through effective activities in the GLA.
- Build greenery areas within GLA conserving and managing existing forests and with plantation in open area of the forests.
- Conserve and manage wildlife and birds including water and forest biodiversity for preservation of natural environment of GLA.
- Promote alternative energy system like biogas, improved cooking stoves (ICS) and plantation of fodder plants in private land for domestic animals feeding and for firewood.

1.3 Principle and Approach of Tourism Master Plan Formulation

Basic Principles:

Following commonly accepted general principles of tourism were adopted in formulating this master plan which can be supportive for the speedy growth bound sustainable economic development in Ghodaghodi.

- Sustainable tourism
- Responsible tourism
- Quality tourism
- Environmental friendly tourism
- Participatory tourism
- Tourism based on integrated approach

This assignment applied both qualitative and quantitative techniques through generating and using both primary and secondary source of information. It has adopted trans-disciplinary approach¹ of research to assess the present condition of tourism development in Ghodaghodi Lake area. Under the supervision of CGLTDB, experts' team focused on possibility of destination level topography, geography, vegetation, climatic conditions, landscapes, key tourism attractions, tourism related institutions, state of infrastructures and tourist accommodations arrangements. While doing so, following principles, methodologies and tools were used; which were based on conducting field survey, questionnaires, interactions through FGD with stakeholders and workshops.

¹ Trans-disciplinary is about a holistic knowledge system for mutual learning through cooperation and exchange between science and society. It acknowledges the co-existence of different levels or types of reality (various academic and non-academic views of "reality"). It includes the continuous involvements of the representatives of both science and society in redefining problems, issues and future pathways and adapting attitude, intentions and behavior for social discourse and mutual learning. As there is clear orientation of trans-disciplinary research towards concrete societal issues or problems.

1.4 Master Plan Formulation Team

Ghodaghodi Municipality Executive Team:

1. **Mr. Mamata Prasad Chaudhary**, Mayor, Ghodaghodi Municipality, and President, CGLTDB
2. **Ms. Prem Kumari Thapa**, Deputy Mayor, Ghodaghodi Municipality
3. **Mr. Khagendra Bahadur Singh**, Acting Chief Administrative Officer
4. **Mr. Dayaram Chaudhary**, Executive Vice-President, Comprehensive Ghodaghodi Lake and Tourism Development Board (CGLTDB)

Expert consultants' team:

1. **Dr. Pranil Kumar Upadhyaya**, Team leader and tourism expert
2. **Dr. Ram Bahadur Chaudhary**, Socio- economic expert
3. **Mr. Sameer Poudyal**, Design engineer

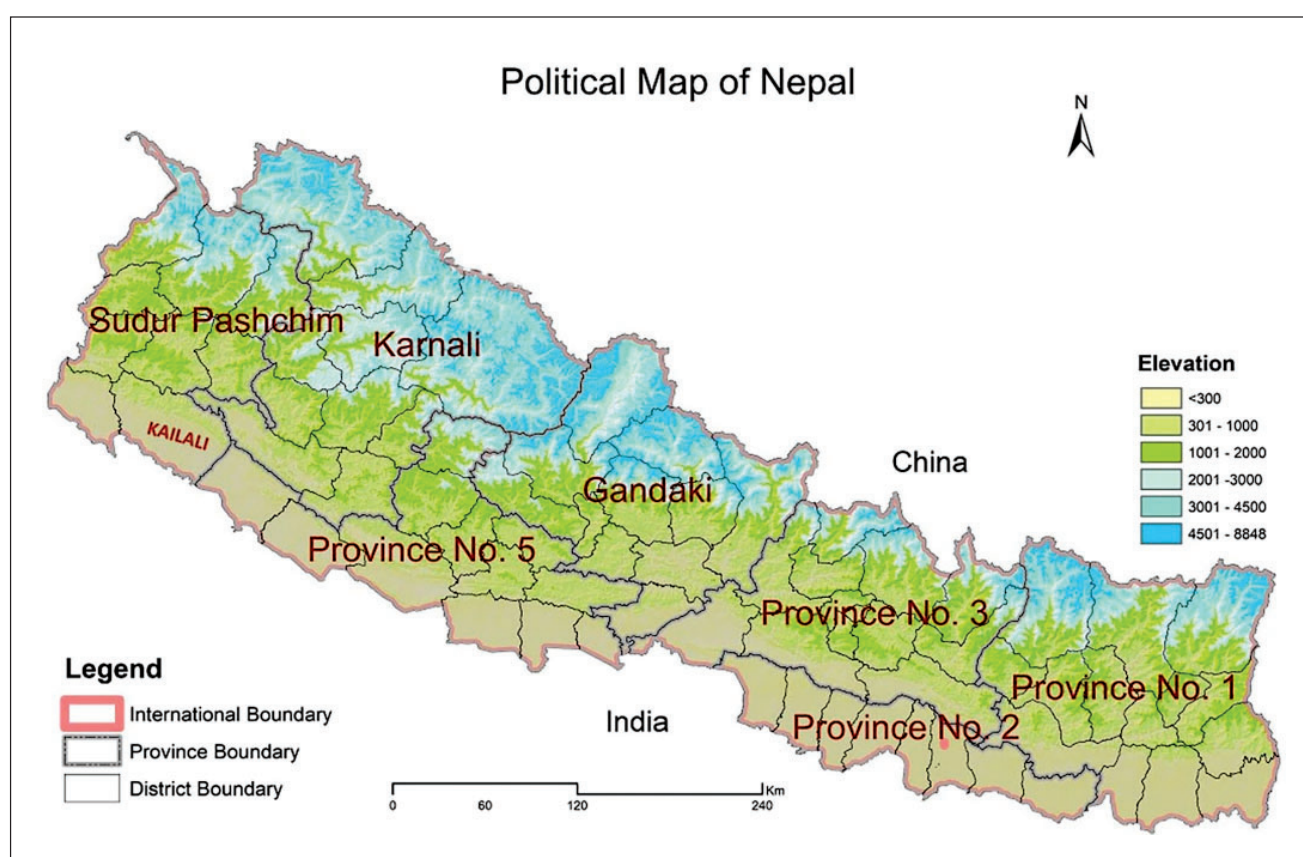
Early this year, Ghodaghodi Municipality started an initiative of developing tourism in an organized approach under the leadership of the municipality. The Comprehensive Ghodaghodi Lake and Tourism Development Board" (CGLTDB) was formed as a public-private partnership model with the aim of focused tourism development and conservation of bio-diversity in and around the Ghodaghodi lake Area (GLA). It should be linked closely to the provincial level in future.

A GENERAL INTRODUCTION OF GHODAGHODI LAKE AREA WITH GHODAGHODI MUNICIPALITY

CHAPTER 2

2.1 Geographical and Administrative Location of Ghodaghodi Municipality

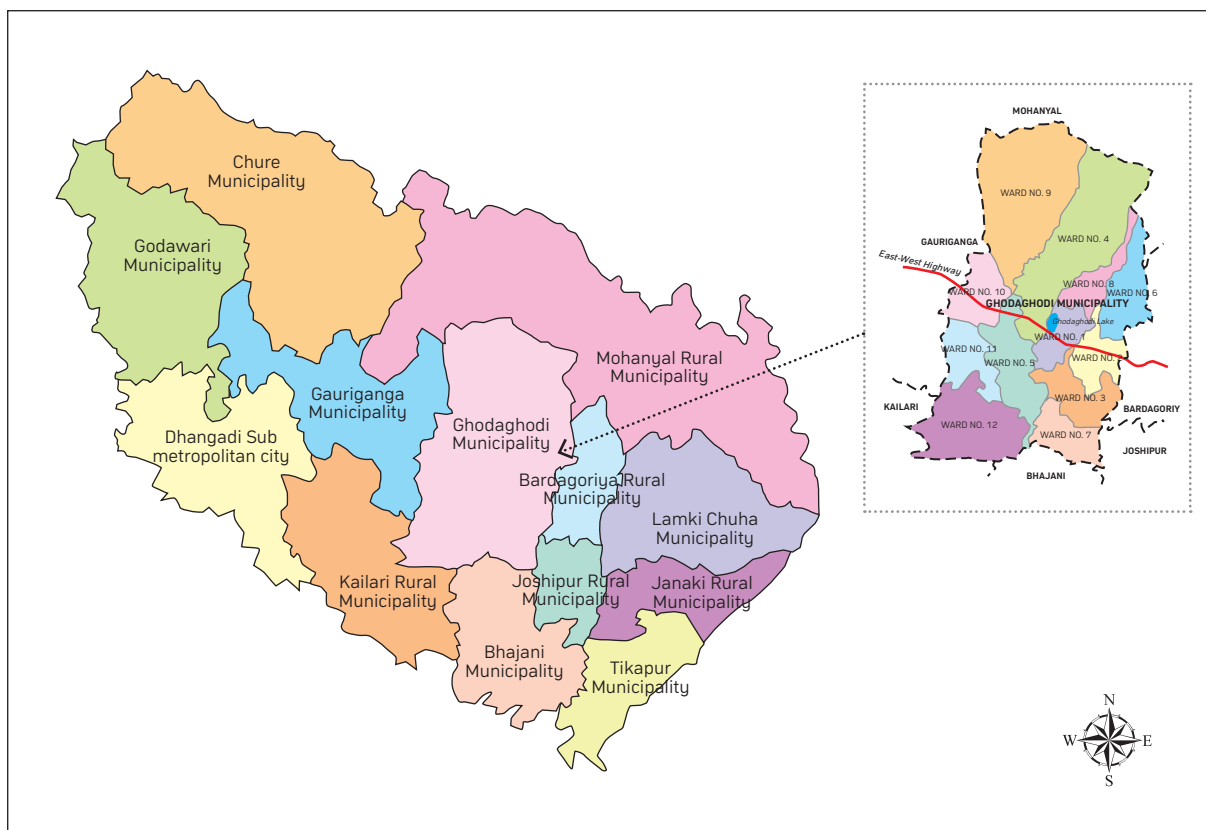
Ghodaghodi is a newly established municipality of Nepal created by merging earlier existing two Village Development Committees namely *Darakh* and *Sandepani* and later two more namely *Ramshikharjhala* and *Pahelmanpur* through the executive decision of Nepal Government's decision on 16th Mangsir 2071 BS (2nd December 2014 AD). Ghodaghodi Municipality is located in Kailali district in Sudurpaschim province (7th province) in the far- west Nepal (map 1).



Map 1: Location of Kailali district in within Sudurpaschim province in map of Nepal

Source: Nepal Map House

Ghodaghodi Municipality forms as one of the 13 local administrative regions in Kailali district with its location nearly in the middle of the Kailali district.



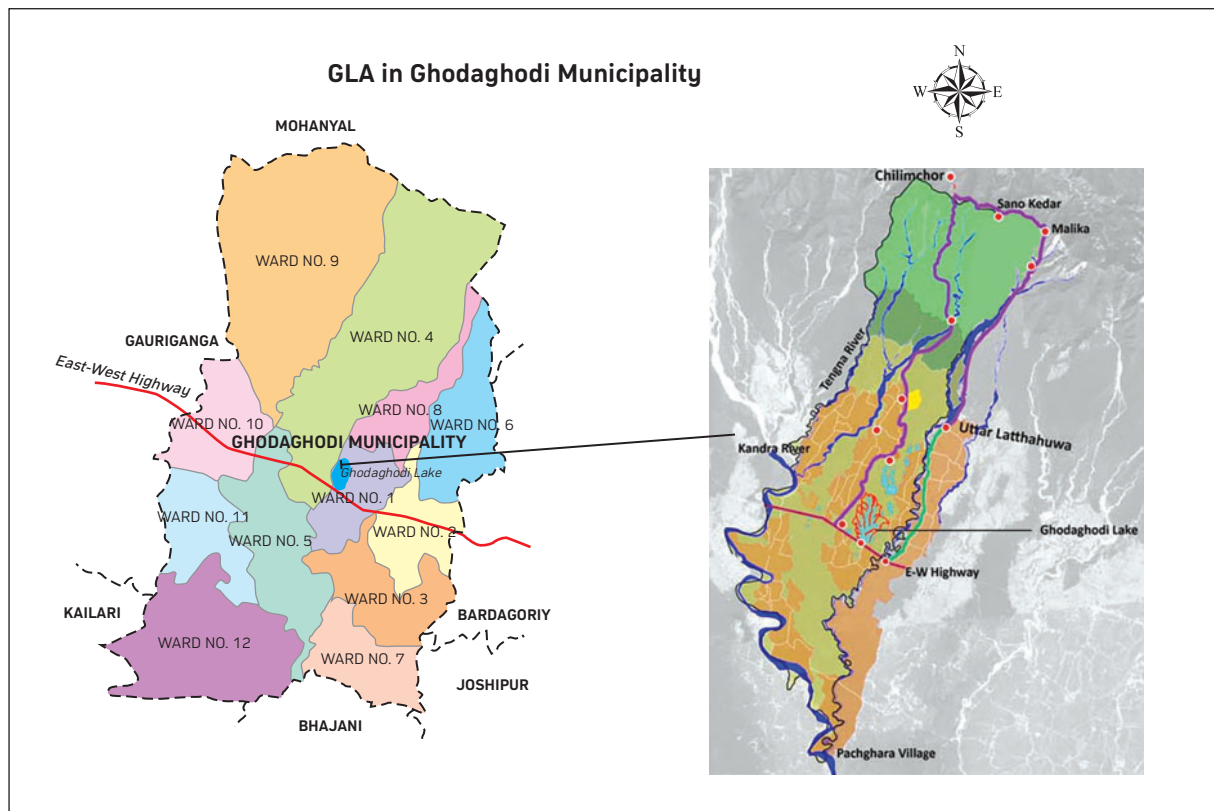
Map 2: Location of Ghodaghodi Municipality with GLA amidst 13 local administrative regions in Kailali district

Source: Nepal Map House

Ghodaghodi Municipality is offered with basic amount and standards of development infrastructures like electricity supply, communication services, healthcare facilities, intra-city roads, public transport system, accommodation provisions (hotels, lodges, home-stays, restaurants, food and beverage outlets, cafes etc.), drinking water supply, educational institutes, market places, department stores, etc with prime focuses on adjoining with GLA. Hence, it is offered with economic, social, cultural, tourism, education and administrative affairs in the district of Kailali with their primary stages in overall. However, *Sukhad*, *Sandepani* and *Pahelmanpur* local markets lack its areas specific systematic plan and design for its development potentials.

There is a 67 members municipality assembly under the chairmanship of mayor to take forward the annual policy, programs and budget for the over-all development intervention of this municipality. At the micro level, there is a team of 5 elected representatives including ward chairperson for taking the development policy and programs forward in each of 12 wards in this municipality.

Ghodaghodi Municipality with the existence of GLA is famed as GLA for its tourism destination identity, the largest standing fresh water lake system in low land Nepal. This lake is linked with *Basanta* Wildlife Corridor which is the passage for the cross movements of wildlife between southern area located *Dhudhawa* National Park near southern Indian boarder in Lakhimpur district in Utter Pradesh state and northern area located *Bhanwar* forests and *Churia (Shivalik)* hills. GLA also consists of the sacred *Ghorighora Dewthan* (temple) which offers it as a potential religious tourism destination.



Map 3: Ghodaghodi Lake Area (GLA) in Ghodaghodi municipality



Ghodaghodi Lake by Dayaram Chaudhary

Table 1: A general overview of Ghodaghodi Municipality in a nutshell

Establishment date with its naming as Ghodaghodi Municipality	2073 BS by Nepal Government's central cabinet decision
Location	28°.22" to 30°.09" northern latitude and 80°.03" to 81. 25" eastern Longitude
Temperature	5° to 43°
Rainfall	1840 ml. (annual average)
District in province	Kailali in Sudurpaschim State
Landscape area	354.44 sq. Km (as the largest in lowland in Kailali district)
Land use status	Forest and grazing area (157.28 sq Km) = 44.37 % Agricultural area (124.59 sq Km) = 35.15 % Areas occupied by roads (53.13 sq Km) = 14.98 % Rivers occupied area (8.83 sq Km) = 2.49% Settlement area (7.84 sq Km) = 2.21% Industrial area (2.77 sq Km) = 0.78%
Altitude ranges	205 – 1470 meter
Existing rivers	<i>Kandra, Kauha, Donra and Tegnahuwa</i>
Population	87,679 (2011 Census) and 95,364 (Baseline Survey report 2076 BS (2019 AD), 49112 female and 46,226 male
Types of caste settlements	<i>Brahman, Kshetri, Tharu, Newar, Magar, Chhantel, Sunar, Kami, Nurag, Yadav, Chamar, Damai, Sarki, Thakuri, Sannyasi, Badi, Kumal</i> and Muslim including unknown caste settlements
Major cultural festivals	<i>Lawangi puja, Maghi, Dashain, Tihar, Aitabari, Fagu, Gaura, Shivratri, Krishna Janmasthanmi and Buddha Jayanti</i>
Number of clustered settlements	110
Total households	6,141 (Baseline Survey Report 2076 BS (2019 AD)
Population dependent on wetland	37.6% towards eastern (ward no. 8), western (ward no. 4) and southern side (ward no. 1). The north side links with <i>Churia</i> hills
Geography	<i>Terai</i> with <i>Bhawar</i> jungle
Community forests user groups	68 (as the largest in Kailali district) of which 64 (registered)
Bonded laborers shelters	12 (as the largest in Kailali district)
Available health services	4 (four) health posts and 2 (two) municipal health post, 23 immunization clinic centers, 20 (twenty) <i>Gaughar</i> clinic centers, 84 female community health volunteers, 36 private medical clinics and birthing centers. There is 1 (one) Ghodaghodi Hospital (private).
Political Administrative Division and Governance System	
Municipality office location	GM ward no. 1, Sukhad
Political constituencies	12 (as wards)
Governance system	Mayor – council government system in local government units
Municipal borders	► East: <i>Bardagoriya</i> Rural Municipality Area, ► West: <i>Gauriganga</i> Municipality, ► North: <i>Churia</i> and <i>Mohanyal</i> - Rural Municipality, ► South: <i>Bhajani</i> Municipality and ► South East: <i>Joshipur</i> Rural Municipality
Language	Nepali and local (<i>Tharu</i>) language

Source: Annual Budget Book (F/Y 2076/77) of GM, Baseline Survey Report 2076 BS (2019 AD) various secondary and field based information.

2.2 Governance System of Ghodaghodi Municipality

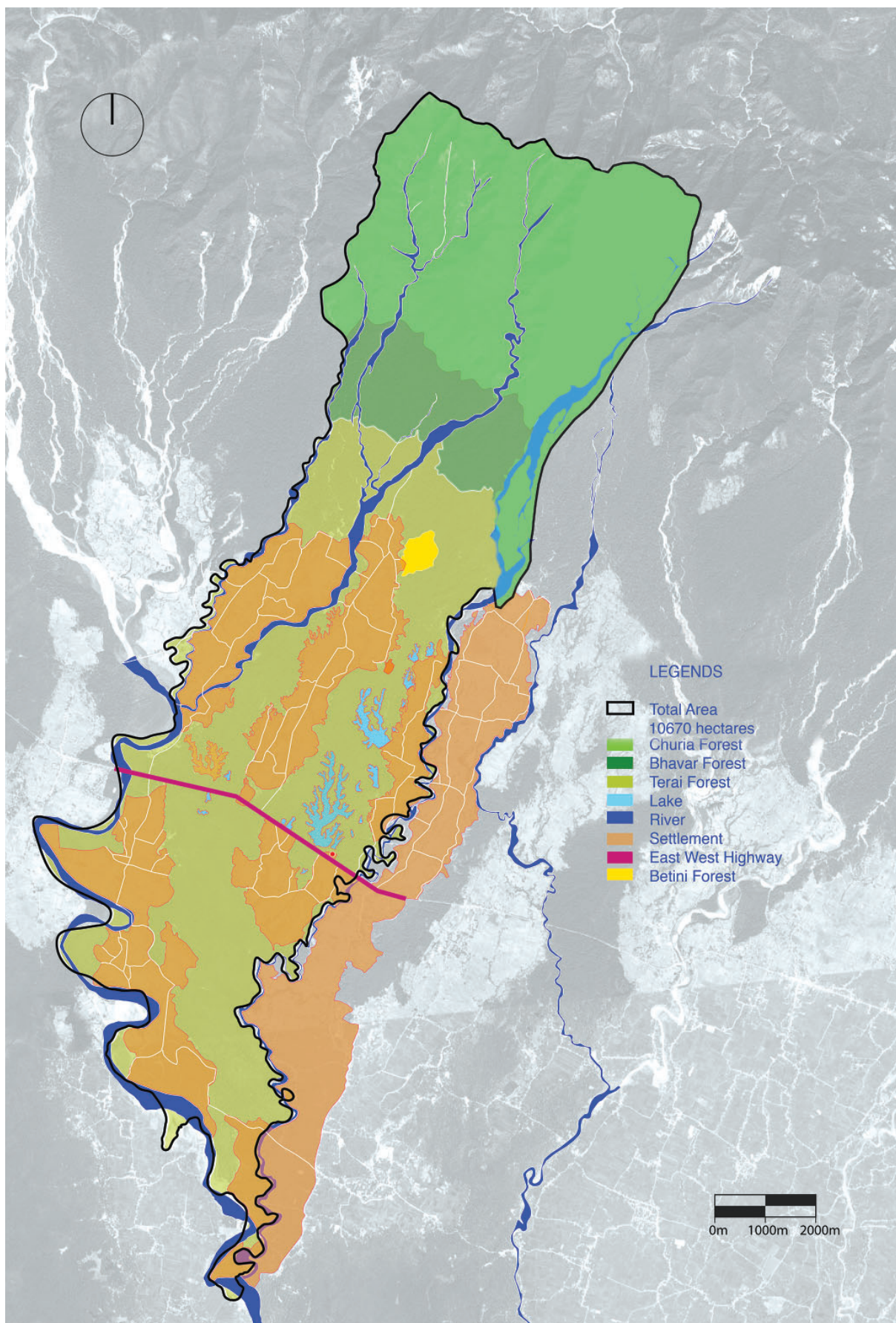
This municipality has the mayor - council government system. The municipality is governed as per the provisions of the LGOA 2074. The legislative assembly of Nepal Government has formulated LGOA 2074 as per the article 296 of the Constitution of Nepal. LGOA 2074 is mainly for the systematic and efficient operation of local government. The preamble of this act has provisioned the execution of the authorities for local government so that the local government can offer quality and easy services while ensuring local participations, accountability and transparency and promoting the mutual coordination, co-existence and cooperation between central, provincial and local governments. LGOA 2074 also paves ways for strengthening federal democratic republic governance system from the root at local level while being guided by the principals of sustainable development goals, equity, equality, social justice, good governance, inclusive participations and judicial distribution of the benefits of democracy (MLJPA, 2017).

The chapter 6 (plan formulation and execution) of the LGOA 2074 clearly reveals about the execution of periodic, annual, mid-term and long-term development plans after their formulations. Regarding the duties and authorities of the Municipalities, the chapter 3 *gha* authorizes to collect local tax, service tax and *levy*, management of local services, local level development planning and projects formulation. The points number 11 and 12 under *cha*, '*Sthaniya Star ka Bikash Ayojana* and *Pariyojana*' are about the programs and projects under local level. These provisions clearly indicate about the same for tourism sector too. In this context, Ghodaghodi Municipality is found to be guided for the development of tourism by LGOA 2074 which is evident from the main slogan of its development as "*Parya-paryatan, Shikchya, Krisi ra Purbadhar Bikash: Samriddhi Ghodaghodi Nagarko Adhar*". Furthermore, direction of this municipality by the LGOA 2074 is well reflected in its annual development policy, programs and budget speeches. Such aspects for the Fiscal Year (F/Y) 2076/77 were unanimously passed by the municipality assembly in July 2019. This annual policy and program mentions about following points for the development of tourism sector.

- a. Ghodaghodi Lake Area will be developed as the main tourist destination.
- b. GLA would be gradually transformed as the bird sanctuary.
- c. GLA would be developed as the conservation area.
- d. The biodiversity of GLA would be conserved and promoted.
- e. It will be given emphasis on eco tourism.
- f. The local religion, culture and tradition would be linked with tourism.
- g. The life standards of local communities will be enhanced through tourism.
- h. The Ghodaghodi temple complex will be developed as religious destination and sustainably managed.
- i. *Sitakuwa* religious areas would be developed as religious add-on tourist destination.

2.3 Comprehensive Ghodaghodi Lake Area (GLA) in Ghodaghodi Municipality

Watershed boundary of comprehensive Ghodaghodi Lake Area (GLA) is *Donra* River in the east, *Kandra* River in the west, *Siwalik Churia* hills in the north and *Panchghara* settlement of ward no. 5 of GM in the south. Ghodaghodi Lake is the largest natural freshwater wetland in the *terai* region of Nepal. The Lake is surrounded by subtropical tropical deciduous forest. Ghodaghodi Lake area is unique in geographical, ecological and socio-economical characteristics. Ghodaghodi Lake is a Ramsar Site that received recognition as a wetland of international importance on the 13th of August 2003 under the Ramsar Convention. The forest and wetlands of this area also function as wildlife corridor between the *terai* and *churia* hills. Comprehensive Ghodaghodi Lake Area consists of other 24 associated Lakes which are given in the table below;



Map no. 4: Comprehensive Ghodaghodi Lake Area

Table 2: shows about associated lakes of Comprehensive Ghodaghodi Lake Area

SN	Name of Lakes	Covered area in hector (ha.)
1.	<i>Ramphal</i>	3.68
2.	<i>Bichka-chatiya</i>	0.5
3.	<i>Sonpokhari</i>	2.38
4.	<i>Budhiya Nakror</i>	5.54
5.	<i>Khaurahuwa</i>	0.69
6.	<i>Semrahuwa</i>	0.59
7.	<i>Nakror</i>	26.14
8.	<i>Baisahuwa</i>	4.85
9.	<i>Chandarbijuwa</i>	1.4
10.	<i>Bukuwa</i>	0.78
11.	<i>Chatiya</i>	0.49
12.	<i>Purbek Ojahuwa</i>	0.89
13.	<i>Ojahuwa</i>	3.29
14.	<i>Ghodaghodi</i>	75.32
15.	<i>Tengnahuwa</i>	0.8
16.	<i>Tehri</i>	2
17.	<i>Parsihiniya</i>	1.13
18.	<i>Tinchatiya</i>	0.88
19.	<i>Puraina</i>	1.39
20.	<i>Bandrahuwa</i>	0.98
21.	<i>Palpaliya</i>	1.15
22.	<i>Bhunkahiya</i>	3.3
23.	<i>Deukaliya</i>	4
24.	<i>Ramtaliya</i>	5
	Total covered area	147.17

2.3.1 Globally important areas for wetland and watersheds freshwater biodiversity

Ghodaghodi Lake is rich in both aquatic and terrestrial biodiversity. It is important habitats for many floral faunal species that have global environmental significance. The Lake is exceptional important for birds. Globally threatened birds: Great Slaty woodpecker (*Mulleripicus pulverulentis*), Great hornbill (*Buceros Bicomis*), Grey-headed Fish Eagle (*Ichthyophaga ichthyaetus*), Egyptian Vulture (*Neophron percnopterus*), White-rumped vulture (*Gyps bengalensis*), Slender billed vulture (*Gyps tenuirostris*) and Lesser Adjutant (*Leptotilos javanicus*). The three species of birds namely; Common Moorhen (*Gallinula chloropus*), Spot-billed Duck (*Anas aoecilorhyncha*) and Cotton pygmy goose (*Netapus coromandelianus*) breeds only in Ghodaghodi Lake of Nepal. Similarly, Burmese rock python, Indian Pangolin, Otter, Turtle, Leopards, Squerrel, Hare, Rat, Mongoose, Fox, Yellow-throated Marten, Rhesus, Monkey, Terai Grey Langur, Eurasian Wild Boar, Barking deer, Chital, Nilgai and Lizards etc. are found in Lake area.

2.3.2 Richness and attractions

Ghodaghodi Lake is popular for religious and ritual fest and festivals. Such as *Lawangi Puja* and *Maghi Sakranti* festivals are celebrated in *Ghorighora Dewthan (holy place)*. *Ghorighora Dewthan* possesses immense spiritual value for the local indigenous *Tharu* people. People from far and wide visit this *Dewthan* complex during various festivals through the year. The Tharus celebrate *Lawangi Puja* on *Sitabibah Panchami* by worshipping and offering animals to the Ghorighora deity. This festival is considered one of the most important celebrations among Tharus. Many *Tharu pujaris*, also known as *Bhagats*, attend this grand festival and assist devotees in worshipping and offering animals to the Ghorighora deity. There are a number of key features of Ghodaghodi Lake Area which are offered in table 3 below.

Table 3: general information of Ghodaghodi Lake Area

Comprehensive Ghodaghodi Lake Area	10670 ha. (Previous area 9650 ha. and added area 1020)
Covered area of Ghodaghodi Lake and associated Lakes (24)	147.17 ha.
Ramsar Site Area in Ghodaghodi wetland	2563 ha.
Associated Lakes with Ghodaghodi Lake and its areas	24 Lakes with 147.17 ha. area of comprehensive GLA
Flora and Fauna	Plants - 647 species Fishes - 30 species Birds - 313 species Butterfly - 32 species Snails - 11 species Mammals - 34 species Reptails - 7 species
Indicator Species	Cotton Pygmy Goose Marsh mugger crocodile Wild rice
Land cover type	Forest = 52.5% Degraded forests - 3% Grassland - 1.8% Agriculture land - 34.5% Highway - 0.5% Sand - 1.6% Lakes - 6.1%
Driving distance from Kathmandu	616 Km
Straight line or air distance from Kathmandu	439.21 Km
Positioning for incoming visitors	A likely eastern gateway for Sudurpaschim province after crossing Karnali river bridge at Chisapani
Present connectivity from major places of province and country in driving distance	► East = Karnali/Chisapani (35 Km), Nepalgunj (130 Km), Butwal (348 Km), Lumbini (362 Km), Kathmandu (616 Km) ! ► West = Attaria (Attaria 45 Km), Dhangadhi (60 Km), Gauriphanta/Trinagar (Dhangadhi) [61 Km], Banbasa/Ghaddhachawoki (100 Km), Mahendranagar/Kanchanpur (97 Km), Jhulaghat/Jhulaghat (274 Km), Dharchula/Darchula (351 Km), Silgadhi/Doti (226 Km) and Amargadhi/Dadeldhura (174 Km) ! ► South = Bhajani (25 Km)! ► North = <i>Churia</i> hills (<i>Chilamchoree</i> (21 Km) through 7 Km of surface drive and 14 Km of walk.
Distance from New Delhi, India	400 Km
Major cultural festivals	<i>Lawangi puja, Maghi, Dashain, Tihar, Aitabari, Fagu, Gaura, Shivratri, Krishna Janmasthanmi and Buddha Jayanti</i>

Population dependent on wetland	37.6% towards eastern (ward no. 8), western (ward no. 4) and southern side (ward no. 1). The north side links with <i>Churia</i> hills
Community forests	11 CFUGs associated with GLA
Major touristic attractions	Ghodaghodi Lake Area (GLA), GLA associated water creatures (Crocodile, Python, fishes etc.), multiple bird species, local religion, religious destinations, eco-tourism landscape, culture (Indigenous <i>Tharu</i> culture), local music and dances, collective traditional life styles, ceremonies, moralities etc.

2.4 Key Expectations of Local Communities/ Private Sector from the Perspective of Conservation Based Socio-economic Benefits

Following common expectations are observable from local communities and private sector in this wetland destination from the perspective of conservation based socio-economic benefits from tourism.

- Protection from encroachment through illegal cultivation, unsustainable harvesting of water for farmland irrigation from lake via water canals.
- Conservation from agro- chemicals, pesticides, fertilizer, plastic waste and zoning of core area
- Broadening socio-ecological benefits.
- Strengthening lake basin governance and management for the prosperity of lake area through a commonly accepted new model.
- Building of lake based tourism infrastructures such as information center, walking trail view towers and toilets etc.
- Enhancement of economic opportunities through bird watching/eco-tourism/green- tourism/religious tourism/culture tourism and shift from traditional subsistence system for livelihood support to enterprises development.
- Development eco- trail (walking + cycling + pony trek) route with basic infrastructures like path safety, signage installation, protection shade, wash rooms, drinking water outlets etc. all around lake and on outer circuit (round GLA circuit trek).
- Offering training to more nature and bird guides (natural and cultural interpreters).
- Formulation of an inclusive and powerful management structure of GLA with a self sustaining business and revenue model.
- Formulation of a tourism master plan with short term, mid-term and long- term actions.
- Formulation and application of commonly accepted code of conduct manual.
- Integrated marketing and promotion; which are based on both online and offline.

However, most of the aforementioned expectations are not fulfilled as tourism sector lacked priorities in terms of budget allocation and actions. In the mean time, it is observed¹ that the larger segment of the community residing in *Belar, Srijana sivr, Loharpur, Laxmipur* and *Sukhad* of ward no. 1, *Kauha, Simtari, Maghi, Gairakhera, Batulichaur* and *Kauwapari* of ward no. 4 and *Uttar Lathuwa, Dakshin Lathuwa, Dipnagar* and *Paridipnagar* of ward no. 8, around GLA in Ghodaghodi Municipality depend on a number of GLA's resources and such resources creation activities for their livelihoods and subsistence. They depend on fishing in the lake, collecting forest products, using leaves and flowers of 'Lotus', fetching herbals and medicinal plants for domestic use, collecting firewood and fodders for domestic animals,

¹ As per findings from FGD, Key Informants and different workshop reports of GCRWS project 2019 for 10 years master plan preparation and tourism development.

² As per Ramsar Declaration Iran (International forum for lake conversation)

grazing cattle in the grassland of GLA and using water of Ghodaghodi and Nakror lakes for irrigation. Amidst the varied groups of communities residing in and around GLA, the landless people, women, youth groups of freed *kamaiyas*, occupational groups (e.g. mud-pot maker –*Kumhar* groups) etc. are the most disadvantaged, deprived and marginalized communities with their utmost dependency on such natural resources. There is large scale existence of the inverse relationship between the income status and poverty. This calls for focus on income generation activities in order to reduce human pressure on natural resources of GLA. But the insignificant fulfillment of those requirements reveal about the structural weakness of this destination at present.

At present, there is much pressure on GLA for the collection of natural resources both formally and informally (illegally). Some of the community people are even sporadically found involved in illegally poaching of birds and wild animals fetching timbers and firewood, grazing openly, practicing fishing and hunting crocodiles in the lakes and forests of GLA. These human activities have been destroying GLA's forest biodiversity and also causing the destruction of water biodiversity.

On the conservation side, some of the Civic Organizations (COs) as in the table below, have been found working for the conservation of GLA with their own working groups and methodologies.

Table 4: List of CBOs with their Conservation-oriented Focuses

SN	Name of Civic Organizations	Working Focuses of CBOs
1.	Community forest users groups (total 11) around GLA bordered with ward no. 1, 4 and 8	Conservation and management of forests and forest resources in GLA. Its target groups are local communities.
2.	<i>Maghi</i> Home-Stay, <i>Maghi</i>	Functioning 15 home-stays for domestic and foreign tourists at <i>Maghi</i> village with environmental friendly responsible tourism practices. Its target groups are local, national and foreign tourists.
3.	Bird Conservation Network (BCN), Sukhad	Regular monitoring of birds and wildlife, conduct biodiversity conservation activities through mobilization of students and local youths. Its co-partners are local eco-clubs and student clubs.
4.	Ghodaghodi Area Conservation & People Awareness Forum (GACPAF) -Nepal Sukhad.	Support in implementing GLA conservation activities including small infrastructure development works in GLA. Its target groups are visitors and local communities
5.	Ghodaghodi <i>Sanskriti Sangrakshan Samaj</i> (Formed by with <i>Bhalmansa</i>) and <i>Bhalmansa</i> Municipal Network, Ghodaghodi.	Implementation of Tharu spiritual and cultural <i>lawangi puja</i> (worship) in <i>Ghorighora dewthan</i> (sacred site). Its target groups are farmers of ' <i>Ligtappa</i> area'. It is said that the area, in-between of <i>Kanrha</i> River to the east, <i>Kandra</i> River to the west, <i>Churia</i> Hill to the north and <i>Mohana</i> River to the south is known as historically <i>Ligtapa</i> area.
6.	<i>Sant Samagam Samaj</i> , Ghodaghodi.	Management of <i>Ghorighora dewthan</i> (sacred site) including other temples. Its target groups are <i>Sadhusants</i> (hermitage).
7.	<i>Birat Sanatan Dharma Sanskriti Sangrakshan Sambardhan Pratisthan</i> , Ghodaghodi.	This organization with <i>Sanatan Veda Bidhya Asram</i> ((veda teaching Hindu school) has been educating students on '4 <i>Vedas</i> , 6 <i>Shashtra</i> and 18 <i>Puran</i> in Sanskrit language.
8.	Ghodaghodi Cultural Conservation Society - Nepal	Engaged for cultural conservation of local areas

Source: Field work

Due to the scattered as well as integrated efforts of above mentioned stakeholders, Ghodaghodi lake was able to fulfil two indicators out of eight defined indicators of *Ramsar* site² at the international level in 2003: (a) offers habitat for more than 20,000 individuals of wetland dependent birds in the area and (b) support 1% population of Cotton Pygmy Goose (*Nettapus Coromandelianus*) in South Asia region. As one point of interest, the municipality aims to achieve further indicators and request for technical support. Above mentioned stakeholders could be more organized and effective for the local people's economic benefits yielding from GLA conservation. Nevertheless, the municipality since its existence in later phase in 2071 BS is already active at national and international level to promote touristic sites/ resources of the municipality, especially the Ghodaghodi Lake.

TOURISM PERSPECTIVE AND DEVELOPMENT STATUS OF GHODAGHODI LAKE AREA

CHAPTER 3

3.1 Major and Potential Touristic Attractions (sites and events) of Ghodaghodi Lake Area

From East-west (E-W) highway on the south in Terai to the boarder of *Churia* Mountains on the north and *Kandra* river corridor on the west to *Doda* river corridor on the east is proposed as GLA. Furthermore, Ghodaghodi Municipality is the hub for access to GLA consisting of main lake Ghodaghodi and various other associated lakes and temple premise. The temple premise is offered with the famous temple of *Ghorighora* God and Goddess¹. The boundary of GM consists of a total of 66 bigger and smaller lakes within its own boundary. Of which GLA is identical for a number of following accolades (GM, 2074).

- **Largest standing freshwater system:** In lowland Nepal
- **Important Bird and Biodiversity Area (IBBA):** Developed and site identified by Birdlife International and its and endorsed by Department of National Parks and Wildlife Conservation (DNPWC)
- **Key Biodiversity Areas (KBA):** Sites identified and listed by International Union for Conservation of Nature and Natural Resources(IUCN)
- **Ramsar Wetland (RW) Site:** A wetland of international significance declared on the basis of robust criteria by the Ramsar Secretariat (www.ramsar.org) in coordination with the government of Nepal
- Also serves as the **Trans-boundary Wildlife Corridor (TWC)** and lies within the Terai Arc Landscape (TAL) and *Shivalik* Hills: Arc of Nature (SHAN) landscapes, both important biodiversity landscapes
- **One of the Nepal's 100 destinations selected for Visit Nepal Year (VNY) 2020**

A number of aforementioned accolades and various sites and event attractions and activities from local traditions, culture, religion and nature based practices remain as 'pull factors' for tourists in Ghodaghodi. Nevertheless, the designation of GLA as a wetland of international importance under *Ramsar* Wetland Convention is the most fascinating and dominance not only for its tourist destination image but also for the soaring needs of the conservation of its biodiversity, ecosystem and nature capital. With the cluster of 24 lakes, GLA offers itself as a potential destination for **walking, hiking, trekking, horse riding and bird watching** related activities. The outer circuit trip of GLA (that also touches to *Churia/Shivalik* range) covers 35 Kilometer of trekking route between *Simtari* to *Lathuwa* village that passes via *Maghi*, *Gaidakhera* in Ghodaghodi Municipality and *Chilimchore* (*Churia* hill), *Kedar* (*Churia* hill) and *Malika* (*Churia* hill) in *Mohanyal* Rural Municipality. The inner circuit close around Ghodaghodi Lake (the core lake spot) trip offers 28 Kilometer of walk. There are a total of 20 small sized hotels and 1 community home-stay near GLA.

It is Situated between *Doda* river on the east and *Kandra* River on the west originating both from *Churia* hills, the forest and wetlands of this lake is full of both aquatic and terrestrial biodiversity. It is the habitat for 24 species of mammals, around 30 species of fishes, 32 species of butterfly, 313 species of birds (migratory and residential), 647 species of plants, 11 species of snails, 7 species of reptiles etc. GLA also functions as wildlife corridor between the *Terai* and the *Churia* hills.

The lake system is important habitats for many floral and faunal species that have global environmental significance. GLA area has good habitat for birds as more than 20,000 individuals wetland dependent birds exist there. GLA is able to fulfill two out of eight indicators of Ramsar Declaration Iran. On 13th August 2003, this site is designated as a Ramsar Site – a wetland of international importance. The three species of birds namely; Common Moorhen (*Gallinula chloropus*), Spot-billed Duck (*Anas aequalorhyncha*) and Cotton pygmy goose (*Netapus coromandelianus*) breeds only in Ghodaghodi Lake of Nepal. Hence, it is a destination which has potential to be declared as **Nepal's first bird sanctuary** subject to meeting some basic parameters for this category.

The location of Ghodaghodi temple in this area possesses immense religious, cultural and spiritual value for the local indigenous *Tharu* communities and other communities like *Magar*, *Chhetri*, *Brahmins* etc. of this region. The culture for differential identity of GM represents it as a potential tourist destination.

¹ According to local belief system, a number of legends reveals about the appearance of Ghorighora God and Goddesses for ancient time.

3.2 Tourist Attractions and Prospective Tourism Products

Comprehensive GLA has potentiality to be developed as a main destination due to a number of following attribute.

- Greater geographical area coverage of this destination in approximately 9000 hector
- Interconnection of GLA with *Churia Shivalik* range on the north after the walk of a couple of hours
- Diversity of attractions from *Tal* (lake) to *Himal* and local culture of *Terai* and mountain landscape and potential for branding accordingly
- The deep rooted appearance of the unique attraction of *Tharu* culture
- Location near to the western entry gate of Nepal [on the surface drive of just a couple of hours from Nepalese boarder like Trinagar (Dhangadhi) and Gaddhchowki (Mahendranagar)]
- Destination site just beside Mahendra highway, Nepal's lifeline connecting West to East and vice-versa
- Availability of organic and local food for incoming visitors
- Simplicity and rich hospitality nature of local hosts (*Tharus, Magar, Brahmins and Chettri*)

However, GLA is recognized and functional not as a main destination but only as an add-on destination amidst the tour sellers, tour operators, travel agents and tour whole sellers through its (GLA's) combination with Bardiya, Dhangadhi, Chisapani, Tikapur, Shuklaphanta National Park, Khaptad National Park etc.. This has only little spill over benefits for GLA. The result of such a trend is well reflected on the tourists' arrival figures which are mentioned in the table below.

Table 1: Tourists' arrivals in Ghodoghodi lake area

Fiscal Years	Foreign tourists	Domestic tourists	Total tourists	Entry fee Rate in NPR
2074/075	2,723	88,051	90,774	10.00
2075/076 till <i>Kartik</i>	2,682	86,706	89,388	10.00
9/29/2076 <i>Mangsir</i> to 5 <i>Magh</i>	249	49,498	49,747	10.00
Total	5,654 (2.45%)	224,255	229,909	

Source: Record of GLA entrance Gate

Above data reveals about the lesser number of international tourist arrivals in comparison to what GLA as destination remains in terms of both size and offerings. The interactions and interviews with visitors' entry ticket seller at entry gate of GLA and other tourism related professionals in Ghodaghodi have found that the majority of tourists do not spend even a day in Ghodaghodi. Hardly about 2% tourists stay at Ghodaghodi. Rests 98% of tourists make Ghodaghodi only as the transit point and leave for Bardiya National Park, Shuklaphanta National Park, Dhangadhi, Dadeldhura etc. as soon as possible after their arrival in Ghodaghodi.

The inadequate infrastructure development, shortage of packaged tourism products, poor destination area management, poor hygiene and sanitation, poor coordination between public and private sector of tourism (specially in post local election too) and weak promotion and market management are indicated as inner reasons for the lower attention of foreign tourists on Ghodaghodi lake area as the final destinations and consequent lower time of stays and their spending. As per the table above, the arrivals of domestic tourists for GLA are on increasing fashion. The anticipated development of inner infrastructures of Ghodaghodi will provide a catalyst for the revitalization of the center and surrounding areas like *Maghi, Deepnagar, Lathuwa, Gaidakhera, Chilimchore* etc. Nonetheless, tourism is considered as one of the prioritized sectors for the lasting prosperity and peace of this municipality. This is evident from not only the official development slogan of Ghodaghodi Municipality as '*Parya Paryatan, Sikchya, Krisi ra Purbadhar: Samridha Ghodaghodi Bikasko Adhar*' (Ecotourism, Education, Agriculture and Infrastructure: The Basis for the Development of Prosperous Ghodaghodi) but also from the review of annual policy, programs and budget speech of Ghodaghodi Municipality for the fiscal year 2076/77.

3.3 Existing Tourism Infrastructures as per Political Divisions

There are following tourism related infrastructures present in GLA at present.

Table 2: State of tourism related infrastructures at present

Items	Exact/Approximate location	Numbers	Approximate condition/standards/capability
Welcome gate	On front of GLA complex	1	Normal
Visitors entry house as ticket counter	1 Km West from Sukhad Bazaar on East- West Highway	1	Basic
Waiting place as a shade	Between Ghodaghodi Lake and Ojahuwa Lake	1	fine
Visitor information center	1 Km West from Sukhad Bazaar on East- West Highway	1	Basic with lacking modern channel and medium of tourist information giving poor impression for visitors
Resting place for visitors upon arrival at GLA	NA	NA	NA
View Tower	1.5 Km West from Sukhad Bazaar inside GLA complex	1	Concrete made in good condition
View Tower (on tree)	1 Km West in the vicinity of <i>Ojahuwa</i> Lake complex	1	Made in upper lap of tree
Boats for recreational activity in lake	Capacity for a total of 22 persons	3 X 4 persons = 12 persons 1 X 2 persons = 2 persons 1 X 8 persons = 8 persons	Good conditions
Bird hide	200 meter walking distance from entry gate	1	Good condition
Stone paved trail (400-500 meter)	1 Km West from Sukhad Bazaar inside GLA complex	1	Good condition
Temples in religious complex area	1 Km West from Sukhad Bazaar	16	All in poor conditions
Hotels (tourist standards)	At Sukhad bazaar, Sandepani and Pahalmanpur	10	All in good conditions with ability to accommodate 150 person in a single day
Home-stays with basic standards	<i>Maghi</i> , towards 5 Km west north from Sukhad	15 households X 2 rooms X 4 persons	Not all homes are in similar state with traditional <i>Tharu</i> look. Ability to accommodate 60 persons @ each day.
Picnic Spot	<i>Tengnahuwa</i> Women Community Forest, Sukhad, <i>Bulbule</i> spring, Pahalmanpur, <i>Chiraiha</i> Lake, Sandepani	3 spot X 100= 300 persons	

Source: Field observation

3.4 Tourism Related Direct and Indirect Stakeholders

The following actors found as directly and indirectly associated with the tourism function in GLA are:

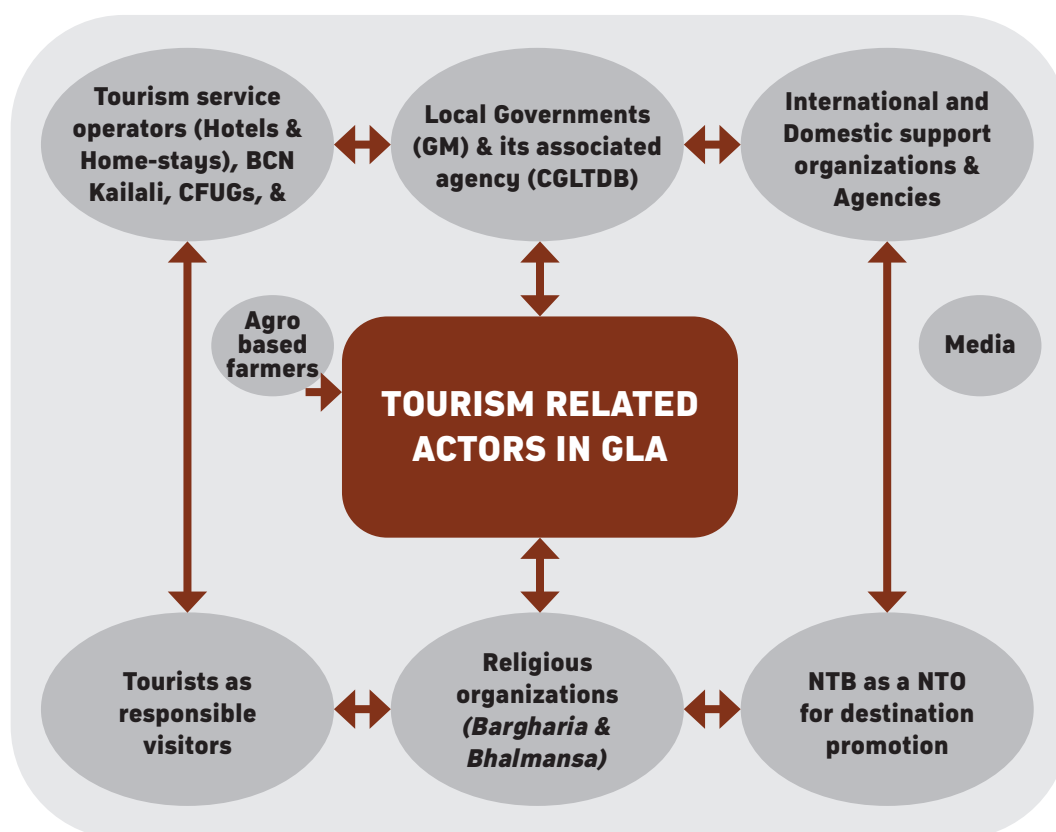


Figure 1: Tourism related existing and potential multi-stakeholders associated with GLA in making sustainable tourism

Tourism related existing and potential multi-stakeholders associated with GLA	Major Roles
Comprehensive Ghodaghodi lake and Tourism Development Board (CGLTDB)	Overall GLA conservation and Tourism Development
Bird Conservation Network, Kailali (BCN Kailali)	Birds and biodiversity conservation including research
Community Forest Users Groups (CFUGs)	Community forests conservation and management
Ghodaghodi Area Conservation & People Awareness Forum – Nepal (GACPAFN)	Social mobilization and awareness raising for GLA conservation
Ghodaghodi Cultural Conservation Society – Nepal (GCCSN)	<i>Lawangi-Puja</i> (Great Religious festival) celebration management in Ghorighora Temple (<i>Ghorighora Dewthan</i>) and Tharu culture conservation
National Tourist Organization (NTO)	Connectivity and coordination with tourism enterprises
Recreation and Research -Zoological, Eco (R & R)	Research and findings publication
Zoological Society of London (ZSL)	As an international organization; financial and technical support to GLA conservation and tourism development.
Himalayan Nature (HN)	Co-partner with CGLTDB for GLA conservation.

GM through the formal approval of the meeting of its municipal council has formulated CGLTDB in 2017 with the vision of establishing and steering it as a Destination Management Organization (DMO) and a specialized (focused) agency for the conservation and sustainable development of tourism in GLA. GLA is surrounded by 11 community forests and their users groups. The institutional structures of community forest are wide prevalent for the mobilization of people for the conservation and systematic uses of forest products.

Although local peoples' education and knowledge in rural areas is very low; backward communities, ethnic groups, *dalits*, women and people from various caste and creeds are found to be more conscious about the potential benefits of tourism. This indicates that tourism can be well accepted by the people for its sustainability at large and it can enhance opportunities for both rural and domestic tourism. The low awareness level of local people in surrounding the GLA on tourism and its opportunities and lack of a systematic structure for the justifiable distribution of the income of tourism are preliminary challenges for the sustainable growth and development of tourism in the area. However, the lack of conservation led tourism master plan with the sufficient studies on the potential tourists' sites and actors and a master plan document directed strategies and projects are the major bottlenecks for the systematic development of tourism in GLA.

3.5 Tourism Information, Marketing and Promotional Trends

The field observations, interviews and interactions in municipality have found the application of following tools and tactics for the marketing and promotion of Ghodaghodi as a whole in the past.

Table 3: An inventory of tourism marketing and promotional related initiations in past

SN	Name of promotional activities/events	Creation/ Organization	Schedule	Remarks
1	<i>Ghodaghodi Sanskritik Paryatan Mahotsav</i> (Festival)	Ghodaghodi Media <i>Sanchar Samuha</i> and Ghodaghodi Chamber of Commerce and Industry (GCC),	Once in every year	Marketed in association with several other organizations in the district along with video production of the events
2	<i>Ghodaghodi Lawangi Puja Tatha Sanskritik Mahotsav</i>	<i>Ghodaghodi tatha Sanskriti Sanrakshan Samaj</i> (Lawangi Puja Samiti)	Once in every year	Marketed in association with several other organizations in the district along with video production of the events
3	<i>Maghi Sankritik Mahotsav</i>	GM	Once in every year	Marketed through public, visitors and stakeholders
4	Maghi Sankranti Tirtha Mela (<i>Maghi Lahan</i>)	GM	Held just once in each year	In <i>Ghorighora</i> (regular) and <i>Butka Baba temple</i> complex Kritipur (ward no.7) in 2076 (not regular schedule)
5	Promotional music video of Ghodaghodi lake	Few external institution(s)	Not regular creation	Available also in YouTube and social sites
6	Promotional video	<i>Maghi Samudaik</i> Home-stay committee	Prepared only one till now	
7	Production of video documentary of Ghodaghodi lake	CGLTDB	Completed	Published in GM website: www.ghodaghodimun.gov.np

SN	Name of promotional activities/events	Creation/ Organization	Schedule	Remarks
8	Promotion through various brochures, pamphlets, posters etc.	CGLTDB	As a regular ongoing process	Published once in a year and marketed
9	Promotional website of tourism in Ghodaghodi	CGLTDB	Open site	Not operational at the moment. To be launched soon
10	Destination promotion through publication of souvenirs and magazines	Tourism Development Society and NATTA Far West, Dhangadhi	Occasional and special publications	Converge about introduction and attributes of GLA.

Source: Field information

Few of the above mentioned promotional efforts in group and individual levels as found from the field surveys are offered in pictures below.



Picture 2: Tourism promotional efforts for GLA

Though there are some basic marketing and promotional interventions, however these are inadequate in proportionate to the scope, beauty and potentiality of this destination. There is lack of electronic and printed brochures, website and visitors guides and state-of-art tourist information centers, standard tourist information signage at strategic places including all hiking and trekking routes. The signposts do not exist in many areas causing confusion to the hikers and trekkers. Also there is lack of information and interpretation facilities at major touristic spot like GLA complex. The absence of cultural interpretation due to the shortage of trained local interpreters and guides in many places has bottlenecked the values and significance of local sites and events. A private-public partnership based marketing drive plan in organized way and conducting research on identifying and determining destination brand strategy are found as prerequisites for the effective marketing campaigns of GLA.

3.6 Strengths, Weaknesses, Opportunities and Threats for Tourism Development in GLA

GLA is offered with strength, weakness, opportunities and threats which are mentioned in the succeeding paragraphs.

Strength

- A destination with the largest standing freshwater system in lowland Nepal that comprises of a cluster of 24 lakes which is labeled with multitude of accolades like Ramsar site, IBBA, KBA, trans-boundary wildlife corridor and one of Nepal's 100 destinations selected for Visit Nepal Year 2020.
- Rich in biodiversity, provides wintering ground for many species of avifauna, a part of *Basanta* corridor, offers tremendous opportunity for scientific research.
- Strategically located in Kailali district in Sudurpaschim province between Bardiya National Park in the east, Shuklaphanta National Park in the west, Khaptad National Park on the north and Dhudhwa National Park of India on the south.
- Interconnection of the lowland of GLA with differential landscape of *Churia Shivalik* range on the north after the walk of a couple of hours.
- Located near the western entry gate of Nepal [on the surface drive of just a couple of hours from Nepalese boarder like Trinagar (Dhangadhi) and Gaddhachowki (Mahendranagar)]
- A destination site just beside East West highway with high and 24 hours connectivity
- Ability to cater services for 150 tourists in a single day in standard attached rooms in the existing 10 standard hotels
- 'Enhancement of tourism' as one of the key policy thrusts of GM for its overall development. As a result, arrangement of "CGLTDB" for the institutional development of tourism is in place since 2074 BS
- The entire region is offered with diverse landscape ranging from 205 – 1470 meter offering differential topography, geography, climatic conditions and vegetation accordingly
- Available with home-stays own and run by indigenous Tharu communities with rich tradition
- Historical *Ghorighora* religious holy place as pilgrimage for religious attraction of national and international tourists
- Existence of 1 Medical centre (private hospital) for major and minor medical treatment
- Location of police post in Sukhad for safety and security
- Availability of 6 banks and financial institutions with ATM machine outlets for financial transactions

Weaknesses

- It is freshly recognized as an add-on destination (not as a main destination) which has little spill over benefits confined only in tour packages mostly combined with Dhangadhi, Shuklaphanta, Chisapani, Tikapur etc.
- Lack of exploration, research and marketing strategy for GLA as a destination
- Lesser number and variety of water based (related) tourism activities and subsequent information for tourism products
- Absence of tourism enterprises (e.g. tour operators, trekking agencies etc.) at local level, which can formulate packages for tourists and connect with tourist markets
- None of the homestays is registered with governmental authorities. These are operating informally, which may not guarantee the quality of services and also causing to lose governmental revenue
- Inadequate and sub-standard of tourism infrastructures (e.g. signed trekking trails, road side footpath, cafes, standard tourist information centre, general information signage and boards, pure drinking water provision, locker rooms for visitors, washrooms etc.)
- Less standard of hospitality, language and service skills of service providers
- Absence of tourism development site plans and guidance for specific areas
- Lack of historical, cultural and nature interpretation of touristic sites in absence of local guides and interpretation facilities causing less meaningful experience to tourists
- Inadequate provision and mechanism for the collection of garbage, waste management (plastic control) and sanitation and hygiene
- Deficiency on concept of public private partnership concept for tourism related intervention
- Communities are overtly unaware of tourism is a source of income earning and as a transformation of social behavior

- Encroaching rattan forest (*Betahani* forest) adjoined with *Churia-bhawar* to the north as sources of water-in-take of Ghodaghodi Lake including other different lakes.
- Local communities lack skills/awareness on the sustainable use of natural resources that accelerating uncontrolled cattle grazing in the Churia forest, firewood and timbers harvesting from the Churia forest and stones, gravel and boulders unsuitable mining from the *Kandra* and other *Khahare Khola* like *Donda* and *Tengnahuwa* in the hill-side which converting Churia hill into desert that have being challenges to maintain local freshwater biodiversity conservation and watershed management.
- Uncontrolled over following water from the *Nakror* irrigation channels during the rainfall season while flood over following to the south of *Tengnahuwa* Community Forest which has been destroying fresh water biodiversity and its natural conservation system and destroying agricultural land .

Opportunities

- It is already known that GLA is a wildlife corridor associated with Basanta Corridor. Therefore, it is a great opportunity for improvement of GLA as watersheds and wetland management for development of site for biodiversity conservation, wildlife conservation and for touristic value creation. The proposed core area, starts from *Donda* Bridge and *Maghi* homestay gate in the south, from *Maghi* homestay gate to *Kauwa pari*, *Batulichaur* and *Sitakuwa* (*Betahani* forest), *Betahani* forest in the north and to covering with *Ramphal*, *Sonpokhari*, *Budhiya Nakror* and *Baisahuwa*, *Semrahuwa* and *Khaurahwa* Lakes adjoined with *Lathuwa*, *Dipnagar*, *Bilar* and *Loharpur* in the east. It is suggested that Ghodaghodi village, *Srijana Shivir* of ward no 1, *Pari dipnagar* and *Pipal tole* of ward no. 8 and *Kauwa pari* and *Batulichaur* settlements of ward no. 4 need to be resettled in where possible.
- Greater geographical area coverage of GLA as a destination offering multiday tourism opportunity.
- A natural destination like GLA has immense opportunity to be developed as a popular newer destination as it is found that around 64% of total tourists arrived in Nepal in 2017 visited natural areas like national parks, conservation areas and wildlife reserves.
- The speedy economic growth in neighboring countries (India and China) and huge tourist market segments in Uttarpradesh and Uttarakhand states (that has around 230 million population) in India are opportunities for GLA to attract international tourists from the nearby market segments. The rich and diverse biodiversity, flora, fauna and varied landscape are the key attractions for tourists who visit in very low numbers from Europe and USA.
- Simplicity and rich hospitality nature of local hosts (*Tharus*, *Magar*, *Brahmins* and *Chettri*)
- A destination with the prospective for multiple brand identities like: (a) a hub for indigenous *Tharu* cultural heritage attraction (b) the ultimate destination for bird watching tourists (c) an eco friendly green tourism hub in Nepal's western Terrain and (d) an agro organic food destination with the widespread availability of organic and local food for incoming visitors .
- Development of GLA as eco-tourism destination, which is founded on nature conservation that encompasses the five elements of the universe namely earth, water, light, air and sky, as well as flora and fauna and the natural, cultural and physical (artificial) environment that interact with them.
- Development of bird watching tourism through materializing every possibility of turning GLA into **Nepal's first bird sanctuary** in close networking with Bird Conservation Network (Sukhad, Kailali) and Bird Conservation Nepal (Lazimpat, Kathmandu <http://www.birdlifene.org>) and ZSL Nepal Office for long-term benefits (partnership) and media declaration .
- Development of religious and cultural tourism activities primarily based on *Tharu's* collective traditional life styles .
- Development of hiking trail around lake and adventure trekking trail between lake and *Churia* hill jungles towards north through Global Positioning System (GPS) based navigation and installation of standard signage and other infrastructures.
- Apart of proper management and development of this lake system for quantity and quality visitors' flow, the trekking trail based linkage to *Churiya* hill towards the north can be future prospect in spreading the number of beneficiaries and local areas of benefits.
- Development of an ecological and zoological research and study hub for national and international students, researchers, scientists, scholars etc.
- Development as a fishing spot for tourists' recreation .
- Potential to achieve more indicators than earlier achieved two indicators out of total of eight defined indicators of Ramsar Declaration Iran (International forum for lake conversation) .
- Formulation of research based feedback for policy revisit for long-term effective management and development of management tools for GLA

- Strengthening the sustainable tourism attributes of destination area through formulation of tourism Code of Conduct (CoC) manual
- Strengthening the network and professional relationship of GM and GLA with provincial Ministry of Industry, Tourism, Forest and Environment (MoITFE) of Sudurpashchim province, West Nepal Tourism Alliance (WNTA), Tourism Development Society (which acts as the secretariat of WNTA) and Nepal Association of Tour and Travel Agents (NATTA) Farwestern Regional Association at the moment.
- Formulation of available model of destination area management which is about the coordinated management of tourism system consisting of destination mix [attractions (site + manmade) + physical products (infrastructure + transportation + facilities like hotels, restaurants and homestays) + people (host community and guests) + packaging (itinerary) + programs (event + festivals etc.).]
- Presenting GLA an example of using tourism and nature conservation in an integrated manner and showing the possibility of using tourism as a tool for nature conservation
- Sustainable prosperity and peace building through a tourism system which is beneficiary for all and prevent and mitigate conflict.
- Marketing and selling of Tharu traditional and occupational handicrafts,
- Importance of education among local people especially in deprived, disadvantaged, marginalized groups
- Positive behavior change for hospitality services delivery to the tourists
- The domestic tourists including students, families, traders etc. are the main market segments of GLA at present where those tourists arrive for short breaks

Threats

- Many of wildlife and plants are vulnerable and in danger of extinction
- Encroachment (illegal cultivation) of GLA, high pressure and destruction of forest resulting with the loss of habitat of bird and wildlife
- Existing and sporadically mounting conflict between the policy of forest department and local government as well as between fish farmers and wildlife
- Uncoordinated distribution of governmental facilities like road, drinking water, electricity etc. in development interventions
- Unplanned tourism and development related structures impact watersheds value and biodiversity
- Increasing inward migration trends and issue causing the destruction of forest areas
- Unsustainable harvesting of water for farmland irrigation
- Increasing use of plastic waste and rising water pollution
- Increasing use of lakes for aqua-culture and unmanaged temple area
- Use of pesticides and agrochemicals threatening wetland dependent flora and fauna including birds.
- Increase threats to wetland dependent by disturbance, overfishing and poaching in the lake area and
- Decrease in Nepalese social cultural limitations

TOURISM BASED REVENUE COLLECTION PROVISION AND STRATEGY

CHAPTER 4

4.1 Legal Provisions Related to Municipality (local government) Incomes in Nepal

As per Nepal's constitution 2072 BS, the constitutional and legal arrangements are in place for the collection of tourism related tax, including other taxes by the Municipality (as the local government). The collections of taxes are done broadly in following modes:

- Tax collection and owing solely by local government (municipality)
- Tax collection and owing jointly by central, provincial government and local governments

The *Staniya Sarkar Sanchalan Ein 2074* (Local Government Operation Act 2074) has authorized the local government to solely collect revenue in following forms.

- Tax
- Charge
- Levy
- Service charge

The detail descriptions of these revenue provisions of local governments are offered in a table below.

Table 1: Various forms of revenue applicable on tourism sector

Tax	Charge	Levy	Service charge
Enterprises tax	Parking charge	Profession Registration Recommendation Levy	Profession Registration Renewal Charge
Property tax		Profession Registration Levy	Service charge on Cable Car, Bungee Jumping, Trekking, Kayaking, Jeep flyer, Paragliding and other recreational and adventure sports related service and professions
Land tax			Service charges on local infrastructures and services (Guest houses, Pilgrims House, Town Assembly, Business Conference Center, Toilet, Park, Swimming pool, Touristic point, Bus Park etc.), which are built, operated and managed by local governments

Source: Compiled from various sources, (GM, 2019)

The aforementioned provisions are applicable with Ghodaghodi Municipality too, however it has implemented only following forms of taxes for the tourism sector.

- Profession Registration Recommendation Levy
- Profession Registration Levy
- Profession Registration Renewal Charge

Furthermore, incomes allocation received from resources use (Natural resources utility and other incomes) is applicable for boating related recreational facility for tourists in the Ojahuwa Lake.

For the systematic approach, Ghodaghodi Municipality has formulated it's Economic Act 2076 under the provision of sub-article (2) of article 228 of Nepal's constitution 2072 for smooth and systematic functioning for collection of internal revenue such as taxes, charges, service fees, receiving of subsidy and borrowing loan, sales and distribution of current and fixed assets and allocating available budget in development works within municipality area. The total income revenue collected through different headlines in last three fiscal years and their financial contribution are retrieved in the table and graph below.

Table 2: Internal revenue collected during last three fiscal years and its contribution

Budget lines No.	Revenue Headlines	Fiscal Years (FY)			Total Revenue of Last 3 FYs
		2073/074	2074/075	2075/076	Amount in NPR.
14529	Different Tax (Revenue)	141,635.00	1,779,795.50	-	1,921,430.50
	Service Fees	81,100.00	962,726.60	718,000.00	1,761,826.60
11321	House Rent	73,898.00	1,142,233.25	680,667.68	1,896,798.93
14242	Map Charges	826,210.39	-	294,197.07	1,120,407.46
11314	Revenue from Agriculture Land	582,782.84	7,084,177.96	4,119,513.18	11,786,473.98
11613	Business Registration Charges	2,220.00	-	551,650.00	553,870.00
11313	Property Tax	619,681.64	-	140,608.00	760,289.64
14243	Different Charges	919,996.00	-	2,721,266.00	3,641,262.00
	Reg. Charges	44,740.00	-	147,410.00	192,150.00
	Advertisement Charges		127,050.00	-	127,050.00
	Tender Sale Tax		18,000.00	-	18,000.00
	Royalty from Natural Resources (Forest)		-	13,500,000.00	13,500,000.00
	Incomes from Lakes		-	11,609,963.00	11,609,963.00
	Total	3,292,263.87	11,113,983.31	34,483,274.93	48,889,522.11

Source: Ghodaghodi municipality's auditing report of FYs 2075/074, 2074/075 and 2075/076

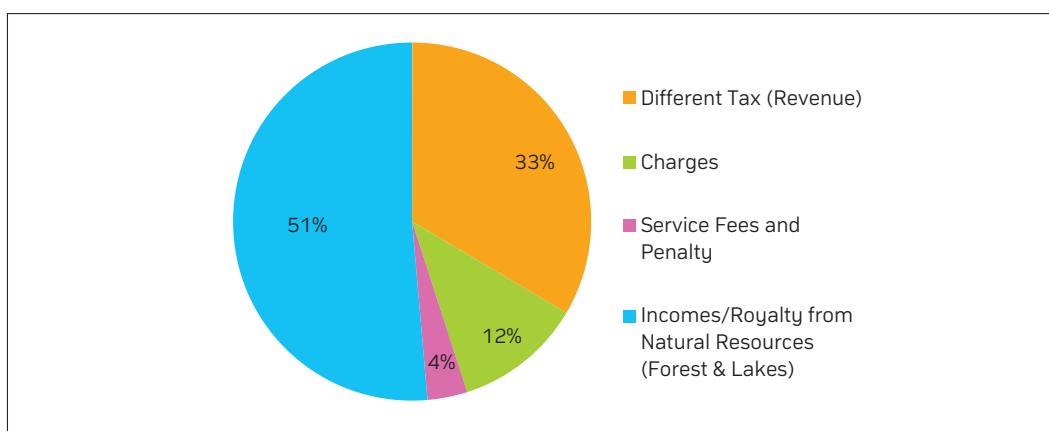
Here is the summary table of the above information.

Table 3: Summary table of above table no. 8

Revenue Headlines	Fiscal Years (FY)			Total Revenue of Last 3 Fys	
	073/074	074/075	075/076	Amount in NRs.	Percentage
Different Tax (Revenue)	1,417,997.48	10,024,206.71	4,940,788.86	16,382,993.05	33.51
Charges	1,793,166.39	127,050.00	3,714,523.07	5,634,739.46	11.53
Service Fees and Penalty	81,100.00	962,726.60	718,000.00	1,761,826.60	3.60
Incomes/Royalty from Natural Resources (Forest & Lakes)	-	-	25,109,963.00	25,109,963.00	51.36
Total	3,292,263.87	11,113,983.31	34,483,274.93	48,889,522.11	100.00

Source: Ghodaghodi Municipality's auditing report of FYs 2075/074, 2074/075 and 2075/076

From the analysis of given above table, there are a few internal revenue headlines. Similarly, collected revenue amount from mobilized headlines is also very low. Main internal income sources of municipality are income tax and internal incomes. Even though both of these headlines are in increasing rate but collected revenue and incomes are very low.



Graph 1: Collected internal revenue and incomes during last FYs and its contribution

Source: Ghodaghodi Municipality's auditing report of FYs 2075/074, 2074/075 and 2075/076

From the analysis of above given pie-chart shows that 33 percent revenue from different tax, 12 percent incomes from different charges, 4 percent fees from services and penalty and 51 percent incomes and royalty from natural resources including forest and lakes have been collected which have been allocated in different development works.

The above information reveals that the internal revenue generation is not strong for Ghodaghodi Municipality in terms of the conservation and tourism development of GLA. This condition indicates that it may be challenging for Ghodaghodi Municipality for the conservation based tourism development in GLA.

The *Antar Sarkari Bitta Byawasthapan Ein, 2074* (Inter-governmental Finance Management Act, 2017) has provisioned for the collection and owing of the collected tax as follows:

- a. Local government's tax collection to be governed as per the laws of central and provincial governments:
 - ▶ Royalty on natural resources, means and service
 - ▶ Royalty on operation and management of community forest
- b. Local government to decide the entry fee (rate) on gardens, parks, zoo, historical and archeological heritage and museum and collect tax accordingly and distribute amidst provincial and central government.
- c. Provincial government to decide the rate of trekking and tourism charge, collects tax and deposit at provincial government fund.
- d. Central government to decide the entry fee (rate) on mountaineering, national parks, wildlife reserves and conservation areas and collect tax accordingly.

On the backdrop of increased authorities offered to local governments for independent collection of taxes locally and in association with provincial and central government by various acts, the Ghodaghodi Municipality is found committed to increase the tax based revenue. Ghodaghodi Municipality has estimated to collect NPR 47,805,000.00 in fiscal year 2075/76 in which income projection from tourism tax is very low as NPR 25,000.00. This estimation also consists of income as royalty from natural resources (forest & lakes), entry fee to GLA, boating fee in *Ojahuwa* Lake, property registration royalty, taxes on vehicles apart of income from trekking and tourism service tax. This revenue would be jointly sharable between central, provincial and local government. Nevertheless, the Municipality is in wait and sees position for proper mechanism on taxes to be shared with provincial government and central governments. For widening its scope of tax (for which GM is found determined) in tourism sector, it is in plan and process of investments in few key tourism products [e.g. water park, Ghodaghodi lake entry gate park, picnic spots (as the children park too), fishing spots, paragliding, cable car, installation of any differential and bigger artificial objects for touristic attractions etc.] solely or through inviting private sector investment for longer term on BOOT model. Likewise, uses of aquatic plants like 'Lotus Plants including leaves and seeds and the use of *Singayar* (water-chest-nut) that should be commercialized and collect royalties. In terms of incentive mechanism -incentives can be provided also to those entrepreneurship that support green economy approach. This roadmap serves as a guideline for raising the income of Municipality according to Mamata Prasad Chaudhary, Mayor, Ghodaghodi Municipality (personal communication, 25 December 2019).

WATERSHEDS CONSERVATION AND MANAGEMENT STRATEGY

CHAPTER 5

5.1 Background

Watersheds and wetlands are one of the key life support systems on the earth. Water resources are vital element of national and global ecosystem and economies. Natural resources have faced serious degradation problems worldwide. These problems are identified as flooding, soil erosion, wind erosion, pollution, over exploitation of natural resources, sedimentation, land use changes, overgrazing, forest fire and wetlands loss. The main aim of watershed management is to conserve the soil/land, biodiversity and water resources for human well-being. It is an urgent need to apply scientifically appropriate, practically feasible, environmentally friendly, technically sound, economically efficient, developmentally sustainable and socially acceptable solutions for the successful and persistent management of watersheds, upon which human populations depend.

Ghodaghodi lake system is the globally significant due to important habitat for wetland bird populations and biodiversity. The lake is strategically located in between Bardia National Park in the East and Suklaphanta National Park in the west for the biodiversity conservation, ecotourism and development perspectives. In addition, it is also strategic for the conservation and wise-use of more than 100 lakes from Ghodaghodi's watershed area to the Indian borderline (Budha, 2016). The lake system comprises altogether 24 shallow oxbow-lakes of various sizes occupying 147.17 ha. area. All these lakes belong within an area of 10650 ha. from upper reaches of *Betahani* in the north to the east-west highway to the south. The main source of the water of these lakes is lower slopes of the *Siwalik* hill around *Betahani* area and *Sitakuwa* which is historic holy place as well.

The degradation of land, loss of biodiversity and shortage of water are major environmental problems in Nepal. The government has expressed its obligation to maintain food security in its Agricultural Policy (2004) to conserve, promote and utilize natural resources. In the context of the federal system of the country, local governments are in the first phase of development planning. Ghodaghodi Municipality which is rich in water resources has initiated to design the master plan for the further development activities systematically. Draining the water for irrigation and fishing, encroachments, eutrophication, siltation, over-exploitation, overgrazing, introduction of invasive species are main identified threats to Ghodaghodi lake system. Another major threat observed was the haphazard extraction of sand and boulders from rivers upto lower part of the *Churia* range. Thus, the conservation of the entire lake system as well as watershed area is crucial because many lakes have been shrinking due to human pressure and lake area encroachment.

This is the part of the project to design overall watershed management strategies for wetland conservation and restoration for the overall biodiversity habitat for the conservation and improve livelihood of the people through wise use of water and enhancing ecotourism activities of GLA. The major improvement segments are recommended to be planned and to be implemented within GLA. Further details are given in Watersheds Management Plan in annex- 5.

- a. Conservation of *Betahani* and foothills of *Churia*; control of haphazard movement of tractors in the jungle and river course: Guideline should be prepared and implemented. Because extracting boulders and sand has been noticed haphazard above *Lathuwa* and *Tengna* river upto the base of *Churia*. The proper guideline about sand and boulder extraction is highly needed to protect river bank land slide and soil erosion and to mitigate high level disturbance to the wild animals. Scientific management forest should not be recommended at least the watershed management area particularly in *Betahani* area.
- b. Improve water supply connectivity in between associated lakes; the water connectivity with original source should be established. Natural lakes should remain full of water throughout the year. Connection with the perennial river with *Sonpokhari*, *Bichka Chatiya* and *Ramphal* support the life system of the lake during the dry season as well. It will increase the water volume of these lakes which is used for irrigation during dry season for increasing productivity of the local people. The connection point is suggested and potential area of constructing embankment. Intentional drying out of the lake should be strictly prohibited and fishing though contractors should be banned for the entire Ghodaghodi lake system.
- c. Increase and maintain water level of Lakes; the entire lake system of Ghodaghodi (from Ghodaghodi to Sonpokhari) should be developed as area of water store house for developing wide scale irrigation for livelihood improvement of farmers, biodiversity conservation and nature tourism. If the water from *Kauha* River is fed to *Ramphal* and *Nakror*, the water level can be maintained in these lakes. Increasing water level of *Nakror*, *Ramphal*, *Sonpokhari* and Budhiya *Nakror*, *Baisahuwa* and other lakes can be easily done if the entire lake system is managed by constructing the embankment in some area.

- d. Land acquisition: Land acquisition of the encroached land around *Sonpokhari*, *Bichka Chatiya*, *Ramphal*, *Budhiya Nakror* and *Nakror* lakes are needed to construct embankment, irrigation channel construction as well as developing ecotourism spots.
- e. Plantation of Vulnerable Plants Species; establish a multipurpose nursery and plantation of long rooted-plants in the river banks, commercial plants and ornamental plants be planted in open land in the banks of Ghodaghodi Lake and or within GLA.
- f. Deforestation disrupts hydrology – so afforestation/plantation programs can be carried on within GLA.
- g. Wise-use of wetlands; It is recommended that restructuring irrigation facility, reconstruction of irrigation dams in several locations of different lakes such as *Purbi Ojahuwa*, *Ojahuwa*, *Ghodaghodi*, *Nakror*, *Ramphal* and *Burhriya Nakror* including *Kauha* river at *Betahani*. Which are the high delineate areas for ecotourism.
- h. Reduction in use of pesticides/chemical fertilizers and its run-off to lake areas should be controlled so as to minimize the threat to wetland biodiversity i.e., controlling human-induced eutrophication.



Ghodaghodi Lake

NATURAL CAPITAL ASSESSMENT AND ITS STRATEGIC PLAN

CHAPTER 6

6.1 Natural Capital Assessment and its Strategic Plans

Considering such importance of natural capital of GLA; at the first, CGLTDB conducted baseline survey of it and next workshop on participatory natural capital assessment (NCA) of GLA at local level for additional data informations and suggestions collection and that to be adjusted in the final report of NCA report which could be used in this master plan of GLA conservation and tourism development. Now this workshop on NCA of GLA at municipal level was conducted for finalization and acceptance. For effective organization of information and suggestion relating to NCA of GLA, important areas of questionnaires were developed and based on these questionnaires discussion were entertained. Please see, details in annex-4, biodiversity monitoring report.

Vegetation: From this study, a total 65 species of trees has been found which belongs to 16 orders, 43 genera and 29 families while few tree species scientific name and its classification could not be obtained; only their local name has been recorded.

In GLA, among the 65 species of tree, *Shorea robusta* (saal) was found most frequently and the dominant species followed by *Dalbergia sissoo* (Sissoo), *Terminalia alata* (Saj) and *Lagerstroemia parviflora* (Bot dhaiyaro) respectively while *Terminalia chebula* (Harro), *Ficus benghalensis* (Bar) and *Aporosa octandra* (Kalikath) were found less frequently as compared to other species.

Similarly, a total of 46 species of shrubs were recorded from GLA. *Solanum melongena* (Bhathi), *Murraya koenigii* (Curry leaf), *Galfuluwa* and *Persicaria amphibian* (Pire) were the most frequently found shrubs species while *Rubus calycinoides* (Rohini), *Millettia extensa* (Gauj), *Clausena pentaphylla* (Tera) and *Casearia graveolens* (Pipane) were the least frequently found shrubs species.

Likewise, from the study sites, 51 species of herbs were found. Among them, Baashye ghas was most frequently found followed by *Ageratum conyzoides* (Gandhe), *Bidens pilosa* (Kura) and *Eulalia trispicata* (Babiyo) while *Arisaema tortuosum* (Sarpoko makai), *Dryopteris cochleata* (Unau), *Achyranthes aspera* (Datiwan) were the least frequently found herb species.

Birds: During the survey period (18 – 25 Feb 2020) total 178 species of birds were recorded including 22 species of water birds. Among them 14 new species were added to the previous list of 299 species, totaling 313 species. 8 species of birds are globally threatened and 6 species are near threatened whereas 24 species are nationally threatened and 6 species are near threatened.

Marsh Mugger and Turtle: During the survey period (22-27 Feb, 2020), total 11 Marsh Mugger were recorded. Among them 1 was young and remaining 10 were adults. Also, two species of turtle (*Pangshura tectum* and *Lissemys punctata andersoni*) were recorded from recent survey.

Mammals: Altogether 24 species of mammals have been recorded from Ghodaghodi lake complex. Among them, current study provide the evidences of 16 species of mammals (though few local information need further verification) while rest of the species were added using different studies conducted in the Ghodaghodi in the past. Among the total mammals' species in Ghodaghodi, Bengal Tiger *Panthera tigr* is globally endangered species while Leopard *Panthera pardus* and Smooth-coated Otter *Lutrogale perspicillata* are globally vulnerable. Further more six species are recorded in the area are nationally threatened. In the current study, four species were recorded by camera trap; seven species were confirmed by sign like rooting, pugmark, scat, pallets while six species were recorded as per the anecdotal report. Anecdotal reports were validated with the literature though presence of Smooth-coated Otter is doubtful.

Fish: A total of 27 species of fish were recorded in 1998 in Ghodaghodi by IUCN. Later in 2003, DNPWC and WWF Nepal (2003) reported 29 species, where as Kafle (2007) identified 25 species. Altogether 30 species of fishes were recorded from the Ghodaghodi Lake (including Joshi and K.C. 2017 and Lamsal et al. 2014). In current survey, 14 species of fish were recorded. Among them order Cypriniformes and Family cyprinidae has the highest number of species 13 and 12 respectively. Order, Anabantiformes, Beloniformes, Osteoglossiformes and Perciformes represent the single species each.

Wild Rice: In 2010, Conservation and Sustainable Use of Wetlands in Nepal (CSUWN) project identified 3.6 ha. of total area occupied by the Wild Rice (*Oryza rufipogon*) (CSUWN, 2010). The lake Ghodaghodi, Tendi and Tinchatiya has been found to harbor the species. Current study identified 4.54 hectare of area covered with wild rice. The patches of wild rice have been observed in the boundary of Ghodaghodi Lake mostly in the northern site.

The report suggested planning for as;

1. Conduct a separate desk and field feasibility study for the preparation of transforming and declaring GLA as a bird sanctuary for bird watching tourism destination in all GLA area
2. Birds conservation in GLA
3. Reptiles conservation in GLA
4. Aquatic species conservation in GLA: Fishes, *Sutahi* (Bivalve) and freshwater snails (*Ghongha* and *Ghonghi*).
5. Aquatic plants species conservation in GLA.



STRATEGIC ACTION PLAN

CHAPTER

7

7.1 Programs and Policy

The formulation of the GLA master plan of Ghodaghodi Municipality envisions a framework below which reveals a complete cycle of input, process and output and impact that can be a basis for its continuing cycle.

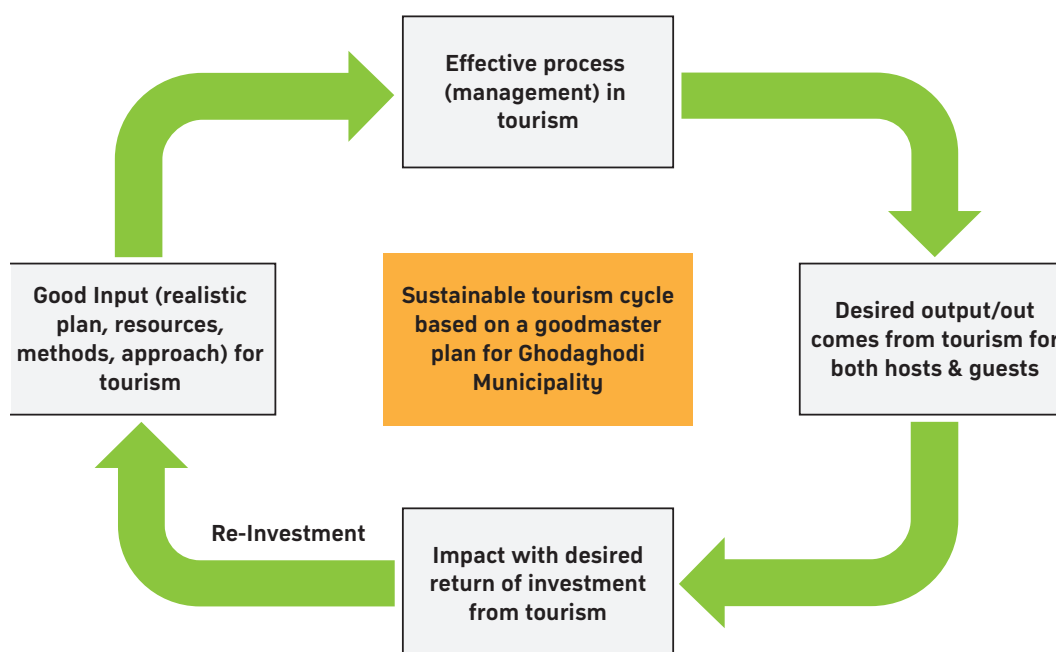


Diagram 1: A framework of cause and effect cycle for the sustainable development of tourism in Ghodaghodi

7.2 Strategically Designing Program and Activities Implementation Methodologies and Process

7.2.1 Social Mobilization for GLA Conservation and Tourism Development

1. Apply Beneficiaries-driven Social Mobilization and Gender Empowerment Plans

It is proposed that beneficiaries-driven social mobilization and gender empowerment plans for GLA conservation and tourism development (**See annex – 1 for more information including sub-activities**); northern settlements in ward no. 8 Uttar and Dakshin Lathuwa, Deepnagar, Donda-pari, Pari-deepnagar and eastern settlements in ward no. 1 Belar, Shrijana Shivir, Loharpur, Laxmipur, Sukhad-Bazaar and Ghodaghodi Village, similarly in ward no. 4 Bhalufanta, Simtari, Kauhapari, Batulichaur, Maghi and Gaidakhera should be applied and likewise extremely northern settlements adjoined with Churiabhawar of GLA in ward no. 2 and 7 of Mohanyal Rural Municipality (Chilimchore, Sano Kedar and Malika).

The major activities recommended for implementation are:

- a. Conduct baseline surveys to establish the socio-economic status of the target groups in the GLA.
- b. GLA conservation and management groups like formation, reformation or revitalization within GLA.
- c. Train group leaders for community mobilization especially for GLA conservation and management.
- d. Share new skills, knowledge and experiences among group members for GLA conservation and management.
- e. Prepare action plans by each of the groups in each year for GLA conservation and management and support to implement.
- f. Institutionalize GLA conservation and management groups into federate entity at municipal level.
- g. Strengthening on group development and management.
- h. Organize World's Environment Day (5 June), World's Soil Erosion (*Bhushangraksharan*) Day (8 August), World's Water Day (22 March), Celebration of Plantation Day, World's against Women Violence Alleviation Day (25 November), World's Mountain Day (11 Dec), World's Biodiversity Day (29 Dec.), Asian Water bird Census (first two weekend period in January) and World's Wetland Day (2 February) per year for social awareness creation.
- i. Organize local cultural events for publication of Ghodaghodi tourism destination and for social awareness creation.
- j. *Tharu* dances and song promotion in *Maghi*
- k. *Tharu* cultural heritage establishment in GLA:

Tharu cultural heritage can be established. Under which *Tharu* style house should be constructed in which *Bhansa* (cooking room), *Konti* (bed-room), *Minjhari* (sacred spot of family diety) and *Bahari* (family members gathering room) should be added separately. One room for exhibition of *Tharu* ornaments, cloths and other daily use tools and equipment should be constructed. The house should be decorated with wild animals statues in the wall, *Dehari/Kuthali/Jabara* (a big pot for safely storage of food grain) made with mud in front of house should be made and established within the house in its real places. One cattle shade should be constructed in which an oil processing wooden *Kolhu* (processing unit) and nearby a sample of well should be established. This will show a real *Tharu* house. This *Tharu* cultural heritage will attract international tourists.

7.2.2 Infrastructure Development Adapting Bio-engineering Techniques

As per bio-engineering designing report 2020 (see details in annex – 2), the infrastructures designs and construction works shall be constructed.

1. Establish a Pragmatic Garbage Management System

In order to establish a pragmatic garbage management system, methodologies and process can be applied and the co-partner organizations such as all civil society organizations, business entrepreneurs, CFUGs and *Ghorighora* religious organizations can help to institutionalize the pragmatic management system. The major task is to construct dumping sites as per decisions of GM.

The cleanliness, hygiene and sanitation of a tourist destination are inevitably related with lifestyle, life practices and cultural practices of residents. It necessitates linking the cleaning process of GLA complex with overall garbage management and cleaning system of municipality itself. Here it requires practical knowledge, awareness, knowledge of separation of garbage and reusing at the main source for producing compost etc. For it, first communicate with civil society (local youth club, mothers groups, eco- clubs, school children, Ghodaghodi Cultural Conservation Society – Nepal, GACPAF, CFUGs, *Bargharia*, hoteliers, restaurant operators, home-stay operators etc.) of ward no. 1, 8 and 4 for their information, acceptance and leadership for participation in awareness campaign for reducing waste at sources (e.g. GLA complex and each households).

- a. Offer and disseminate sufficient information about garbage management system and awareness for visitors at GLA complex including *Dew-thanuwa*. Such a system should consist of self responsibility of bigger groups to clean their generated garbage in religious complex areas once their rituals end.

- b. Garbage management procedures at GLA complex system should be activated through formulating a main committee or sub-committee for making responsible.
- c. Must link with GLA garbage management system with the garbage management holistic system of GM.
- d. Arrange hardcore items [put two types of dustbins (one each for degradable and non-degradable)] at key junctions including frontal entry gate, religious complex areas, hiking trails of insidious area of GLA etc. of GLA.
- e. Put in and apply the system of timely delivery of collected garbage to the land filled site or recycling site or composting site. Prioritize to process the garbage (reuse, recycle etc.). Dumping at land filled site to be as last option only.
- f. Agree on soft-core matters (e.g. formulating an annual calendar for cleaning campaign, collection, segregation and garbage processing schedule) through the volunteer participations of civil society and communicate it for collective actions.
- g. Build canal for the drainage with the coverage by concrete slabs for crowded settlement areas of municipality at first phase.
- h. Apply proper schedule and system of drainage cleaning.

2. Construction of Vehicles Parking, Mobile Shops and Picnic Sites

CGLTDB in coordination with Division Forest Office and Tengnahuwa CF, basic facilities for domestic and international tourists are vehicles parking, mobile shops and picnic Sites shall be constructed in Tengnahuwa CF. Similarly, *Bedashram* and religious complex that shall be also be constructed in Tengnahuwa CF.

Vehicles Parkings, Mobile Shops and Picnic Sites these facilities shall be managed by CGLTDB and or assigning responsibilities by forming a forum with representatives of Tengnahuwa CF, civic organizations, bird conservation groups, mother groups and youth clubs etc. Furthermore, there will be management guidelines especially for these facilities and its management. Major tasks and responsibilities shall be provisioned in the management guidelines. The major and regular tasks are as:

- a. Establish or maintain drinking water supply (tap) or hand pumps and washrooms with toilets nearby Ghorighora religious complex and parking site and picnic site.
- b. Arrange sufficient amount of running water to clean wash rooms
- c. Depute cleaners on permanent basis to clear wash rooms with wash room cleaners (harpic, phenyl etc.).

2.1 Religious Complex: basic facilities such as *Ashrams* (buildings), cooking houses, *Satsang* building etc with drinking water supply, washrooms and garbage site facilities shall be constructed for hermits (*Sadhu-sant*). For effective management of religious complex, there shall be a sub-committee with representatives of hermits (*Sadhu-sant*) and or *Sant Samagm Samaj* (religious organization of hermits working for *Ghorighora Dewthan*) which shall be assigned roles and responsibilities for religious complex operation.

2.2 Bedashram complex: There is a Bedashram which is important for Sanskrit education promotion. There is a religious local organization named *Birat Sanatan Dharma Saskriti Sangrakshan Sambardhan Pratisthan* which has been managing the *Bedasram* Sanskrit School. In close coordination with this religious organization Bedashram complex shall be constructed. Moreover, this religious organization will have overall management responsibilities and its operation and development of *Veda Ashram* Details are given in design annex – 2.

3. Develop round GLA outer circuit trek route (36 Km) tourism product with basic standards, quality and safety

CGLTDB in coordination with Division Forest Office, Bird Conservation Network and GHT Management Unit of Nepal Tourism Board (NTB) will develop round outer circuit trek route (36 Km) tourism product with basic standards, quality and safety a) *Ghodaghodi - Maghi - Bhawanwar - Chilamchore- Chhoti Kedar- Malika- Lathuwa - Sukhad*. As for authentic information for distance between Lathuwa to Sukhad is 8 Kilometer extra.

- a. Re-consult with representative trails' communities for their information, ownership and cooperation for trekking trail development for visitors.
- b. Complete essential trail improvements including trail alignment, improvement, upgrading of trekking/bird watching/cycling routes, various information signage (e.g. Trail head, welcome, directional, interpretative, warning, trail marker etc.), in the trekking routes in and around GLA (See annex 2: Post trail auditing trail users mandatory informational symbols on trekking trails) in and around GLA.
- c. Developing place maps, direction and informational signage.
- d. Build of other light infrastructures like bird hides, view tower, observation tower, protection shades, drinking water stations, wash rooms etc. on trekking routes at regular intervals.
- e. Ensure the proof of implementation of infrastructures and signage.
- f. Send post infrastructure development trail products information to NTB, NATTA, NATO, Department of Tourism etc. with the aim of including the trail and its itinerary in their website, which will be a high valued marketing and promotion of the audited trail.
- g. Associate with GHT and Green flags Trail in later phase once the products are fully ready for its accreditation and certification process in order to value ads for marketing and promotion.

1. Develop Ghodaghodi Lake (the core lake spot) circuit trip (28 Km) tourism product with basic standards, quality and safety.

It is proposed that development of Ghodaghodi Lake in coordination with Division Forest Office, Bird Conservation Network, related CFUGs and local NGOs which are working for GLA conservation the core lake spot with circuit trip (28 Km) tourism product with basic standards, quality and safety such as GLA complex entry gate - *Jhinpakariya tandi-Rajak Parau-Lamki tandi-Barka Chhingtaliya-Piparahuwa tandi-Karaila tandi-Check dam*.

- a. Complete essential trail improvements including trail alignment, improvement, upgrading of trekking/bird watching/cycling routes, various information signage (e.g. Trail head, welcome, directional, interpretative, warning, trail marker etc.) in GLA (See annex 2: Post trail auditing trail users mandatory informational symbols on trekking trails) in and around GLA.
- b. Developing place maps, direction and informational signage.
- c. Build other light infrastructures like bird hides, view tower, observation tower, protection shades, drinking water stations, wash rooms etc. on trekking routes at regular intervals.
- d. Ensure the proof of implementation of infrastructures and signage.
- e. Send post infrastructure development trail products information to NTB, NATTA, NATO, Department of Tourism etc. with the aim of including the trail and its itinerary in their website, which will be a high valued marketing and promotion of the audited trail.

2. Build Ghodaghodi as tourist friendly cycling and walking city in ward no. 1, 2, 4, 6, 8 and 10.

It is proposed that Ghodaghodi as tourist friendly cycling walking city in ward no. 1 (*Sukhad*), 2 (*Sandepani*), 6 (*Basanta Basuriya*), 8 (*Lathuwa*), 4 (*through Betahani forest to Gaidakhera-Maghi-Rampur-Janakpur*), 9 (*Sikarjhala*) and 10 (*Bulbuliya to Pahalmanpur*) through Mahendra highway to Sukhad should be developed in coordination with related ward offices and local authorities.

- a. Prepare a list of basic infrastructures installations like cycles stand shade outside GLA entry gate, widening 5 feet on both sides of east west highway and paving of walking footpath with local stones, building greenbelt, installing street solar lights, building resting spots with washrooms at every 2 KM. of walking distance, installing city interpretation signage boards, route alignment with key objects of attractions etc.
- b. For hoarding boards and directional and interpretative signage designs and if necessary get the expert services.
- c. Start building cycle Lane through colour code of highway for 1.25 meter and full signage of cycle from Sandepani to Pahalmanpur Bazaar through GLA complex.
- d. Start constructing pedestrian pathway on both sides between Sukhad Bazaar to GLA complex area.
- e. Continue raising footpath areas in other regions too like Bhajani road gradually.

3. Maintain Sitakuwa Temple area

It is proposed that Sitakuwa Temple as a religious place in ward no. 4, should be maintained in coordination with Division Forest Office and Secretariat of ward no. 4 and Sitakuwa Community Forest Users Group. Community people believe that *Sita Mata* drunk water from this Sitakuwa during exile so that in order to add religious values and aspiration of this Sitakuwa, Sita Mata temple was established.

Causing these religious norms, values and aspirations, this Sitakuwa area is a holy place. That is why, this area shall be maintained.

- a. Maintain, repair and construct entry gate, boundary of temple area, repairs and maintenance of the temple, management of drinking water supply and washroom.

4. Offer cable car and its linked paragliding adventure tourism product.

It is proposed that cable car and its linked with paragliding adventure tourism product should be established in *Gaidakhera – Bhawar – Chilimchore hill* - GLA in coordination with Division Forest Office, Mohanyal Rural Municipality, Inhabitants of GM, Air Sports Association of Nepal and Civil Aviation Authority of Nepal.

- a. Formulate special committee for this intervention.
- b. Infrastructure development and construction including operation part also shall be assigned as per 'Local Government Execution Act 2074 to the public-private sectors that will generate internal revenue for GM. It is specified that, construct basic infrastructures (allocation of required landscape + washroom + shaded hall + parking space) for the takeoff of paragliding.
- c. Develop detail plan and DPR.
- d. Allocate land areas for cable car stations both in down and upper areas.

5. Allocate landing spot in lower land area surrounding of GLA and also build parking space for vehicles.

6. Build water-based tourism products (activities) outside GLA in Ghodaghodi tole area (illegal settlement)

It is proposed that water-based tourism products activities outside GLA in Ghodaghodi tole area should be developed for Income Generating Potential Intervention (IGPI) for GM in coordination with nearest community forest user groups and Division Forest Office. Details are given in this master plan of infrastructures design in Annex – 2.

- a. Resettle Ghodaghodi tole anywhere possible within GM.
- b. Coordinate with Division Forest Office, Police Office including concern CFUGs for zoning of land at Ghodaghodi tole area beside EW highway.
- c. Prepare construction sketch plan for Water Park with necessary infrastructures such as swimming pool, swimming lane, bath centers with sauna and Jacuzzi, swimming centers, signage, standard shades, washrooms etc.
- d. Also build a training center on this corridor for offering training on water related activities to tourists and other interested.
- e. Allocate an area of approximately 0.5 sq km for Visitors' Services (facilities) Center (VSC). VSC should be equipped with a number of amenities like permanent car park, permanent bus park, temporary bus park for 24 hours running public buses heading from west to east, visitors garden, waiting hall for visitors, big entrance gate, modern information center, visitors' locker and shoe keeping rooms etc.

7. Promote water tourism through integrated marketing campaign.

Build products supporting (consolidating) all other infrastructures indicated by master plan of infrastructures design. It is proposed that products supporting (consolidating) all other infrastructures as indicated by this master plan of infrastructures design in Annex – 2 should be built in various places and points in coordination with Division Forest Office, Police Office, Chilimchore home-stay operator, Mohanyal Rural Municipality, Maghi Home-stay community, Malika village community, religious and social NGOs working for GLA conservation.

- a. Upgrade existing retaining wall and landscape of Ghodaghodi Lake (as per component no. 4) of infrastructure report).
- b. Build a common accommodation centre with modern amenities in places like Chilimchore and Malika where the national and international scientific study and research tourists can spend larger time for research and education.
- c. Build a towering view tower at the north area of GLA.
- d. Build a view tower in Maghi.
- e. Build a Ghodaghodi cultural museum complex in Maghi.
- f. Build two view towers at the Bhawar jungle area below Malika.
- g. Build a drinking water outlet point on trekking trail route in Bhawar jungle.

- h. Shift Bedashram Sanskrit School from the existing location in GLA religious complex in Tengnahuwa CF to the south of East West highway with the allocation of sufficient land and construction of buildings like study classes, accommodation for Bedashram Sanskrit School team members and pilgrimage center for visitors for religious purposes.

8. Build Purbi Ojahuwa Lake area as an additional boating lake area.

9. Install environmental friendly solar lights in the areas between (i) Bijaya Laxmi Petrol Pump to the outer area of GLA complex towards west, (ii) Sukhad chowk to Bhukhali chowk towards south and (c) Sukhad chowk to Ghodaghodi Campus towards north.

10. Standardize the existing roads connected between Sukhad Bazaar and various wards of GM

It is proposed that the existing roads connected between Sukhad Bazaar (ward no. 1) and various wards of GM that should be standardized in coordination with secretariats of all twelve wards.

- a. Install road head signage at the road starting point with clear mentioning of destination and distance in Kilometer.
- b. Build traveling passengers waiting stand with basic shades at the bus starting and reaching points.

11. Develop a modern visitor information center Program in GLA entrance gate locality.

It is proposed that a modern visitor information center in GLA entrance gate locality should be built in coordination with concern stakeholders.

- a. Build a modern information technology friendly "GLA Tourism Information Center" building at the main entry gate of GLA as a domain solution of information needs of visitors. It should consist of air conditioned waiting lobby for 70 people, wash rooms (toilets and bathrooms) and cold and clean drinking water for summer season, free wifi, internet materials etc.
- b. Put one information desk on the frontal area within the information center with the deputation of one information officer with dual language speaking fluency (Nepali and English) for handling all kind of information dissemination (face to face, online and offline).
- c. Install at least 10 e-information stands with the access in Nepali and English languages for the self exploration of information by national and international visitors.
- d. Put a destination area head (place map) signage with brief profile of GLA, walking/cycling map and directions, visible elements etc.
- e. Build and run a mini "Tourist Information Center point" at Sukhad chowk cross-road point for the facilitation of visitors in GLA.
- f. Develop a webpage of GLA (www.ghodaghodilake.com) consisting all relevant information to facilitate the arrival of visitors in GLA from outside of GLA and post arrival touristic activities.
- g. Put a head board outside of the information center building that should consist entire information of visiting sites, their walking distances, directional arrows/signs, amenities and provisions available inside core area of GLA and dos and don'ts (as code of conducts for visitors for maintaining cleanliness and not disturbing the ecosystem and biodiversity).
- h. Arrange the handing over of a small information kit to all visitors on purchase of their entry tickets. The information kit is about the status of GLA as a Ramsar site and responsibility behavior of visitors for maintaining cleanliness, ecosystem and biodiversity.

12. Construct a highly elevated view tower in Northern most location inside GLA

It is proposed that a highly elevated view-tower in Northern most location inside GLA should be constructed in coordination with secretariat of concern ward, CFUGs, Division Forest Office and communities. It is expected that a three tiered view-tower with the provision of washroom on first tier, refreshment café and mini local souvenir shop on second tier and outer view lobby on the top tier including drinking water supply, solar power light and garbage site will be built.

- a. Invite the investments from private sector for view tower building on BOOT model through open tender.

- b. Allow investment by private sector on infrastructure requisites like standard café, wash room, drinking water channel for dry season and interpretative signage.
- c. Create a promotion brochures consisting of the key attributes of this tourist site.

13. Build GLA and its vicinity as a Unique Selling Point (USP) by upgrading its infrastructures and amenities

It is proposed that GLA and its vicinity as a Unique Selling Point (USP) by upgrading its infrastructures and amenities (See annex – 2 for the master plan of infrastructure design) should be built in coordination with *Ghodaghodi Udhog Baniya Sangh* and other concern stakeholders.

- a. Constitute a sub-committee under CGLTDB to deal and coordinate this matter with Department of National Park and Wildlife Conservation, MoCTCA and provincial government.
- b. Apply enough precaution to not change inside areas of GLA with modern non-authentic amenities and infrastructure. The inside area of GLA must protect its authentic look and values.
- c. Raise fund from internal and external (e.g. donor agencies) for overall tourism development of GLA.
- d. Integrate the renewed GLA in the mainstream of the marketing and promotion of GLA.

14. Remove and clear the encroached areas on footpath Between Sukhad chowk to Bhukhali chowk on Bhajani road, ward no. 1

It is proposed that the encroached areas on footpath between Sukhad Chowk to Bhukhali Chowk on Bhajani Road should be removed and cleared. It is expected that walking passage will be cleared for the convenience of walking tourists. As it is a management issue for the convenience of walking tourists and pedestrians.

15. Designate and build certain areas in GM with tourist friendly walking lane Between Bijaya Laxmi Petrol Pump – GLA complex (East -West Highway) and Bhukhali chowk – GMC block

It is proposed that certain areas in GM with tourist friendly walking lane between Bijaya Laxmi Petrol Pump to GLA complex (East-west Highway) and Bhukhali Chowk to GMC Block in ward no. 1 should be designated and built in coordination with Secretariat of ward no. 1 and Civil Society. It is expected that core area of municipality will be established with clean, safe, quality and well managed walking pathways for tourists.

- a. Prepare a list of basic infrastructures installations like widening (5 feet on both sides of city road) and paving of walking footpath with local stones, building greenbelt, installing street solar lights, building resting spots with washrooms at Sukhad chowk, installing city interpretation signage boards at Sukhad chowk, route alignment with key objects of attractions etc.).

For hoarding boards and directional and interpretative signage designs, get the expert services from experts.

7.2.3 Capacity Building and Touristic Management Improvement

1. Audit the visitor and residents' experience for improvement on management skills

CGLTDB in coordination with Hotel Association of Ghodaghodi will conduct management audit in a certain period of time for visitor and residents' experiences for improvement on management skills.

- a. Hire expert consultant for all preparations (formulation of research questionnaires and collection of information from field).
- b. Half-yearly management audit workshop can be organized for gathering experiences generated or noted by the tourists.
- c. Present the summary of research findings at the periodical meeting of CGLTDB for timely and essential intervention.

2. Organize capacity building training (food production, presentation and hospitality related English language course) to home-stay operators on home-stay operation and management

It is proposed that capacity building training such as food production, presentation and hospitality related English language course to home-stay operators on home-stay operation and management focusing to *Sukhad, Maghi, Lathuwa, Chilimchore* and *Malika* should be conducted in coordination with Hotels Association of Ghodaghodi, Home-stay *Sanchalak Samiti* (Operation Committee) and Mothers group.

- a. Hire expert trainer for designing course content and delivery of training
- b. Select youths as trainee with contractual commitment to utilize the skills acquired for certain years
- c. Offer refresher courses to same trainees in every two years

3. Organize guiding training to youths to serve as nature/hiking/bird watching guide.

It is proposed that guiding training to youths to serve as nature/hiking/bird watching guide focusing to adjoining settlements with GLA should be organized in coordination with Hotels Association of Ghodaghodi, Home-stay *Sanchalak Samiti* (Operation Committee) and Mothers group.

- a. Hire expert trainer for designing course content and delivery of training
- b. Select young trainees through public announcement and a systematic selection process
- c. Select trainees through a contractual commitment to utilize the skills acquired for certain years
- d. Offer refresher courses to same trainees in every two years

4. Organize income generating skills training to local communities from supply side of tourism in all wards.

It is proposed that income generating skills training to local communities from supply side of tourism by prioritizing the Ghodaghodi Lake dependent people including directly involved community people of ward no. 1, 4 and 8 to conserve GLA and later on prioritizing to other community people of rest of the wards should be organized in coordination with Technical and Vocational Education Training Centers, *Ghodaghodi Udhyog Banijya Sangh*, Home-stay *Sanchalak Samiti* (Operation Committee) and Women Farmer Groups.

- a. Hire expert trainer for designing course content and delivery of training
- b. Select trainees through special focus to women through public announcement and a systematic selection process
- c. Select trainees through a contractual commitment to utilize the skills acquired for certain years.
- d. Offer refresher courses to same trainees in every three years

5. Organize capacity building training to women group for handcraft production and local food processing.

It is proposed that capacity building training to women group for handicraft production and local food processing in North Lathuwa ward no. 8 in coordination with secretariat of ward no. 8, Representatives of Ward no. 8, Mothers group and Women group. It is expected that Women groups will be capacitated for developing touristic handicrafts and packed food/drink productions.

- a. Get expert advice of value chain and marketing expert.
- b. Formulate a functional committee at local level.
- c. Allocate space in community hall in Lathuwa.
- d. Invite instructors and conduct training.
- e. Build supply chain and market linkage.
- f. Build a revenue mechanism as acceptable for all on mutual benefit basis.

6. Organize capacity building training to women group for local food processing.

- a. Organize medicinal processing skills training to local communities from supply side of tourism in all wards.
- b. Conduct local handicraft (like Nuiya, Delwa, Panchhopna etc) production training to women groups. The local handicrafts can be sold as gifts to the tourists and to the national international market.
- c. Conduct bamboos handicraft (like office files including loose files made with bamboo) production training so that these files can be sold to the local markets and national markets.
- d. Implement organic vegetable production farming and agricultural knowledge schools for small and medium farmers through the formation of farmers groups. So that fresh vegetables can be served to the tourists.

7.2.4 Incentive Distribution and or IGP and Revenue

1. Bring unregistered tourism enterprises in the mainstream registration process

CGLTDB in coordination with Ghodaghodi Udhog Banijya Sangh will organize a meeting/workshops for bringing unregistered tourism enterprises in the mainstream registration process.

- a. Organize awareness campaign for unregistered enterprises (home-stays, lodges, restaurants, tourist grocery shops etc.) on the necessity and value of registering and or sensitization on enterprise registration which has been provisioned in the 'Local Government Execution Act 2074'.
- b. Build one window quick process for convenient registration of enterprises and inform about the same to those enterprises.
- c. Organize mobile registration camps for the convenience of enterprises, which are in far distance from Sukhad Bazar.
- d. Incentivize the registered enterprises with various options (e.g. offering training on food production and hospitality or including marketing their products).

1. Develop and Promote Organic Agro- tourism Destinations with Home-stays in Sub-urban Pocket Areas of GM

CGLTDB will design a package and implement it for promotion of agro-tourism destinations with home-stays in sub-urban pocket areas of GM in ward. no. 4 (Maghi), ward no. 8 (*Lathuwa and Pari-Deepnagar*) and ward no. 1 Shrijana (*Kamaiya Mukti*) in coordination with related ward offices of Municipality, District Agriculture Coordination Office Kailali, Agriculture Knowledge Centers and Nepal Tourism Board.

- a. Prepare and endorse the action plan (that includes land pulling for organic vegetables farming, bee keeping, fruits productions, goats, cows and buffalos rearing, pigs growing etc.) from Municipal council's meeting.
- b. Offer incentives [e.g. offer Municipal land on rent on lower rate to interested farmers, offer organic vegetables seed on subsidized rate (50 % rebate), build one store house in all 3 wards for storing of vegetables and fruits, offer subsidy on transfers of vegetables and fruits in the market, arrange for insurance of cattle, help to formulate business plan for loans from bank to buy cattle, allow for participations in capacity building training and workshops] to organic farmers in pocket areas for the commercialization and sustainability of organic farming.
- c. GM to consult with GoN, Department of Food Technology and Quality Control (DFTQC) for organic labeling and certification of organic supplies.
- d. Promote organic villages (as pocket areas like *Maghi*) with home-stays through integrated marketing campaign.

¹ Formulate a twofold electronic cum manual brochures (leaflet) with picture and brief descriptions of touristic sites of GLA to be covered by walking tour.

² Install city interpretation cum route map boarding boards (8x4 feet) one each at eastern entry point near Suktikanda River Bridge and western entry gate after Masuria but before Pahalmanpur.

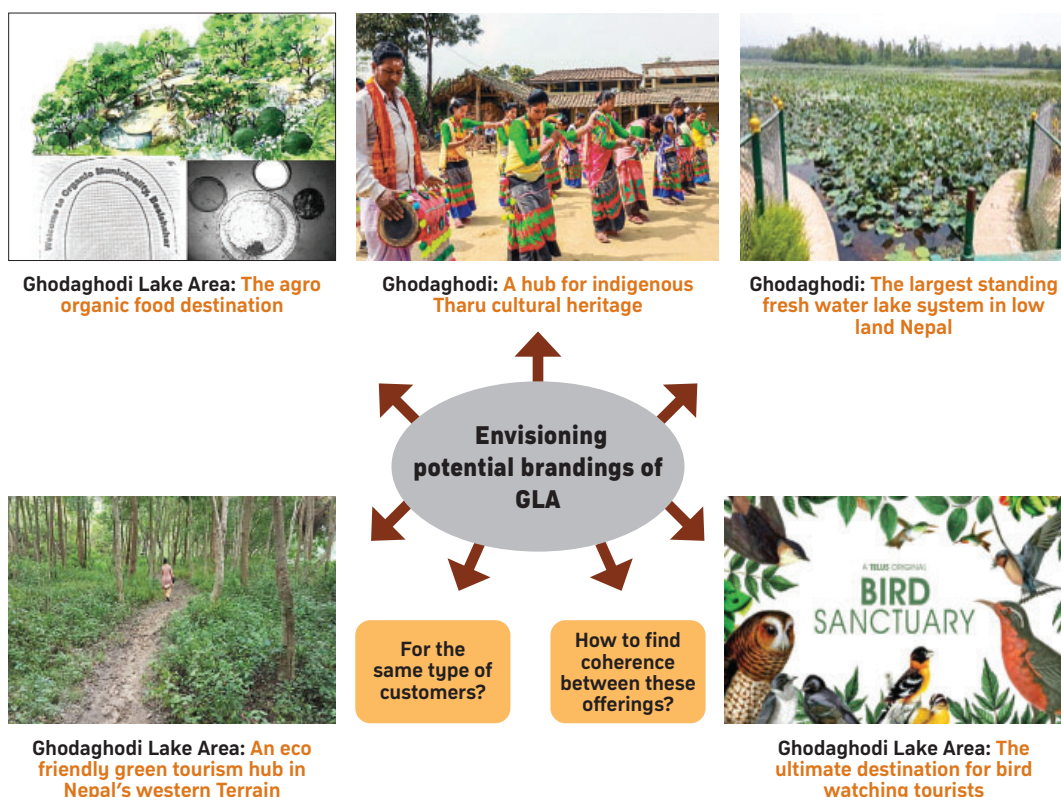


Diagram 2: Strategic options for creating brand identity of Ghodaghodi Municipality for effecting marketing in national and global tourist market

Source: Field information

2. Market and Promote Ghodaghodi Destination through Branding and Integrated Marketing Campaign in CGLTDB Secretariat

It is proposed that Ghodaghodi destination through branding and integrated marketing campaign should be marketed and promoted in CGLTDB secretariat in coordination with Ghodaghodi Municipality and commercial tourism related business entities and guides (bird guide).

- Hire a brand expert to determine the best brand identity within existing branding options (**See diagram 2**).
- Assure brand promise as determined by brand identity.
- Prepare the tools of brand communication (e.g. digital and manual promotional materials like documentary, electronic brochures¹, hoarding boards², tour maps etc.) for Ghodaghodi.
- Integrate brand value of Ghodaghodi with Nepal Tourism Board and provincial Ministry of Tourism in Sudurpaschim province for effective marketing and promotion.
- Organize Familiarizations (FAM) tours for Tour Operators (TOs), travel writers, blog writers and media personnel in post branding state from to Uttar Pradesh and Delhi states of India at first phase and Europe/USA at second phase.
- Utilize website and social media tools for effective marketing.
- Call a promotional meeting of Ghodaghodi by inviting TOs and hoteliers operating in Bhairahawa, Pokhara and Kathmandu, who belong to Kailali and Kanchanpur district.
- Offer short term training to tour guides (who belong to Kailali and Kanchanpur, but are mostly based in Kathmandu and Pokhara) on packaging and selling techniques in order to enhance the marketing of Ghodaghodi destination.
- Promote the trekking trails products (round Ghodaghodi circuit trek and insidious GLA jik-jak treks through enlisting in the webpage of Green flag Trails).

- j. Create a twofold electronic cum manual brochures(leaflet) with picture and brief descriptions of touristic sites of Ghodaghodi Lake, Ojahuwa/Purbi Ojahuwa, Bukuwa Lake, Chandrabijuwa Lake, Baisahuwa Lake, Nakror Lake, Budhiya Nakror Lake, Sonpokhari, Raphal Lakes and Churia Bhawar forest area to be covered for walking tours of tourists.
- k. Create a twofold electronic cum manual brochure (leaflet) with picture and brief descriptions of touristic sites of within GLA to be covered for cycling of tourists.

3. Create Value Chain through Linkage between Tourism (demand side) and Natural Resources Based Agri-business (supply side)

It is proposed that value chain through linkage between tourism (demand side) and natural resources based agribusiness (supply side) should be created in various wards of GM adjacent to Ghodaghodi lake in coordination with Agriculture Sector of GM. ***See annex 3 for detail information on this plan of action.***

4. Home-stay Establishment and Improvement of Operational Management:

Now, there are 15 home-stays in *Maghi* (Ghodaghodi Municipality – 4), operational management has to be improved. Basic facilities like electricity, drinking water supply have to be managed and bathroom & toilets and other facilities have to be constructed. Home-stay needs to be established in Mohanyal rural Municipality – 2 *Chilimchore*. Basic facilities like electricity, drinking water supply have to be managed and before establishment of home-stay, key persons of the settlements should be well oriented on home-stay business. There are 18 households of *Khatari* and *Magar* communities. This area is significantly important for tourists.

Similarly, home-stay needs to be established in Mohanyal Rural Municipality – 7 *Malika* near *Sano-kedar*. Basic facilities like electricity, drinking water supply have to be managed and before establishment of home-stay; key persons of the settlements should be oriented on home-stay business. Because this area is significantly important for tourists and after *Mela* (fair) in *Thulo-kedar*, fair is launched in *Sano-kedar* during *Kartik*. *Malika* and *Sano-kedar* are holy-places so local people from different places come for pilgrimage. There are 6 households of *Khatari* and *Magar* communities.

5. Resorts Establishment

Belar and *Loharpur* (Ghodaghodi Municipality – 1) are very convenient areas for resorts operation that is because these settlements are adjoined with GLA. Ghodaghodi settlement (Ghodaghodi Municipality -1) is also convenient area for resorts operation that is because these settlements are adjoined with GLA.

6. Hot-huts (soft drink shops)

It is proposed that 'hot-huts (soft drink shops) will be established in the settlements like *Uttar & dakshin-Lathuwa*, *Dipnagar*, *Dora-pari*, *Belar*, *Loharpur*, *Sukhad bazar*, Ghodaghodi settlements in the east, *Kauha*, *Simtari*, *Kauha-pari*, *Batulichaur* (freed *kamaiya sibir*), *Maghi* and *Sikharjhala* settlements in the west, *Chilimchore*, *Sano Kedar* and *Malika* (Mohanyal Rural Municipality ward no. 2 and 7) adjoined with *Churia bhawar* of GLA in the north.

7. Establishment of Small Shops and Hotels (development of mini-market) at the Settlements nearby GLA.

Apart from these income generating activities, establishment of small hotels like hot-huts (soft drink shops), ready-made dry food sellers (grocery shops) and paddlers may play the important and convenient roles for delivery of essential food grains and soft and cold drinks including water, tea and etc. to the tourists around the GLA.

8. Establishment of Medium Types of Hotels at the Settlements Nearby GLA

Medium types of hotels need to be established at settlements nearby the side of the GLA, which will provide quality lodging -and fooding services to the tourists.

9. Establishment of Star Hotels at Sukhad Bazaar

Likewise, star hotels such as '1' star, '2' star, '3' star and '5' star with different categories need to be established in the near future at Sukhad Bazaar. For this, 'Sukhad Bazaar Area' should be urbanized with modern infrastructure facilities such as road, parking, meeting hall etc.

10. Fruits Farming

Fruits farming in private land for Guava, Banana, Lemon, pears and other fruits are potential in *Chilimchore* due to highly fertility area. *Chilimchore* area can be developed and commercialized for fruits farming. Similarly, *Simthari and Sitalpur* (Ghodaghodi Municipality -4) are also suitable and fertile for fruits farming.

11. Ago-based Income Generating Activities

Seasonal and off-seasonal vegetable farming can be developed in *Lathuwa, Dipnagar* (Ghodaghodi Municipality – 8), *Kauha and Belar* (Ghodaghodi Municipality – 1). Similarly, *Sukhad* (Ghodaghodi Municipality – 1), *Janakpur* (Ghodaghodi Municipality - 1), *Sandepani* (Ghodaghodi Municipality – 2) are also pocket area for vegetable farming.

12. Fish Farming

Similarly, the concern stakeholders of GLA, they are recommended to launch medium fish farming. This will contribute to feed the tourists. *Sukhad and Janakpur* (Ghodaghodi Municipality – 1) settlements are potential area for such fish farming.

It is proposed; in order to promote local foods such as snail farming, local fish (*Chandarbijuwa and Hile/Charangi*) farming that also be initiated in selected/identified natural lakes within GLA and will be an eco-opportunity for local quality foods delivery to the tourists.

SN	Farming	Name of Lakes
1	Local fish (<i>Chandarbijuwa</i>) farming.	Chandarbijuwa
2	<i>Snail and Hile/Charangi</i> fish farming	Baisahuwa
3	Snail fish farming	Chatiya and Sonpokhari
4	<i>Jinge</i> fish farming	Bukuwa
5	Tegna fish farming	Tengnahuwa

13. Poultry Farming

In order to make available local chicken meats, local chicken is recommended to start poultry farming. The proposed areas are potentially fertile in the settlements around the GLA. This business will have high benefits.

14. Goat Farming

Goat farming is forest based farming, so it is recommended that before starting this business, feeding fodders need to be managed. Fodder tree plantation is necessary for this business. This business will provide meat to the tourists and become income earning source.

15. Livestock Farming

This business is also forest based income generating program, feeding fodders need to be managed. Fodder tree plantation is necessary for this business. In order to provide milk, this business is recommended to start to the concern stakeholders of GLA. The potential areas are *Lathuwa* (Ghodaghodi Municipality – 8).

16. Skill-based Entrepreneurship Based Income Generating Activities

Tharu domestic handicraft in *Maghi* (Ghodaghodi Municipality – 4) *Kauha and Belar* (Ghodaghodi Municipality – 1) needs to be promoted. Tharu women are skilled manpower to produce such as *Nuiya* (small basket), *Panchhopna* (flat basket) and *Dhakiya* (big basket) with colorful shapes. These products are attractive for foreign tourists. For this handicraft enterprise, women groups should be formed and trained on marketing for sales.

7.2.5 Wetland and Biodiversity Conservation

1. Conduct a separate desk and field feasibility study for the preparation of transforming and declaring GLA as a bird sanctuary for bird watching tourism destination in all GLA area

It is proposed that a separate desk and field feasibility study for the preparation of transforming and declaring GLA as a bird sanctuary for bird watching tourism destination in all GLA area. CGLTDB in coordination with Bird Conservation Network, Bird Conservation Nepal, Bird guides and Bird watching tourism specialist feasibility study and research shall be conducted. With the study report, all of the documents such details of implementation plan and policy guidelines shall also be prepared and passed by GM.

- a. Proceed through systematic approach with a team of experts. Moreover, based on the all of the required documents prepared by experts, declare GLA by GM as 'Bird Sanctuary ' as for bird watching tourism.
 - ▶ Organize workshop in participation of bird experts with their research reports and or concept note. In the workshop, discussions and interactions agendas may be declaration process and required legal provisions.
 - ▶ Invite the bird's experts and other development agencies (I/NGOs) including representatives of concern department of the ministries by informing those 10 to 15 days before for preparation.

1. Birds conservation in GLA

Birds are globally important species among nature and living creatures including human beings because they play vital roles to maintain climate change and natural environment conservation. In spite of having such importance of birds but, some of the birds such as Raj Lahache (great slaty woodpecker; *mullerripicus pulverulentis*) and Raj Dhanesh (great hornbill; *buceros bicomis*), river lapwing (*vanellus duvaucelii*), river tern (*sterna aurantia*), grey-headed fish eagle (*ichthyophaga ichthyaetus*), Egyptian vulture (*neophron percnopterus*), white-numped vulture (*gyps bengalensis*), slender-billed vulture (*gyps teruirostris*), Indian spotted eagle (*aquila hastata*) oriental darter (*anhinga melanogaster*), Asian woolly-necked (*ciconia eplscopus*) and lesser adjutant (*leptoptilos javanicus*) are found in Ghodaghodi Lake, that are globally most threatened birds so these birds must be preserved.

Similarly, sport billed duck, common moorhen, cotton pygmy goose these birds are nationally threatened birds, which breeds in Ghodaghodi Lake area only in Nepal.

In this reference, Ghodaghodi Lake is the main habitats of local and migrated birds. Of which, ruddy shelduck (*tadorna ferrugiea*), gadwall (*anas strepera*), falcated duck (*ans falcata*), Eurasian wigeon (*anas penelope*), mallard (*anas platyrhynchos*), northern shoveler (*anas clypeata*), northern pintail (*anas acuta*), gargany (*anas querquedula*), common teal (*anas crecca*), red-crested pochard (*rhodonessa rufina*), common pochard (*aythya ferina*), ferruginous pochard (*aythya nyroca*), tufted duck (*aythya fuligula*), pintall snipe (*gallinago stenura*), common greenshank (*tringa nebularia*), marsh sandpiper (*tringa stagnatlis*), green sandpiper (*tringa ochropus*), common sandpiper (*actitis hypoleocus*) and wood sandpiper (*tringa glareola*) birds species are migrated from 'Syberia' to the Ghodaghodi lake during winter season.

Because of globally importance of birds, bird watching tourism has been globally popular. So the birds have touristic values in GLA. Due to of these reasons, lake area including breeding centers and habitats of the birds should be conserved in coordination with Bird Conservation Network and Bird Conservation Nepal.

- a. To the north of Gairakhera and Lathuwa Churia-bhawar should be identified and conserve for breeding of Raj Lahache (great slaty woodpecker; *mullerripicus pulverulentis*) and Raj Dhanesh (great hornbill; *buceros bicomis*). Similarly, betahani forest should be conserved as for breeding these birds including forest birds.
- b. Barka Sirah and or Piprahuwa Tandi of Ghodaghodi Lake for spot-billed duck, to the north area of Rajak Parau of Ghodaghodi Lake common moorhen and Tin Chimlahuwa Kondhiya adjoining to the south of crocodile nest of Ghodaghodi Lake cotton pygmy goose birds should be identified and conserved for breeding sites.
- c. Conserve to Jhinpakariya Tandi of Ghodaghodi Lake for breeding sites of lesser whistling duck.
- d. Barka Chhingtaliya of Ghodaghodi Lake for breeding site of wooly-necked duck that should be conserved.

- e. Conserve grassland site to the north-west part of Nakror Lake as grass land field for grass bird species, grass-dependant animals such as rabbit and deer etc. From time to time, bushes and small trees that should be cleared.
- f. To the north of water control gate of Ghodaghodi Lake, at least 5 hector area in the mid of the Lake that should be cleared aquatic plants like 'Lotus Plants' and Serbs and emerging pushes under the water surface in first phase for feeding, playing, swimming etc. of migratory birds as well as for all water birds.
- g. Conduct plantation of food (fruits leaves) bearing plants for birds feeding in GLA.
- h. Develop Ghodaghodi and Nakror Lakes as bird watching area by declaration of banned area to reduce human pressure. Manage ticket system for entry in the Lake areas.
- i. Build natural demarcation of identified area of Ghodaghodi and Nakror Lake, signage establishment; construct fire-lane to control forests firing.
- j. Conduct social awareness campaigns like meeting, interaction, group discussion, poster and pamphlets publication for education and distribution to stop bird hunting in GLA.
- k. Provide management support to CFUGs in preparation of action plans and to strictly implement it to control birds hunting practice in GLA.
- l. Give award to the CFUGs of which CFUGs implemented effective bird hunting control activities.

2. Reptiles conservation in GLA

The most negatively affected like Kachhuwa (*red-crowned roofed Turtle*, *Indian soft shell turtle* and *three striped roofed turtle*) and various species of turtles in the Ghodaghodi Lake. These species of Kachhuwa should be conserved because they have touristic values and contribute to maintain water biodiversity.

Similarly, Ghodaghodi Lake is habitat for Ajingar snakes (*burmese rock python*) are found in decreasing numbers, these snakes contribute to maintain water biodiversity. Apart from these, it has touristic values that could be touristic products. That is why *Ajingar* snakes should be conserved.

Likewise, Gohis (crocodile; *marsh mugger crocodile*) are endangered to dying out from Ghodaghodi Lake. The crocodiles are globally popular for touristic values, because of touristic values which attracts to the tourists. Therefore the GLA should be conserved.

Similarly, Ghodaghodi Lake Area is the habitat for Tame-salak (*Indian pangolin*), which has the most important roles to maintain ecological system. It is a natural capital that touristic values for ecologic scientists and or ecological tourists. Therefore these species of *Salak* should be preserved in around the GLA.

- a. To the east-north site of crocodile nest in Ghodaghodi Lake, idetified as Karaila tandi that site should be conserved as Kachhuwa (red-crowned roofed Turtle, Indian soft shell turtle and three striped roofed turtle) breeding site by natural demarcating techniques. Establish signage and banned for human pressure around the site.
- b. Ajingar Snakes (Asiatic rock python) are the most important species that contribute to maintain climate change, environment and ecological system. So these species have been being preserved globally because it has touristic values for zoologists. Therefore, Ajingar snakes must be preserved in GLA.
 - ▶ Organize social awareness campaigns against Ajingar Snake hunting.
 - ▶ Design and publish posters, pamphlets and articles and distribute to the community people.
 - ▶ Sensitize community people on importance of Ajingar Snakes through social Medias like, national and local FM radio and news papers etc.
- c. Gohi (crocodile; marsh mugger crocodile) are globally preserved due to its importance on climate change, maintaining water biodiversity and it has touristic values. So as in GLA, crocodile (marsh mugger crocodile) have been being in increasing in numbers so it must be preserved by developing the crocodiles breeding site in Karaila Tandi of Ghodaghodi Lake. Together with this Karaila tandi, near Chhotki Chhingtaliya (already identified area of crocodile nest) of Ghodaghodi Lake that also should be conserved for infrastructures development of this site and preservation of crocodiles.
 - ▶ Determine prohibited zone near about 5 ha. of Lake area to the site of Karaila tandi, 5 ha. of Lake area in chhotki chhingtaliya tandi and establish signages around the zone where possible.
 - ▶ Expand present zonal area at least three-times big in the site of Karaila tandi and near about 400 m² area of chhotki chhingtaliya tandi.
 - ▶ Sandy area for nesting and basking that should be concreted where possible and potential in Karaila Tandi and Chhotki Chhingtaliya Tandi.

- d. Tame-Salak (Indian pangolin): Tame-salaks are found in GLA. Pangolins have large, protective keratin scales covering their skin; they are the only known mammals with this feature. They live in hollow trees or burrows, depending on the species. Pangolins are nocturnal and their diet consists of mainly ants and termites, which they capture using their long tongues. They tend to be solitary animals, meeting only to mate and produce a litter of one to three offspring, which they raise for about two years. Pangolins are threatened by poaching (for their meat and scales, which are used in Chinese traditional medicine for a variety of ailments including excessive anxiety and hysterical crying in children, women thought to be possessed by devils and ogres, malarial fever and deafness and heavy deforestation of their natural habitats and are the most trafficked mammals in the world. They have ecological values to maintain ecosystem. On the other they touristic values. Therefore this species should be preserved in GLA.
 - ▶ Organize social awareness campaigns against Tame-salak hunting.
 - ▶ Design and publish posters, pamphlets and articles and distribute to the community people.
 - ▶ Sensitize community people on importance of Tame-salak through social Medias like, national and local FM radio and news papers etc.

3. Aquatic species conservation in GLA

Fishes: many of the researchers and experts reported about the fish diversity in Ghodaghodi Lake. As per reports, it provides habitat for 34 species of mammals, around 29 species of fish including threatened in Ghodaghodi Lake. Big number of local fish species are found in the Lake. The local fishes are very popular among local people as foods. They should be conserved and can be used for foods and offering to the tourists. So the local fishes have touristic values.

Sutahi (Bivalve) are found in *Kauha* River (from Betahani forest to Simtari) and *Bagdhaili Kuluwa*. The *Sutahi* is also used as local food. It has touristic values offering food to the tourists. This species should also be conserved for creation of touristic values.

The freshwater snails (*Ghongha* and *Ghonghi*) have hard outer protective covering the shell. The shell consists of several layers containing minerals (calcium carbonate: *aragonite* or *calcite*), an outermost known as periostracum which is composed of organic materials and usually pigmented. The shell is spirally coiled in an axis and each coil in an axis is called a whorl. *Ghongha*/*Ghonghi* snails are found in Ghodaghodi Lake including in *Budhiya Nakror*, *Ramphal*, *Baisahuwa*, *Chandarbijuwa*, *Bukuwa*, *Chatiya* etc. Lakes. This species should be conserved that will create touristic values by offering to the tourists as local food varieties.

- a. Support for fish farming and conservation: Local fish (*Chandarbijuwa*) farming in *Chandarbijuwa* Lake, Snail and Hile/Charangi fish farming in *Baisahuwa* Lake, Snail fish farming in *Chatiya* & *Sonpokkari* Lake, *Jhinga* fish farming in *Bukuwa* Lake and *Tegna* fish farming in *Tengnahuwa* Lake etc.
- b. Support for *Sutahi* (Bivalve) and *Jhinga* Fish farming and conservation: in *Kauha* river (from Betahani forest to Simtari) and *Bagdhaili Kuluwa*.
- c. Support for *Ghogha*/*Ghonghi* farming (freshwater snails) and conservation: in *Bhudiya Nakror*, *Ramphal*, *Baisahuwa*, *Chandarbijuwa*, *Bukuwa*, *Chatiya* etc. Lakes.

4. Aquatic plants species conservation in GLA

A majority of lotus plants are germinated and flowers blooming in summer season (especially in May to July) in the Ghodaghodi Lake. Local people like it very much and can create touristic values offering as food to the tourists. The lotus plants have the various usages such as flowers and leaves are used in worship, seeds are used for jaundice diseases control and roots (*Bhasher*) are used as food (as vegetable and pickles). Likewise, *Singayar* (water-chest nut) is used for food which is very delicious.

- a. Prepare fetching annual work plan of Lotus Plants; flowers, leaves and seeds.
- b. Collect royalties at the entry gate, the royalty can be determined as per availability of Lotus Plants; flowers, leaves, seeds and *Singairs*. CGLTDB will manage royalty.

Prepare 'Code of Conduct' mentioning provisions of 'Dos and Not Dos' while fetching Lotus Plants; flowers, leaves, seeds and *Singayars*. It is a sensitive period for birds so the 'Code of Conduct' should consider about this period.

7.2.6 Watersheds Management Plans

Watershed management of GLA is to conserve the soil, plant, biodiversity and water resources for community people of GM. It is an urgent need to apply scientifically appropriate, practically feasible, environmentally friendly, technically sound, economically efficient, developmentally sustainable and socially acceptable solutions for the successful and persistent management of watersheds, upon which human populations depend and that will create touristic values of GLA. (Details are given in Annex- ? Watershed management plan report 2019/202)

CGLTDB in coordination with community forest users groups, local community organizations and local farmers will implement the 'watersheds management plan, details are given in annex – 4 for information.

1. Build an animal rescue center near Ojahuwa Lake

It is proposed that an animal rescue center near Ojahuwa Lake should be constructed in coordination with Ministry of Forest and Environment (MoFE), Department of Forest and Soil Conservation (DFSC), Division Forest Office. It is expected that any unforeseen reason(s) wounded animals will be rescued temporarily for transit period.

- a. Allocate land and build this center for the emergency rescue of wounded animals of GLA for transitional period until they are reallocated in their habitats in GLA.
- b. Put in proper management system for this center.

2. Build Purbi Ojahuwa Lake area as an additional boating lake area

It is proposed that Purbi Ojahuwa Lake area as an additional boating lake area should be built in coordination with secretariat of ward no. 1, Ghodaghodi Community Forest Users Group, Division Forest Office and Police Office.

- a. Invite the investments from public/private sector for infrastructure building on BOOT model through open tender.
- b. Allow investment by private sector on infrastructure requisites like vehicle parking space in outer area, standard traditional restaurant, ticket entry counter, waiting hall, wash room, drinking water provision, boats, interpretative signage etc.
- c. Create a promotion brochures consisting of the key attributes of this tourist site.
- d. Integrate this product in integrated marketing campaign of GLA.

3. Develop Chiraiha Lake as picnic site

It is proposed that Chiraiha Lake should be developed as 'picnic spot'. The construction works should be implemented in coordination of Division Forest Office, secretariat of ward no. 1 and concern CFUG. This Chiraiha Lake can be developed as boating spot in the future. The loudspeakers and noise should be controlled.

- a. Prepare plans for development of picnic site to Chiraiha Lake.
- b. Construct 5 picnic shades with seating benches, cooking spot, vehicles parking, drinking water supply, washrooms, garbage site, management of retail shops and restaurant/cafe etc.

4. Develop Baglahuwa Lake as picnic spot with boating

It is proposed that Baglahuwa lake area should be developed as picnic spot with boating in Bagulahiya ward no. 3 in coordination with secretariat of ward no. 3, Division Forest Office and CFUG. It is expected that picnic spot will be established with all requirements.

- a. Prepare plans for development of picnic site to Baglahuwa Lake.
- b. Construct circuit trail around the lake.
- c. Repair and maintain check dam of the lake.

- d. Construct 5 picnic shades with seating benches, cooking spot, vehicles parking, drinking water supply, washrooms, garbage site, management of retail shops and restaurant/cafe etc.
- e. Establish integrated fish farming practice with technical knowhow.

5. Wetland Conservation and Management

Ghodaghodi Lake Area has covered and or starts from the Maghi homestay gate in Mahendra highway to *Simtari, Maghi and Gairakhera* in the west through upward *Churia Bhawar Chilimchore, Sano Kedar* and *Malika* in the north, down stairs through *Churia Bhawar to Uttar-Dakshin Lathuwa, Dipnagar, Belar and Loharpur* in the east and *Sukhad Bazaar* and through Mahendra highway crossing to the *Donda bridge* and *Ghodaghori religious complex* in the south. There are 19 core Lakes adjoined with Ghodaghodi Lake within GLA which is richest with water biodiversity including full of flora and fauna which have touristic values and have the natural attraction.

- a. Prepare DPR of soil siltation control in *Barka Sirah* and *Chhotki Sirah* of Ghodaghodi Lake and use long-rooted plants such as bamboo and ningalo plantation in upper side and to fill up with iron-nets with stones in the slopping sides of the *Barka and Chhotki Sirah* of Lake.
- b. Build iron nets with stones and or concrete two steps bars/wall from in concrete view tower to *Rajak Parau* for making easy walk to observe south site of the Lake and for siltation control in the Lake.
- c. Collect and or pull out all of the *Besharma* (local name) bushes from Ghodaghodi Lake and dry and dispose it in each year till to not germination for *Clare* of Ghodaghodi Lake.
- d. Collect and or pull out all of the *Jamun* (local name) small trees from edges of Ghodaghodi Lake and dry and dispose it in each year because these trees have been squeezing the size of Ghodaghodi Lake till to not germination.
- e. Organize campaigns to collect and pick out wastes like plastic bottles, bags and other sorts of wastes following over surface and under surface of water of Ghodaghodi Lake.
- f. *Clare* and or pull out all of the bushes from the *Barka and Chhotki Sirah* and in front check-dam of the Lake.

There is an emerging challenge to maintain Lake in its original shape because a huge numbers of floating grass germinate and flowing over water surface with laps and after some period of time it damage itself and sink down with laps to upper laps and again it germinate then again start such process that has been making thicker than thicker the laps on the bottom level of water. So, due to this process of germination and damage of the floating grass in the Lake that has been converting Lake into grass land. Moreover, now most of the parts of the Lake are full of floating grass. Therefore the floating grass should be cleared and pull out from the Lake. Because of this works, water of the Lake will be fresh and shape of the Lake looks beautiful that will attract tourists including number of water birds will be increased in the Lake.

The bottom level of the lake that has been filled up with water bushes, germinate under water and do damage itself under water. Because of this natural process of the water bushes, experts reported that 12 to 18 mm. of bottom level of the Lake have been being filled with laps of the water bushes. Nonetheless, such bushes should be pulled out and cleaned from the Lake that will make fresh water on the other; filling of bottom level of the Lake will be controlled. Because of this action, looks of the natural Lake will be shaped itself on its nature. Eventually, additional touristic will be created.

6. Revitalization of Different Lakes:

As per research report 2019/2020, *Chandarbijuwa (1.40 ha.)*, *Bukuwa, Tehri (1.13 ha.)*, *Parsihihiya (2.00 ha.)*, *Tin-chatiya and Semrahuwa (0.59 ha.)* within GLA, all of these Lakes have been totally dried, but its shapes are still existing. Moreover these lakes are the main water sources of Ghodaghodi Lake. Therefore, these Lakes should be revitalized with check-dam construction, mud digging for making deep as per original shape and mud filling in the Lakes where necessary and possible. Such works will create wetland connectivity and will be useful for tourism development sites and also will create touristic values. On the other that can be used for aquaculture. So, these Lakes should be conserved and managed.

- a. Prepare DPR for all of the above mentioned lakes.
- b. Support for implementation of construction works as per DPR.

7. Improvement of different Likes:

As per research report 2019/2020, *Ramphal* (3.63 ha.), *Bichka-chatiya* (0.50 ha.), *Sonpokhari* (2.38ha.), *Budhiya Nakror* (5.54 ha.), *Khaurahwa* (0.69 ha.), *Baisahuwa* (9.87 ha.), *Chatiya* (0.78 ha.), *Purbi-ojahuwa* (1.43 ha.), *Puraina* (2.00 ha.), *Tengnahuwa* (2.00 ha.) and *Nakror* (26.14 ha.) are interrelated and adjoined with Ghodaghodi Lake within GLA and are main water-in-take as sources of Ghodaghodi Lake, but due to lake of improvement works of these Lakes, the Lakes have been squeezing its shapes day by day and year by year. Therefore these Lakes should be conserved by improving its shapes with construction of check-dam, gate, mud filling where necessary and possible and that will create touristic values of GLA. On the other that can be used for aquaculture.

- a. Prepare DPR for all of the above mentioned Lakes.
- b. Support for implementation of construction works as per DPR.

8. Nakror Lake Conservation and Management:

Narkat (local name Lerghut) bushes, *Besharma* (local name) bushes and Bais trees (as non-timber-forest-product) are spreaded over the Lake. Due to over spreading of such bushes, the Lake has been squeezing and filing up its shape day by day. So, main challenges are to control over lapping of these bushes in the Lake. The wetland conservation and management suggested that all of these bushes should be withdrawn and or pull out from the Lake in segmentation basis. Then the Lake can stay in its original shape and can create touristic values. Together with these efforts, Nakror Lake can be developed as bird watching sites.

- a. Prepare DPR for Nakror Lake conservation and management.
- b. Support for implementation of DPR.

9. Cattle grazing management:

Open cattle grazing practices in GLA that extremely is carelessness of existing concern community forest user groups. These affect to the new germinating plants and are destroyed. Because of this, greenery views and thickness of the forests decreases, which highly require for biodiversity maintenance and conservation including necessary for wildlife preservation.

- a. Strictly implement action plans of CFUGs.
- b. Provide award to the CFUGs which strictly implement it action plan for controlling of open grazing.

10. Conservation of Betahani and foothills of Churia:

Betahani, named after Bet Calamus plant is highly important plant of commercial value. This plant is used for making baskets, furniture, handicraft, weaving works, decoration and so on.

- a. Use watershed management plan for conservation of Betahani forest.
- b. Control of haphazard movement of tractors in the jungle and river course in Betahani forest by constructing one single road.
- c. Prepare proper guideline about sand and boulder extraction is highly needed to protect river bank land slide and soil erosion and to mitigate high level disturbance to the wild animals.
- d. Scientific management forest should not be recommended at least the watershed management area particularly in Betahani area including whole forest areas within GLA.

11. Improve water supply connectivity in between associated lakes:

The area in between Dora River and Tengna River is the most important area for water resources in GM. Betahani is the prime source of water of the entire lake system. Water level in different lakes is decreasing and drying out of lakes during dry season has been noticed. Thus, intentional drying out of the lake should be strictly prohibited and fishing though contractors should be banned for the entire Ghodaghodi lake system. Connection with the perennial river with Sonpokhari, Bichka Chatiya

and Ramphal support the life system of the Nakror Lake during the dry season as well. Now existing channelization of inner Kauha river water into Ramphal lead to increase the water volume in the Nakror Lake, but when in dry season, check dam of Nakror Lake is broken and whole water follows to the canal from the Lake. Thus Lake is dried.

- a. Repair and construct irrigation canals from Bagdhauli Dam in Kauha River not making connectivity with Nakror and or other Lakes. The canals should be constructed, like start from Bagdhauli Dam through nearby Nakror Lake in the east (not joined with Nakror) and get linked it with existing canal in nearby south of Nakror Lake's water gate. (Please see details in annex – 5 Map given in Watersheds management plan)
- b. Strictly prohibit and fishing practices in Ghodaghodi Lake system.

12. Increase and maintain water level of lakes:

Drying out the lakes is a common problem in many lakes of Ghodaghodi lake system because of exploitation of lakes for fish farming except Ghodaghodi and Nakror. As being listed in the Ramsar site, the entire lake system of Ghodaghodi (from Ghodaghodi to Sonpokhari) should be developed as area of water store house for developing wide scale irrigation for livelihood improvement of farmers, biodiversity conservation and nature tourism. If the water from Kauha river is fed to Ramphal and Nakror, the water level can be maintained in these lakes.

- a. Increase water level of Nakror, Ramphal, Sonpokhari and Budhiya Nakror, Baisahuwa and other lakes can be easily done if the entire lake system is managed by constructing the embankment in some area.
- b. Land acquisition of the encroached land around Sonpokhari, Bichka Chatiya, Ramphal, Budhiya Nakror and Nakror lakes is needed to construct embankment, irrigation channel construction as well as developing ecotourism spots.

13. Plantation of valuable tree species:

- a. Establish multipurpose nurseries within GLA where eligible.
- b. Bet plantation program to be initiated in Betahani area and along river banks.
- c. Other plants of medicinal value and commercial value should be selected such as Harro, Barro, Amala, bamboo, Jamun, Kusum etc. and should be planted.

14. Wise-use of wetland:

“Wise use” is “the maintenance of a wetland’s ecological character, achieved through the implementation of ecosystem approaches, within the context of sustainable development” (Ramsar Convention, 2005).

15. Restructuring irrigation facility:

Establishing a common plan for restructuring and designing the irrigation canal in and around and lower belt south to the East-west highway in collaboration with the Irrigation Department, Forest and Agriculture sector of the government on the basis of water level maintenance.

16. Promote alternative energy system

- a. Conduct training on ICS production and biogas repairs and maintenance to the women and youth groups.
- b. Subsidy support for ICS and bio-gas establishment program.
- c. Subsidy support plantation of fodder plants in private land for domestic animals feeding and for firewood.

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Logical Frameworks Approach (LFA) on Social Mobilization and Awareness Raising Strategic Plan

This master plan visions to develop and transform Ghodaghodi Municipality (GM) as a unique main tourist destination instead of add on destination which accelerates the optimal growth bound economic development through sustainable tourism.

Mission of this master plan is:

1. Creating and enhancing positive impact on the income and living standards of local people of Ghodaghodi Municipality through offering meaningful experience to tourists visiting Ghodaghodi Lake Area (GLA).
2. Developing GLA as a first 'bird sanctuary' hub in Nepal and for protection of critically important biological corridor (Basanta Corridor) through mobilizing local community people with their own experiences and local techniques.

Summary	Objectively Verifiable Year-wise Indicators										Means of Verification (MOVs)	Risks/Assumptions												
	1	2	3	4	5	6	7	8	9	10			Indicators											
Goal: Institutionalizing GLA conservation and management community based organizations such as consumer groups, women groups and youth clubs of deprived, disadvantaged and marginalized groups including freed <i>kamaiya</i> through organizational development, local capital creation and its mobilization and skill enhancement focusing on natural resource conservation & management and socio-economic development interventions at municipal level by the end of 2088 BS.	1.	Natural capital resources users organized into groups at local level.	2.	GLA level networks developed for GLA conservation and management at local level.	3.	Uncontrolled gravel stones and sand gravels mining from rivers reduced.	4.	Illegally woods fetching controlled.	5.	Bird and wildlife hunting controlled.	6.	Illegal fishing practices in the identified lakes and rivers controlled.	1.	Group and clubs formation books	2.	Groups meeting minutes	3.	Events reports	4.	Monitoring reports	1.	Present forest law, acts and guidelines might have been amended.	2.	Public of GM will be aware of tourism development that is identification of GM and it is a permanent source of incomes.
	1.	Meaningful participation of women and youths increased into groups and clubs.	2.	groups formed, reformed and or revitalized and strengthened for GLA conservation and management.									1.	Records of groups and clubs formation, reformation or revitalization.	2.	Meeting minutes of groups.	3.	Impact assessment reports.	1.	Meaningful participation of tourism service providers will have been addressed.				
	1.	Increased social awareness on wetland biodiversity, watersheds conservation and management.	2.	Natural capital resources identified and its sustainable use.	3.	Improved shape of natural capital resources within GLA.							1.	Natural capital resources research study reports.	2.	Records of identified natural capital resources for sustainable use.	3.	Impact assessment reports.	1.	Most of the community people who are direct consumers of natural capital of GLA will be interested to take part in the GLA conservation and management.				
	Expected Outcomes/Outputs to be achieved through implementation of this Master Plan																							
	1.	Baseline surveys will have recommended about social and economic status of the settlements in around the GLA.	1	x	x	x	x	1	x	x	x	x	x	Socio-economic status ensured	1.	Baseline survey reports								
	2.	Social mobilization program will have formed, reformed and or reformed different groups and clubs and that will be strengthened on GLA conservation and management.	18	x	x	x	x	x	x	x	x	x	x	At least 18 GLA conservation and management groups and clubs formed, reformed and or revitalized and strengthened.	1.	Records of GLA-CM groups and clubs formations.								
3.	Leadership capacity of groups and clubs leaders will have been developed and good governance system of the groups and clubs will have been established.	1	x	x	x	x	1	x	x	x	x	x	At least 36 leaders of group leaders developed and trained for two times.	1.	Records of selection reports	2.	Record of events on leadership development progress reports	3.	Monitoring reports					

Summary	Objectively Verifiable Year-wise Indicators										Means of Verification (MOVs)	Risks/Assumptions
	1	2	3	4	5	6	7	8	9	10		
4. Reviews and experiences learning practices among groups and clubs will have been established that will have been using for GLA conservation and management.	1	1	1	1	1	1	1	1	1	1	1. Records of action planning of GLA-CM groups 2. Progress reports 3. Monitoring reports	
5. Annual action planning practices of groups and clubs will have been regularized and will have been implemented.	1	1	1	1	1	1	1	1	1	1	1. Action plans 2. Progress reports 3. Monitoring reports	
6. Social awareness will have been created through the celebration of national and international different environment days.	5	5	5	5	5	5	5	5	5	5	1. Action plans 2. Events reports 3. Monitoring reports	
7. Local cultural events will have been promoted as for local cultural values and will have become an attraction for tourists.	2	2	2	2	2	2	2	2	2	2	1. Events reports 2. Monitoring reports	
8. GLA conservation and management groups and clubs will have been institutionalized as federate entity at municipal level.	x	x	x	x	x	x	x	x	x	6	1. CGLTDB records 2. Registered certificates of groups and clubs	
Proposed Activities and Strategically Implementation												
9. Conduct baseline surveys to establish the socio-economic status of the target groups in the GLA. Household surveys will be instrumental to generate such data. Indicator-based pocket and groups/CBOs profiles will be prepared at the start of the GLA conservation and tourism development program, which will be updated annually.												

Logical Framework Approach (LFA) for Environment Friendly Infrastructure Works Strategic Plans

This master plan visions to develop and transform Ghodaghodi Municipality (GM) as a unique main tourist destination instead of add on destination which accelerates the optimal growth bound economic development through sustainable tourism.

Mission of this master plan is;

1. Creating and enhancing positive impact on the income and living standards of local people of Ghodaghodi Municipality through offering meaningful experience to tourists visiting Ghodaghodi Lake Area (GLA).
2. Developing GLA as a first 'bird sanctuary' hub in Nepal and for protection of critically important biological corridor (Basanta Corridor) through mobilizing local community people with their own experiences and local techniques.

Summary	Objectively Verifiable Year-wise Indicators										Means of Verification (MOVs)	Risks/Assumptions
	1	2	3	4	5	6	7	8	9	10		
Goal: Providing touristic services to the tourists through well-equipped and environment friendly infrastructures facilities that will generate internal revenue for GM and creating job opportunity for youths by 2088 BS.	1. Built and improved bio-based basic infrastructures around the GLA. 2. Increasing number of domestic and foreign tourists in Ghodaghodi tourism destination. 3. Increasing incomes of people of GM. 4. Number of youth employed. 5. Increasing trends of revenue collection of GM and its investment for GLA conservation and tourism development.										1. Details of plan reports (DPRs) 2. Records of tourists checklists 3. Ghodaghodi Municipality Profiles 4. Impact reports 5. EIA reports	Present forest law, acts and guidelines might have been amended.
	1. Bio-based basic infrastructures constructed 2. Realistic action plans prepared and implemented										1. Technical reports 2. Progress reports 3. Monitoring reports	CFUGs will be agreed to construct environment friendly infrastructure facilities.
	3. Internal revenue collected 4. Incomes increased										4. Financial reports of GM 5. GM profiles	All of the environment friendly infrastructures will be legally registered in GM.
	Expected Outcomes/Outputs to be achieved through implementation of this Master Plan											
1. Pragmatic garbage management sites and system will have been established in GLA.	2	x	x	x	x	x	x	x	x	x	1. DPR technical report 2. Progress reports 3. Monitoring reports	
2. Clean drinking water supply schemes will have been established Ghodaghodi religious complex, vehicles parking, picnic sites and in around Ghodaghodi Lake.	4	4	x	x	x	x	x	x	x	x	1. DPR technical report 2. Progress reports 3. Monitoring reports	
3. Welcome Gate (Component no: 01) will have been built.	x	x	1		x	x	x	x	x	x	1. DPR technical report 2. Progress reports 3. Monitoring reports	
4. Wildlife Bridge – Artificial (Component no: 02) in the East-West Highway will have been constructed.	x	x	x	x	x	x	x	x	1		1. DPR technical report 2. Progress reports 3. Monitoring reports	
5. Vehicles parking and picnic site (Component no: 3) in Ghorighora Religious Complex (in Tengnahuwa CF) will have been built.	2	x	x	x	x	x	x	x	x	x	1. DPR technical report 2. Progress reports 3. Monitoring reports	
6. Ghodaghodi temple for redevelopment (Component no: 3a) will have been reconstructed in <i>Ghorighora Dewthan</i> .	x	x	1		x	x	x	x	x	x	1. DPR technical report 2. Progress reports 3. Monitoring reports	

Summary	Objectively Verifiable Year-wise Indicators										Means of Verification (MOVs)	Risks/Assumptions
	1	2	3	4	5	6	7	8	9	10		
7. Ghodaghodi religious complex (Component no: 3b) for one for Bedashram and another for hermits (<i>Sadhu Sants</i>) in Tengnahuwa CF.	x	x	x	x	1	1	x	x	x	x	1. DPR technical report 2. Progress reports 3. Monitoring reports	
8. Pedestrian Bridge (Component no: 3c) in the East-West Highway, connecting Ashram and Temple, the bridge connects two sides of road will have been constructed for pedestrians	x	x	x	x	x	x	1		x	x	1. DPR technical report 2. Progress reports 3. Monitoring reports	
9. Existing Retaining Wall and landscaping of Ghodaghodi Lake (Ghodaghodi Front Park); (Component no: 04) in Entrance of GLA will have been constructed.	1	x	x	x	x	x	x	x	x	x	1. DPR technical report 2. Progress reports 3. Monitoring reports	
10. Restaurant Operation (Component no: 5) within the premise of Visitor centre will have been established and operated at GLA.	x	x	x	x	1				x	x	1. DPR technical report 2. Progress reports 3. Monitoring reports	
11. Entrance Gate of GLA and Visitors Centre with Artificial Water Park (Component no: 5a and 5b) in front of Ojahuwa Lake will have been constructed for recreational water park.					1				x	x	1. DPR technical report 2. Progress reports 3. Monitoring reports	
12. Construct ANIMAL RESCUE CENTRE (Component no: 5C) in south to Ojahuwa Lake will have been constructed as for the rescue center with temporary shelter, open space and water pool for rescued animals, <i>Ajingar</i> snake and birds.	1	x	x	x	x	x	x	x	1	1	1. DPR technical report 2. Progress reports 3. Monitoring reports	
13. Construct Ghodaghodi Lake Area Trail (Component no: 6a) in North of East-West High way for Bird watching will have been constructed.	x	1	x	x	x	1	x	x	x	x	1. DPR technical report 2. Progress reports 3. Monitoring reports	
14. TREKKING TRAIL (Component no: 6b.) in starting from near the East-West highway and moving through plain land to <i>Churia Bhavar</i> jungle will have been constructed.	x	x	1	x		1			x	x	1. DPR technical report 2. Progress reports 3. Monitoring reports	
15. Maghi and Lathahuwa Model village (home-stay) (Component no: 07a/b/c) in Maghi and Lathuwa will have been managed.	x	x	x	x	x	x	x	1			1. DPR technical report 2. Progress reports 3. Monitoring reports	
16. Sitakuwa religious complex (Component no: 8) In Sitakuwa near Betahani Forest will have been improved as religious and picnic site.	x	x	x	x	x	x	x	1			1. DPR technical report 2. Progress reports 3. Monitoring reports	
17. Chilimchore Destination Development (Component no: 10) in Chilimchore will have been improved as Churia hill trekking.	x	1			x	x	x	x	x	x	1. DPR technical report 2. Progress reports 3. Monitoring reports	

Summary		Objectively Verifiable Year-wise Indicators										Means of Verification (MOVs)	Risks/Assumptions
		1	2	3	4	5	6	7	8	9	10		
Proposed Activities and Strategically Implementation													
1. Establish a pragmatic garbage management system: Establish Damping sites in Ghodaghodi religious complex for garbage management of Ghodaghodi temple complex and vehicle, picnic and mobile shop sites.				x	x	x	x	x	x	x	x		
2. Establish water supply schemes in Ghorighora religious complex and around the GLA. Of which two schemes in Ghorighora religious complex, two scheme in vehicles parking and picnic sites, six schemes in GLA core area.				x	x	x	x	x	x	x	x		
3. Construct Welcome Gate (Component no: 01) in the East-West Highway both in the entry and exit points of GLA, south side of Ghodaghodi Lake to inform and prepare the visitors before entering GLA and to create a monument for to identity of Ghodaghodi Municipality that shall be simple geometry and symmetry with pedestrian access. Addition of two horses symbolizing the space that is being entered to give curiosity to people visiting.		x	x			x	x	x	x	x	x		
4. Construct Wildlife Bridge - Artificial (Component no: 02) in the East-West Highway connecting forests and creating a corridor as passage for crossing for flora and fauna with that corridors designed to connect habitats, allow animals to pass between areas separated by the East-West highway, effective for wildlife habitat for overpass and green bridge for large or herd-type animals; carefully designed wildlife fencing on both sides of the bridge and addition of vegetation on the bridge.		x	x	x	x	x	x	x	x	x	x		
5. Construct Parking (Component no: 3) in Ghorighora Religious Complex (in Tengnahuwa CF) for easy parking, Safety of vehicles and increase revenue as per the standards required for parking of different sized vehicles.			x	x	x	x	x	x	x	x	x		
6. Construct Ghodaghodi temple for redevelopment (Component no: 3a) in the premise of religious complex toward front area adjacent to East-West highway for preservation of the religious complex with authentic development of main temple that proposed main temple stands on rows of grid aligned wooden post with 3 steps of roof in increasing height. The main temple is divided into three zones inside temple: outer Path Inner Path and main idol area.		x	x			x	x	x	x	x	x		

Summary	Objectively Verifiable Year-wise Indicators										Means of Verification (MOVs)	Risks/Assumptions
	1	2	3	4	5	6	7	8	9	10		
13. Construct Ghodaghodi Lake Area Trail (Component no: 6a) in North of East-West High way for Bird watching, Hiking around the lake area and trekking from plain to hill, flora and fauna study, resting shed, tree house for staying and research, breeding sites, feeding area, View tower which shall consist of a eco-friendly infrastructure like walkway trail, view deck, bird hides, tree-house, resting shades and toilet and drinking water provisions.				x	x	x	x	x	x	x		
14. Construct TREKKING TRAIL (Component no: 6b.) in starting from near the East-West highway and moving through plain land and culture through Bhavar jungle to hilly village Chilimchore and further move through ridge of Churie and again run downwards through hill crossing Bhavar forest back to plain land of Terai to attract tourist who like to trek through above mentioned landscape and biodiversity. Increase the tourist activities in different destination that lie within this trail and it is 44 km trail which expands from shortest 2 day trek to a week trek depending upon the activities and duration tourist spend in each destination and trail route.					x	x	x	x	x	x		
15. Develop and support Maghi and Lathahuwa Model village (home-stay) (Component no: 07a/b/c) in Maghi and Lathuwa to provide accommodation for visitors with unique experience of Tharu village along with other essential features like health post. The Cluster of home-stay supported with view tower and cultural center.					x	x	x	x	x	x		
16. Develop Sitakuwa religious complex (Component no: 8) in Sitakuwa near Betahani Forest for holding a Mythological Religious values from the Ramayana Era. Complex objective is to conserve the religious values it holds. Conserve the environmental aspects and add to visitor experience. That the complex includes the required programs to cater a proper religious destination. The programs are as mentioned in the index.	x	x	x	x	x	x	x					
17. Support Chilimchore Destination Development (Component no: 9 of Annex 2) in Chilimchore to provide accommodation to trekkers and visitors and to increase the life standards of the people residing there Natural View of the Karnali river, hills, mountain and plain of terai and to conserve the environmental aspects and create awareness regarding flora & fauna and to attract research based tourism and agro tourism. That the Home-stay as per the vernacular architectural style supported with health post and security post.	x				x	x	x	x	x	x		

Summary	Objectively Verifiable Year-wise Indicators										Means of Verification (MOVs)	Risks/Assumptions
	1	2	3	4	5	6	7	8	9	10		
25. Construct a highly elevated view tower in Northern most location inside GLA and a simple view tower in Latthahuwa.	x			x	x	x	x	x	x	x		
26. Build GLA and its vicinity as a Unique Selling Point (USP) by upgrading its infrastructures and amenities.												
27. Remove and clear the encroached areas on footpath Between Sukhad chowk to Bhukhali chowk on Bhajani road, ward no. 1.	x				x	x	x	x	x	x		
28. Designate and build certain areas in GM with tourist friendly walking lane Between Bijaya Laxmi petrol pump – GLA complex (East- West Highway) and Bhukhali chowk – GMC block	x	x			x	x	x	x	x	x		

Legend note:

4. XXXXXXXX syboles indicate about conservation, management, monitoring and improvement period,
5. Numerical (such as 1 to) indicate about implementation period to achieve outcomes and outputs and
6. Colouring areas indicates about action planing (including DPR), implementation and monitoring & supervision of activities.

Note: 1.....10 denote working years such as 1st year for FY 2077/078, 2nd year for FY 2078/079, 3rd year for FY 2079/080, 4th year for FY 2080/081, 5th year for FY 2081/082, 6th year for FY 2082/083, 7th year for FY 2083/084, 8th year for FY 2084/085, 9th year for FY 2085/087 and 10th year for FY 2087/088.

Logical Framework Approach (LFA) on Capacity Building and Strengthening Strategic Plans

This master plan visions to develop and transform Ghodaghodi Municipality (GM) as a unique main tourist destination instead of add on destination which accelerates the optimal growth bound economic development through sustainable tourism.

Mission of this master plan is ;

1. Creating and enhancing positive impact on the income and living standards of local people of Ghodaghodi Municipality through offering meaningful experience to tourists visiting Ghodaghodi Lake Area (GLA).
2. Developing GLA as a first 'bird sanctuary' hub in Nepal and for protection of critically important biological corridor (Basanta Corridor) through mobilizing local community people with their own experiences and local techniques.

Summary	Objectively Verifiable Year-wise Indicators										Means of Verification (MOVs)	Risks/Assumptions
	1	2	3	4	5	6	7	8	9	10		
Goal: increasing incomes of community people of GM including women and youths of disadvantaged, deprived freed kamaiya and marginalized groups who are directly involve in using natural capital of GLA through skill and knowledge enhancement by the end of 2088 BS.	1. Professional human resources developed and trained. 2. Increasing number of domestic and international tourists and staying in long time. 3. Increased incomes of the groups which directly involved in quality services delivery to the tourists. 4. Community people aware of biodiversity conservation, watersheds and wetland management.										1. Training need assessment (TNA) report 2. Training completed reports 3. Skill and knowledge test reports 4. Impact assessment reports	1. Present forest law, acts and guidelines might have been amended. 2. Public of GM will be aware of tourism development that is identification of GM and it is a permanent source of incomes.
Objective 1: Enhancing capacity of women and youths of disadvantaged, deprived freed kamaiya and marginalized groups on quality services delivery to tourists.	3. Increasing numbers of Ghodaghodi tourism-based enterprises established. 4. Enhanced local people's arts and culture. 5. Hospitable behavior with tourists and quality services delivery to the tourists. 6. Nature guide, bird watching guide and trekking guide developed and trained.										1. Training program reports 2. Group records 3. Activity progress reports 4. Monitoring reports	1. Meaningful participation of tourism service providers will have been addressed.
Objective 2: Create social awareness conducting campaigns on World's Environment Day (5 June), World's Bhushangraksharan Day (8 August), World's Water Day (22 March), Celebration of Plantation Day, World's against Women Violence Alleviation Day (25 November), World's Mountain Day (11 Dec), World's Biodiversity Day (29 Dec.) and World's Wetland Day (2 February).	4. Increased awareness on environment conservation for human and biodiversity conservation, watersheds and wetland management.										1. Campaigns completed reports 2. Impact reports	1. Most of the community people who are direct consumers of natural capital of GLA will be interested to take part in the campaigns.
Expected Outcomes/Outputs to be achieved through implementation of this Master Plan												
1. Visitors and residents' experience for improvement on management skills will have been audited at least two times in a year.	2	2	2	2	2	2	2	2	2	2	1. At least 20 events of auditing of visitors and residents' experiences improvement workshops audited.	1. Training program reports 2. Group records 3. Activity progress reports 4. Monitoring reports
2. Capacity building training (food production, presentation and hospitality related English language course) to home-stay operators on home-stay operation and management will have been conducted.	4	x	4	x	4	x	4	x	4	x	1. At least 20 events of food production, presentation and hospitality and English language courses conducted. 2. At least 400 trainees developed.	1. Program reports 2. Group records 3. Activity progress reports 4. Monitoring reports

Summary	Objectively Verifiable Year-wise Indicators										Means of Verification (MOVs)	Risks/Assumptions
	1	2	3	4	5	6	7	8	9	10		
9. Organic vegetable production farming and agricultural knowledge schools for small and medium farmers through the formation of farmers groups will have been conducted.	1	1	x	1	x	1	x	1	x	1	1. Training program reports 2. Group records 3. Activity progress reports 4. Monitoring reports	
Proposed Activities and Strategically Implementation												
1. Audit the visitor and residents' experience for improvement on management skills at least two times in a year.												
2. Organize capacity building training (food production, presentation and hospitality related English language course) to home-stay operators on home-stay operation and management		x		x		x		x		x		
3. Organize guiding training to youths to serve as nature/hiking/bird watching guide.		x		x		x		x		x		
4. Organize income generating skills training to local communities from supply side of tourism in all wards.	x		x		x		x		x			
5. Organize capacity building training to women group for local food processing.		x		x		x		x		x		
6. Organize medicinal processing skills training to local communities from supply side of tourism in all wards.	x		x		x		x		x			
7. Conduct local handicraft (like Nuiya, Delwa, Panchhopna etc) production training to women groups. The local handicrafts can be sold as gifts to the tourists and to the national international market.		x		x		x		x		x		
8. Conduct bamboos handicraft (like office files including loose files made with bamboo) production training so that these files can be sold to the local markets and national markets.		x		x		x		x		x		
9. Implement organic vegetable production farming and agricultural knowledge schools for small and medium farmers through the formation of farmers groups. So that fresh vegetables can be served to the tourists.			x		x		x		x			

Legend note:

7. XXXXXXXXX syboles indicate about conservation, management, monitoring and improvement period,
8. Numerical (such as 1 to.....) indicate about implementation period to achieve outcomes and outputs and
9. Colouring areas indicates about action planing (including DPR), implementation and monitoring & supervision of activities.

Note: 110 denote working years such as 1st year for FY 2077/078, 2nd year for FY 2078/079, 3rd year for FY 2079/080, 4th year for FY 2080/081, 5th year for FY 2081/082, 6th year for FY 2082/083, 7th year for FY 2083/084, 8th year for FY 2084/085, 9th year for FY 2085/086 and 10th year for FY 2087/088.

Logical Framework Approach (LFA) on Incentive and or IGP and Internal Revenue Generation for GM Strategic Plans

This master plan visions to develop and transform Ghodaghodi Municipality (GM) as a unique main tourist destination instead of add on destination which accelerates the optimal growth bound economic development through sustainable tourism.

Mission of this master plan is;

1. Creating and enhancing positive impact on the income and living standards of local people of Ghodaghodi Municipality through offering meaningful experience to tourists visiting Ghodaghodi Lake Area (GLA).
2. Developing GLA as a first 'bird sanctuary' hub in Nepal and for protection of critically important biological corridor (Basanta Corridor) through mobilizing local community people with their own experiences and local techniques.

Summary	Objectively Verifiable Year-wise Indicators										Means of Verification (MOVs)	Risks/Assumptions	
	1	2	3	4	5	6	7	8	9	10			Indicators
Goal: increasing incomes of community people and internal revenue of GM through GLA conservation and tourism development like on basic infrastructure construction, conservation of flora and fauna, social awareness creation campaigns, development of hospitality and quality services delivery to the tourists within next ten years.	1. Internal revenue generated and collected. 2. Increasing number of domestic and foreign tourists in Ghodaghodi tourism destination. 3. Increasing incomes of people of GM. 4. Number of youth employed. 5. Tourism-based enterprises established.										1. Business plans 2. Records of tourists checklists 3. Ghodaghodi Municipality Profiles 4. Impact reports 5. EIA reports	Present forest law, acts and guidelines might have been amended.	
	1. Bio-based basic infrastructures constructed. 2. Increasing numbers of trained youth quality services delivering to the tourists. 3. Realistic action plans prepared and implemented.										1. Technical reports 2. Progress reports 3. Monitoring reports		Meaningful participation of tourism service providers will have been addressed.
	1. Increasing numbers of Ghodaghodi tourism-based enterprises established. 2. Enhanced local people's arts and culture. 3. Hospitable behavior with tourists and quality services delivery to the tourists.										1. Progress reports 2. Monitoring reports		
Objective 3: To formulate tourism based revenue generation and increment strategy of GM in order to enable for more investment in tourism sector in future.	1. Increasing trends of revenue collection of GM and its investment for GLA conservation and tourism development.										1. Annual revenue appraisal and projection reports 2. Annual plan of GM	Local government ruling acts will be remaining the same.	
Expected Outcomes/Outputs to be achieved through implementation of this Master Plan													
1. Unregistered tourism enterprises will have been brought in the mainstream registration process.	1	1	1	1	1	1	1	1	1	1	# of 10 events on unregistered tourism enterprises to bring in the the mainstream registration process conducted.	1. Events reports 2. Program progress reports. 3. Monitoring reports.	
2. Develop and promote organic agro tourism destinations with home-stays in sub-urban pocket areas of GM in ward no. 4 (Maghi), ward no. 8 (Lathuwa/Pari Deepnagar) and ward no. 1 Shrinaja Sivr (Kamaiya Mukti).	4	1	4	x	x	x	x	x	x	x	At least 9 organic agro-pocket identified and developed.	1. Pocket profiles 2. Program progress reports 3. Monitoring reports	
3. Ghodaghodi destination through branding and integrated marketing campaign in CGLIDB secretariat will have been marketed and promoted.	1	1	1	1	1	1	1	1	1	1	# of 10 events on branding and marketing campaigns conducted.	1. Program progress reports 2. Monitoring reports 3. Impact assessment reports	

Summary	Objectively Verifiable Year-wise Indicators										Means of Verification (MOVs)	Risks/Assumptions
	1	2	3	4	5	6	7	8	9	10		
14. Model villages around the GLA will have been developed as for local poultry farming.	1	1	1	x	x	x	x	x	1	x	1. Business plans. 2. EIA reports 3. Program progress reports. 4. Monitoring reports.	
15. Model villages around the GLA will have been developed as goat r farming.	1	1	1	x	x	x	x	x	x	x	1. Business plans 2. Progress reports 3. Monitoring reports.	
16. Model villages around the GLA will have been developed as Livestock farming settlements.	1	1	1	x	x	x	x	x	x	x	1. Business plans 2. Progress reports 3. Monitoring reports.	
Proposed Activities and Strategically Implementation												
1. Bring unregistered tourism enterprises in the mainstream registration process.												
2. Develop and promote organic agro tourism destinations with home-stays in sub-urban pocket areas of GM in ward no. 4 (Maghi), ward no. 8 (Lathuwa/Pari Deepnagar) and ward no. 1 Shrinaja Sivr (Kamaiya Mukti).	4	1	4	x	x	x	x	x	x	x		
3. Market and promote Ghodaghodi destination through branding and integrated marketing campaign in CGLTDB secretariat.												
4. Create value chain through linkage between tourism (demand side) and natural resources based agribusiness (supply side).				x	x	x	x	x	x	x		
5. Home-stay establishment and improvement of operational management (Maghi, Chiimchore and Uttar-Lathuwa)				x	x	x	x	x	x	x		
6. Resorts establishment (public private sectors).	x					x	x	x	x	x		
7. Establish Hot-huts (soft drink shops)	x			x	x	x	x	x	x	x		
8. Establish small shops and hotels (development of mini-market) at the settlements nearby GLA.	x					x	x	x	x	x		
9. Establish of Medium types of hotels at the settlements nearby GLA.	x					x	x	x	x	x		
10. Establish star hotels such as '1' star, '2' star, '3' star and '5' star at Sukhad Bazaar.	x	x					x	x	x	x		
11. Fruits farming.				x	x	x	x	x	x	x		
12. Agro-based income generating activities.				x	x	x	x	x	x	x		

Logical Framework Approach (LFA) on Wetland and Biodiversity Conservation and Management Strategic Plans

This master plan visions to develop and transform Ghodaghodi Municipality (GM) as a unique main tourist destination instead of add on destination which accelerates the optimal growth bound economic development through sustainable tourism.

Mission of this master plan is ;

1. Creating and enhancing positive impact on the income and living standards of local people of Ghodaghodi Municipality through offering meaningful experience to tourists visiting Ghodaghodi Lake Area (GLA).
2. Developing GLA as a first 'bird sanctuary' hub in Nepal and for protection of critically important biological corridor (Basanta Corridor) through mobilizing local community people with their own experiences and local techniques.

Summary	Objectively Verifiable Year-wise Indicators										Means of Verification (MOVs)	Risks/Assumptions
	1	2	3	4	5	6	7	8	9	10		
Goal: Developing GLA as bird sanctuary destination through GLA wetland conservation and management and the conservation of natural capital such as birds, local fishes, <i>Ghonghi/Ghongha</i> (snails), Sutahi (Bivalve) crocodiles, <i>Ajingar</i> snakes (Burmese rock python), tortoises and <i>Tame-Salak</i> in associated Lakes and Rivers by 2088 BS.	1. Ghodaghodi Lake declared as 'Bird Sanctuary'. 2. Improved shapes of wetland of 19 associated lakes with Ghodaghodi and Nakror Lakes. 3. Conservation area/sites identified and managed. 4. Quantity/number of birds, local fishes, Ghonghi/Ghongha (snails), Sutahi (Bivalve) crocodiles, Ajingar snakes (Burmese rock python), tortoises and Tame-Salak increased. 5. Royalty collected. 6. Community people's awareness raised for wetland and biodiversity conservation and management.										1. DPR documents 2. Research study reports 3. Impact assessment reports 4. Monitoring reports	1. Present law and acts will remain the same. 2. Community people will actively participate in wetland and biodiversity conservation and management.
	1. Cleared Ghodaghodi and Nakror lakes.										1. Details of action plans 2. Research study reports 3. Impact assessment reports 4. Monitoring reports	
	1. Shapes of associated lakes improved. 2. Specific Lakes for fishing, snails (Ghonghi), Sutahi, Gangata farming determined and managed.										1. Details of action plans. 2. Research study reports. 3. Impact assessment reports. 4. Monitoring reports.	
Objective 3: conserving natural capitals for biodiversity conservation and management.	1. Water biodiversity conserved. 2. Code of conduct strictly implemented.										1. Details of action plans 2. Research study reports 3. Impact assessment reports 4. Monitoring reports	
Expected Outcomes/Outputs to be achieved through implementation of this Master Plan												
1. A separate desk and or field feasibility study for the preparation of transforming and declaring GLA as a bird sanctuary will have been conducted and declared.	1	x	x	x	x	x	x	x	x	x	1. A high level of workshop on 'Bird Sanctuary' declaration organized and declared.	1. Legal provisions related to bird sanctuary will be added in national forest law and acts.

Summary	Objectively Verifiable Year-wise Indicators										Means of Verification (MDVs)	Risks/Assumptions
	1	2	3	4	5	6	7	8	9	10		
2. North side of Gairakhera and Lathuwa Churia-bhawar for breeding of Raj Lahache (great slaty woodpecker; mulleripicus pulverulentis) and Raj Dhanesh (great hornbill; buceros bicornis) will have been conserved.	1	x	x	x	x	x	x	x	x	x	1. Details of action plans 2. Bird research reports 3. Progress reports 4. Monitoring reports	1. Bird hunting will be controlled by the CFUGs.
3. Barka sira and or Piprahuwa tandi of Ghodaghodi Lake for spot-billed duck, to the north area of Rajak padau of Ghodaghodi Lake common moorhen and tin chimahuwa kondhiya adjoining to the south of crocodile nest of Ghodaghodi Lake cotton pygmy goose birds for breeding sites will have been conserved.	1	x	x	x	x	x	x	x	x	x	1. Details of action plans. 2. Bird research reports. 3. Progress reports. 4. Monitoring reports.	
4. Jhinpakariya Tandhi of Ghodaghodi Lake for breeding sites of lesser whistling duck will have been conserved.	1	x	x	x	x	x	x	x	x	x	1. Details of action plans. 2. Bird research reports. 3. Progress reports. 4. Monitoring reports.	
5. Barka Chhingtaliya of Ghodaghodi Lake for breeding site of woolly-necked duck will have been conserved.	1	x	x	x	x	x	x	x	x	x	1. Details of action plans 2. Bird research reports 3. Progress reports 4. Monitoring reports	

6. Grassland site to the north-west part of Nakror Lake as grass land field for grass bird species, grass-dependant animals such as rabbit and deer etc. From time to time, bushes and small trees will have been cleared.	1	x	x	x	x	x	x	x	x	x	x	1	1	x	x	x	x	1. Grassland site to the north-west part of Nakror Lake declared. 2. Grassland managed	1. Details of action plans 2. Bird research reports 3. Progress reports 4. Monitoring reports	
7. To the North of water control gate of Ghodaghodi Lake, at least 5 hector area in the mid of the Lake will have been cleared aquatic plants like 'Lotus Plants' and shrubs and emerging bushes under the water surface will have been pulled out.	1	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1. 5 hector of Ghodaghodi Lake area cleared.	1. Details of action plans 2. Bird research reports 3. Progress reports 4. Monitoring reports	
8. Plantation of fruits bearing plants for birds feeding in GLA forest area will have been managed.	x	1	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1. Fruits bearing plants for birds feeding planned in GLA.	1. Details of action plans 2. Bird research reports 3. Progress reports 4. Monitoring reports	
9. Ghodaghodi and Nakror Lakes as bird watching area by declaration of banned area will have been managed.	2	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1. Ghodaghodi and Nakror Lakes developed and declared as bird watching sites.	1. Details of action plans 2. Bird research reports 3. Progress reports 4. Monitoring reports	1. Existing forest rules, laws, acts and guidelines might have been amended.
10. Build natural demarcation of identified area of Ghodaghodi and Nakror Lake, signage establishment; construct fire-lane to control forests fire-cutting.	2	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1. Ghodaghodi and Nakror Lake managed.	1. Details of action plans 2. Bird research reports 3. Progress reports 4. Monitoring reports	
11. Social awareness campaigns like meeting, interaction, group discussion, poster and pamphlets publication for information communication education materials (ICE) and distribution will have been organized.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1. Social awareness campaigns conducted. 2. ICE materials published.	1. Details of action plans 2. Bird research reports 3. Progress reports 4. Monitoring reports	
12. Management support will have been provided to CFUGs to control birds hunting practice in GLA.	x	1	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1. Management support provided to 11 CFUGs. 2. Action plans strictly implemented. 3. Number of CFUGs awarded.	1. Details of action plans 2. Bird research reports 3. Progress reports 4. Monitoring reports	
13. To the east-north site Ghodaghodi Lake identified as Karaila Tandil for Kachhuwa (red-crowned roofed Turtle, Indian soft shell turtle and three striped roofed turtle) and various species of turtles breeding site that will have been conserved and managed.	1	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1. Karaila Tandil conserved and managed. 2. Number of tortoises increased.	1. Details of action plans 2. Tortoises research reports 3. Progress reports 4. Monitoring reports	

Summary	Objectively Verifiable Year-wise Indicators										Means of Verification (MDVs)	Risks/Assumptions
	1	2	3	4	5	6	7	8	9	10		
14. Ajingar Snakes (Burmese rock python) will have been being conserved.	1		x	x	x	x	x	x	x	x	1. Rescue center prepared and operated. 2. Social awareness campaigns organized. 3. ICE materials designed and distributed. 4. Number of Ajingar snakes increased.	1. Details of action plans. 2. Tortoises research reports. 3. Progress reports. 4. Monitoring reports.
15. Prohibited zone near about 5 ha. of Lake area to the site of Karaila Tandhi and 5 ha. of Lake area in Chhotki Chhingtaliya Tandhi for Gohi (crocodile; marsh mugger crocodile) will have been identified and conserved.	2 sites		x	x	x	x	x	x	x	x	1. Prohibited zone near about 5 ha. of Lake area to the site of Karaila tandi and 5 ha. of Lake area in chhotki chhingtaliya tandi for Gohi (crocodile; 2. Number of crocodiles increased.	1. Details of action plans 2. Crocodiles research reports 3. Progress reports 4. Monitoring reports
16. Present zonal area at least three-times big in the site of Karaila Tandhi and or near about 400 m2 area of Chhotki Chhingtaliya Tandhi will have been expanded.	1		x	x	x	x	x	x	x	x	1. Tree-times big zonal area in Karaila Tandhi expanded. 2. At least 400 m2 area in Chhotki Chhingtaliya Tandhi expanded.	1. Details of action plans 2. Progress reports 3. Monitoring reports
17. Sandy area for nesting and basking that will have been concreted in Karaila Tandhi and Chhotki Chhingtaliya Tandhi.	1		x	x	x	x	x	x	x	x	1. Sandy area for crocodiles nesting site concreted.	1. Details of action plans 2. Progress reports 3. Monitoring reports
18. Tame-salak (Indian pangolin) will have been conserving.	1		x	x	x	x	x	x	x	x	1. Social awareness campaigns conducted. 2. Number of Tame-salak increased.	1. Details of action plans 2. Progress reports 3. Monitoring reports

19. Sutahi (Bivalve) in Kauha River (from Betahani forest to Simtari) and Bagdhalil Kuluwa will have been conserved.	x	1	x	x	x	x	x	x	x	x	x	x	x	x	x	1	Quantity of Sutahi increased.	1. Details of action plans. 2. Progress reports. 3. Monitoring reports.	
20. Ghogha/Ghonghi farming (freshwater snails) and conservation: in Bhudiya Nakror, Ramphal, Baisahuwa, Chandarbijuwa, Bukuwa, Chatiya etc Lakes will have been managed.	x	1	x	x	x	x	x	x	x	x	x	x	x	x	x	1	1. Quantity of Ghongha/Ghonghi (Snails) increased.	1. Details of action plans. 2. Progress reports. 3. Monitoring reports.	
21. Sutahi (Bivalve) and Jhinge Fish farming and conservation: in Kauha river (from Betahani forest to Simtari) and Bagdhalil Kuluwa (irrigation canal) will have been managed.	x	1	x	x	x	x	x	x	x	x	x	x	x	x	x	1	1. Quantity of Jhinge Fish and Sutahi increased.	1. Details of action plans. 2. Progress reports. 3. Monitoring reports.	
22. Royalty rate will have been determined and collected for Lotus Plants; flowers, leaves, seeds and Singairs fetching.	1	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	23. Royalty collected.	1. Details of action plans. 2. Progress reports. 3. Monitoring reports.	
24. 'Code of Conduct' mentioning provisions of 'Dos and Not Dos' while fetching Lotus Plants; flowers, leaves, seeds and Singairs will have been prepared and implemented.	1	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1	1. Code of conduct strictly implemented.	1. Details of action plans. 2. Progress reports. 3. Monitoring reports.	
Proposed Activities and Strategically Implementation																			
1. Conduct a separate desk and or field feasibility study for the preparation of transforming and declaring GLA as a bird sanctuary for bird watching tourism destination in all GLA area.		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			
2. Birds conservation in GLA																			
a. Conserve to the north of Gairakhara and Lathuwa Churia-bhawar for breeding of Raj Lahache (great slaty woodpecker; <i>mulleripicus pulverulentis</i>) and Raj Dhanesh (great hornbill; <i>buceros bicornis</i>) and conserve betahani forest for breeding these birds including forest birds																			
b. Conserve Barka Sira and or Piprahuwa Tandi of Ghodaghodi Lake for spot-billed duck, to the north area of Rajak padau of Ghodaghodi Lake common moorhen and tin <i>chimlahuwa kondhiya</i> adjoining to the south of crocodile nest of Ghodaghodi Lake cotton pygmy goose birds for breeding sites.																			
c. Conserve to Jhinpakariya Tandi of Ghodaghodi Lake for breeding sites of Lesser whistling duck.																			
d. Conserve Barka Chingtailiya of Ghodaghodi Lake for breeding site of wooly-necked duck.																			
e. Conserve grassland site to the north-west part of Nakror Lake as grass land field for grass bird species, grass-dependant animals such as rabbit and deer etc. From time to time, bushes and small trees to be cleared.																			

Summary	Objectively Verifiable Year-wise Indicators										Means of Verification (MDVs)	Risks/Assumptions
	1	2	3	4	5	6	7	8	9	10		
f. Conserve to the north of water control gate of Ghodaghodi Lake, at least 5 hector area in the mid of the Lake to be cleared aquatic plants like 'Lotus Plants' and shrubs and emerging pushes under the water surface in first phase for feeding, playing, swimming etc. of migratory birds as well as for all water birds.												
g. Conduct plantation of fruits bearing plants for birds feeding in GLA forest area.	x			x	x	x	x	x	x	x		
h. Develop Ghodaghodi and Nakror Lakes as bird watching area by declaration of banned area to reduce human pressure. Manage ticket system for entry into the Lakes.			x	x	x	x	x	x	x	x		
i. Build natural demarcation of identified area of Ghodaghodi and Nakror Lake, signage establishment; construct fire-lane to control forests fire-cutting.			x	x	x	x	x	x	x	x		
j. Conduct social awareness campaigns like meeting, interaction, group discussion, poster and pamphlets publication for information communication education materials (ICE) and distribution to stop bird hunting in GLA.				x	x	x	x	x	x	x		
k. Provide management support to CFUGs in preparation of action plans and to strictly implement it to control birds hunting practice in GLA.	x			x	x	x	x	x	x	x		
l. Give award to the CFUGs of which CFUGs implemented effective bird hunting control activities.	x			x	x	x	x	x	x	x		
2. Reptiles conservation in GLA												
a. Conserve to the east-north site of Kachhuwa (<i>red-crowned roofed Turtle, Indian soft shell turtle and three striped roofed turtle</i>) and various species of turtles breeding site in the Ghodaghodi Lake, identified as Karaila Tandi for <i>Kachhuwa</i> breeding site by natural demarcating techniques. Establish signage and banned for human pressure around the site.			x	x	x	x	x	x	x	x		
b. Conserve Ajingar Snakes (Burmese rock python) are the most important species that contribute to maintain climate change, environment and ecological system.			x	x	x	x	x	x	x	x		
3. Organize social awareness campaigns against Ajingar Snake hunting.				x	x	x	x	x	x	x		
4. Design and publish posters, pamphlets and articles of Ajingar snakes and distribute to the community people.				x	x	x	x	x	x	x		

Summary	Objectively Verifiable Year-wise Indicators										Means of Verification (MDVs)	Risks/Assumptions
	1	2	3	4	5	6	7	8	9	10		
c. Prepare 'Code of Conduct' mentioning provisions of 'Dos and Not Dos' while fetching Lotus Plants; flowers, leaves, seeds and Singairs. It is a sensitive period for birds so the 'Code of Conduct' should consider about this period. (dos and not dos code of conduct)			x	x	x	x	x	x	x	x		

Legend note:

13. XXXXXXXX syboles indicate about conservation, management, monitoring and improvement period,

14. Numerical (such as 1 to) indicate about implementation period to acheive outcomes and outputs and

15. Colouring areas indicates about action planing (including DPR), implementation and monitoring & supervision of activities.

Note: 1.....to.....10 denote working years such as 1st year for FY 2077/078, 2nd year for FY 2078/079, 3rd year for FY 2079/080, 4th year for FY 2080/081, 5th year for FY 2081/082, 6th year for FY 2082/083, 7th year for FY 2083/084, 8th year for FY 2084/085, 9th year for FY 2085/087 and 10th year for FY 2087/088.

Logical Framework Approach (LFA) on Watersheds and Wetland Conservation and Management Strategic Plans

This master plan visions to develop and transform Ghodaghodi Municipality (GM) as a unique main tourist destination instead of add on destination which accelerates the optimal growth bound economic development through sustainable tourism.

Mission of this master plan is ;

1. Creating and enhancing positive impact on the income and living standards of local people of Ghodaghodi Municipality through offering meaningful experience to tourists visiting Ghodaghodi Lake Area (GLA).
2. Developing GLA as a first 'bird sanctuary' hub in Nepal and for protection of critically important biological corridor (Basanta Corridor) through mobilizing local community people with their own experiences and local techniques.

Summary	Objectively Verifiable Year-wise Indicators										Means of Verification (MOVs)	Risks/Assumptions
	1	2	3	4	5	6	7	8	9	10		
Goal: conserve and manage GLA watersheds and wetlands as for tourism development destination through the mobilization of CFUGs and GLA conservation, management groups and other conservation groups including development agencies by the end of 2088 BS.	1. Water-in-take areas (Betahani watersheds) conserved and managed. 2. Check-dams constructed in the lakes for water level increase. 3. Most of the open land within forests of GLA planted and conserving and managing. 4. Mining gravels, stones and sand from the rivers in the Bhawar and Churia hill side stopped. 5. Specific forest areas banned for human entry.										1. DPR reports 2. GLA management guidelines 3. Watersheds and wetland records of CGLTDB 4. Progress reports 5. Impact assessment reports	1. Present forest law, acts and guidelines might have been amended. 2. Public of GM will be aware of tourism development that is identification of GM and it is a permanent source of incomes.
	1. Watersheds and wetland conservation and management practices established as social cultures. 2. Roles and responsibilities assigned to the concern stakeholders and socially accepted. 3. Traditional experiences and practices applied for watersheds and wetland conservation.										1. Training program reports 2. Records of CGLTDB 3. Activity progress reports 4. Monitoring reports	2. Meaningful participation of community people of GM will be increased.
	1. Check-dams built in the lakes and rivers. 2. Water level increased in the Lakes. 3. Riverbanks erosion controlled.										1. DPR reports. 2. Records of CGLTDB. 3. Program progress reports. 4. Impact reports.	1. Community people of GM will actively take part for community contribution.
	1. Open land 1000 hectors planted. 2. Existing action plans of CFUGs implemented. 3. Forests conservation and management improved.										1. Records of CGLTDB 2. Program progress reports 3. Monitoring reports	1. Present acts and laws of government forests management will remain the same.
	1. Wildlife increased. 2. Local birds and migratory birds in Ghodaghodi Lake increased. 3. Forest and water biodiversity conserved.										1. Records of CGLTDB 2. Program progress reports 3. Monitoring reports	1. Community people of GM will actively take part for community contribution.
Objective 5: Promote alternative energy system like biogas, improved cooking stoves (ICS) and plantation of fodder plants in private land for domestic animals feeding and for firewood.	1. Number of biogas established. 2. Number of ICS established. 3. Fodder plants planted in private land.										1. Records of CGLTDB 2. Program progress reports 3. Monitoring reports	
Expected Outcomes/Outputs to be achieved through implementation of this Master Plan												
1. Build an animal rescue center near Ojahuwa Lake	1	x	x	x	x	x	x	x	x	x	1. Animals rescue center built. 2. The rescue center managed.	1. Action plans 2. Program progress 3. Monitoring reports
2. Build Purbi Ojahuwa Lake area as an additional boating lake area.	x	1	x	x	x	x	x	x	x	x	1. Purbi Ojahuwa Lake as boating lake built.	1. Program reports 2. Activity progress reports 3. Monitoring reports

3. Develop Chiraiha Lake as picnic site under which Construct 5 picnic shades with seating benches, cooking site, vehicles parking, drinking water supply, washroom, garbage site, management of retail shops and restaurant/cafe etc.	x	x	x	x	1	x	x	x	x	x	1. Chiraiha Lake developed as picnic site.	1. DPR reports 2. Progress reports 3. Records of CGLTDB	
4. Develop Bagluhuwa Lake as picnic spot with boating under which Construct 5 picnic shades with seating benches, cooking spot, vehicles parking, drinking water supply, washroom, garbage site, management of retail shops and restaurant/cafe etc. and establish integrated fish farming practice with technical knowhow.	x	x	x	x	x	x	x	x	x	x	1. Bagluhuwa Lake developed as picnic site.	1. DPR reports 2. Program progress reports 3. Records of CGLTDB 4. Monitoring reports	
5. Ghodaghodi wetland conservation and management													
5.1 Prepare DPR of soil siltation control in <i>Barka Sirah</i> and <i>Chhotki Sirah</i> of Ghodaghodi Lake and use long-rooted plants such as bamboo and ningalo plantation in upper side and to fill up with iron-nets with stones in the slopping sides of the <i>Barka</i> and <i>Chhotki Sirah</i> of Lake for wetland conservation and management.	x	x	x	1	x	x	x	x	x	x	1. DPR documents prepared.	1. DPR reports. 2. Program progress reports. 3. Records of CGLTDB. 4. Monitoring reports.	
5.2 Build iron nets with stones and or concrete two steps bars/wall from in concrete view tower to Rajak Parau for making easy walk to observe south site of the Lake and for siltation control in the Lake.	x	x	x	1	x	x	x	x	x	x	1. Mud/soil siltation controlled.	1. DPR reports 2. Program progress reports 3. Records of CGLTDB 4. Monitoring reports	
5.3 Collect and or pull out all of the <i>Besharma</i> (local name) bushes from Ghodaghodi Lake and dry and dispose it in each year till to not germination for Clare of Ghodaghodi Lake.	1	1	1	1	1	1	1	1	1	1	1. <i>Besharma</i> (local name) pulled out from Ghodaghodi Lake.	1. DPR reports 2. Program progress reports 3. Records of CGLTDB 4. Monitoring reports	
5.4 Collect and or pull out all of the <i>Jamun</i> (local name) small trees from edges of Ghodaghodi Lake and dry and dispose it in each year because these trees have been squeezing the size of Ghodaghodi Lake till no germination.	1	1	1	1	1	1	1	1	1	1	1. <i>Jamun</i> plants (local name) pulled out from Ghodaghodi Lake.	1. DPR reports 2. Program progress reports 3. Records of CGLTDB 4. Monitoring reports	
5.5 Organize campaigns to collect and pick out wastes like plastic bottles, bags and other sorts of wastes following over surface and under surface of water of Ghodaghodi Lake.	1	1	1	1	1	1	1	1	1	1	1. Sanitation camps/campaigns organized.	5. Planning documents 6. Technical reports	
5.6 Clare and or pull out all of the bushes from the <i>Barka</i> and <i>Chhotki Sirah</i> and in front check-dam of the Lake.	1										1. Most of bushes from the <i>Barka</i> and <i>Chhotki Sirah</i> and in front check-dam of the Lake cleared.	1. Progress reports 2. CGLTDB records 3. Monitoring reports	

Summary	Objectively Verifiable Year-wise Indicators										Means of Verification (MOVs)	Risks/Assumptions
	1	2	3	4	5	6	7	8	9	10		
5.7 Pull out all of the germinated and or germinating bushes under water in Ghodaghodi Lake.	1										1. DPR reports 2. Program progress reports 3. Records of CGLTDB 4. Monitoring reports.	
6. Revitalization of Different Lakes such as Chanderbijiwa (1.40 ha.), Bikuwa, Terhi (1.13 ha.), Parsihniya (2.00 ha.), Tin-chatiya and Semrahuwa (0.59 ha.) within GLA, all of these Lakes have been totally dried, but its shapes are still existing. Moreover these lakes are the main water sources of Ghodaghodi Lake.	x	1	1	1	1	1	x	x	x	x	1. DPR reports 2. Program progress reports 3. Records of CGLTDB 4. Monitoring reports	
6.1 Prepare DPR for all of the above mentioned Lakes	x	1	x	x	x	x	x	x	x	x	1. DPR reports 2. Program progress reports 3. Records of CGLTDB 4. Monitoring reports	
6.2 Support for implementation of construction works as per DPR	x	1					x	x	x	x	1. DPR reports 2. Program progress reports 3. Records of CGLTDB 4. Monitoring reports	
7. Improvement of Different Lakes; prepare DPR of Ramphal (3.63 ha.), Bichka-chatiya (0.50 ha.), Sonpokhari (2.38ha.), Budhiya Nakror (5.54 ha.), Khaurahwa (0.69 ha.), Baisahuwa (9.87 ha.), Chatiya (0.78 ha.), Purb-i-qahuwa (1.43 ha.), Puraina (2.00 ha.), Tengnahuwa (2.00 ha.) and Nakror (26.14 ha.)	x	11 lakes									1. DPR reports 2. Program progress reports 3. Records of CGLTDB 4. Monitoring reports	
7.1 Improve its shapes with construction of check-dam, gate, mud filling where necessary and possible.	x	11 lakes			x	x	x	x	x	x	1. DPR documents 2. Progress reports 3. Monitoring reports	
8. Nakror Lake Conservation and Management												
8.1 Clear and or pull out the Narkat (local name Lerghut) bushes, Besharma (local name) bushes and Bais trees (as non-timber-forest-product)	1	1	1	1	1	1	1	1	1	1	1. DPR documents 2. Progress reports 3. Monitoring reports	
8.2 Develop Nakror Lake as bird watching sites.	1	1	1	1	1	1	1	1	1	1	1. Progress reports 2. Monitoring reports	
9. Strictly implement action plans of CFUGs for cattle grazing management in the CFUGs.	1	1	1	1	1	1	1	1	1	1	1. Progress reports 2. Monitoring reports	

Summary	Objectively Verifiable Year-wise Indicators										Means of Verification (MOVs)	Risks/Assumptions
	1	2	3	4	5	6	7	8	9	10		
d. Land acquisition of the encroached land around <i>Sonpokhari, Bichka Chatiya, Ramphal, Budhiya Nakror and Nakror lakes</i> are needed to construct embankment, irrigation canals construction as well as developing ecotourism sites.	x	x	x	1	x	x	x	x	x	x	1. DPR documents 2. Progress reports 3. Monitoring reports	
13. Plantation of valuable tree species in GLA												
e. Conduct training on nursery management for GLA conservation and management groups to establish multipurpose nursery centers within GLA.	1	x	x	x	x	x	x	x	x	x	1. Action plans 2. Events reports 3. Monitoring reports	
f. Bet plantation program to be initiated in <i>Betahani</i> area and along river banks.	1	1	1	1	1	1	1	1	1	1	1. Action plans 2. Progress reports 3. Monitoring reports	
g. Other plants of medicinal value and commercial value should be selected such as <i>Harro, Barro, Amala, bamboo, Jamun, Kusum</i> etc. and should be planted.	1	1	1	1	1	1	1	1	1	1	1. Action plans 2. Progress reports 3. Monitoring reports	
14. Conduct training on ICS production and biogas repairs and maintenance to the women and youth groups.	x	1		x	x	x	x	x	x	x	1. Action plans 2. Progress reports 3. Monitoring reports	
15. Subsidy support for bio-gas establishment program.	x	1		x	x	x	x	x	x	x	2. Action plans 3. Progress reports 4. Monitoring reports	

16. Subsidy support for ICS establishment program.	x	1	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1. At least 3 ICS model villages developed	2. Action plans 3. Progress reports 4. Monitoring reports	
17. Subsidy support for plantation of fodder plants in private land for domestic animals feeding and for firewood.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1. Fodder plants planted in at least 26 ha. of private land	2. Action plans 3. Progress reports 4. Monitoring reports	
Proposed Activities and Strategically Implementation																					
1. Build an animal rescue center near Ojahuwa Lake		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			
2. Build Purbu Ojahuwa Lake area as an additional boating lake area.	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x				
3. Develop Chiraiha Lake as picnic site under which Construct 5 picnic shades with seating benches, cooking site, vehicles parking, drinking water supply, washroom, garbage site, management of retail shops and restaurant/cafe etc.	x	x	x	x																	
4. Develop Baglahuwa Lake as picnic spot with boating under which Construct 5 picnic shades with seating benches, cooking spot, vehicles parking, drinking water supply, washroom, garbage site, management of retail shops and restaurant/cafe etc. and establish integrated fish farming practice with technical knowhow.	x	x	x	x																	
5. Ghodaghodi wetland conservation and management																					
a. Prepare DPR of soil siltation control in <i>Barka Sirah</i> and <i>Chhotki Sirah</i> of Ghodaghodi Lake and use long-rooted plants such as bamboo and ningalo plantation in upper side and to fill up with iron-nets with stones in the slopping sides of the <i>Barka</i> and <i>Chhotki Sirah</i> of Lake for wetland conservation and management.	x	x	x																		
b. Build iron nets with stones and or concrete two steps bars/wall from in concrete view tower to Rajak Parau for making easy walk to observe south site of the Lake and for siltation control in the Lake.	x	x	x																		
c. Collect and or pull out all of the <i>Besharma</i> (local name) bushes from Ghodaghodi Lake and dry and dispose it in each year till no germination in layer of Ghodaghodi Lake.																					
d. Collect and or pull out all of the <i>Jamun</i> (local name) small trees from edges of Ghodaghodi Lake and dry and dispose it in each year because these trees have been squeezing the size of Ghodaghodi Lake till no germination.																					
e. Organize campaigns to collect and pick out wastes like plastic bottles, bags and other sorts of wastes following over surface and under surface of water of Ghodaghodi Lake.			x																		

Summary	Objectively Verifiable Year-wise Indicators										Means of Verification (MOVs)	Risks/Assumptions
	1	2	3	4	5	6	7	8	9	10		
f. Clear and or pull out all of the bushes from the Barka and Chhotki Sirah and in front check-dam of the Lake.						x	x	x	x	x		
g. Pull out all of the germinated and or germinating bushes under water in Ghodaghodi Lake.						x	x	x	x	x		
6. Revitalization of different Lakes such as Chandarbijiwa (1.40 ha.), Bukuwa, Terhi (1.13 ha.), Parsiniya (2.00 ha.), Tin-chatiya and Semrahuwa (0.59 ha.) within GLA, all of these Lakes have been totally dried, but its shapes are still existing. Moreover these lakes are the main water sources of Ghodaghodi Lake.	x					x	x	x	x	x		
a. Prepare DPR for all of the above mentioned Lakes		x	x	x	x	x	x	x	x	x		
b. Support for implementation of construction works as per DPR				x	x	x	x	x	x	x		
7. Improvement of different Lakes; prepare DPR of Ramphal (3.63 ha.), Bichka-chatiya (0.50 ha.), Sonpokhari (2.38ha.), Budhiya Nakror (5.54 ha.), Khaurahwa (0.69 ha.), Baisahuwa (9.87 ha.), Chatiya (0.78 ha.), Purb-i-ojahuwa (1.43 ha.), Puraina (2.00 ha.), Tengnahuwa (2.00 ha.) and Nakror (26.14 ha.)	x				x	x	x	x	x	x		
a. Improve its shapes with construction of check-dam, gate, mud filling where necessary and possible.	x				x	x	x	x	x	x		
8. Nakror Lake Conservation and Management												
a. Clearand or pull out the Narkat (local name Lerghut) bushes, Besharma (local name) bushes and Bais trees (as non-timber-forest-product)												
b. Develop Nakror Lake as bird watching sites.												
9. Strictly implement action plans of CFUGs for cattle grazing management in the CFUGs.			x	x	x	x	x	x	x	x		
a. Provide award to the CFUGs which strictly implement it action plan for controlling of open grazing.			x	x	x	x	x	x	x	x		
10. Conservation of Betahani and foothills of Churia												
a. Use watershed management plan for conservation of Betahani forest.		x	x	x	x	x	x	x	x	x		
b. Control of haphazard movement of tractors in the jungle and river course in Betahani forest by constructing one single road.			x	x	x	x	x	x	x	x		

Summary	Objectively Verifiable Year-wise Indicators										Means of Verification (MOVs)	Risks/Assumptions
	1	2	3	4	5	6	7	8	9	10		
16. Subsidy support for ICS establishment program.	x				x	x	x	x	x	x		
17. Subsidy support plantation of fodder plants in private land for domestic animals feeding and for firewood.												

Legend note:

16. XXXXXXXX syboles indicate about conservation, management, monitoring and improvement period,

17. Numerical (such as 1 to.....) indicate about implementation period to achieve outcomes and outputs and

18. Colouring areas indicates about action planing (including DPR), implementation and monitoring & supervision of activities.

Note: 110 denote working years such as 1st year for FY 2077/078, 2nd year for FY 2078/079, 3rd year for FY 2079/080, 4th year for FY 2080/081, 5th year for FY 2081/082, 6th year for FY 2082/083, 7th year for FY 2083/084, 8th year for FY 2084/085, 9th year for FY 2085/086 and 10th year for FY 2086/087.

Beneficiaries' driven social mobilization and gender empowerment plans

1

ANNEX

1. Social Mobilization Background

Even as new advances through better-guided normative documents (plans and policies) promise new vistas on the horizon of human development and welfare, Nepal's ability to apply these advances into real actions lags behind, particularly for the benefit of those who need those most. This dilemma and challenge has pre-occupied the government of Nepal and concerned international development community for some time. In general methods to improve management of centrally planned programs, endeavors to generate critical politics will to provide appropriate direction and support to development programs and efforts to involve communities as decision makers and implementers of their own development have received considerable attention. Communicators, educators and conservators have contributed to efforts that aim at the application of knowledge. Change agents and grassroots organizers have urged the empowerment of those segments of society whose participation and involvement are crucial in the effort toward equity and justice.

There is no escape, however, from the fact that development involves change and change involves complex interaction among groups in different segments of society who hold different attitudes, values and interests. Changes made within one community affect other community. Isolated attempts to involve various groups are not enough. There is a need to tackle these complex tasks in a broader strategic framework, essentially through social mobilization of communities and by converting the latent desire to get out of the poverty trap of the masses into a collective force.

Social Mobilization is a broad scale movement to engage people's participation in achieving a specific development goal through self-reliant efforts. It involves all relevant segments of society: opinion leaders, professional groups, religious associations, local commerce and industry, community based organizations (CBOs), communities and individuals. It is a planned decentralized process that seeks to facilitate change for development through a range of players engaged in interrelated and complementary efforts. It takes into account the felt needs of the people, embraces the critical principle of community involvement and seeks to empower individuals and groups for action.

Mobilizing the necessary resources, disseminating information tailored to targeted audiences, generating inter-sectoral support and fostering cross-professional alliances are also part of the process. While the components of the process may be everyday practice in many development programs, they tend to be taken up in isolation of each other. Social mobilization in total aims at a continuum of activities in a broad strategic framework. The process encompasses dialogue and partnership with a wide spectrum of societal elements. Simply stated, social mobilization calls for a journey among partners and results in the successful transformation of development goals into societal action.

1.2 Gender Empowerment

The 10 years master plan of GLA conservation and tourism development, the master plan aims to involve the participation of women in the GLA conservation and tourism development activities. Active participation of women will be key to the success of this master plan and therefore, the gender issue will be crucial and sensitization on gender issues will be focused.

CGLTDB recognizes that women constitute the majority of the labor force in many rural areas of GLA. It is not uncommon for women to provide over 60% of the farm and marketing labor inputs, particularly when men join seasonal out-migrations in search of work in urban areas of Nepal, or outside Nepal. In addition, women are heavily involved in household activities and are also the primary force in improving family nutrition. Realizing the critical role of women in GLA conservation and tourism development, CGLTDB will focus on interventions which allow women expanded roles in planning and participation in GLA conservation programs. In addition, empowering of women will also include awareness raising training/campaign, skill oriented training and micro-enterprises and other income generating aspects, which will help end the discrimination against women, finally leading to convert women as economic force in GLA conservation and tourism development.

2. Command Area for Social Mobilization

As per research report 2019 of GLA conservation and tourism development for 10 years master plan preparation, Uttar & dakshin-Lathuwa, Dipnagar, Donda-pari (Pari-dipnagar) settlements of ward no. 8, Belar, Shrijana Shivir, Loharpur, Laxmipur, Sukhad bazar, Kauha and Ghodaghodi settlements of ward no. 1 in the east, Simtari, Kauha-pari, Batulichaur (freed kamaiya sivr), Maghi and Sikharjhala settlements of ward no. 4 of Ghodaghodi municipality in the west, *Chilimchore, Sano Kedar and Malika* (Mohanyal Rural Municipality ward no. 2 and 7) adjoined with *Churebhawar* of GLA in the north, Tengnahuwa community forest adjoined with 'Mahendra High-way' in the south of Ghodaghodi Municipality will be covered for social mobilization.

3. Beneficiaries-Driven Social Mobilization

Social mobilization will be the key to this 10 years master plan to help GLA conservation and tourism development. It will begin with and include capacity enhancement both through awareness raising and training of the concern stakeholders including bonded laborers, women and vulnerable youth of disadvantaged and gender groups GLA conservation activities. This plan will undertake focused activities to break the "community-outsiders" complex on the part of the beneficiaries. Success of any social mobilization attempt lies on the facilitating community based organizations (CBOs) collective strengths to break such barrier. Inclusion of the target communities in planned activities right from the beginning will be crucial to achieve the following aspects: They become owners of the activity through their participation in and understanding of it.

- They will be able to explain the purpose and thus they maybe more credible than CGLTDB in this initial stage of the programs involvement in an area.
- They lead meetings and take active roles in activities from the beginning.
- Their experience and involvement may result in the volunteers becoming future community leaders; and
- Their local knowledge and understanding make them a valuable information bridge to the program.

4. Group Approach as the vehicle to deliver planning's outcomes

Social mobilization is the major thrust of the plan and it will be the main vehicle to reach out to a large number of stakeholders including CBOs. These groups will be categorized primarily into eight groups: (i) bonded laborers; (ii) women groups, (iii) vulnerable youth groups, (iv) traditional occupational poor and disadvantaged groups; (v) gender groups, (vi) home-stay groups, (vii) vegetable farmer groups, (viii) nature guide groups and (ix) cultural groups to address development issues of GLA conservation and tourism development.

It is envisaged that the beneficiaries under each of these nine categories and will be directly involved in quality services delivery to the tourists. Identification and categorization of these groups will involve using Participatory Learning Assessment (PLA) tools (Diagnostic Learning) and wealth rankings.

CBOs will be mobilized, strengthened and provided services with need-based interventions to increase their income levels to improve their life finally leading to convert themselves in local institutions. Awareness raising programs will help them improve not only raise their incomes but also have better access to education, health, nutrition, sanitation, child care and increased life expectancy. It is expected that one CBO will have 15 to 25 members each will cover in an average 4 households (command area of 100 HHs) and thus, CBOs will be formed in the GLA.

From the past experiences, it is observed that CBOs are easier to manage and are more effective especially in case of poor. Generation of resources (CBOs fund) and their proper mobilization in productive/income generating activities will further strengthen these groups to develop as cohesive

groups. Competition amongst the CBOs will make these groups work hard on their toes making them functionally more effective. Not least to note is the need to build on the past initiatives and reactivate and mobilize previously formed groups. Thus, the aspiring CGLTDB will identify the existing CBOs and Women's groups already formed by CGLTDB and other NGOs/CBOs/CFUGs and donors in the GLA. The existing potential CBOs irrespective of formed by any agencies/donors following in the criteria of CGLTDB will be included under this plan with main focus on the objectives of 'Master Plan'. Then only the new groups will be formed in order to conserve and develop the GLA as tourism hub.

Efforts will be made to conserve GLA and to develop as tourism hub by giving highest priority while working with CBOs to bring synergy among CGLTDB, Ghodaghodi municipality, GLA conservation and tourism development. It is emphatically noted that CGLTDB will make every possible effort to create the condition for synergism between GLA conservation and tourism development. The already existing CBOs created under CGLTDB and CFUGs/NGOs will be revisited and CBOs having functional problems due to resource or other organizational problems will be catered to revive them.

Social Mobilization and Awareness Rising Approach and Methodology

- Delineate command area (freed kamaiya, female-headed households from within outside whose male member is not in freed kamaiya group and occupational poor may be one or two settlement and call mass meeting and make aware objectives and philosophy.
- Form CBOs of 15 to 25 out of those households of command area by their consensus.
- Set-up Cyclic system at settlements level and CGLTDB level. This will provide techniques of social mobilizing flowing down to various groups and also ensure proper feedback.
- Make the group conduct social mobilization regularly in monthly meeting. The members of the group would conduct social mobilization activities in their command area.

5. CBOs Management and Coordination Committees

It is proposed that a management & coordination committee need to be formed at municipal level having two-ways major functions; one for CBOs mobilization and another for CGLTDB functional coordination. Thus this committee will make a good relation and coordination between CBOs and CGLTDB. Its main tasks will be; collection of practical and facing problems at field level (grassroots) by CBOs, which is not resolve without decisions of CGLTDB and forward it with recommendations to CGLTDB for final decisions related to GLA conservation and tourism development including quality services delivery to the tourists. This management & coordination committee will meet quarterly basis.

In order to formalize the management & coordination committee at municipal level, CGLTDB will prepare management policy guidelines for implementation of master plan. Therein will be a provision for formation of this proposed committee. Under which, a selected representative member from each of subject-wise CBOs will be the members of the management & coordination committee and there will be eleven executive members of which coordinator/chairperson, secretary, treasurer and eight members selected/elected by these representative members of the CBOs.

6. Preparation of CBOs and Command Area Profiles

Baseline surveys will be essential to establish the socio-economic status of the target groups in the GLA. Household surveys will be instrumental to generate such data. Indicator-based pocket and CBOs profiles will be prepared at the start of the GLA conservation and tourism development program, which will be updated annually. The CBOs will be completing these assignments using social mobilizers/community activists. Appropriate PRA tools will be applied as and when needed to supplement data generation. Socio-economic data available from various government and non-government agencies including various donors will also be sought out and used in this process. Since these profiles will be indicator based, these are expected to be very useful for monitoring and follow up of the conservation program in general and the performance of CGLTDB in particular. CGLTDB posits that the positive changes in various indicators will have sufficient bearings on the performance of CBOs.

7. Involvement of CBOs Leaders

Viewing at the large number of beneficiaries, CGLTDB finds it a huge task to provide services to this large groups. Moreover, CGLTDB of the view that external input of knowledge is less effective when compared with that driven and nourished through internal processes. Therefore, a simple three-tiered modality is suggested, which includes:

8. Development of Social Mobilizers

CGLTDB suggests that a required number of social mobilizers/volunteers be directly involved in carrying out GLA conservation project tourism development activities.

9. Development of CBOs Leaders

Assuming 18 CBOs may have about 36 leaders. Thus, each the one CBO leaders developed will be responsible for training in cyclic meetings for training and taking interventions to group members (GMs) of 18 CBOs and this way the CBO members will be trained regularly in monthly meetings.

10. Development of Nature/Tourist Guide/ Demonstrator /Trainers

The successful members from CBOs or its command areas will be trained to establish demonstrations and develop as "Trainers or tourist guide". Trainers developed in several fields will transfer skill and knowledge to others members of command area by establishing demonstrations about new interventions for quality service delivery to the tourists. This approach will not only help develop local resource persons but also transfer and disseminate the interventions very rapidly. These CBOs level training will focus on skill-oriented practical training, which has been found most effective from the experience of other program in contrary to class room training. Off-the shelf technology/interventions will be imparted rather than sophisticated and exotic practices. It is envisaged that trainers/tourist guide will be developed in the GLA for quality service delivery to the tourists in the GLA.

11. Steps of Social Mobilization

The following steps will be taken into action:

- Cover all of the communities within GLA and design job descriptions by developing togetherness among each other,
- Research history of DAGs and do social analysis (socio-economic development, cultural practices, environment conservation and its management, resource allocation and distribution, traditional skills and technology etc),
- Assess the generative themes, prioritize problems solutions, analyze how the problems created ?, find out opportunities and remedies,
- Form, reform, revitalize Community based Organizations (CBOs) covering with disadvantaged communities including village leaders,
- Encourage CBOs members for proactive participation for GLA conservation and tourism development,
- Strengthen CBOs members to identify, make plan, implement, monitor and supervise GLA conservation and tourism development activities,
- Help to analyze the strengths, weakness, opportunity and threats of the CBOs and make plan for improvement,
- Help to mobilize local resources for GLA conservation and community development activities,
- Help to generate community fund from individual saving and facilitate to mobilize these fund as loan or invest in the community development activities among the CBOs members,
- Strengthen CBOs members for self-monitoring and supervision of the programs implemented.

12. Basic Principles of Social Mobilization

There are four main principles of social mobilization of CGLTDB:

- I. Organizations Development (formation, reformation, revitalization of the CBOs, it may be men, women or mixed covering at least 90% of households in the settlement at least one member (either man or woman) from each house. For CBOs management, there will be a chairperson and a secretary selected or elected by the members.
- II. Strengthen members of the CBOs for GLA conservation and tourism development,
- III. Capital Creation for community fund from individual saving during the meeting of the CBOs and
- IV. Skills enhancement for mobilization of community fund including local resources and empowerment for GLA conservation and tourism development activities.

13. Process of Community based Organizations (CBOs) Formation

The following process will be applied while CBOs formation:

- Form, reform and revitalize Community based Organizations (CBOs) in GLA,
- Encourage at least 15 to 25 members (man or woman) covering at least 90 percent beneficiaries households (BHHs) to form CBOs in the settlement and or community basis,
- Elect or select chairperson as leader by the members for CBOs. If the leader has been elected or selected, he or she will be the executive advisor of the CBOs and
- Select or elect executive members of the CBOs, who are social workers, proactive and accepted by the members.

Dialogue box of social mobilization

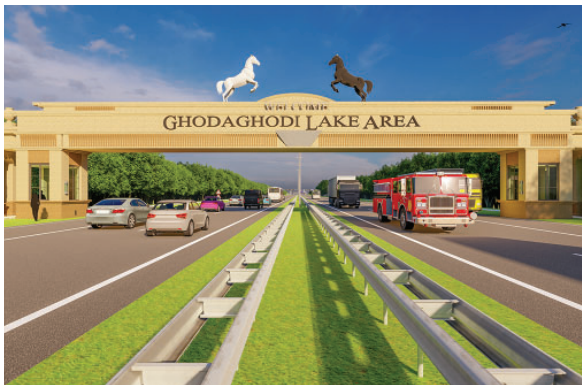
Dialogues	Activities
First Step	
Sensitization of Social Mobilization	a. Organization development of CBOs formation in accordance with broad-base objective.
	b. Capital creation from individual saving as community fund and its proper mobilization among CBOs members
	c. Skills Enhancement as required by the CBOs members.
	d. Enhancement against on discrimination.
Second Step	
Capacity Building of CBOs for Programme Implementation	a. Need assessment and situation analysis.
	b. Participatory Planning.
	c. Programme Implementation.
	d. Self-monitoring and supervision.
	e. Best Practices Documentation and its sharing among CBOs members through functional committees.
Third Step	
Organizational Development and Institutionalization Capacity Building of CBOs.	a. Coordination, linkage and relation for local resource mobilization.
	b. Ownership of the programs handed-over to the CBOs.
	c. Development of federate entity options

**PROPOSED COMPONENTS:
Masterplan of Tourism physical
infrastructure in
GHODA GHODI LAKE AREA**

01 COMPONENT

WELCOME GATE (Entry & Exit Point of E-W Highway)

Name of Component:	WELCOME GATE
Component no:	01
Location:	In the East-West Highway both in the entry and exit points of GLA, south side of Ghoda Ghodi Lake.
Purpose:	To inform and prepare the visitors before entering GLA. To create a monument for identity of Ghoda Ghodi Municipality.
Description:	Simple geometry and symmetry with pedestrian access. Addition of two horses symbolizing the space that is being entered to give curiosity to people visiting.



Front View of the Entrance Gate



Top View of the Entrance Gate

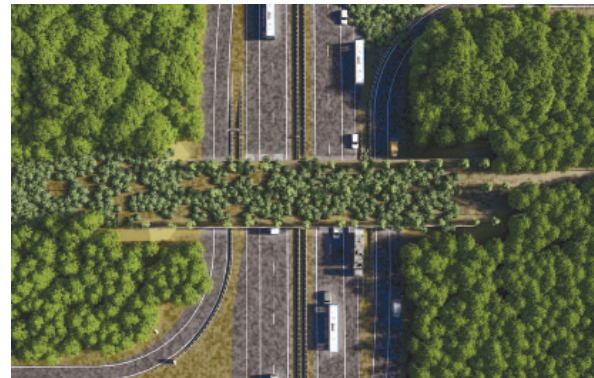
02 COMPONENT

WILDLIFE BRIDGE (E-W Highway)

Name of Component:	WILDLIFE BRIDGE – ARTIFICIAL
Component no:	02
Location:	In the East-West Highway connecting forests and creating a corridor as passage for crossing for flora and fauna.
Purpose:	Corridors designed to connect habitats, allow animals to pass between areas separated by the E-W highway, effective for wildlife habitat.
Description:	Overpass and green bridge for large or herd-type animals; carefully designed wildlife fencing on both sides of the bridge and addition of vegetation on the bridge.



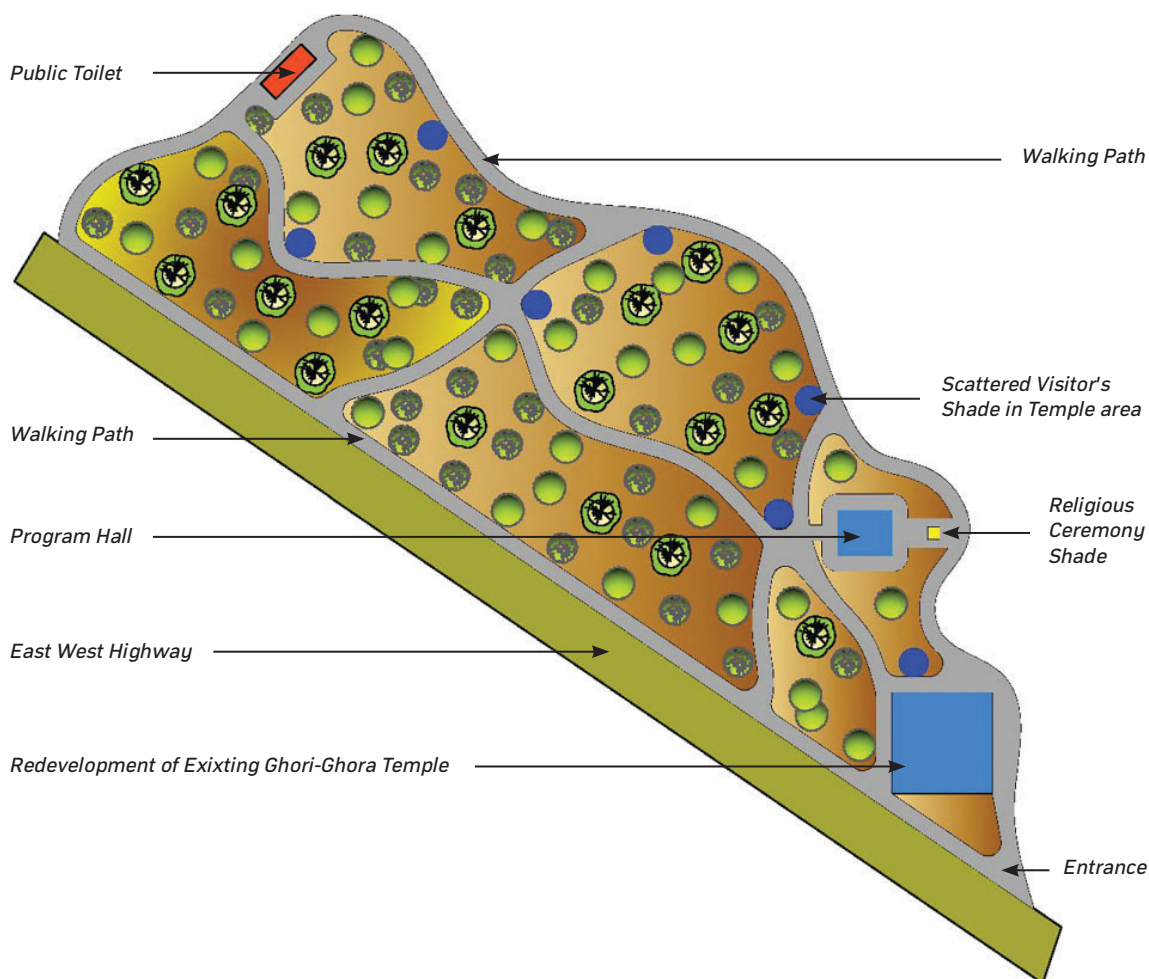
Front View of the Ecolink Bridge



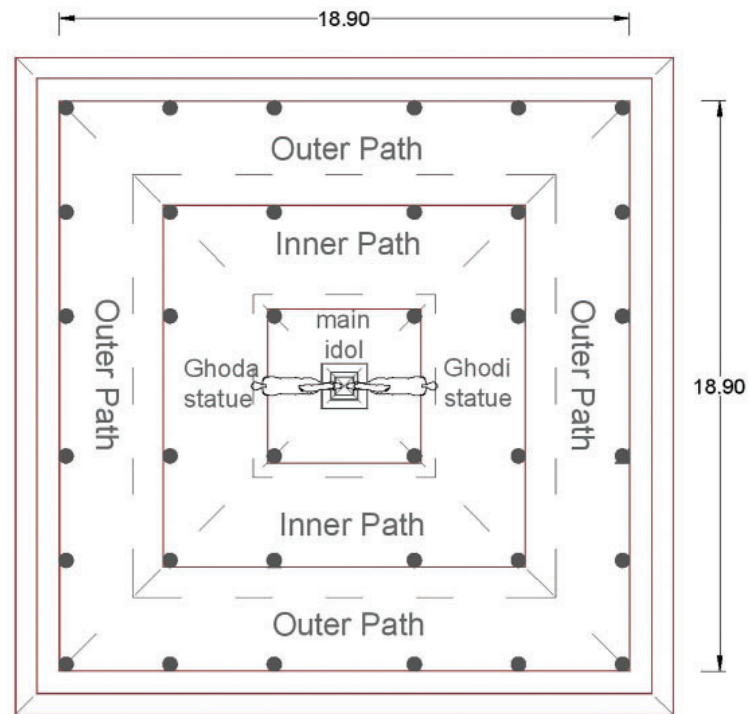
Top View of the Ecolink Bridge

GHORI GHORA TEMPLE AREA REDEVELOPMENT

Name of	GHORI GHORA TEMPLE AREA REDEVELOPMENT
Component:	3a
Component no:	3a
Location:	Ghoda Ghodi Religious Area shall have as such Lake's Water Gate to the east, Lowland to the west, lake itself to the north and East Highway Highway to the south
Purpose:	Preserve the religious area with authentic development of main temple
Description:	Proposed main temple stands on rows of wooden post with 3 steps of roof in increasing height. The main temple is divided into three zone inside temple: Outer Path, Inner Path and main idol area. The area is to be preserved as religious forest of Ghoda Ghodi temple with additional construction of walking path, public toilet, program, religious ceremony shade/ Mandap and scattered visitor's shade.



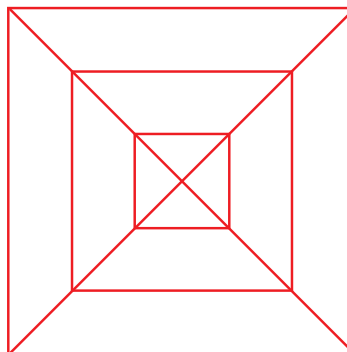
03a COMPONENT



Floor Plan of Proposed Temple



Front Elevation



Roof Plan

03b COMPONENT

RELIGIOUS COMPLEX

Name of Component: RELIGIOUS COMPLEX
Component no: 3b
Location: Opposite to Ghoda Ghodi temple, across the East-West Highway
Purpose: To develop this area as one of the major religious and cultural center providing the space and facilities for Vedic and local religious activities.
Description: The Complex is composed of Dharamshala, Vedic School and hostel, ashram for Bhagats and Pujaris, Bhajan/ Kirtan Hall, Admin Block, Meditation hall(multipurpose), Agni Kunda and other service for supporting this complex.



Top View of Ashram



Front View of Religious Complex

03c COMPONENT

OVERHEAD PEDESTRAIN BRIDGE

Name of Component: OVERHEAD PEDESTRIAN BRIDGE
Component no: 3c
Location: In the East-West Highway, connecting Ashram and Temple Bridge connects two sides of road and is made for pedestrians to move across without having to wait for clear passage, also a view deck for par anomic scene
Purpose: Description: Enclosed overpass footbridge for pedestrians across E-W highway for safety and comfort. Minimalist design with required structural components and appropriate height.



Front View of Overhead Pedestrian Bridge



Top View of Bridge

Upgrade of existing retaining wall and landscaping of Ghoda Ghodi lake: (GHODAGHODI FRONT PARK)

Name of Component:	GHODA GHODI FRONT PARK
Component no:	04
Location:	Entrance of Ghoda Ghodi Lake Area.
Purpose:	To accommodate visitors providing open space with well designed landscape.
Description:	To attract highway travelers this space is used as Open park, with existing view tower, open air theatre and beautiful panoramic view of lake itself.



Top View of the Park



Open Amphitheatre



Night View Inside



View towards E-W highway and view deck

GHODAGHODI LAKE AREA ENTRANCE

Name of	
Component:	VISITORS CENTRE AND ARTIFICIAL WATER PARK
Component no:	5a and 5b
Location:	In front of Ojhuwa lake.
Purpose:	Recreational water park to beat the heat, visitor guidance center for general wetland information, conference seminar hall for general meetings.
Description:	Provided with enough parking space, visitors center for information and interpretation to visitors, ticket counter, restaurant for food and refreshment, Conference hall to accommodate different program along with toilet. Water park is proposed for leisure activities for children and others



- Index**
1. Ticket Counter
 2. Guard House
 3. Office Building
 4. Resting Pavillion
 5. Restaurant
 6. Monitoring Building+Changing Rooms
 7. Water Park
 8. Conference Hall
 9. Visitor Interpretation Center
 10. Parking
 11. Toilet Janitor Room+Generator Shed

ANIMAL RESCUE CENTRE

Name of

Component: ANIMAL RESCUE CENTRE

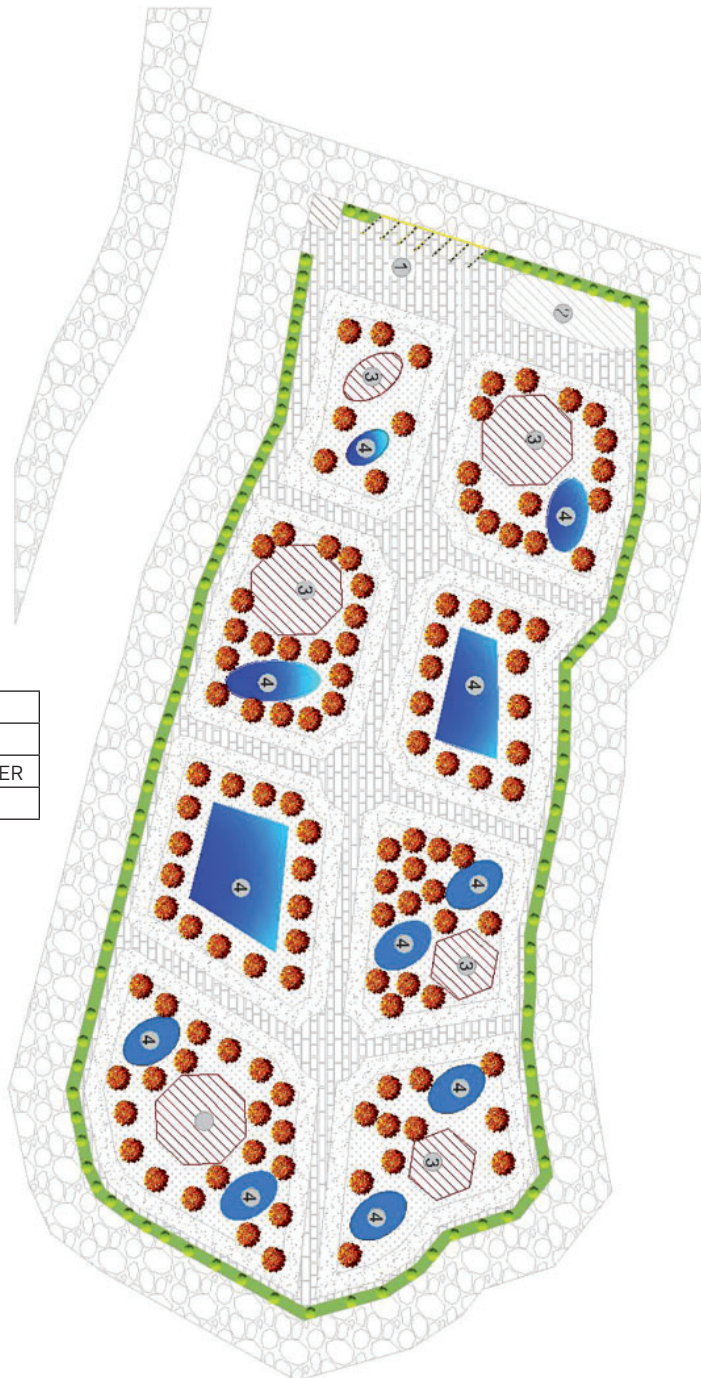
Component no: 5c

Location: South to Ojahuwa Lake

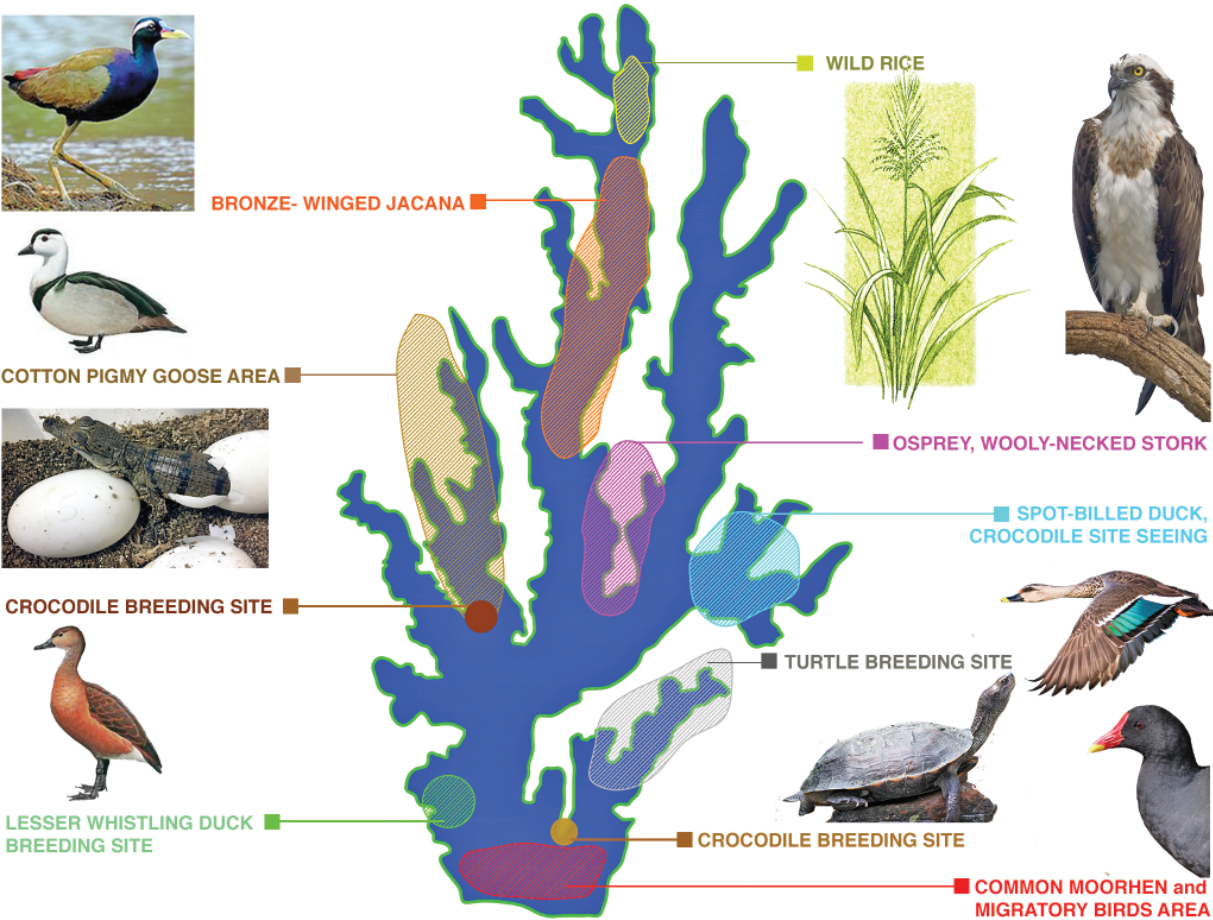
Purpose: To provide short term shelter, care and rehabilitation for rescued animals. Description: Office and veterinary room supporting the rescue center with temporary shelter, open space and water pool for rescued animals and birds

INDEX

1	PARKING
2	OFFICE BLOCK
3	TEMPORARY SHELTER
4	WATER SHED

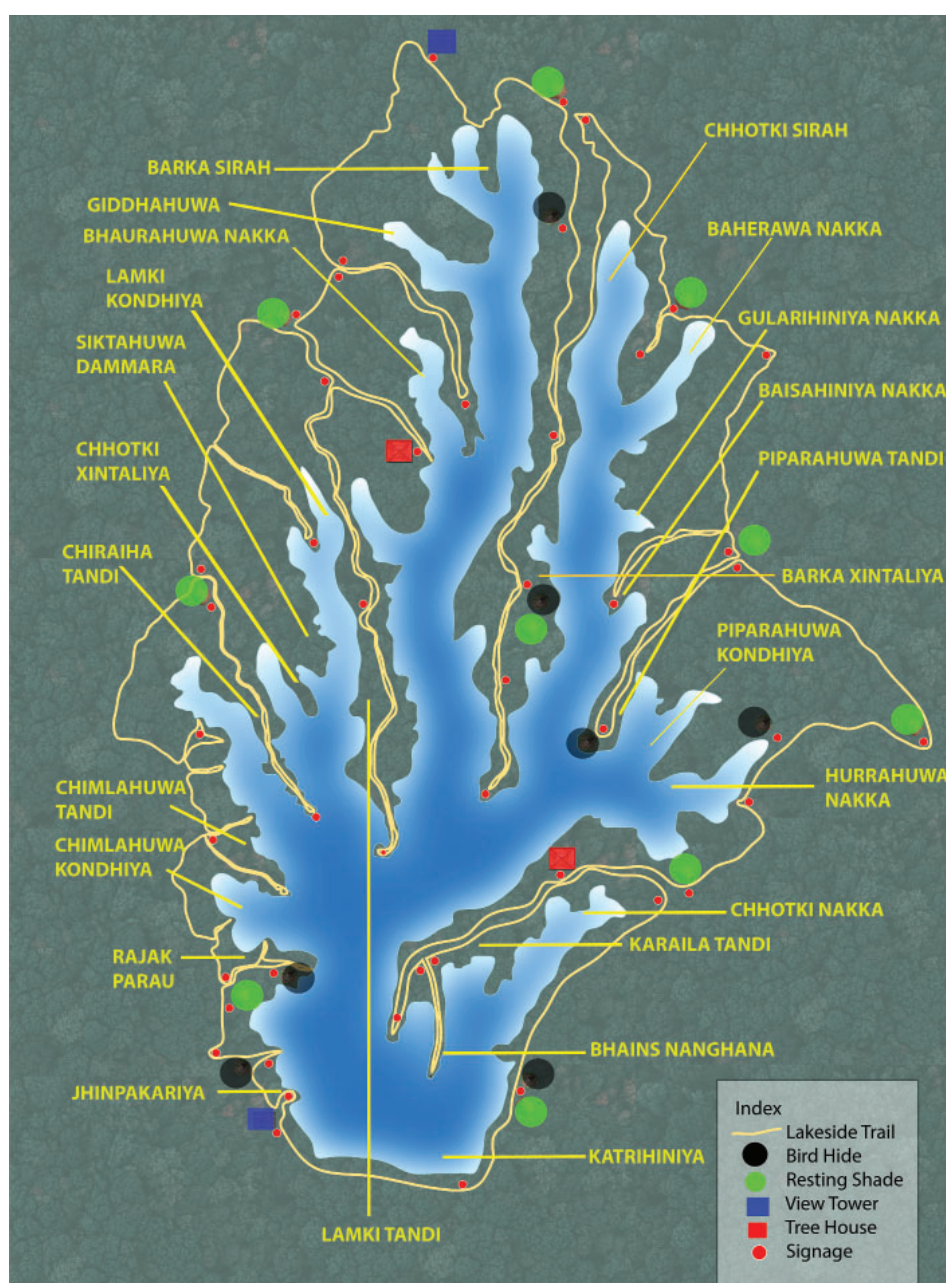


BIOLOGICAL MAP OF GHODAGHODI LAKE AREA

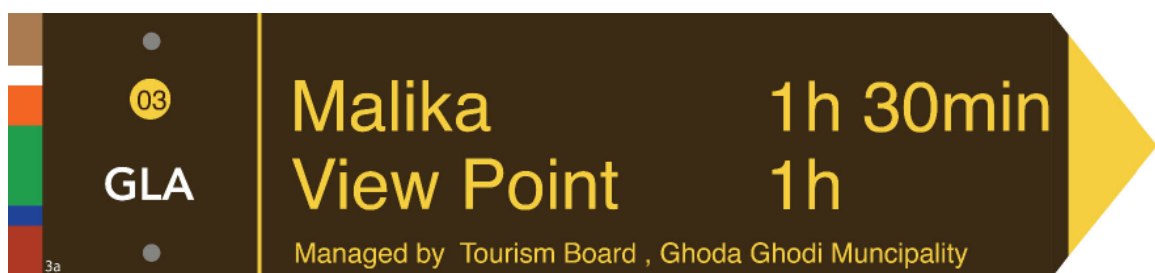


GHODAGHODI LAKE AREA TRAIL: Around Lake Trail

Name of Component:	GHODA GHODI LAKE AREA TRAIL
Component no:	6a
Location:	North of East-West High way
Purpose:	Bird watching, Hiking around the lake area, study of flora and fauna are basic purpose of this hiking trail.
Description:	Ghoda Ghodi Lake area is a sensitive wetland listed on Ramsar. Ecofriendly infrastructure like hiking trail, view tower, bird hides, treehouse, resting shades, signages, resting shade and toilet/drinking water services has been proposed.



GHODAGHODI LAKE AREA TRAIL: SIGNAGE



**GHODAGHODI LAKE AREA TRAIL:
(Resting Shade and Bird Hide)**

**GHODAGHODI LAKE AREA TRAIL:
View Tower**



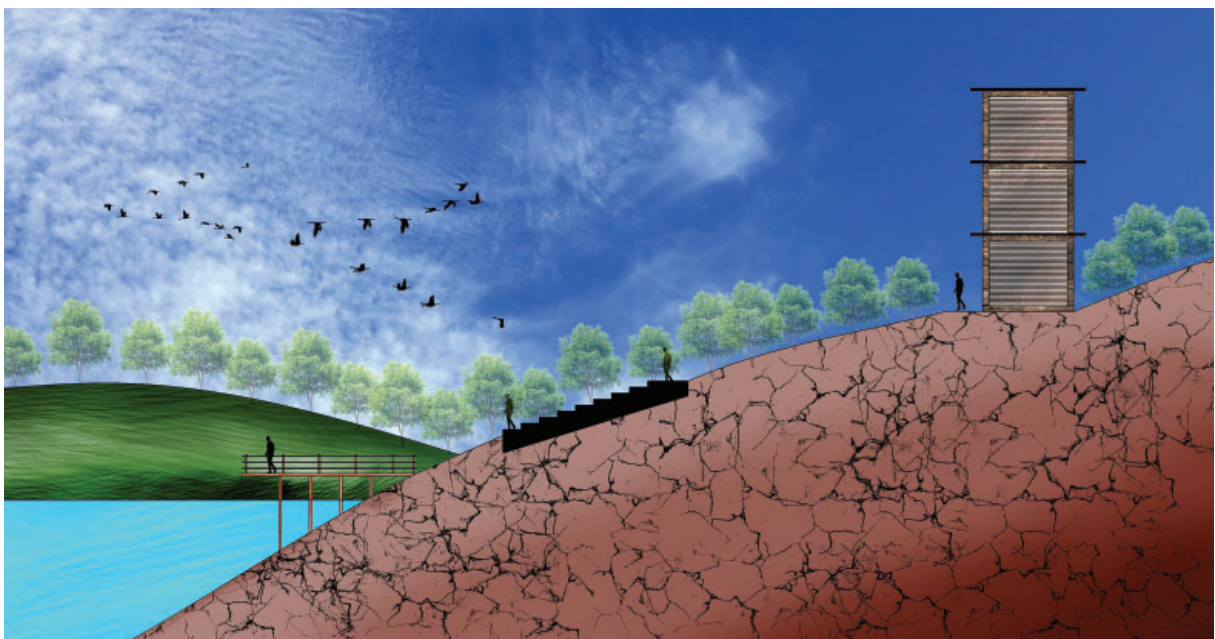
Typical Resting Shade along Lake Area Trail



Typical Bird Hide



View Tower



Sectional View of View Tower and View Deck

MAGHI AND LATHUWA MODEL VILLAGE

Name of	
Component:	Maghi and Lathuwa Model village (homestay)
Component no:	07 a/b
Location:	Maghi and Lathuwa
Purpose:	To provide accommodation for visitors with unique cultural touristic experience of Maghi village and Lathuwa village along with other essential features like security post and health post. Lathuwa will be provided with agricultural and forest resource processing center which will also be consumed by arriving tourist in different form.
Description:	Cluster of homestay supported with view tower and cultural center in Maghi and Lathuwa.



Community Homestay, Cultural center and souvenir shop



Health Post



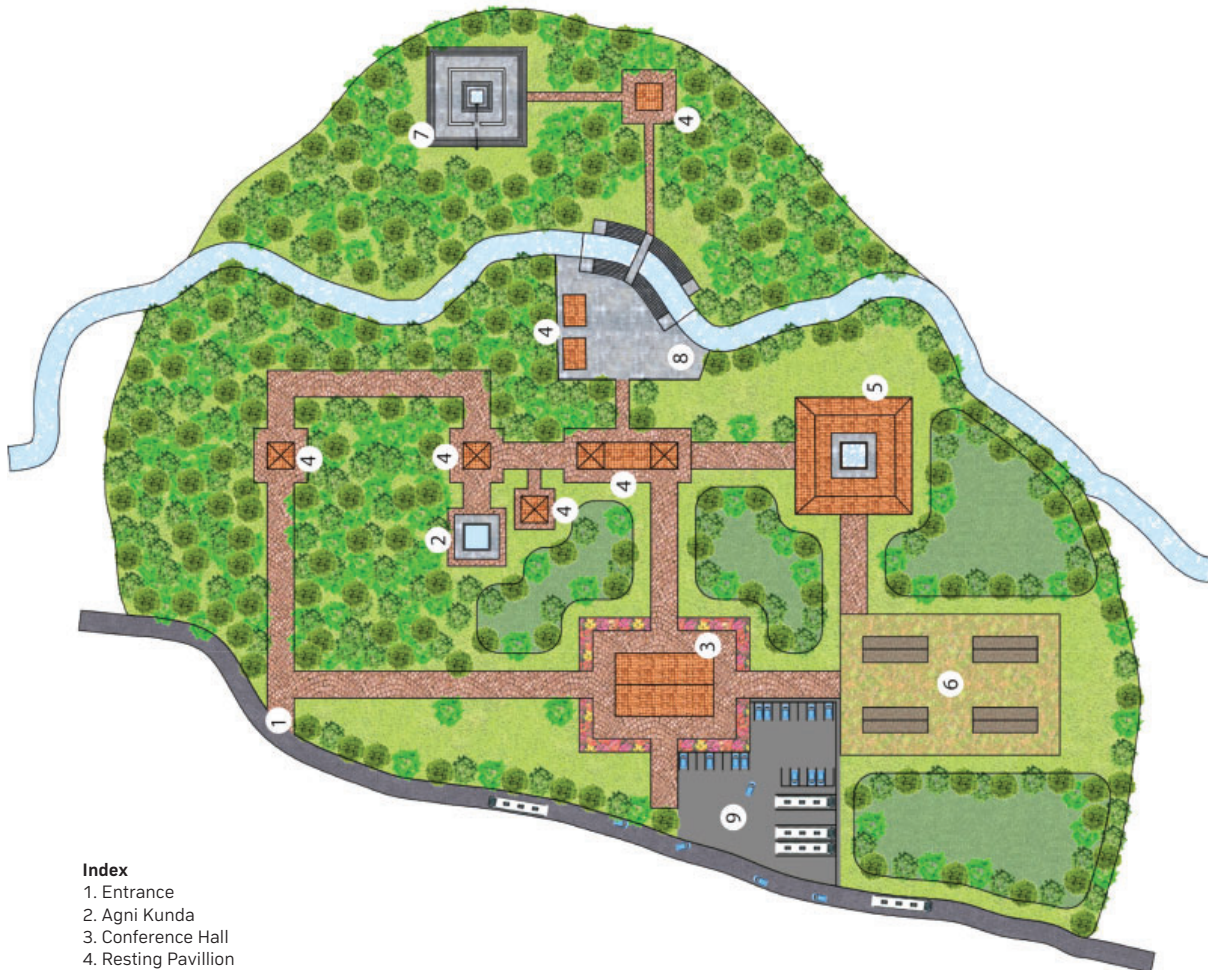
View Tower



Proposed Homestay

SITA KUNDA RELIGIOUS COMPLEX

Name of	Sita Kunda Religious Complex
Component:	08
Component no:	08
Location:	Sita Kunda near Betahani Forest
Purpose:	Holds a Mythological Religious values from the Ramayana Era. Complex objective is to conserve the religious values it holds. Conserve the environmental aspects
Description:	The complex include the required programs to cater a proper religious complex. The programs are as mentioned in the index.



- Index**
1. Entrance
 2. Agni Kunda
 3. Conference Hall
 4. Resting Pavillion
 5. Puja Ashram
 6. Cow Sheds
 7. Sita Kunda
 8. Podium+Bridge
 9. Parking

CHILIMCHORE DESTINATION DEVELOPMENT

Name of	Chilimchore Homestay
Component:	Chilimchore Homestay
Component no:	9a
Location:	Chilimchore
Purpose:	Provide accommodation to trekkers and visitors. Source of income for local community by tourism activities Natural View of the Karnali river, hills, mountain and plain of terai. Conserve the environmental aspects and create awareness regarding flora & fauna. Attract research based tourism and agro-tourism
Description:	Homestay as per the vernacular architectural style in collaboration with community with enhanced quality of visitor's service.



Homestay



Health Post



Top View



Chilimchore Model Village

CHILIMCHORE MODEL VILLAGE

Name of Component:	Avian Research Centre (Residential)
Component no:	9b.
Location:	Chilimchore
Purpose:	Research on Birds. Attract research based tourism
Description:	Include bird research center with accommodation facilities to support research tourism.



Avian Research Centre

CABLE CAR STATION: From Hattikhal to Chure hill top

Name of Component:	Cable car Station/ Paragliding Station
Component no:	10
Location:	Between Mallika and Chilimchore in the highest altitude of Kailali
Purpose:	Easy access for tourist. Natural View of the Karnali river and the Chure Hills and plain land of Terai. Revenue generation for conservation
Description:	Proper feasibility study and other studies required



Front View of cable car and station



Birds eye view of Cable car and station

11a COMPONENT

MALIKA TEMPLE COMPLEX

Name of Component: Malika Temple Complex
Component no: 11a
Location: Malika
Purpose: Religious Tourist Destination, Rest Point for GLA trail.
Description: Restoration and conservation of the temple area, proper sanitation and water and electric facility.



Malika Area Redevelopment



Top View of Malika Area

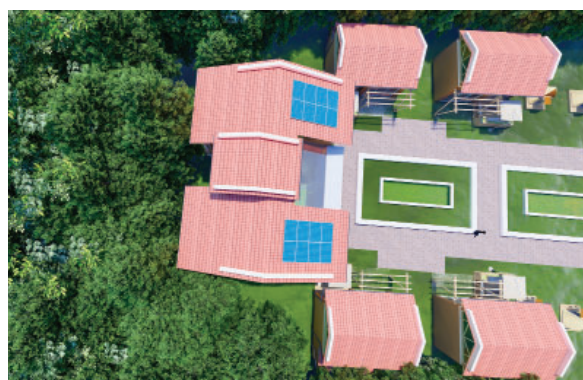
11b COMPONENT

ECO RESORT

Name of Component: Eco Resort
Component no: 11b
Location: Malika
Purpose: Accommodation provisions, camping, agro tourism
Description: This component serve the visitors in future providing standardized facility hiking in Terai - Chure Trail, visitors coming from cable car and others



Front View of Eco Resort



Top View of Eco Resort

12 COMPONENT

RIVER CAMPING SITE

Name of	
Component:	River Camping Site
Component no:	12a and 12b
Location:	Tengna River and Doda River
Purpose:	Outdoor recreational high stay facilities for visitors.
Description:	Provide with basic facilities for tenting site, restroom and outdoor cooking area along with waste management provision.



Doda River Camping Site



Tengna River Camping Site

13 COMPONENT

BIRD FEEDING SITE

Name of	
Component:	Bird Feeding Site
Component no:	13
Location:	Near north to Nakror Lake
Purpose:	Feeding provision for birds.
Description:	Open grassland landscape near Nakror Lake can be used as feeding station served by authorized body.



Location: Bird Feeding Site



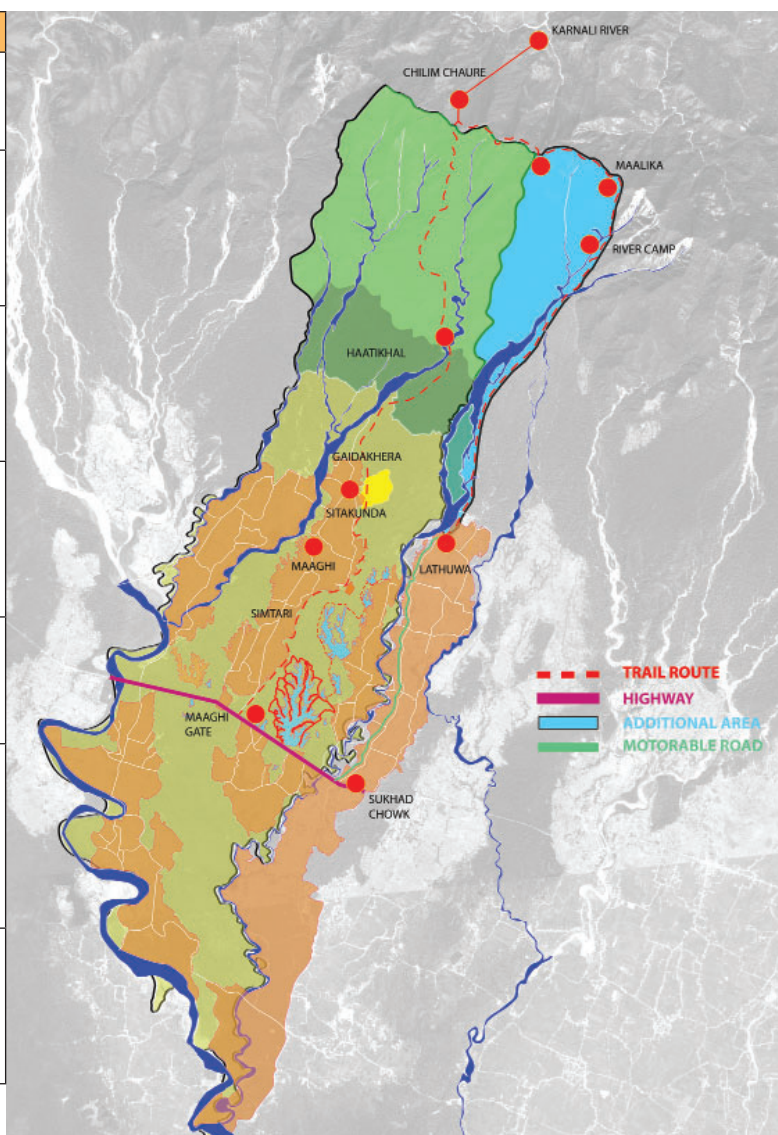
Bird Feeding Site View

GHODAGHODI LAKE AREA TRAIL: Trek from Terai to Chure Hill

Name of Component:	TREKKING TRAIL Component no: 6a.
Location:	Starts from near the E-W highway and moving through plain land and culture through Bhavar junglr to hilly village Chilimchore and further move through ridge of Chure and again run downwards through hill crossing Bhavar forest back to plain land of Terai.
Purpose:	To attract tourist who like to trek through above mentioned landscape and biodiversity. Increase the tourist activities in different destination that lie within this trail.
Description:	It is 44 km trail which expands from shortest 2 day trek to a week trek depending upon the activities and duration tourist spend in each destination and trail route. The landscape elevates from 155metre from sea level to 1410 as highest elevation in this trek. The trail is provided with well paved path and tourist signage along with resting shade at appropriate interval.

Since GLA provide opportunities of diverse landscape from Terai to Chure range, it can be attraction to upcoming visitors. The core lake area, forest, varieties of birds, associated flora and fauna, Bhavar forest, Betahani forest, Chure hill and ridge can be points of attraction. Above all snowy Mountain View to north and wide spread plain land of Terai to south can be viewed from Chure hills.

SN	LOCATION	REMARKS
1	Sukhad	Before visitors start their journey
2	Maghi Homestay (existing)	As per interest of visitor, this can be night stay
3	Tengna River side camp	As per interest of visitor, this can be night stay
4	Chilimchore Homestay (though this doesn't lie within GLA)	Village in Chure region
5	Eco resort near Chilimchore	Need to validate the requirement of ecoresort
6	Camping site at Kedar/ Malika	Camping site in elevated hill with view of mountain and terai region
7	Doda river side camp	As per interest of visitor, this can be night stay



RESTAURANT

Name of	
Component:	Restaurant
Component no:	**
Location:	Visitors Centre, north of Highway.
Purpose:	Support for Agritourism and local food variety, healthy and hygiene awareness,
Description:	This component located within Visitors center cater food and refreshments service to potential visitors in the area.



Restaurant View: Exterior



Restaurant View: Interior

PARKING

Name of	
Component:	Parking
Component no:	***
Location:	In front of Ghoda Ghodi Temple area opposite to highway.
Purpose:	To manage parking around Ghoda Ghodi religious area along with easy parking, safety of vehicles and increase of revenue.
Description:	As per the standards required for parking of different sized vehicles.



Bus park View: Perspective



Bus park View: Top view

Creating value chain through linkage between tourism (demand side) and natural resources based agribusiness (supply side)

1. Conceptual background

1.1. Economic Empowerment

CGLTDB realizes the inverse relationship between the income status and poverty, which calls for focus on income generation activities in order to reduce human pressure on natural resources of GLA. In Nepalese context, where national economy is predominantly dependent on agriculture sector, one just cannot dream of reducing poverty without improving growth rate in agriculture. CGLTDB is also fully aware that income is not the only one indicator of poverty; however, income is the first and the most important of all. Attempts will be made to intervene with the activities that lead to increase income of the women and youth groups of freed kamaiyas, occupational groups (mud-pot maker – Kumhar groups), deprived and marginalized groups within the GLA. Some of the key areas will include;

- Technical training,
- Skill-oriented training,
- Awareness training/campaign towards GLA conservation, quality services delivery to the tourists including education, health, nutrition, childcare and sanitation etc.,
- Link with credit institutions and
- Involve in having access to credit without collateral (as announced by the current government of Nepal).

This socio-economic concept covers and addresses about two economic opportunities such as opportunity of 'Agriculture' and opportunity on 'Natural Resources Mobilization'.

1.2 Agribusiness opportunity

As per district profile documented by Ghodaghodi municipality Kailali, agricultural sector is dominated by the production of basic staple grains. Since the share of high-value crops in total cultivated area is still small, the desired process of agricultural diversification is struggling to be noticed at the aggregate level. The reliance on subsistence level agriculture hinders the growth and contributes less towards fighting poverty and food insecurity. Trade is subject to gluts and price crashes due to lack of information and services in the local market. Storage and transport facilities are poorly developed; and quality and value enhancement through grading and processing is not well conceptualized. In the absence of adequate marketing channels and opportunities, the incentive and financial capacity to invest in improved farm, production, value addition and processing techniques, water management or modern inputs is limited. In such a situation, especially women and youth both vulnerable groups of deprived and marginalized groups including freed kamaiya and landless people have been facing the problems of food insecurity. Moreover, recently freed Kamaiyas (freed bonded labor) families which have hold small pieces of land (maximum 5 Kattha of land – 0.16 ha.) provided by the government, are very far from their sustainable income sources for daily hand to mouth livelihoods, due to this, are unable to send their children to the schools for education. So this freed kamaiyas are targeted for the prime target group under this program.

1.3 Natural Resources Mobilization Opportunity

There are a total of 11 community forests (CFs) within the GLA and all of the community forest user groups (CFUGs) are assumed to be active for GLA conservation and each has its own conservation plan. But, most of the CFUGs plans do not clearly analyze and describe about 'economic benefit' for the consumers. Now thoughts and the word of 'economic benefit' have been mouth to mouth of CF consumers in the conservation of forests, either it is national forests, community forests, or preserved

forests. CFUGs are not succeeding in getting economic benefits for the forest conservation except firewood consumption. Even though 'Forest Laws' have allowed and made legal provisions to generate additional income sources for the forest consumers with no destructing the natural shape of the forests.

Natural resources like herbals and medicinal plants that can be collected and processed it as per need of market. Likewise, 'Lotus flower' that can be collected and sold to the wholesalers for distribution to the 'perfume industries'. Similarly, small pieces of bare land of the CFs can be used for 'lemon' farming and the fruits like mango, naspati, guava, papaya and other various species of fruits can be planted and fruits farming can be started. Bel fruits can be collected and processed it 'bel juice' that is very delicious drinks and better for health.

It is proposed; in order to promote local foods such as snail farming, local fish (*Chandarbijuwa and Hile/Charangi Machha*) farming that also be initiated in selected/identified natural lakes within GLA and will be an eco-opportunity for local quality foods delivery to the tourists.

On the other, Tharu women are skilled manpower to produce such as *Nuiya* (small basket), *Panchhopna* (flat basket), *Dhakiya* (big basket) with colorful shapes. These products are attractive for foreign tourists. For this handicraft enterprise, women groups should be formed and trained on marketing for sales. Similarly, it is suggested that seating mats (small and big), umbrella hats made with *Gond* (one kind of water plants) cottage industries need to be started and 'Kitchen Pond' for small scale fish farming practices nearby 'own hand water pumps' need to be established to reduce fishing practices in Ghodaghodi and other lakes.

Likewise, *Bel Juice* production, furniture made with *Betbans* production, pickles made with leaves and roots of Lotus Flowers production, mud cups/pots production that also be initiated, because local people have been involving in such activities.

Apart from these income generating activities, establishment of small hotels like hot-huts (soft drink shops), ready-made dry food sellers (grocery shops) and paddlers may play the important and convenient roles for delivery of essential food grains and soft and cold drinks including water, tea and etc. to the tourists around the GLA. Similarly, Medium types of hotels that need to be established at settlements nearby the side of the GLA which will provide quality lodging & fooding services to the tourists. Likewise, star hotels such as '1' star, '2' star, '3 star and '5' star with different categories need to be established near future at Sukhad Bazar. For this, 'Sukhad Bazar Area should be urbanized with modern infrastructure facilities.

Keeping these situation into consideration, it is must to develop this program note on "Raising Incomes of women and youth both vulnerable groups of deprived and marginalized groups for sustainable livelihoods in GLA" to be implemented in Ghodaghodi municipality Kailali district. Implementation of such program as '**Incentive Distribution Mechanism**' that will reduce human pressure from GLA and will help to increase forest and water biodiversity of GLA.

2. Objectives of the program

Goal of this program is; to increase income and creation of employment opportunity of the women and youth both vulnerable farmer groups of deprived and marginalized groups including former Kamaiyas and landless people who are involved in GLA conservation through the development of agribusinesses and increasing production and sales of agriculture high value commodities (AHVC) by capacitating them on technical knowhow of AHVC farming, processing and its marketing including promotion of fruits farming and handicrafts in Ghodaghodi municipality Kailali district.

In order to achieve the desired goal, the immediate objectives are follows;

1. To enhance capacity and dealing with occupational groups, handicraft making women groups, farmer group management, organizational development of agri-cooperatives and agri-private firms, agri-business plan and fund management with systemized self-monitoring and supervision.
2. To train the women and vulnerable youth farmers on AHVC farming and processing including occupational groups, handicraft making women groups,
3. To support women and youth farmers with agri-inputs such as small irrigation, improved/hybrid seeds, fertilizers, insecticides & pesticides, poly houses and small agri-equipments/machineries with collection centres for processing and marketing and support for occupational groups,

- handicraft making women groups.
- 4. Promote fruits farming and collect herbals medicinal plants and canalizing it for distribution even to foreign trade markets.
- 5. Enhance and promote Tharu traditional skills through establishment of handicraft industries.
- 6. To coordinate with concern stakeholders like Maghi home-stays, Sukhad chamber of commerce & industry (SCCI) and other marketing networks for marketing and distribution of the agri-products, fruits and handicrafts.

3. Target Community

Women and youth including both vulnerable farmer groups of deprived and marginalized groups of GLA who are most affecting people to GLA need to be supported with income generation initiatives and employment opportunity. For eligible target groups' selection, there is a need for baseline survey.

4. Implementation Approach

The overall approach of CGLTDB will be based on the global paradigm shift in addressing natural resource, watersheds, wetland and biodiversity conservation and its sustainable management of GLA and national and sectoral policies. Social mobilization and conservation are a complex and multi-sectoral process that requires bringing together and coordination of several, sometimes many discrete elements. The proposed approach embraces a deliberate emphasis on social mobilization of the target groups and capacity building of them involved in carrying out the activities. The approach categorically emphasizes the need for a proactive program management, need-based site-specific intervention design and implementation based on participatory planning and developing a strong basis for their measurability (participatory M&E system).

The proposed framework will follow a participatory modality to maximize the need for horizontal dissemination and use the local experiences/indigenous practices for program delivery. The CGLTDBs' overall approach would be to:

- Design the interventions leading to the social mobilization for natural resource, watersheds, wetland and biodiversity conservation and its sustainable management of GLA with main focus on: market-led opportunity, self-reliance, sustainability, privatization and decentralization.
- Support, the entities of the women and youth vulnerable farmer groups, cooperatives and agri-private firms must be legally registered in the respective government sectors.
- Create maximum opportunity/platform for horizontal experience sharing and knowledge transfer through regular interactive processes and information sharing at all levels of implementation hierarchy.
- Set a process of constant follow-up and feedback system of time bound integrated work plan for smooth monitoring and evaluation of the applied interventions.

Being an operative task requiring constant planning, management, implementation and feedback, the approach has been made reflective of CGLTDB vision for quality control in activity implementation.

Beneficiaries-driven social mobilization for eco-opportunity

Social mobilization will be the key to this program to increase incomes through eco-opportunity. It will begin with and include capacity enhancement both through awareness raising and training of the women and youth both vulnerable groups of deprived, marginalized groups including landless people and freed kamaiya as well as traditional occupational poor and disadvantaged groups in the activities. The program will undertake focused activities to break the "community-outsiders" complex on the part of the beneficiaries. Success of any social mobilization attempt lies on the facilitating target groups collective strengths to break such barrier. Inclusion of the target groups in program activities right from the beginning will be crucial to achieve the following aspects: They become owners of the activity through their participation in and understanding of it.

- They will be able to explain the purpose and thus they may be more credible than staff in this initial stage of the programs involvement in an area.
- They lead meetings and take active roles in activities from the beginning.
- Their experience and involvement may result in the volunteers becoming future community leaders; and
- Their local knowledge and understanding make them a valuable information bridge to the program.

5. Incentive Fund for Agribusiness Plan and Small Fish Farming and Small Shops

As above mentioned that this program will support to the women and youth vulnerable farmer groups for AHVC production and processing by providing competitive matching incentive fund grants based on eligible agri-business plans from farmer groups, cooperatives and agri-private firms, for technology support, agribusiness development, post-harvest facilities and market linkages. From the side of the farmers, matching contribution of 10 percent of the total agreed amount is must, depending upon the nature of application, will come from women and youth farmer groups, cooperatives and private firms of deprived and marginalized groups. Several steps of screening followed by detailed field verification will take place before a seed grant is awarded. Thus 90 percent of the seed grant of the agri-business plans will be supported with agri-inputs to the women and youth farmer groups, cooperatives, or agri-private firms to implement the plans.

As for first installment of incentive fund grant, 20 percent of total approved incentive fund will be supported with the agri-inputs to the grant recipients after the field verification. And for the last support, active and eligible farmer groups, cooperatives and agri-private firms will be recognized by regular monitoring and supervision. Completion of milestones set forth, achieved results/outputs will be verified by the monitoring & supervision team. Based on the recommendations of the monitoring & supervision team, rest 80 percent of incentive fund will be made available to the grant recipients. Additionally, the program aims to reduce existing obstacles to agriculture and food trade thereby increasing the ability of women and youth farmers and agribusiness to respond to sanitary and phytosanitary (SPS) and food-quality standards to meet domestic and international market requirements.

In order to implement this program at first, the production areas will be identified as production pocket area of such as; potato production, tomato production, cauliflower production etc. So it is envisaged that the identified production pocket area of the identified HVCs will be developed by the women and youth farmer groups, cooperatives, agri-private firms. And proposed processing centers and distributors will collect the AHVC produced by the farmers and will be processed in accordance with the demand of the market. These centers will be managed by the farmer groups, cooperatives, of agri-private firms. Together with this, collected raw vegetables will be sold to the direct consumers.

6. Economic empowerment

Expert team will support the following technical knowhow in general;

1. Monitor, observe and organize group discussions and interaction with grantees related to AHVC production and handicraft production women groups,
2. Facilitate on delivering of technical know-how inputs to increase production of HVCs and volume of handicrafts to the women and youth both vulnerable farmer groups, who have received seed grants,
3. Collect technical materials, design and prepare technical leaflets of plastic house preparation, Tomatoes, Cucumber and Bitter guard for women and youth both vulnerable farmer groups for quality production,
4. Conduct on-the-spot technical trainings on such as Tomatoes, Cucumber and Bitter guard Production to the farmers including key persons of the sub-projects to be developed as master trainers.
5. Assist the CGLTDB and service providers in identifying and solving constraints on AHVC production.

7. The Incentive Fund Grant Making Process

Incentive Fund (IF) will be established by the Executing Agency – EA (CGLTDB) as for incentive fund flow mechanism. The IF shall be used to finance three categories of beneficiaries with confirmed AHVC supply agreements (i) post harvest entrepreneurs (ii) farmer cooperatives and (iii) women farmers' groups. The grants shall be provided on the basis of (i) a business plan for the post harvest enterprise having market demand and overall feasibility (financial, technical, managerial, institutional, social and environmental) (ii) a farmer cooperative with production, marketing plans and supply agreement of HVC. For this each farmer group shall aggregate the area of each member under selected AHVC and prepare group production and group marketing plan. Then they will forward their final plan to their farmer cooperative and the cooperative shall aggregate inputs across its groups/members for a single application on behalf of its members. The farmer cooperative will be the initial beneficiary of the IF and will on behalf of its members purchase eligible goods and services and then distribute these to its members. Women farmers groups not affiliated to a cooperative will forward their application directly to the CGLTDB. Farmer cooperatives not having farmers groups to their affiliation can apply as a single applicant.

Approval of IF grant applications will be based on the recommendation of the Independent Appraisal Panel (IAP) assessment of each application, field verification by program team including concern ward representative and entering into a contract with the applicant for the implementation of the business plan proposal. Any application that the vice-chairperson seeks to approve without IAP recommendation requires the vice-chairperson to obtain CGLTDB prior approval for the contract. This approval will require (i) a copy of the IAP recommendation, (ii) a copy of the application and (iii) detailed justification from the vice-chairperson for inclusion of the application.

Once an application has been approved, the applicant will enter into a contract with CGLTDB, pursuant to which disbursement will be made to the applicant. Applicants can choose to get first installment in advance. Applicants other than women farmers shall have to produce evidence of initial investment in subproject. The advance amount shall not exceed one fifth budget of the total business budget but this will not apply in case of procurement of equipment which require full payment at a time. Applicants will procure according to commercial practices and provide procurement document to the management committee for review. Upon proof of eligibility, the management committee will recommend CGLTDB to release funds in installments to the beneficiary bank account. Should the appraisal panel findings be disregarded, the vice-chairperson must obtain CGLTDB's prior approval before any contract or disbursement is undertaken.

The balance funds will be released to the beneficiary bank account. Funds used for ineligible expenditures must be refunded to CGLTDB. CGLTDB, in consultation with the Ghodaghodi municipality, reserves the right to reassign fund management if performance targets are not achieved on a quarterly basis. CGLTDB also reserves the right to review all IF documents. In case of credible evidences of misuse of IF, CGLTDB reserves the right to recover the disbursed fund from the beneficiaries.

7.1 Independent Appraisal Panel (IAP)

An IAP will be established with the purpose of examining, appraising and recommending the Applications for Incentive Funds and making important recommendation on program affairs.

The IAP will comprise the following members:

1. Vice-chairperson, CGLTDB - Chairperson
2. Technical Officer/Program Manager, CGLTDB – Member Secretary,
3. Representative of municipal FECOFUN of Ghodaghodi municipality - Member
4. Representative of NGOs working for GLA conservation - Member
5. Representative of Sukhad chamber of commerce and industries (Sukhad CCI) - Member
6. Government Forest Officer, Ghodaghodi municipality - Member

Vice-chairperson of CGLTDB will play as facilitating role in IAP. Office of ward no. 1, 4 and 8 will be an invitee member of IAP for agribusiness plan proposals of the respective ward. A quorum of three is required for the assessment of all applications. A roster of Technical Specialists, Financial Specialist and Management Specialist will be maintained at CGLTDB to review the agribusiness plan proposal. These specialists will work as peer reviewers of the agribusiness plan proposal. The IAP will meet at the premises of the CGLTDB when required.

7.2 Types of Grantee

Women Farmers Groups, Agriculture Cooperatives / Multipurpose Cooperatives engaged in agriculture related activities and Agribusiness Enterprises.

7.3 Eligibility

Following Registered groups and entrepreneurs with business activities involving with AHVC agricultural products produced or processed in the GLA are eligible to receive Incentive Fund grants:

1. Women Farmer groups
2. Agriculture cooperatives, Multipurpose Cooperatives engaged in agriculture related activities
3. Agribusiness Enterprises

7.4 Grant Categories

Agribusiness grants are categorized into three broad headings. They are;

Grant Category I: Production Input including Cost of Leasing Land and cost of raw materials for production of handicrafts.

Grant Category II: Farm Development and Technology Grant

Grant Category III: Post Harvest Value Chain Investments

7.5 Termination of the Contract

There may be five reasons to terminate the contract.

1. Contract Termination by Completion of the Contract Terms
 - ▶ A contract can be terminated when each party has performed its duties pursuant to the terms of the contract. In such an instance, the contract terminates as a matter of law.
2. Contract Termination by Agreement
 - ▶ A contract can include provisions whereby the parties agree in the contract itself that the contract terminates upon the occurrence of a specific event.
3. Contract Termination By Inability to Perform
 - ▶ A contract can be terminated when something unforeseeable occurs that prevents the parties from following through with the contract. This situation is referred to as "impossibility of performance."
4. Contract Termination by Breach of Contract
 - ▶ A contract can end when one party breaches the terms of the contract. Such a breach can occur in one of several ways. First, where a party fails to perform as agreed upon in the contract, there is a breach of contract. Moreover, one's failure to abide by the terms of the contract constitutes a breach of contract. Additionally, one party can do something to prevent the other party from performing his or her duties under the contract.
5. Contract Termination by Fraud
 - ▶ A contract can be terminated by what is referred to as "fraud in the inducement." Fraud in the inducement occurs where a party intentionally misleads the other party into entering the contract.

8. Strategies

1. Environment and GLA conservation friendly agribusiness plan shall be made.
2. Technical experts shall be hired when required.
3. Coordination shall be made with concern stakeholders.

9. Command Area and Proposed Income Generating Activities

SN	Program/Activities	Description
1	Establishment of home-stay, resorts, small hotels, medium hotels and five star hotels	
1.1	Home-stay establishment and improvement of operational management	Now, there are 15 home-stays in <i>Maghi</i> (Ghodaghodi Municipality – 4), operational management has to be improved. Basic facilities like electricity, drinking water supply have to be managed and bathroom & toilets and other facilities have to be constructed. Home-stay needs to be established in Mohanyal rural Municipality – 2 <i>Chilimchore</i>. Basic facilities like electricity, drinking water supply have to be managed and before establishment of home-stay, key persons of the settlements should be well oriented on home-stay business. There are 18 households of <i>Khatri</i> and <i>Magar</i> communities. This area is significantly important for tourists. Similarly, home-stay needs to be established in Mohanyal Rural Municipality – 7 <i>Malika</i> near <i>Sano-kedar</i>. Basic facilities like electricity, drinking water supply have to be managed and before establishment of home-stay; key persons of the settlements should be oriented on home-stay business. Because this area is significantly important for tourists and after <i>Mela</i> (fair) in Thulo-kedar, fair is launched in Sano-kedar during <i>Kartik</i>. <i>Malika</i> and <i>Sano-kedar</i> are holy-places so local people from different places come for pilgrimage. There are 6 households of <i>Khatri</i> and <i>Magar</i> communities.
1.2	Resorts establishment	<i>Belar</i> and <i>Loharpur</i> (Ghodaghodi Municipality – 1) are very convenient areas for resorts operation that is because these settlements are adjoined with GLA. Ghodaghodi settlement (Ghodaghodi Municipality -1) is also convenient area for resorts operation that is because these settlements are adjoined with GLA.
1.3	Hot-huts (soft drink shops)	It is proposed that 'hot-huts (soft drink shops) will be established in the settlements like Uttar & dakshin-Lathuwa, Dipnagar, Donda-pari, Belar, Loharpur, Sukhad bazar, Ghodaghodi settlements in the east, Kauha, Simtari, Kauha-pari, Batulichaur (freed kamaiya sivr), Maghi and Sikharjhala settlements in the west, <i>Chilimchore</i> , <i>Sano Kedar</i> and <i>Malika</i> (Mohanyal Rural Municipality ward no. 2 and 7) adjoined with <i>Churebhawar</i> of GLA in the north.
1.4	Establishment of small shops and hotels (development of mini-market) at the settlements nearby GLA.	Apart from these income generating activities, establishment of small hotels like hot-huts (soft drink shops), ready-made dry food sellers (grocery shops) and paddlers may play the important and convenient roles for delivery of essential food grains and soft and cold drinks including water, tea and etc. to the tourists around the GLA.
1.5	Establishment of Medium types of hotels at the settlements nearby GLA.	Medium types of hotels that need to be established at settlements nearby the side of the GLA which will provide quality lodging & fooding services to the tourists.
1.6	Establishment of star hotels such as '1' star, '2' star, '3 star and '5' star at Sukhad Bazaar.	Likewise, star hotels such as '1' star, '2' star, '3 star and '5' star with different categories need to be established near future at Sukhad Bazar. For this, 'Sukhad Bazar Area' should be urbanized with modern infrastructure facilities such as road, parking, meeting hall etc.
2	Fruits farming	Fruits farming for Guava, Banana, Lemon, Naspati and other fruits are potential in <i>Chilimchore</i> due to highly fertility area. <i>Chilimchore</i> area can be developed and commercialized for fruits farming. Similarly, <i>Simtari</i> and <i>Sitalpur</i> (Ghodaghodi Municipality -4) are also suitable and fertile are for fruits farming.

SN	Program/Activities	Description																		
3	Ago-based income generating activities	Seasonal and Off-seasonal Vegetable farming can be developed in <i>Lathuwa</i> , <i>Dipnagar</i> (Ghodaghodi Municipality – 8), <i>Kauha</i> and <i>Belar</i> (Ghodaghodi Municipality – 1). Similarly, <i>Sukhad</i> (Ghodaghodi Municipality – 1), <i>Janakpur</i> (Ghodaghodi Municipality – 1), <i>Sandepani</i> (Ghodaghodi Municipality – 2) are also pocket area for vegetable farming.																		
3.1	Fish farming	Kitchen pond near by hand-pumps can be constructed and small scale of fish farming can be implemented which will produce fish as much as need of the house family members. With this effort, pressure on fishing in the natural lakes within the GLA will be reduced. The potential settlements are <i>Lathuwa</i> and <i>Dipnagar</i> (Ghodaghodi Municipality -8). Similarly <i>Belar</i> and <i>Loharpur</i> (Ghodaghodi Municipality – 1) settlements are also potential for kitchen pond farming. Likewise <i>Simtari</i> (Ghodaghodi Municipality – 4) is potential for fish farming in artificial big ponds. Similarly, the concern stakeholders of GLA, they are recommended to launch medium fish farming. This will contribute to feed the tourists. <i>Sukhad</i> and <i>Janakpur</i> (Ghodaghodi Municipality – 1) settlements are potential area for such fish farming. It is proposed; in order to promote local foods such as snail farming, local fish (<i>Chandarbijuwa</i> and <i>Hile/Charangi</i>) farming that also be initiated in selected/ identified natural lakes within GLA and will be an eco-opportunity for local quality foods delivery to the tourists. <table> <tr> <th>SN</th><th>Farming</th><th>Name of Lakes</th></tr> <tr> <td>1</td><td>Local fish (<i>Chandarbijuwa</i>) farming.</td><td>Chandarbijuwa</td></tr> <tr> <td>2</td><td><i>Snail</i> and <i>Hile/Charangi</i> fish farming</td><td>Baisahuwa</td></tr> <tr> <td>3</td><td>Snail fish farming</td><td>Chatiya and Sonpokhari</td></tr> <tr> <td>4</td><td><i>Jinge</i> fish farming</td><td>Bukuwa</td></tr> <tr> <td>5</td><td>Tegna fish farming</td><td>Tengnahuwa</td></tr> </table>	SN	Farming	Name of Lakes	1	Local fish (<i>Chandarbijuwa</i>) farming.	Chandarbijuwa	2	<i>Snail</i> and <i>Hile/Charangi</i> fish farming	Baisahuwa	3	Snail fish farming	Chatiya and Sonpokhari	4	<i>Jinge</i> fish farming	Bukuwa	5	Tegna fish farming	Tengnahuwa
SN	Farming	Name of Lakes																		
1	Local fish (<i>Chandarbijuwa</i>) farming.	Chandarbijuwa																		
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3	Snail fish farming	Chatiya and Sonpokhari																		
4	<i>Jinge</i> fish farming	Bukuwa																		
5	Tegna fish farming	Tengnahuwa																		
3.2	Poultry farming	In order to make available local chicken meats, local chicken is recommended to start poultry farming. This business will have high benefits. The potential settlements are <i>Kauha</i> areas (Ghodaghodi Municipality – 1).																		
3.3	Goat raising	Goat farming is forest based farming, so it recommended that before starting this business, feeding fodders need to be managed. Fodder tree plantation is necessary for this business. This business will provide meat to the tourists and become income earning source. The potential areas are Gaidakhara (Ghodaghodi Municipality -4).																		
3.4	Livestock farming	This business is also forest based income generating program, feeding fodders need to be managed. Fodder tree plantation is necessary for this business. In order to provide milk, this business is recommended to start to the concern stakeholders of GLA. The potential areas are <i>Lathuwa</i> (Ghodaghodi Municipality – 8).																		
4	Skill-based entrepreneurship based income generating activities	Tharu domestic handicraft in <i>Maghi</i> (Ghodaghodi Municipality – 4), <i>Kauha</i> and <i>Belar</i> (Ghodaghodi Municipality – 1) needs to be promoted. Tharu women are skilled manpower to produce such as <i>Nuiya</i> (small basket), <i>Panchhopna</i> (flat basket), <i>Dhakiya</i> (big basket) with colorful shapes. These products are attractive for foreign tourists. For this handicraft enterprise, women groups should be formed and trained on marketing for sales.																		

SN	Program/Activities	Description
5	Tharu culture shows	Tharu cultural heritage establishment in GLA: Tharu cultural heritage can be established. Under which Tharu style house should be constructed in which <i>Bhansa</i> (cooking room), <i>Konti</i> (bed-room), <i>Minjhari</i> (sacred spot of family diety) and <i>Bahari</i> (family members gathering room) should be added separately. One room for exhibition of Tharu ornaments, cloths and other daily use tools and equipment should be constructed. The house should be decorated with wild animals statues in the wall, <i>Dehari/Kuthali/Jabara</i> (a big pot for safely storage of food grain) made with mud in front of house should be made and established within the house in its real places. One cattle shade should be constructed in which an oil processing wooden <i>Kolhu</i> (processing unit) and nearby a sample of well should be established. This will show a real Tharu house. This Tharu cultural heritage will attract international tourists.
		Tharu dances and song promotion in Maghi
		Need based vocation education and skill development training for youths.
		Capacity building on nature/tourist guide.

10. Governance and management

As per policy of CGLTDB, the overall responsibilities for GLA conservation and tourism development will be performed by CGLTDB. It is proposed that a functional management committee which shall be called as 'Implementing Agencies' (IA) will have to be formed under the chairmanship of vice-chairperson of CGLTDB for effective implementation and management of proposed program "Raising Incomes of women and youth both vulnerable groups of deprived and marginalized groups for sustainable livelihoods in GLA". IA will be formed with 7 members of which vice-chairperson of CGLTDB will have overall responsibilities to deal with the committee members. Program coordinator/officer will play the roles of member secretary, 1 technical staffs other 1 representative of CGLTDB and representative members (3) 1 from each of ward no. 1, 4 and 8 of Ghodaghodi municipality.

Governance application

Governance of the program will be applied as follows that need to be elaborated;

- Equitability
- Gender Equity and Social Inclusion (GESI)
- Participation
- Responsibilities
- Accountabilities
- Transparency
- Ownership
- Agribusiness plan and entrepreneurship plan preparation
- Monitoring and evaluation



Lotus in Ghodaghodi Lake

Natural Capital Assessment, Conservation, Management and Sustainable Use

4

ANNEX

1. Biodiversity and Its Significance

The term biodiversity is generally used to refer to all aspects of variability evident within the living world, including diversity within and between individuals, populations, species, communities and ecosystems. It is the combination of life forms and their interactions with one another and with the physical environment that has made the earth habitable for humans. In general, biodiversity is highest in and around the equator and it continuously decreases as we move towards the poles. Biodiversity and natural ecosystems make overwhelming contributions to human life and well-being because ecosystems provide the basic necessities of life, offer protection from natural disasters and disease and are the foundation for human culture. In Nepal, biological diversity is a crucial component in the livelihood of many people who depend on the diversified plants and animals to meet their nutritional, medicinal and energy needs.

Nepal's biodiversity is a reflection of its unique geographic position and altitudinal and climatic variation. The latest physiographic data shows that of the total land mass, 4.27 million hectares (29%) is covered by forests whereas 1.56 million hectares (10.6%) is covered by shrubs. The forest and shrub areas together make up 39.6% of the total land area. However, between 1978/79 and 1990/91, the forest cover in the Terai and the Hills decreased at an annual rate of 1.3 percent and 2.3 percent, respectively (DFRS, 1999).

Nepal is indeed a treasure house of biological and cultural diversity. The country's extreme altitudinal gradient encompasses 10 bio-climatic zones ranging from tropical to alpine within a horizontal span of less than 180 km. A total of 118 ecosystems, 75 forms of vegetation and 35 forest types have been identified (Stainton, 1972), among which 80 ecosystems are to be found in Nepal's protected area system (Maskey, 1996).

Although Nepal comprises only 0.09% of the world land area, its biodiversity is disproportionately rich in terms of flora, fauna, genetic species and ecosystems (MoFSC, 2002). These species are to be found both in the deciduous and conifers forests of the sub-tropical and temperate regions as well as the sub-alpine and alpine pastures and snow covered Himalayan peaks.

In this context, Nepal has adopted a unique approach to biodiversity conservation. It entails collaborating with local communities to manage protected areas while maintaining strict law enforcement by the Government. It is based on the notion that the successful management of protected areas requires both natural habitat as well as biological diversity conservation. Over time, the protected parks and wildlife reserves have resulted in improved habitats and ecosystems for wildlife and increased wildlife species. At the same time incidents of livestock depredation and wildlife-induced crop damage have increased, thereby resulting in conflicts between the park management and the people living in and around the area. The future challenge for Nepal is, therefore, to manage its protected areas in such a way that such conflicts are avoided as far as possible.

2. Biodiversity Conservation: A Matter of Global Concern

The alarming rate of biodiversity loss during the last few decades has negatively affected ecosystem's ability to meet basic human needs and also made them more vulnerable to perturbations (WRI, 2005). It is a matter of great concern among conservation scientists, especially since the late 1980s. The concern has been increased also by the fact that our knowledge of biodiversity isn't sufficient. The weaknesses, gaps, difficulties and other problems in conserving biological diversity in Nepal have been analyzed in detail (HMGN/MFSC 2002). They are attributed to socio-economic causes (poverty and population growth); natural causes (landslides, erosion, flood and drought); and anthropogenic causes (pollution, deforestation, fire, over-grazing, introduction of alien species, illegal trade and hunting). Extinction of

species is the most serious aspect of this loss. It is estimated that the species extinction rate in the world over the past few hundred years has been up to a thousand times higher than the natural rate mainly due to human activities.

According to one estimate, up to 50 percent of species within well-studied groups such as amphibians, birds or mammals are threatened with extinction and the situation is deteriorating (IUCN, 2006a). Similarly, the genetic diversity of cultivated and domesticated species is also under threat. For example, an estimated one third of all domesticated animal breeds in the world are presently threatened with extinction (Green Facts, 2007).

Land use change, mainly for agricultural expansion, overexploitations, habitat fragmentation, introduction/intrusion of invasive alien species, are other major threats for genetic diversity of wild species. Ecological fragility, coupled with unstable environments, poor management of forests and other natural resources, inappropriate farming practices and poaching of flora and fauna for trade are some other primary threats to biodiversity in less-developed mountainous countries, like Nepal. Overloading of nutrients to water bodies and excessive use of pesticides and insecticides by farmers are some of the major threats related to agriculture diversity. Climate change is another major emerging threat whose role in biodiversity change is not yet fully known. Conflict that took place in Nepal for over a decade has also an impact on biodiversity conservation.

3. Status of Biodiversity and Its Management in Nepal

Nepal is a mountainous country situated in the central part of the Himalayas between 28.3949° N latitudes and 84.1240° E longitudes, covering an area 147,181 sq. km (CBS, 2007a). Nepal is categorized into five physiographic zones, including the Tarai, Churia hills (also known as the Siwaliks), Mid-Mountains, High Mountains and High Himal (LRMP, 1986). Around 21% of the country's total land area is under cultivation. Forest and shrubs (including degraded forest) combined cover the largest part of the land area (i.e. 39.6%). The Middle Mountain zone has the highest forest cover (34.6% of the total forested land) and ecosystem diversity. The rest of the land cover consists of grasslands (11.5%) and uncultivated areas (7%; LRMP, 1986).

The high demand for agricultural land and overexploitation has led to considerable deforestation and degradation of forest cover during the last few decades. For example, the country's forest cover declined from 37 % in the late 1970s to 29 % in the early 1990s (DOFRS/FRISP, 1999). Increasing intensification coupled with inadequate and imbalanced application of fertilizers, has led to degradation of agricultural lands.

3.1 Brief overview of Nepal's Biodiversity

Nepal possesses a disproportionately rich diversity of flora and fauna at ecosystem, species and genetic levels, with approximately 3% of the world's flora and 1% of faunal species. A total of 118 ecosystems and 75 vegetation types have been recognized in the country. The majority of the ecosystems are reported to be found in the Mid-Mountains (n = 52) and High Mountain (n = 38), regions (Dobremez, 1976). The forest ecosystems of the country, which have been classified into 35 forest types by Stainton (1972), are of international importance both in view of the number of globally threatened wildlife and floral elements as well as the diversity of ecosystems represented within these areas (Bhuju et al., 2007). Rangeland ecosystems, comprising of grasslands, pastures, scrublands and forests and wetland ecosystems, comprising of both the natural and man-made, are other important ecosystems found in the country.

Table 1: Status of Nepal's species diversity

Group	Number of known species	Percentage of known species in the world*	References
Flora			
Angiosperms	6973	3.2	UNDP-WCMC (2004)
Gymnosperms	26	5.1	Bista (2006)
Pteridophytes	534	5.1	DRP (2000)
Bryophytes	1150	8.2	Pradhan and Joshi (2009)
Lichens	465	2.3	Sharma (1995)
Fungi	1822	2.6	Adhikari (2000)
Algae	1001	2.5	Prasad (2013)
Fauna			
Mammals	208	5.2	Baral and Shah (2008); Jnawali et al. (2011)
Birds	867	9.5	BCN and DNPWC (2011)
Reptiles	123	1.9	Scleich and Kastle (2002)
Amphibians	117	2.5	ICIMOD and MOEST (2007)
Fishes	230	1.9	Rajbanshi (2013)
Mollusks	192	N/A	Budha (2012)
Moths	3958	3.6	Haruta (2006)
Butterflies	651	3.7	ICIMOD and MOEST (2007)
Spiders	175	0.4	ICIMOD and MOEST (2007)
Rotifers	61	N/A	Surana et al. (2005)
Crustaceans	59	N/A	Tiwari and Chhetry (2009)
Other insects	5052	0.7	Thapa (1997)
Platyhelminthes	168	1.4	Gupta (1997)

*Computed based on Wilson (1988, 1992) in GoN/MoFSC(2014) N/A = Not Available

Over 400 species of agro-horticultural crops are believed to be found in Nepal of which 250 species of plants are believed to be currently under cultivation. Over 500 species wild relatives of cultivated flowering plants, including about 120 wild relatives of the commonly cultivated food plants, are estimated to exist in the country (Shrestha and Shrestha, 1999). A total of 399 flowering plants and 160 animal species are considered endemic to Nepal. Similarly, eight species of fish, 29 species of butterflies, nine species of amphibians, 108 species of spiders, two species of birds and one species of mammal are reported to be endemic to the country (Shrestha and Joshi, 1996).

Table 2: Number of selected group of species that are protected in Nepal

Species Group	Protected Species		References
	Number	%*	
Fauna			
Mammals	27	14.9	Jnawali et al. (2011)
Birds	9	1.0	BCN and DNPWC (2011)
Reptiles	3	2.4	Chapagain and Dhakal (2003)
Amphibians	2	3.7	Shah and Tiwari (2004)
Flora			
Angiosperms	14	0.2	
Gymnosperms	4	15.4	GoN (2001)
Lichen	1	0.1	

Source: GoN/MoFSC (2014). * Percent of known species in Nepal

4. Objectives

Generally, this study focuses on annual biodiversity monitoring survey of key site indicator and threatened species (bird, vegetation surveys, herpetofauna, wild rice, opportunistic camera trapping) in GLA.

Specific objectives:

- i. To study key site indicator species (cotton pigmy goose, marsh mugger and wild rice) in the study area.
- ii. To assess floral (trees, shrubs and herbs) and faunal (with focus on mammals and birds) diversity in the study area.

5. Methodology

5.1 Study Area

Ghodaghodi Lake Area (GLA) is the project site (Fig. 1) which is situated at 28°41'00" N and 80°56'45" E with the altitude of 205 m. The total area of Ghodaghodi Lake area is 2,726 hector. The area receives an annual rainfall of 1840 ml in average. The major lake lies in Ghodaghodi Municipality which is bordered with Chure Rural Municipality in the North, Bardagoriya Rural Municipality in the East, Gauriganga Municipality in the West and Vajani Municipality in the South. Ward number 1, 3, 4 and 8 are immediate to Ghodaghodi Lake Area. There are 39 settlements within these wards, 14 settlements in ward 1, 13 settlements in ward 4 and 12 settlements in ward 8. Tharus are the indigenous and dominant people of this area.

5.2 Methods

5.2.1 Vegetation survey

For vegetation survey, quadrat method was used following simple random sampling technique. Using ArcGIS, 34 random points were generated and geographical coordinates of each points were extracted. During the field survey each random point were navigated using GPS. Total of 32 random points have been surveyed while 2 plots have been omitted as those plot lies on the agricultural land. At each random point, a quadrat of size (25m x 25m) was used to study the tree species (DBH>10cm). Each quadrat comprised two small sub-quadrats of size (5m x 5m) to study shrubs and (1m x 1m) quadrat to study herbs.

5.2.2 General birds survey

Birds were surveyed using point count method. During birds survey, points were placed randomly and to represent all habitat types of GLA. Total of 59 points were surveyed in GLA. From each point all the birds seen and heard (within 15 minute of time) were recorded in standard data sheet. Beside this checklist of bird species was made using all the species seen from the points and from the trail between two points.

5.2.3 Indicator birds survey

Indicator bird species and water birds were surveyed using point count method. Three permanent points were established in Ghodaghodi and Nakror Lake for the regular survey of water birds including indicator species (Cotton Pygmy Goose). From each point all the birds seen were recorded in standard data sheet.

5.2.4 Mammals survey

Transect survey was conducted to record the signs (foot prints/tracks, feeding signs, scats, scratches etc.) and direct sightings of all the mammals. Parts of existing routes were used as survey routes whenever possible (instead of establishing new trails). For this, a line transects of 500m - 1km distance was taken. In this way, information was recorded on the presence of wild animals and in particular their footprints, tracks and droppings. Also, opportunistic camera trapping and focal group discussions with the local were used to record mammals of GLA.

5.2.5 Mugger crocodile and turtle survey

Marsh Muggers and turtles were surveyed using point count method. Total of 8 points were surveyed. From each point all the crocodiles and turtle seen were recorded in standard data sheet.

5.2.6 Fish survey

Gill nets of 13 mm, 18mm, 30 mm and 40mm mesh size were used to collect fish samples from Ghodaghodi and Nakror Lake. The large net hangs vertically in the water column, suspended from floats on top and weights on the bottom. Factors such as where, when and how deep we deploy the net, as well as the size of the mesh openings, determine the size of fish the net will snare were recorded. After setting the nets, we leave them in place for overnight and then pull them aboard the boat to recover and identify fish species. We identify, took body weight and measured length of each fish we caught.

5.2.7 Wild rice survey

There is no such methodology or protocol developed to monitor wild rice systematically. The most important variables to measure would be location, habitat, species, plant population/patch size, phenology etc.

In Nepal, most of the wetlands are quite small that contains wild patch of rice. Since the area of wild rice grown at Ghodaghodi wetland is quite small, the total sampling of the wild rice area is recommended. This would entail visiting the site and recording wild rice area. Fixed point photography is recommended from a suitable site showing maximum coverage and important features of the species. GPS locations were recorded where there is wild rice. Total area of wild rice coverage was calculated.

6. Results

6.1 Vegetation

From this study, a total 65 species of trees has been found which belongs to 16 orders, 43 genera and 29 families while few tree species scientific name and its classification could not be obtained; only their local name has been recorded.

In GLA, among the 65 species of tree, *Shorea robusta* (saal) was found most frequently and the dominant species followed by *Dalbergia sissoo* (Sissoo), *Terminalia alata* (Saj) and *Lagerstroemia parviflora* (Bot dhaiyaro) respectively while *Terminalia chebula* (Harro), *Ficus benghalensis* (Bar) and *Aporosa octandra* (Kalikath) were found less frequently as compared to other species.

Similarly, a total of 46 species of shrubs were recorded from GLA. *Solanum melongena* (Bhathi), *Murraya koenigii* (Curry leaf), Galfuluwa and *Persicaria amphibian* (Pire) were the most frequently found shrubs species while *Rubus calycinoide* (Rohini), *Millettia extensa* (Gauj), *Clausena pentaphylla* (Tera) and *Casearia graveolens* (Pipane) were the least frequently found shrubs species.

Likewise, from the study sites, 51 species of herbs were found. Among them, Baashye ghas was most

frequently found followed by *Ageratum conyzoides* (Gandhe), *Bidens pilosa* (Kura) and *Eulalia trispicata* (Babiyo) while *Arisaema tortuosum* (Sarpoko makai), *Dryopteris cochleata* (Unau), *Achyranthes aspera* (Datiwan) were the least frequently found herb species.

Table 3: Classification of trees recorded from the Ghodaghodi Lake Area (GLA)

SN	Order	Family	Genus	Species	Common Name	Total No.
1	Malvales	Dipterocarpaceae	<i>Shorea</i>	<i>robusta</i>	Saal	100
2	Myrtales	Myrtaceae	<i>Syzygium</i>	<i>jambos</i>	Bhadre Jamun	4
3	Myrtales	Myrtaceae	<i>Syzygium</i>	<i>cumini</i>	Kalo jamun	19
4	Malpighiales	Euphorbiaceae	<i>Mallotus</i>	<i>philippensis</i>	Rohini	46
5	Fabales	Fabaceae	<i>Dalbergia</i>	<i>sissoo</i>	Sissoo	113
6	Myrtales	Combretaceae	<i>Terminalia</i>	<i>alata</i>	Saj	145
7					jayhengra**	3
8	Sapindales	Anacardiaceae	<i>Buchanania</i>	<i>latifolia</i>	Piyari	12
9	Fagales	Juglandaceae	<i>Engelhardia</i>	<i>spicata</i>	Mahuwa	1
10	Sapindales	Sapindaceae	<i>Schleichera</i>	<i>oleosa</i>	Kusum	7
11	Rosales	Moraceae	<i>Ficus</i>	<i>racemosa</i>	Gular	2
12	Fabales	Fabaceae	<i>Bauhinia</i>	<i>malabarica</i>	Amatta	1
13	Myrtales	Combretaceae	<i>Terminalia</i>	<i>bellirica</i>	Barro	2
14	Rosales	Rhamnaceae	<i>Ziziphus</i>	<i>mauritiana</i>	Bayar	14
15	Myrtales	Combretaceae	<i>Terminalia</i>	<i>chebula</i>	Harro	1
16	Gentianales	Rubiaceae	<i>Adina</i>	<i>cardifolia</i>	Haldu	9
17	Rosales	Moraceae	<i>Ficus</i>	<i>benghalensis</i>	Bar	1
18	Malpighiales	Phyllanthaceae	<i>Aporosa</i>	<i>octandra</i>	kalikath	1
19	Myrtales	Lythraceae	<i>Lagerstroemia</i>	<i>parviflora</i>	Bot dhaiyaro	22
20	Sapindales	Anacardiaceae	<i>Lannea</i>	<i>coromandelica</i>	Dabdabe	1
21	Sapindales	Rutaceae	<i>Aegle</i>	<i>marmelos</i>	Bel	1
22	Fabales	Fabaceae	<i>Acacia</i>	<i>catechu</i>	Khair	5
23	Lamiales	Bignoniaceae	<i>Stereospermum</i>	<i>chelonioides</i>	Pandari	7
24	Solanales	Convolvulaceae	<i>Ipomea</i>	<i>carnea</i>	Besarma	1
25	Myrtales	Combretaceae	<i>Anogeissus</i>	<i>latifolia</i>	Dhauti	11
26	Lamiales	Lamiaceae	<i>Tectona</i>	<i>grandis</i>	Teak	1
27	Malpighiales	Salicaceae	<i>Casearia</i>	<i>graveolens</i>	Pipari	1
28	Malpighiales	Euphorbiaceae	<i>Trewia</i>	<i>nudiflora</i>	Vellor	1
29	Rosales	Moraceae	<i>Ficus</i>	<i>semicordata</i>	Khurhuri/Khaniyo	2
30	Fabales	Fabaceae	<i>Desmodium</i>	<i>oojenensis</i>	Sadhan	6
31	Rubiales	Rubiaceae	<i>Xeromphis</i>	<i>uliginosa</i>	Pirar	3
32					Makuna**	3
33	Lamiales	Bignoniaceae	<i>Stereospermum</i>	<i>personatum</i>	kachari	10

SN	Order	Family	Genus	Species	Common Name	Total No.
34					Asidha**	1
35	Malvales	Malvaceae	<i>Grewia</i>	<i>subinaequalis</i>	Phosro	5
36	Ericales	Lecythidaceae	<i>Careya</i>	<i>arborea</i>	Kumbhi	2
37					Kekraha**	1
38					Dagaraa**	5
39					Rukh Dhaiyaro**	4
40	Sapindales	Anacardiaceae	<i>Semecarpus</i>	<i>anacardium</i>	Bhalayo	7
41	Ranales	Dilleniaceae	<i>Dillenia</i>	<i>pentagyna</i>	Taatari	2
42	Sapindales	Anacardiaceae	<i>Mangifera</i>	<i>indica</i>	Aap	1
43					Chandi**	1
44					Gujyer**	1
45	Laurales	Lauraceae	<i>Neolitsea</i>	<i>umbrosa</i>	Putali kath	1
46					Kyari**	4
47	Pinales	Pinaceae	<i>Pinus</i>	<i>roxburghii</i>	Khote salla	4
48	Fagales	Fagaceae	<i>Quercus</i>	<i>lanata</i>	Banjh	3
49	Fagales	Fagaceae	<i>Castanopsis</i>	<i>indica</i>	Katus	3
50					Makuna**	2
51	Arecales	Arecaceae	<i>Phoenix</i>	<i>sylvestris</i>	Khajur	2
52	Ericales	Sapotaceae	<i>Diploknema</i>	<i>butyracea</i>	Chiuri	1
53	Gentianales	Rubiaceae	<i>Wendlandia</i>	<i>coriacea</i>	Tilka	20
54					Fut tilko**	1
55	Malpighiales	Euphorbiaceae	<i>Glochidion</i>	<i>velutinum</i>	Kath mauwa	1
56					Jau kath**	1
57	Gentianales	Rubiaceae	<i>Mitragyna</i>	<i>parviflora</i>	Sano haldu	1
58	Fabales	Fabaceae	<i>Albizia</i>	<i>odoratissima</i>	Padakye	1
59	Sapindales	Meliaceae	<i>Trichillia</i>	<i>connaroides</i>	Ankha Tare	1
60	Ericales	Primulaceae	<i>Maesa</i>	<i>indica</i>	Bilaune	1
61	Malvales	Malvaceae	<i>Bombax</i>	<i>ceiba</i>	Simal	4
62	Gentianales	Apocynaceae	<i>Holarrhena</i>	<i>pubescens</i>	khirro	1
63	Gentianales	Apocynaceae	<i>Alstonia</i>	<i>scholaris</i>	Chatiwan	3
64	Fabales	Fabaceae	<i>Dalbergia</i>	<i>latifolia</i>	satisal	3
65	Rosales	Moraceae	<i>Ficus religiosa</i>	<i>religiosa</i>	Pipal	3
	Total					647

Note: ** Local Name

6.2 Birds

During the survey period (18 – 25 Feb 2020) total 178 species of birds were recorded (Annex 1). Among them 14 new species (Table 4) were added to the previous list of 299 species, totaling 313 species. 8 species of birds are globally threatened and 6 species are near threatened whereas 24 species are nationally threatened and 6 species are near threatened.

Table 4: List of new birds recorded for Ghodaghodi Lake area during biodiversity survey

SN	Species Name	Scientific Name	Global Status	National Status
1	Bonelli's Eagle	<i>Aquila fasciata</i>		
2	Indian Thick-knee	<i>Burhinus indicus</i>		
3	Ashy-headed Green Pigeon	<i>Treron phayrea</i>	NT	NT
4	Blue Bearded Bee-eater	<i>Nyctyornis athertoni</i>		
5	Green-backed Tit	<i>Parus monticolus</i>		
6	Black-throated Tit	<i>Aegithalos concinnus</i>		
7	Silver-eared Mesia	<i>Mesia argentea</i>		EN
8	White-crested Laughing Thrush	<i>Garrulax leucolophus</i>		
9	Rufous Sibia	<i>Heterophasia capistrata</i>		
10	White-bellied Erpornis	<i>Erpornis zantholeuca</i>		
11	Wallcreeper	<i>Tichodroma muraria</i>		
12	Bar-tailed Treecreeper	<i>Certhia himalayana</i>		
13	Brown-throated Treecreeper	<i>Certhia discolor</i>		
14	Rufous-breasted Accentor	<i>Prunella strophias</i>		



Common Kingfisher (Alcedo atthis)

6.3 Waterbirds

During the survey period (20 – 23 Feb 2020), total 22 species of water birds were recorded.

Table 5: List of water birds recorded during biodiversity survey in GLA

SN	Common Name	Scientific name	Status		Point 1	Point 2 and 3	Nakror Lake	Total
			National	Global				
1	Cotton Pygmy-goose	<i>Nettapus Coromandelianus</i>	VU	LC	52	48	47	147
2	Common Coot	<i>Fulica atra</i>			36	1	27	64
3	Lesser Whistling-duck	<i>Dendrocygna javanica</i>			258	94	0	352
4	Purple Heron	<i>Ardea purpurea</i>			2	2	5	9
5	Black-crowned Night Heron	<i>Nycticorax nycticorax</i>			4	0	0	4
6	Bronze-winged Jacana	<i>Metopidius indicus</i>			6	17	1	24
7	Intermediate Egret	<i>Mesophoyx intermedia</i>			1	1	0	2
8	Common Moorhen	<i>Gallinula chloropus</i>			56	32	81	169
9	Great Cormorant	<i>Phalacrocorax carbo</i>	NT	LC	1	32	0	33
10	Little Cormorant	<i>Phalacrocorax niger</i>			7	7	1	15
11	Indian Pond Heron	<i>Ardeola grayii</i>			3	4	1	8
12	Darter	<i>Anhinga melanogaster</i>	NT	NT	2	3	0	5
13	White-breasted Waterhen	<i>Amaurornis phaeinurus</i>			1	3	0	4
14	Red-naped Ibis	<i>Pseudibis papillosa</i>			1	6	0	7
15	Northern Pintail	<i>Anas acuta</i>	EN	LC	0	2	0	2
16	Spot-billed Duck	<i>Anas poecilorhyncha</i>	NT	LC	0	8	6	14
17	Common Teal	<i>Anas crecca</i>			0	2	0	2
18	Ferruginous Pochard	<i>Aythya nyroca</i>	VU	NT	0	2	4	6
19	Grey Heron	<i>Ardea cinerea</i>			0	1	2	3
20	Woolly-necked Stork	<i>Ciconia episcopus</i>	NT	VU	0	2	0	2
21	Gadwal	<i>Anas strepera</i>			0	5	23	28
22	Red-crested Pochard	<i>Rehodonessa rufina</i>			0	1	0	1



Lesser Whistling Duck (*Dendrocygna javanica*)



Indian Pond Heron (*Ardeola grayii*)

6.4 Marsh Mugger and Turtle

During the survey period (22-27 Feb, 2020), total 11 Marsh Mugger were recorded. Among them 1 was young and remaining 10 were adults. Also, two species of turtle (*Pangshura tectum* and *Lissemys punctata andersoni*) were recorded from recent survey.



Marsh Mugger Crocodile (Crocodylus palustris)



Indian Roofed Turtle (Pangshura tectum)

6.5 Mammals

Altogether 24 species of mammals have been recorded from Ghodaghodi lake complex. Among them, current study provide the evidences of 16 species of mammals (though few local information need further verification) while rest of the species were added using different studies conducted in the Ghodaghodi in the past. Among the total mammals species in Ghodaghodi, Bengal Tiger *Panthera tigris* is globally Endangered species while Leopard *Panthera pardus* and Smooth-coated Otter *Lutrogale perspicillata* is globally vulnerable. Furthermore six species are recorded in the area are nationally threatened (Table 1). In the current study, four species were recorded by camera trap, seven species were confirmed by sign like rootling, pugmark, scat, pellets while six species were recorded as per the anecdotal report (Figure 1). Anecdotal report was validated with the literature though presence of Smooth-coated Otter is doubtful.

Table 6: List of mammals recorded during biodiversity survey in GLA

SN	Common Name	Scientific Name	IUCN Red List	National Red List	Type of Obs.	Remarks
1	Leopard	<i>Panthera pardus</i>	VU	VU	Camera trapping/pugmark	Current survey
2	Golden Jackal	<i>Canis aureus</i>	LC	LC	Camera trapping/ Dahal et al. 2014	Current survey
3	Wild Boar	<i>Sus scrofa</i>	LC	LC	Camera trapping/rootling	Current survey
4	Rhesus Macaque	<i>Macaca mulatta</i>	LC	LC	Local report/Dahal et al. 2014	Current survey
5	Bengal Tiger	<i>Panthera tigris tigris</i>	EN	EN	Pugmark	Current survey
6	Indian Crested Porcupine	<i>Hystrix indica</i>	LC	DD	Spines	Current survey
7	Nilgai	<i>Boselaphus tragocamelus</i>	LC	VU	Dung/Local report	Current survey
8	Indian Hare	<i>Lepus nigricollis</i>	LC	LC	Camera trap/Pellet/Local report	Current survey
9	Jungle Cat	<i>Felis chaus</i>	LC	LC	Pugmark/Local report/ Kunwar 2019	Current survey
10	Terai Grey Langur	<i>Semnopithecus hector</i>	NT	LC	Local report	Current survey
11	Smooth-coated Otter	<i>Lutrogale perspicillata</i>	VU	EN	Local report	Current survey
12	Small Indian Mongoose	<i>Herpestes javanicus</i>	LC	LC	Local report	Current survey
13	Indian Grey Mongoose	<i>Herpestes edwardsii</i>	LC	LC	Local report	Current survey
14	Northern Palm Squirrel	<i>Funambulus pennantii</i>	LC	LC	Local report	Current survey
15	Barking Deer	<i>Muntiacus vaginalis</i>	LC	VU	Pellet/Local report	Current survey
16	Yellow-throated Marten	<i>Martes flavigula</i>	LC	LC	Direct Observation	Current survey
17	Red Giant Flying Squirrel	<i>Petaurista petaurista</i>	LC	LC	Kunwar 2019	Literature review
18	Indian Gerbil	<i>Tatera indica</i>	LC	LC	Kunwar 2019	Literature review
19	House shrew	<i>Suncus murinus</i>	LC	LC	Kunwar 2019	Literature review
20	Small Indian civet	<i>Viverricula indica</i>	LC	LC	Kunwar 2019	Literature review
21	Mask Palm Civet	<i>Paguma larvata</i>	LC	LC	Kunwar 2019/Dahal et al. 2014	Literature review
22	Leopard Cat	<i>Prionailurus bengalensis</i>	LC	VU	Kunwar 2019	Literature review
23	Common Indian Field Mouse	<i>Mus booduga</i>	LC	LC	Kunwar 2019	Literature review
24	House Mouse	<i>Mus musculus</i>	LC	LC	Kunwar 2019	Literature review

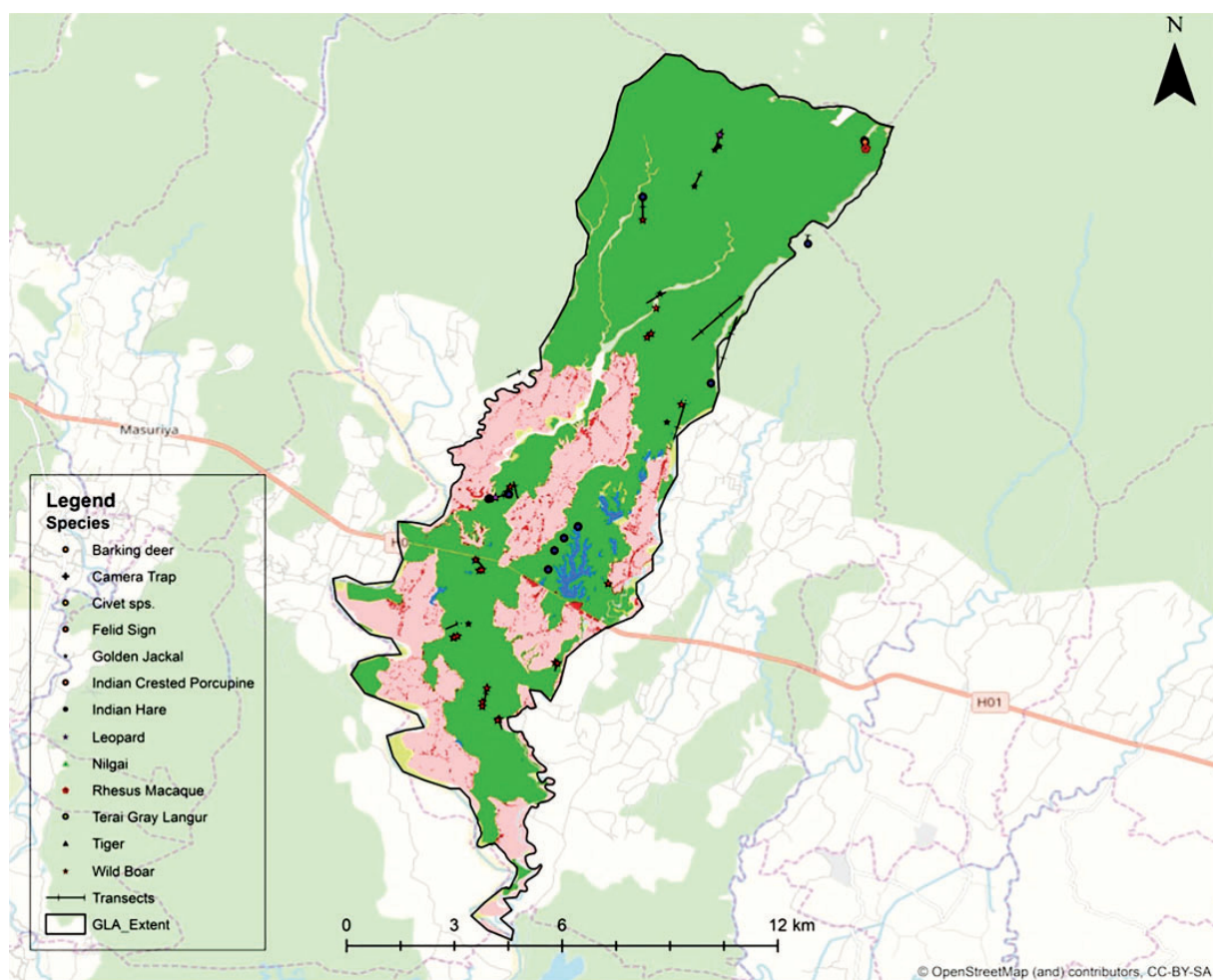


Fig.2: Map of study area with transects

6.6 Fish

A total of 27 species of fish were recorded in 1998 in Ghodaghodi by IUCN. Later in 2003, DNPWC and WWF Nepal (2003) reported 29 species, while Kafle (2007) identified 25 species. Altogether 30 species of fishes were recorded from the Ghodaghodi Lake (including Joshi and K.C. 2017 and Lamsal et al. 2014). In current survey, 14 species of fish were recorded. Among them order Cypriniformes and Family cyprinidae has the highest number of species 13 and 12 respectively. Order, Anabantiformes, Beloniformes, Osteoglossiformes and Perciformes represent the single species each.

Table 7: List fishes recorded during biodiversity survey in GLA

SN	Order	Family	Scientific Name	Common name	Tharu Name	ICN Status	Remarks
1	Cypriniformes	Cyprinidae	<i>Puntius ticto</i>	Tic-tac-toe barb	Sidhre		Current Studies
2			<i>puntius sophore</i>	Barb	Pothi	LC	Current studies/ Joshi and K.C. 2017
3			<i>Labeo pangusia</i>	Carp	Termassa, Kalanch	NT	Current studies/ Joshi and K.C. 2017
4			<i>Esomus danricus</i>	Flying barb	Dedhwa, Darai	LC	Current studies/ Joshi and K.C. 2017
5			<i>Pethia/Puntius conchoniis</i>	Rosy barb	Sidhre, Pothia	LC	Current Studies
6			<i>Labeo angra</i>	Minor carp	Thed	LC	Current Studies
7			<i>Labeo boga</i>	Minor carp	Boga	LC	Current Studies
8			<i>Puntius gelius</i>	Golden dwarf barb		LC	Lamsal et al. 2014
9			<i>Puntius chola</i>	Cola barb	Pothi, Pothia	LC	Lamsal et al. 2014
10			<i>Rasbora daniconius</i>	Slender Barb	Dedhwa, Dedha		Lamsal et al. 2014
11			<i>Amblyphrynogodon microlepis</i>	Indian carplet			Joshi and K.C. 2017
12			<i>Amblyphrynogodon mola</i>		Mada, Mara, Dhawai		Joshi and K.C. 2017
13		Cobitidae	<i>Lepidocephalus guntea</i>	Loach	Latta, Nakkatta, Nakkatte, Goira	LC	Lamsal et al. 2014
14	Anabantiformes	Channidae	<i>Channa gachua</i>	Dwarf Snakehead	Hile, Chenga	LC	Lamsal et al. 2014
15	Beloniformes	Belonidae	<i>Xenentodon cancila</i>	Freshwater garfish	Kauwa, Chuchche bam, Sui	LC	Current Studies
16	Osteoglossiformes	Notopteridae	<i>Notopterus notopterus</i>	Bronze featherback		LC	Current Studies

SN	Order	Family	Scientific Name	Common name	Tharu Name	ICN Status	Remarks
17	Perciformes	Channidae	<i>Channa striatus</i>	Snake-headed Murrel,	Saura	LC	Current studies/ Joshi and K.C. 2017
18			<i>Channa punctatus</i>	Spotted snakehead	Hile, Garai	LC	Lamsal et al. 2014/ Joshi and K.C. 2017
19		Ambassidae	<i>Pseudambassis baculis</i>	Himalayan glassy perchlet	Glassfish	LC	Joshi and K.C. 2017
20		Nandidae	<i>Badis badis</i>	Chain-link fish		LC	Joshi and K.C. 2017
21			<i>Nandus nandus</i>	Gangetic leafish	Dhala	LC	Current Studies
22		Osphronemidae	<i>Trichogaster fasciata</i>				
23			<i>Colisa fasciatus</i>	Giant gourami	Kotri	LC	Lamsal et al. 2014
24	Siluriformes	Clariidae	<i>Clarias batrachus</i>	Catfish, Air-breather	Mungri	LC	Current Studies
25		Bagridae	<i>Mystus vittatus</i>	Striped dwarf catfish	Tengra	LC	Lamsal et al. 2014
26			<i>Mystus tengra</i>	Tengra catfish	Tengra	LC	Joshi and K.C. 2017
27	Synbranchiformes	Ambassidae	<i>Pseudombassis baculis</i>	Glassfish			Current Studies
28		Mastacembelidae	<i>Mastacembelus pancalus</i>	Striped Spiny Eel	Kath gainchi		Current/Lamsal et al. 2014
29			<i>Mastacembelus armatus</i>	Zig-zag eel	Pataiha gainchi		Lamsal et al. 2014
30			<i>Macrogathus pancalus</i>	Indian spiny eel	Kath gainchi		Joshi and K.C. 2017



Tharu Woman, Traditional Fishing

6.7 Wild Rice

In 2010, Conservation and Sustainable Use of Wetlands in Nepal (CSUWN) project identified 3.6 ha of total area occupied by the Wild Rice (*Oryza rufipogon*) (CSUWN, 2010). The lake Ghodaghodi, Tendi and Tinchatiya has been found to harbor the species. Current study identified 4.54 hectare of area covered with wild rice. The patches of wild rice have been observed in the boundary of Ghodaghodi Lake mostly in the northern site, that is shown in Fig.3.

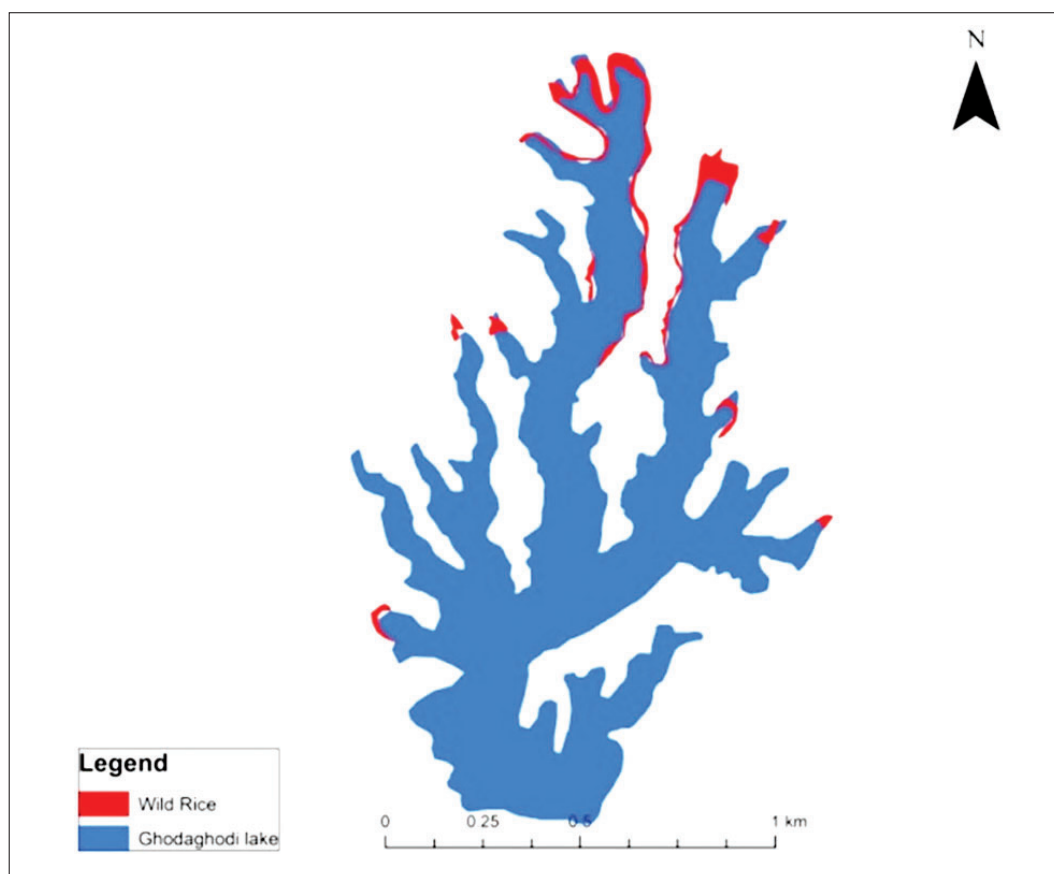


Fig. 3: Map showing distribution of wild rice in Ghodaghodi Lake

Table 8: List of birds recorded during biodiversity survey in GLA

SN	Common Name	Scientific Name	National status	Global status
1	Black Francolin	<i>Francolinus francolinus</i>		
2	Red Junglefowl	<i>Gallus gallus</i>		
3	Indian Peafowl	<i>Pavo cristatus</i>	NT	
4	Lesser Wistling-duck	<i>Dendrocygna javanica</i>		
5	Northern pintail	<i>Anas acuta</i>	EN	
6	Indian Spot-billed Duck	<i>Anas poecilorhyncha</i>	NT	
7	Cotton Pygmy-goose	<i>Nettapus coromandelianus</i>	VU	
8	Common Teal	<i>Anas crecca</i>		
9	Ferruginous pochard	<i>Aythya nyroca</i>	VU	NT
10	Gadwal	<i>Anas strepera</i>		
11	Red-crested pochard	<i>Rehodonessa rufina</i>		

SN	Common Name	Scientific Name	National status	Global status
12	Grey heron	<i>Ardea cinerea</i>		
13	Asian Woollyneck	<i>Ciconia episcopus</i>	NT	VU
14	Indian Pond Heron	<i>Ardeola grayii</i>		
15	Purple Heron	<i>Ardea purpurea</i>		
16	Black-crowned Night heron	<i>Nycticorax nycticorax</i>		
17	Bronze-winged jacana	<i>Metopidius indicus</i>		
18	Cattle Egret	<i>Bubulcus ibis</i>		
19	Little Egret	<i>Egretta garzetta</i>		
20	Intermediate Egret	<i>Mesophoyx intermedia</i>		
21	Darter	<i>Anhinga melanogaster</i>	NT	NT
22	Little Cormorant	<i>Phalacrocorax niger</i>		
23	Great Cormorant	<i>Phalacrocorax carbo</i>	NT	
24	Red-naped Ibis	<i>Pseudibis papillosa</i>		
25	Common Kestrel	<i>Falco tinnunculus</i>		
26	Short-toed Snake Eagle	<i>Circaetus gallicus</i>		
27	Crested Serpent Eagle	<i>Spilornis cheela</i>		
28	Bonelli's Eagle	<i>Aquila fasciata</i>		
29	Rufous-bellied Eagle	<i>Lophotriorchis kienerii</i>	CR	
30	Shikra	<i>Accipiter badius</i>		
31	Grey-headed Fish Eagle	<i>Ichthyophaga ichthyaetus</i>	CR	NT
32	Black Kite	<i>Milvus migrans</i>		
33	Oriental Honey-buzzard	<i>Pernis ptilorhynchus</i>		
34	Himalayan Buzzard	<i>Buteo (buteo) burmanicus</i>		
35	White-breasted Waterhen	<i>Amaurornis phoenicurus</i>		
36	Common Moorhen	<i>Gallinula chloropus</i>		
37	Eurasian Coot	<i>Fulica atra</i>		
38	Indian Thick-knee	<i>Burhinus ioedictemus</i>		
39	River Lapwing	<i>Vanellus duvaucelii</i>	NT	
40	Red-wattled Lapwing	<i>Vanellus indicus</i>		
41	Little Ringed Plover	<i>Charadrius dubius</i>		
42	Common Greenshank	<i>Tringa nebularia</i>		
43	Green Sandpiper	<i>Tringa ochropus</i>		
44	Spotted Dove	<i>Stigmatopelia chinensis</i>		
45	Oriental Turtle Dove	<i>Streptopelia orientalis</i>		
46	Eurasian Collared Dove	<i>Streptopelia decaocto</i>		
47	Ashy-headed Green Pigeon	<i>Treron phayrei</i>	NT	NT
48	Yellow-footed Green Pigeon	<i>Treron phoenicopterus</i>		
49	Alexandrine Parakeet	<i>Psittacula eupatria</i>	NT	NT
50	Rose-ringed Parakeet	<i>Psittacula krameri</i>		
51	Plum-headed Parakeet	<i>Psittacula cyanocephala</i>		
52	Slaty-headed Parakeet	<i>Psittacula himalayana</i>		
53	Greater Coucal	<i>Centropus sinensis</i>		
54	Common Hawk Cuckoo	<i>Cuculus varius</i>		
55	Grey-bellied Cuckoo	<i>Cacomantis passerinus</i>		

SN	Common Name	Scientific Name	National status	Global status
56	Blue Beared Bee-eater	<i>Nyctyornis athertoni</i>		
57	Green Bee-eater	<i>Merops orientalis</i>		
58	Jungle Owlet	<i>Glaucidium radiatum</i>		
59	Collared Scops Owl	<i>Otus bakkamoena</i>		
60	Himalayan Swiftlet	<i>Collocalia brevirostris</i>		
61	Asian House Martin	<i>Delichon dasypus</i>		
62	White-throated Kingfisher	<i>Halcyon smyrnensis</i>		
63	Common Kingfisher	<i>Alcedo atthis</i>		
64	Stork-billed Kingfisher	<i>Pelargopsis capensis</i>		
65	Indian Roller	<i>Coracias benghalensis</i>		
66	Brown-headed Barbet	<i>Megalaima zeylanica</i>		
67	Lineated Barbet	<i>Megalaima lineata</i>		
68	Blue-throated Barbet	<i>Megalaima asiatica</i>		
69	Coppersmith Barbet	<i>Megalaima haemacephala</i>		
70	Great Barbet	<i>Megalaima virens</i>		
71	Indian Grey Hornbill	<i>Ocyrceros birostris</i>		
72	Oriental Pied Hornbill	<i>Anthraceroceros albirostris</i>	NT	
73	Grey-caped Pygmy Woodpecker	<i>Dendrocopos canicapillus</i>		
74	Fulvous-breasted Woodpecker	<i>Dendrocopos macei</i>		
75	Brown-fornted Woodpecker	<i>Dendrocopos auriceps</i>		
76	Lesser Yellownape	<i>Picus chlorolophus</i>		
77	Grey-headed Woodpecker	<i>Picus canus</i>		
78	Himalayan Goldenback	<i>Dinopium shorii</i>		
79	Lesser Goldenback	<i>Dinopium benghalense</i>		
80	Greater Goldenback	<i>Chrysocolaptes lucidus</i>		
81	Great Slaty Woodpecker	<i>Mulleripicus pulverulentus</i>	EN	VU
82	Bar-winged Flycatcher Shrike	<i>Hemipus picatus</i>		
83	Common Woodshrike	<i>Tephrodornis pondicerianus</i>		
84	Large Cuckooshrike	<i>Coracina macei</i>		
85	Rosy Minivet	<i>Pericrocotus roseus</i>		
86	Grey-chinned Minivet	<i>Pericrocotus solaris</i>		
87	Long-tailed Minivet	<i>Pericrocotus ethologus</i>		
88	Scarlet Minivet	<i>Pericrocotus flammeus</i>		
89	Grey-backed Shrike	<i>Pericrocotus flammeus</i>		
90	Long-tailed Shrike	<i>Lanius schach</i>		
91	Black-hooded Oriole	<i>Oriolus xanthornus</i>		
92	Maroon Oriole	<i>Oriolus traillii</i>		
93	Black Drongo	<i>Dicrurus macrocercus</i>		
94	Ashy Drongo	<i>Dicrurus leucophaeus</i>		
95	White-bellied Drongo	<i>Dicrurus caerulescens</i>		
96	Greater Racket-tailed Drongo	<i>Dicrurus paradiseus</i>		
97	Lesser Racket-tailed Drongo	<i>Dicrurus remifer</i>		
98	Spangled Drongo	<i>Dicrurus hottentottus</i>		
99	Common Iora	<i>Aegithina tiphia</i>		

SN	Common Name	Scientific Name	National status	Global status
100	White-browed Faintail	<i>Rhipidura aureola</i>		
101	White-throated Faintail	<i>Rhipidura albicollis</i>		
102	Black-naped Monarch	<i>Hypothymis azurea</i>		
103	Red-billed blue magpie	<i>Urocissa erythrorhyncha</i>		
104	Rufous Treepie	<i>Dendrocitta vagabunda</i>		
105	Grey Treepie	<i>Dendrocitta formosae</i>		
106	Large-billed Crow	<i>Corvus macrorhynchos</i>		
107	House Crow	<i>Corvus splendens</i>		
108	Black-headed Jay	<i>Garrulus lanceolatus</i>		
109	Great Tit	<i>Parus major</i>		
110	Green-backed Tit	<i>Parus monticolus</i>		
111	Black-lored Tit	<i>Parus xanthogenys</i>		
112	Black-throated Tit	<i>Aegithalos concinnus</i>		
113	Striated Prinia	<i>Prinia crinigera</i>		
114	Grey-breasted Prinia	<i>Prinia hodgsonii</i>		
115	Ashy Prinia	<i>Prinia socialis</i>		
116	Plain Prinia	<i>Prinia inornata</i>		
117	Zitting Cisticola	<i>Cisticola juncidis</i>		
118	Golden-headed Cisticola	<i>Cisticola exilis</i>	NT	
119	Black-crested Bulbul	<i>Pycnonotus melanicterus</i>		
120	Ashy Bulbul	<i>Hemixos flavala</i>		
121	Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>		
122	Himalayan Bulbul	<i>Pycnonotus leucogenys</i>		
123	Red-vented Bulbul	<i>Pycnonotus cafer</i>		
124	Black Bulbul	<i>Hypsipetes leucocephalus</i>		
125	Common Tailor Bird	<i>Orthotomus sutorius</i>		
126	Hume's Leaf Warbler	<i>Phylloscopus humei</i>		
127	Greenish Warbler	<i>Phylloscopus trochiloides</i>		
128	Green Warbler			<i>Phylloscopus (trochiloides) nitidus</i>
129	Grey-hooded Warbler	<i>Phylloscopus xanthoschistos</i>		
130	Oriental White-eye	<i>Zosterops palpebrosus</i>		
131	Spiny Babbler	<i>Turdoides nipalensis</i>		
132	Jungle Babbler	<i>Turdoides striata</i>		
133	Silver-eared Mesia	<i>Mesia argenteauris</i>	EN	
134	White-crested Laughing Thrush	<i>Garrulax leucolophus</i>		
135	White-browed Shrike Babbler	<i>Pteruthius flaviscapis</i>		
136	Rufous Sibia	<i>Heterophasia capistrata</i>		
137	White-bellied Erpornis	<i>Erpornis zantholeuca</i>		
138	Chestnut-bellied Nuthatch	<i>Sitta castanea</i>		
139	Velvet-fronted Nuthatch	<i>Sitta frontalis</i>		
140	Wallcreeper	<i>Tichodroma muraria</i>		
141	Bar-tailed Treecreeper	<i>Certhia himalayana</i>		

SN	Common Name	Scientific Name	National status	Global status
142	Brown-throated Treecreeper	<i>Certhia discolor</i>		
143	Spot-winged Starling	<i>Saroglossa spiloptera</i>		
144	Common Myna	<i>Acridotheres tristis</i>		
145	Asian Pied Starling	<i>Sturnus contra</i>		
146	Brahminy Starling	<i>Sturnus pagodarum</i>		
147	Blue Whistling Thrush	<i>Myophonus caeruleus</i>		
148	Grey-winged Blackbird	<i>Turdus boulboul</i>		
149	Tickell's Thrush	<i>Turdus unicolor</i>		
150	Black-throated Thrush	<i>Turdus ruficollis</i>		
151	White-rumped Shama	<i>Copsychus malabarica</i>		
152	Oriental Magpie Robin	<i>Copsychus saularis</i>		
153	Black Redstart	<i>Phoenicurus ochruros</i>		
154	Plumbeous Water Redstart	<i>Rhyacornis fuliginosa</i>		
155	White-capped Redstart	<i>Chaimarrornis leucocephalus</i>		
156	Common Stonechat	<i>Saxicola torquatus</i>		
157	Pied Bushchat	<i>Saxicola caprata</i>		
158	Grey Bushchat	<i>Saxicola ferreus</i>		
159	Chestnut-bellied Rock Thrush	<i>Monticola rufiventris</i>		
160	Rusty-tailed Flycatcher	<i>Muscicapa ruficauda</i>		
161	Little Pied Flycatcher	<i>Ficedula westermanni</i>		
162	Ultramarine Flycatcher	<i>Ficedula supercilialis</i>		
163	Grey-headed Canary Flycatcher	<i>Culicicapa ceylonensis</i>		
164	Verditer Flycatcher	<i>Eumyias thalassinus</i>		
165	Small Niltava	<i>Niltava macgrigoriae</i>		
166	Golden-fronted Leafbird	<i>Chloropsis aurifrons</i>		
167	Orange-bellied Leafbird	<i>Chloropsis aurifrons</i>		
168	Pale-billed Flowerpecker	<i>Dicaeum erythrorhynchos</i>		
169	Fire-breasted Flowerpecker	<i>Dicaeum ignipectus</i>		
170	Purple Sunbird	<i>Nectarinia asiatica</i>		
171	Crimson Sunbird	<i>Aethopyga siparaja</i>		
172	Rufous-breasted Accentor	<i>Prunella strophiatea</i>		
173	Grey Wagtail	<i>Motacilla cinerea</i>		
174	Yellow Wagtail	<i>Motacilla flava</i>		
175	White-browed Wagtail	<i>Motacilla maderaspatensis</i>		
176	Olive-backed Pipit	<i>Anthus hodgsoni</i>		
177	House sparrow	<i>Passer domesticus</i>		
178	Common Rosefinch	<i>Carpodacus erythrinus</i>		

Watershed management for the conservation of water and forest resources of GLA

5

ANNEX

Watersheds and wetlands are one of the key life support systems on the earth. Water resources are vital element of national and global ecosystem and economies. Natural resources have faced serious degradation problems worldwide. These problems are identified as flooding, soil erosion, wind erosion, pollution, overexploitation of natural resources, sedimentation, land use changes, overgrazing, forest fire and wetlands loss. The main aim of watershed management is to conserve the soil, plant, biodiversity and water resources for human well-being. It is an urgent need to apply scientifically appropriate, practically feasible, environmentally friendly, technically sound, economically efficient, developmentally sustainable and socially acceptable solutions for the successful and persistent management of watersheds, upon which human populations depend.

In Nepal, watershed conservation has been managed the level of farmers' indigenous technical knowledge based practices and formal development initiatives in watershed management that began after the establishment of Department of Soil Conservation and Watershed Management (DSCWM) in 1975. Ghodaghodi lake system is the globally significant due to important habitat for wetland bird populations and biodiversity. It is included in the Ramsar site listed in 2003. The lake is strategically located in between Royal Bardia National Park in the East and Suklaphanta National Park in the west for the biodiversity conservation, ecotourism and development perspectives. In addition, it is also strategic for the conservation and wise-use of more than 100 lakes from Ghodaghodi's watershed area to the Indian borderline (Budha, 2016). The lake system comprises altogether 16 shallow oxbow-lakes of various sizes occupying 130.21 ha. area (Fig. 1 & 2). All these lakes belong within an area of 2,563 ha from upper reaches of Betahani in the north to the east-west highway to the south. The main source of the water of these lakes is lower slopes of the Siwalik hill around Betahani area and Sita Kund which is historic holy place as well.

The degradation of land, loss of biodiversity and shortage of water are major environmental problems in Nepal. The government has expressed its obligation to maintain food security in its Agricultural Policy (2004) to conserve, promote and utilize natural resources. In the context of the Federal System of the country, local governments are in the first phase of development planning. Ghodaghodi Municipality which is rich in water resources has initiated to design the master plan for the further development activities systematically. Draining the water for irrigation and fishing, encroachments, eutrophication, siltation, over-exploitation, overgrazing, introduction of invasive species are main identified threats to Ghodaghodi lake system (GACWF, 2002). Another major threat observed was the haphazard extraction of sand and boulders from rivers upto lower part of the Chure range. Thus, the conservation of the entire lake system as well as watershed area is crucial because many lakes have been shrinking due to human pressure and lake area encroachment.

This is the part of the project to design overall watershed management strategies for wetland conservation and restoration for the overall biodiversity habitat for the conservation and improve livelihood of the people through wise use of water and enhancing ecotourism activities of GLA;

The specific objectives are to;

- i. Identify the water resource, lakes and their area demarcation around GLA,
- ii. Design implementation program for the wetland management and watershed conservation around GLA,
- iii. Discuss issues with concerned stakeholders to find long term goals for watershedmanagement.

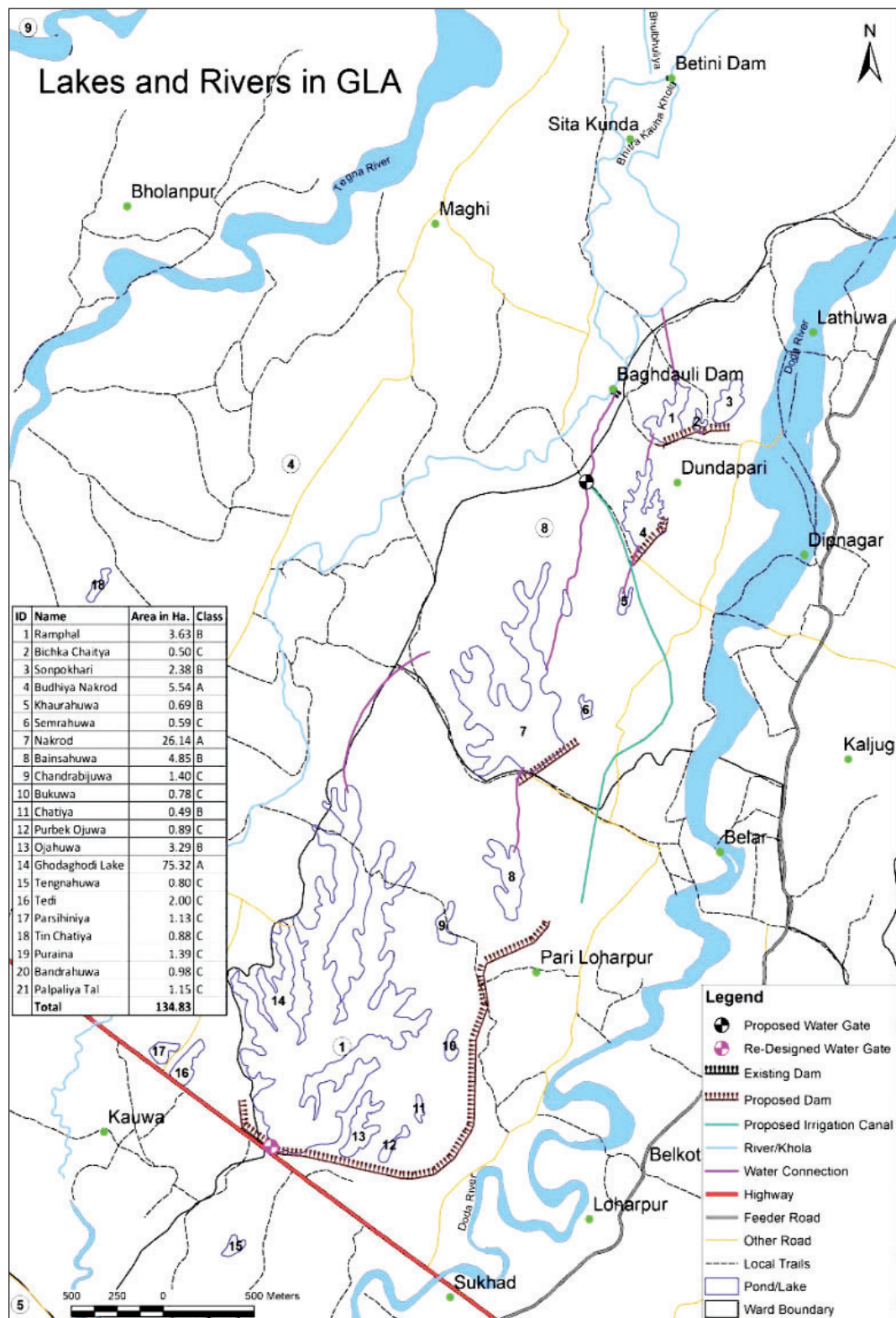


Figure 1. Lakes and rivers of Ghodaghodi Lake Area

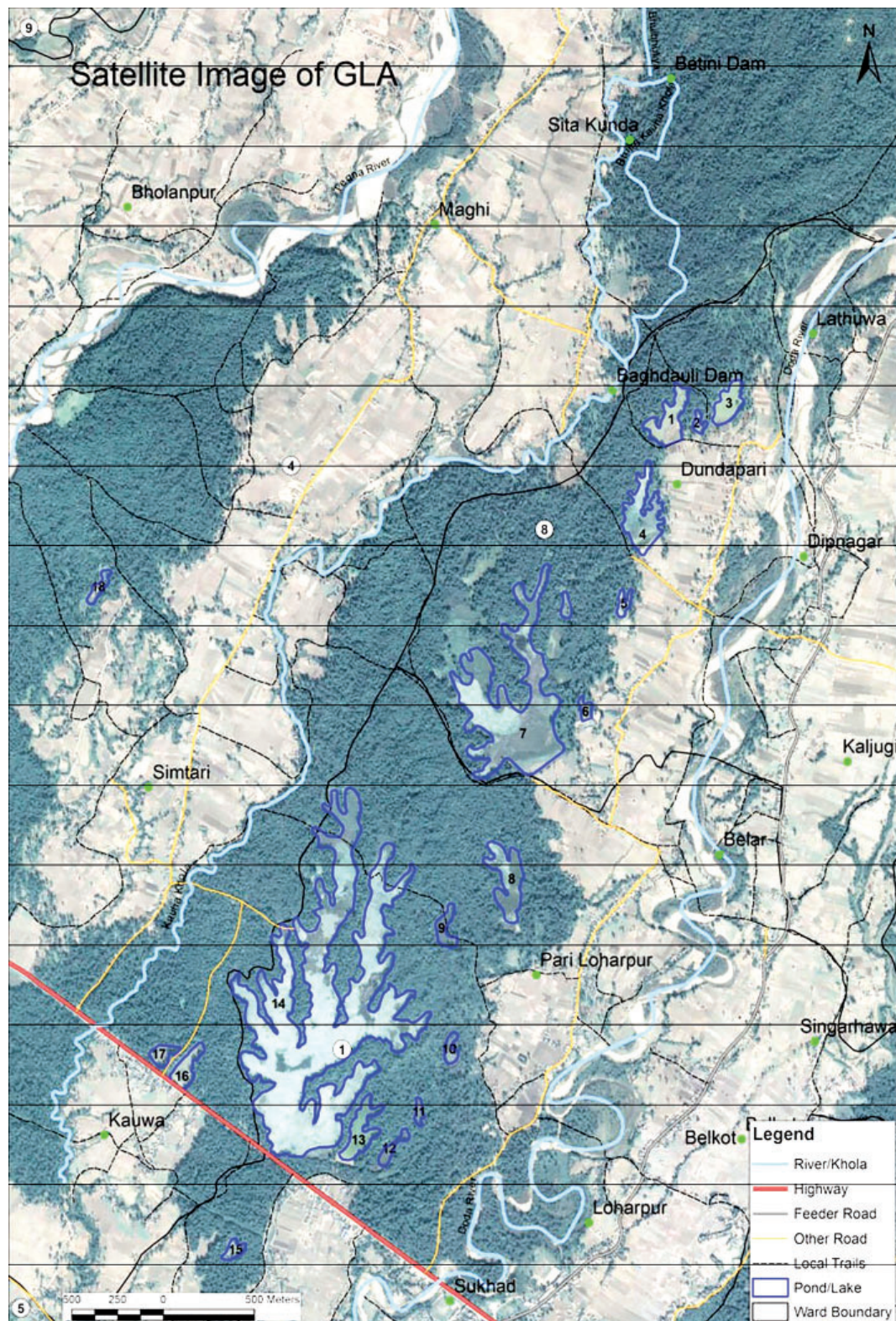


Figure 2. Satellite image of Lakes and rivers of Ghodaghodi Lake Area

2. Methodology

Field observation

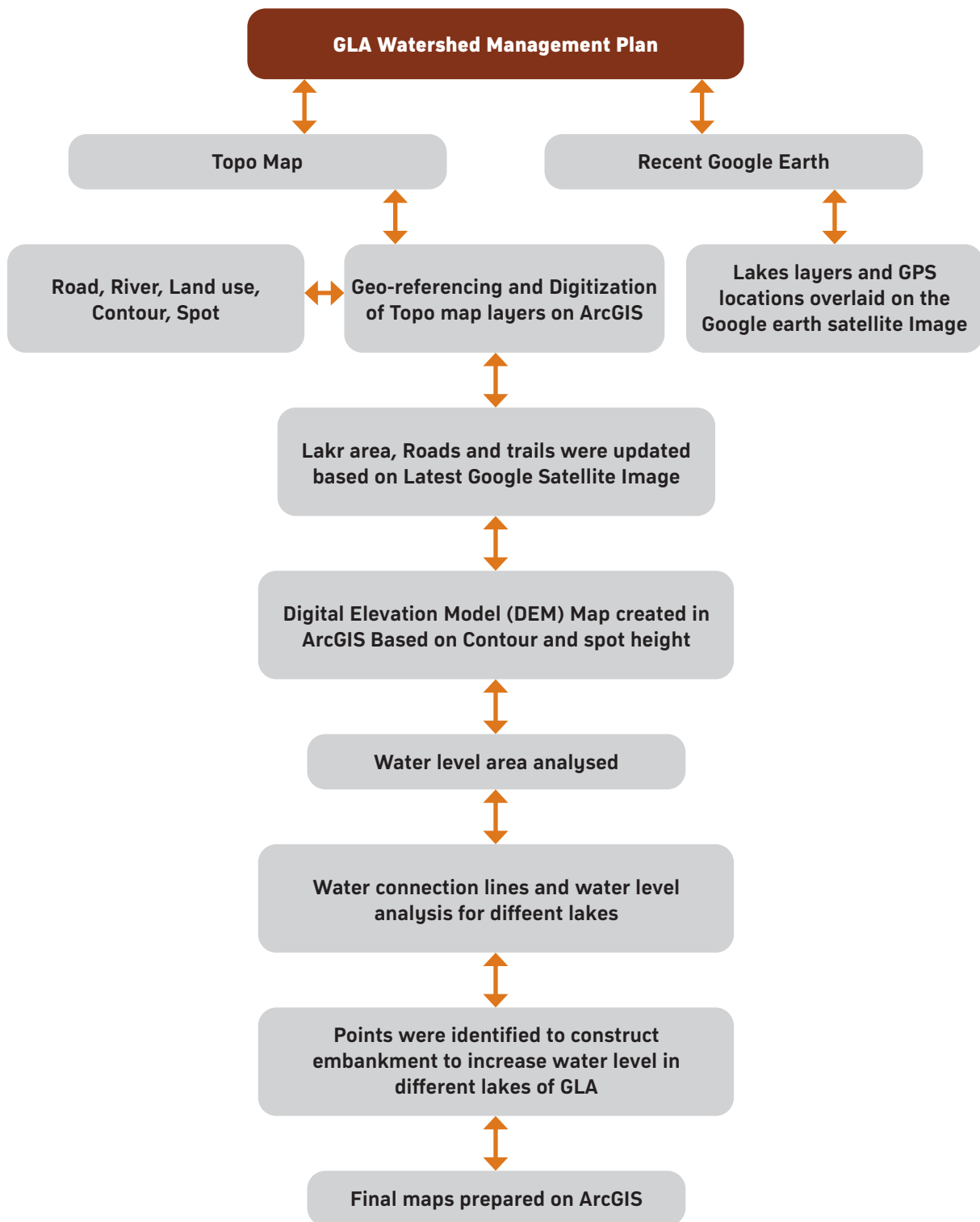
The watershed area was visited and observed from 05 to 10 February 2020. Observed sites were upper part of the Lathuwa at the base of Chure, upper end of the Tengna river, Betahani area, Sita Kund, all large and small lakes in between Kahuwa khola and Dora river. GPS points were noted for the verification of proper point in the Topo map and Google earth map.

Stakeholders Meetings

Interaction meeting was organized with the local people from ward no. 1, 4 and 8. The workshop hosted by CGLTDB along with municipal government. Representatives of all ten upstream settlements including community people and wider stakeholders meeting was held to discuss current issues and problems and future steps to be made.

GIS Mapping

The available Topo maps of Ghodaghodi lake area upto the Chure range published in 1997 was updated by using high resolution satellite Image. Topo maps were geo-referenced in ArcGIS and necessary data were prepared such as: landuse, road, river, contour, spot height etc. High Resolution Satellite Image data were downloaded and Geo-referenced to overlay with topo sheets. The high resolution Google Satellite image data were used for current lake area demarcation and also used for road data update. Digital Model Elevation (DEM) were created in ArcGIS for slope and relief analysis. Based on DEM, increased level of water area is calculated in different level dam heights (Fig. 3). Final map for water area increases were prepared in 1 meter and 2 meter dam height on the lower height area of lakes. Based on above analysis water connection routes were created to connect the different lakes with lowest height area.



GLA Watershed Management GIS Mapping Flow Chart

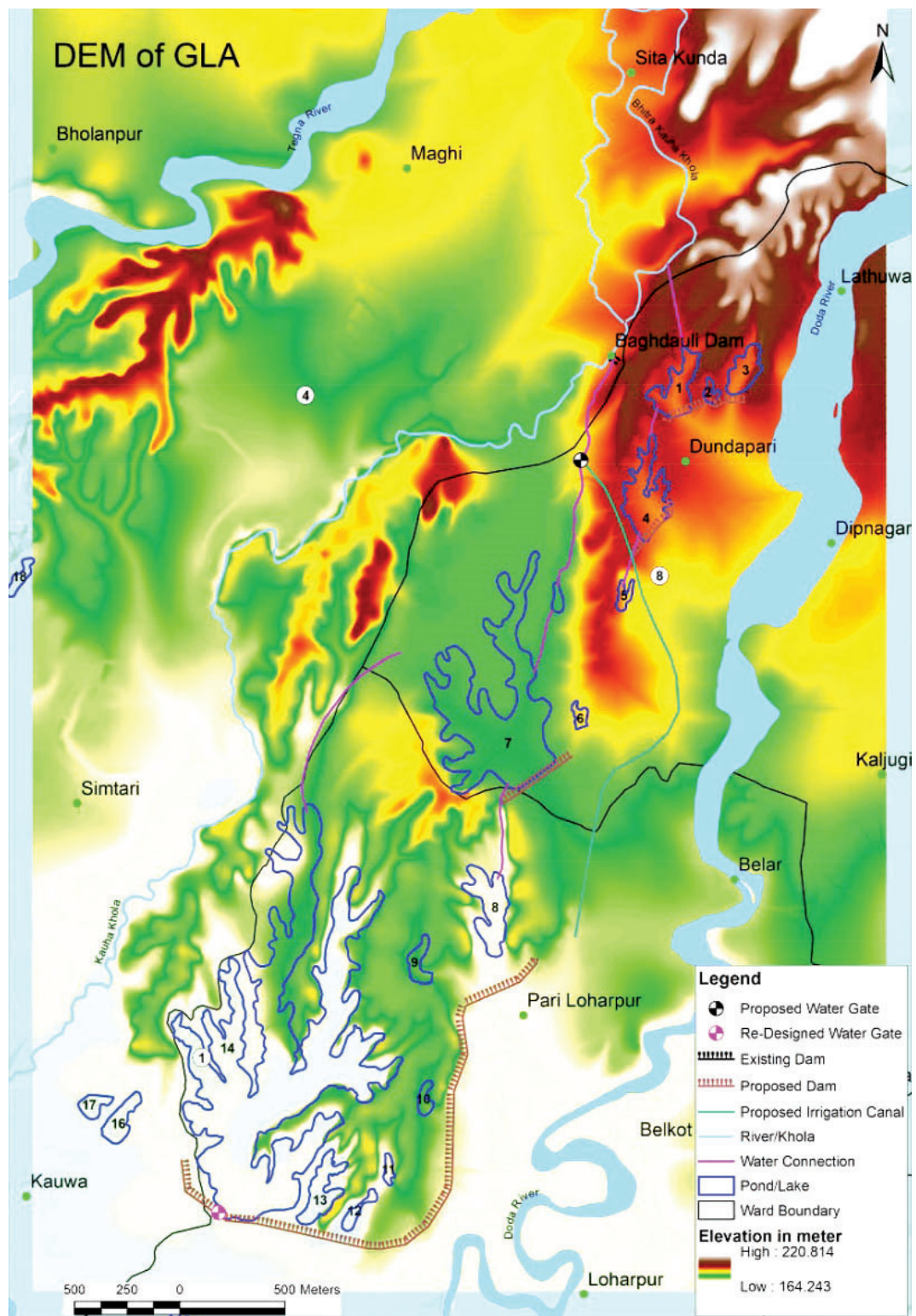


Figure 3. Digital Elevation Model of GLA

3. Action Plan for the Watershed Management of GLA

Wetlands are one of the most biologically productive ecosystems. They play a major role in the water cycle by receiving, storing and releasing water, regulating flows and supporting life (Ramsar Convention on Wetlands, 2018). Hence the conservation and protection of watershed as well as wetland is an urgent need. Some watershed and wetland management schemes are given below;

1. Conservation of Betahani and foothills of Chure

- *Bet plantation:* Betahani, named after Bet *Calamus* plant is highly important plant of commercial value. This plant is used for making baskets, furniture, handicraft, weaving works, decoration and so on. But the conservation and use of this plant in the area is not well established. This plant can be a protective cloth of river & irrigation channel including oxbow lake margins. It can also block easy access to the forest to the people due to thorny leaves and stems. Thus, it can be primary tool of Betahani area conservation and watershed management in Ghodaghodi lake system. It is also edible food for wild animals such as the leaves are eaten by elephant and seeds consumed by many bird species (Rai and Shukla, 2013).
- *Control of haphazard movement of tractors in the jungle and river course:* Extracting boulders and sand has been noticed haphazard above Lathuwa and Tengna river upto the base of Chure. There are tractor routes all over along the river banks and in the jungle area. Haphazard movement of tractors intensifies the land slide and soil erosion and uncontrolled activities may lead shifting river course in future. These activities allow habitat loss for many wild animals and disturb to the animal activities in the area. The proper guideline about sand and boulder extraction is highly needed to protect river bank land slide and soil erosion and to mitigate high level disturbance to the wild animals. A detailed route map needs to be prepared for the periodic extraction areas of sand and boulders. Otherwise, it will create future problematic flooding in the area and deforestation.
- *Ban of Tree felling in Betahani area Community forests:* Currently scientific forest management practices have been implemented by many Forest Users Committees in the area. According to this most of the old trees are planned to be cleared and the area is replace with the new plantation. For the biodiversity conservation point of views old aged trees and tree branches are important refugia for many species invertebrates, reptiles, birds and mammals. Such scientific management forest should not be recommended at least the watershed management area particularly in Betahani area.

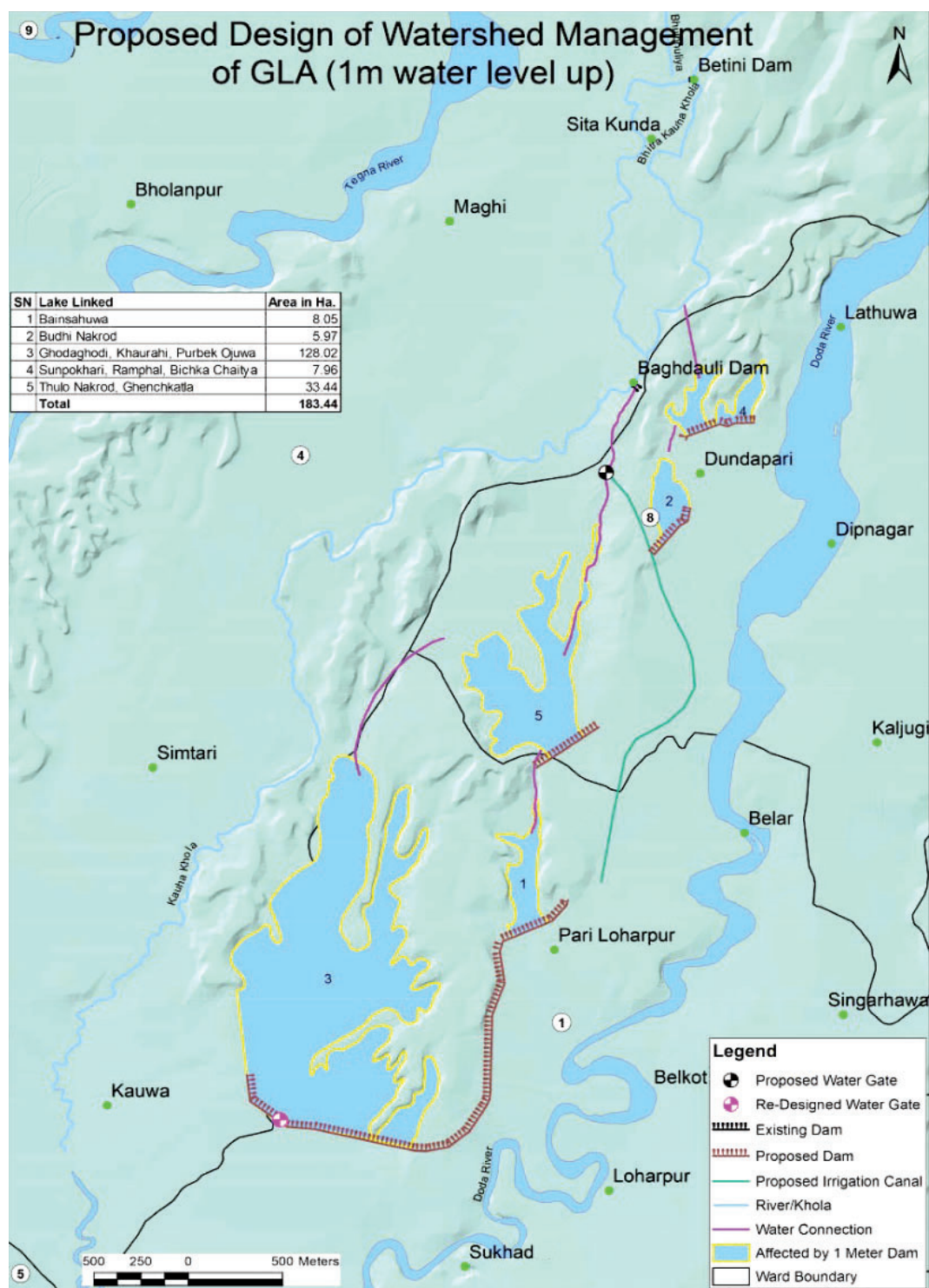


Figure 4. Affected area due to increase of 1 m water level in GLA

2. Restore water level and improve water connectivity in between associated lakes

- *Restoration of dried lakes:* The area in between Dora river and Tengna river is the most important area for water resources in Ghodaghodi municipality. Betahani is the prime source of water of the entire lake system. So the conservation and management of the water source area is an urgent action to be considered. Water level in different lakes is decreasing and drying out of lakes during dry season has been noticed. Drying out of lakes is the big threat in GLA. Many lakes are already dried such as Bukuwa, Bandrahuwa, Chandrabijuwa, Parsahini, Semrahuwa and Tin-Chatiya (Figure 5). The main reason of drying out of the lake is noticed due to fish farming malpractices. If this practice has been continued other lakes will have the same condition as aforementioned lakes. The other lakes facing high human pressure and overexploited are Baisahuwa Budhiya Nakror, Bichka Chatiya, Palpaliya, Puraina, Purbi Ojahuwa, Sonpokhari, Ramphal, Tedi and Tengnahuwa (Figure 5). Thus, intentional drying out of the lake should be strictly prohibited and fishing through the provision of fish contractor license should be restricted to the limited lakes only within Ghodaghodi lake system area. Selection of such lakes should follow the criteria of conservation of wilderness and diversity of wetland bird species. Based on high disturbance level such as lakes along the Highways, accessible with other roads and close to the human settlements should be allowed for fish license from the Ghodaghodi Municipality. All other lakes must be used for biodiversity conservation and ecotourism.
- *Cleaning of lakes:* Lakes are filled with some weeds and submerged vegetation. Fortunately, Ghodaghodi lake system is free from introduction of invasive aquatic hyacinth *Eichhornia crassipes*, it can be arrive anytime. So these kinds of aquatic plants must be removed if seen. High density of aquatic plants increase eutrophication and decrease the water level of the lakes, such kind of plants should be partially removed cautiously from the lake because such kind of habitat is good for breeding sites of aquatic birds. Particularly, front side of the Ghodaghodi lake is with full of high density aquatic submerged plants. This site is recommended to clean.
- *Construction of an embankment:* Increasing water level in Nakror, Ramphal, Sonpokhari and Budhiya Nakror, Baisahuwa and other lakes can improve the water connectivity, protect them from human encroachment and improve irrigation facility. This can be done by constructing the embankment along the eastern side from Nakror to Ghodaghodi Lake. The detail plan to increase water level of one to two meter high is proposed (Fig 4 & 6). If the water level is increased upto two meters, it will store water approximately 230 hectare area instead of 130 hectare of current capacity (Fig. 1) in GLA.
- *Connect lake system with the natural spring water source:* The water connectivity with original spring water source need to be established to maintain water level throughout the year. Most of the lakes need to be maintained with the minimum water level during dry season. It enables to improve irrigation facility to farmers and increase crop and vegetable productivity in the area. For the channelization of inner Kauwa river water into Ramphal lead to increase the water volume in the lake. Connection with the perennial river with Sonpokhari, Bichka Chatiya and Ramphal will support the life system of the lake during the dry season. The connection point is suggested and potential area of constructing embankment is given (see map 2 &3). It will increase the water volume of these lakes which is used for irrigation during dry season for increasing productivity of the local people.
- *Land acquisition:* Land acquisition of the encroached land around Sonpokhari, Bichka Chatiya, Ramphal, Budhiya Nakror and Nakror lakes is needed to construct embankment, irrigation channel construction as well as developing ecotourism spots. It is also important to control further encroachment of the lake area and to promote ecotourism.

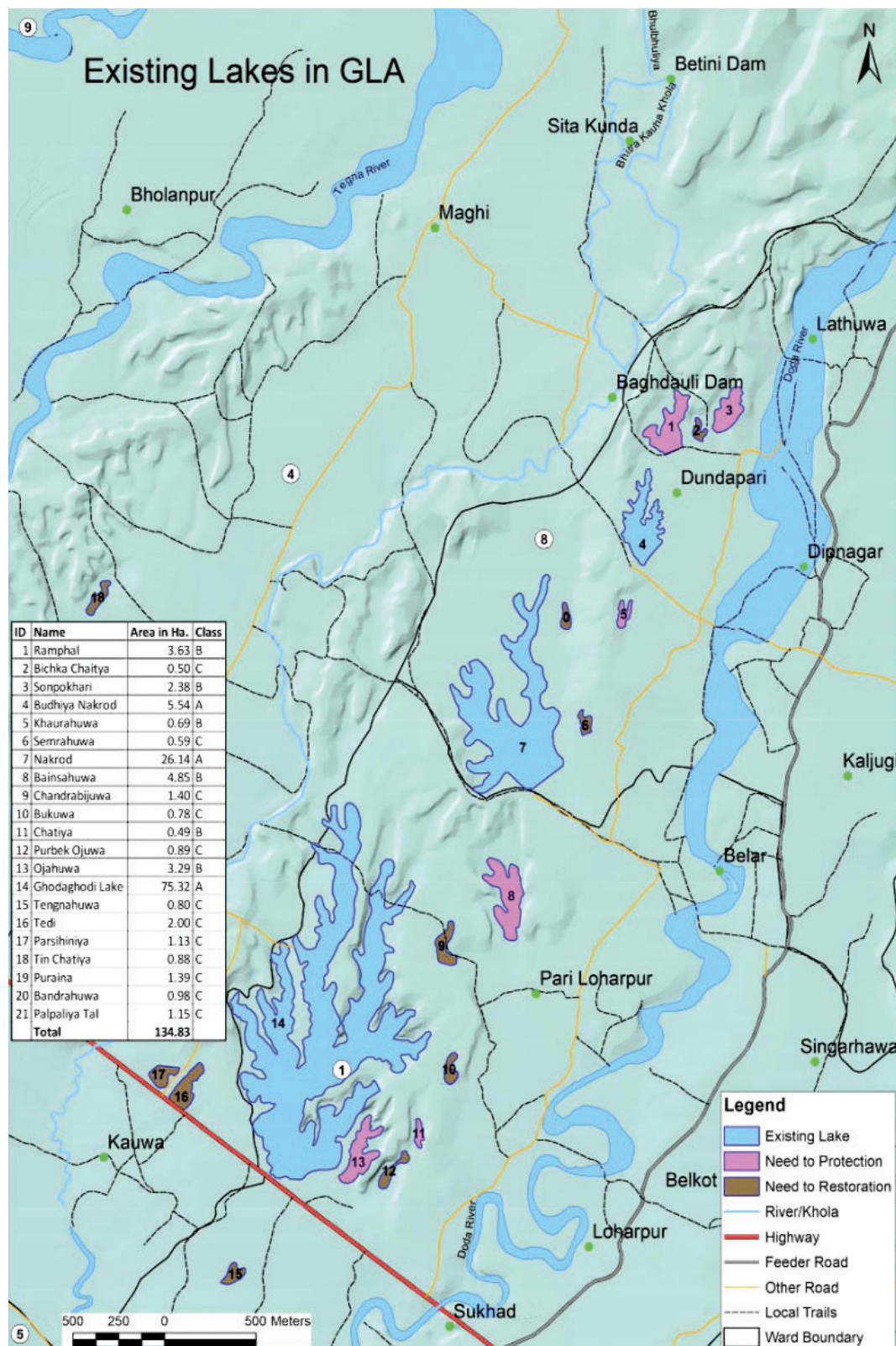


Figure 5. Condition of existing lakes in GLA

3. Regulation of Fish farming

- Limiting of fish license: Drying out the lakes is a common problem in many lakes of Ghodaghodi lake system because of exploitation of lakes for fish farming except Ghodaghodi and Nakror. As being listed in the Ramsar site, the entire lake system of Ghodaghodi (from Ghodaghodi to Sonpokhari) should be developed as area of water store house for developing wide scale irrigation for livelihood improvement of farmers, biodiversity conservation and nature tourism. If the water from Kauwa river is fed to Ramphal and Nakror, the water level can be maintained in these lakes.

4. Restructuring/re-designing Irrigation facilities

- Designing new irrigation infrastructure: A separate plan for irrigation facility is required. This plan should be based on the increased water volume in the GLA. This plan should focus on the maintenances of water regulating gates and canals including the controlled irrigation canal systems downstream south to the E-W highway and well upstream irrigation system viz. Dudapari, Dipnagar to Loharpur. This irrigation infrastructure network should be prepared in coordination by Ghodaghodi Municipality with Irrigation Department, Forest and Agriculture Department. Irrigation canal and water gates have been constructed at local level in several locations of different lakes such as Purbi Ojahuwa, Ojahuwa, Ghodaghodi, Nakror, Ramphal and Budhiya Nakror including Kauwa river at Betahani but most of these gates are out of functions. Hence re-designing the dams and irrigation canals is an urgent need for wise use of wetlands.
- Construction of an alternate irrigation canal: Water fed by Kauwa river into the Nakror lake is overexploited by local people. The controlling mechanisms of water gate constructed in the Nakror outlet did not work as the level decreased in the dry season. So an alternate irrigation canal need to be constructed for the irrigation of Dondapari, Dipnagar and Loharpur area. Instead of feeding the Kauwa river water to Nakror, an alternate irrigation canal is proposed to be constructed from Baghdauli dam to Dundapari. During dry season, this canal will be used for irrigation and excessive water use of Nakror lake will be minimized for the maintenance of Nakror lake water level. This canal also be linked with feeding channel to Nakror if the irrigation is not required.

5. Habitat restoration

- Conservation, expansion and plantation of Bet (*Calamus tenuis*): Bet plantation program advised to be initiated in Betahani area, along river banks and most of the lake edges and margins from Ghodaghodi, Nakror, Ojahuwa, Baisahuwa, Ramphal and Budhiya Nakror including along the newly constructed embankment.
- Other plants of medicinal value and commercial value should be selected such as Harro, Barro, Amala, bamboo, Jamun, Kusum etc.

6. Ecotourism infrastructures

“Wise use” is “the maintenance of a wetland’s ecological character, achieved through the implementation of ecosystem approaches, within the context of sustainable development” (Ramsar Convention, 2005). Following are some examples to be considered in the master plan for ecotourism purposes; *Information center with Souvenir shops*: Existing information center should be developed as showcase of local products i.e. locally available natural products (harro, barro, amala, curry leaves, bojho and so on) and handmade hand products and publications (books, arts, reports, guides, dhakiya etc.).

- *Nature walk & cycling trails* (avoid 4 wheelers within lake system area): Cycling routes can be managed to the tourists. Cycles can be provided on hire for visitors.
- *Resting benches and Dust bin installation* along the walking & cycling trails: It is important to provide resting benches to the visitors in different places and dust bins should be placed to collect waste disposals by the visitors.
- *Bird watching wooden or bamboo secret towers*: These towers should be constructed in such a way that observer can see birds but maintaining zero disturbance level to bird species.
- *Delineation of restricted zones for free human activities*: Human disturbances has been noticed in the prime bird habitats in Ghodaghodi and Nakror lake. So some zones which are prime locations for bird species should be restricted for human movement and activities such as fishing and other human disturbances.
- *Selected zones for boating area*: Due to important bird area, boating cannot be allowed in waterbird

areas. So boating zones can be demarcated in the lake area particularly locations outside of the bird disturbance zones of some lakes such as Ojahuwa, Chatiya, Baisahuwa.

- Fishing tourism: Ghodaghodi lake system need to be developed as much as in the natural conditions. Except Ghodaghodi and Nakror, all other lakes are exploited for fish farming. Fish farming license has been provided by the local governments. But such license should not be allowed to all lakes but must be limited to few lakes only. However, lakes without fish license should be managed by the ecotourism board. Rod-fishing should be allowed for visitors in such lakes. But some lakes can be developed as fishing purposed to the visitors by providing fresh catch-fish cooking facility.
- Crocodile basking spot: Crocodile basking spots has been developed in Ghodaghodi lake which is further improved by developing sand banks in some locations.
- Bird resting/foraging wooden and bamboo pillars: It is important to install some resting pillars for aquatic bird species in the lake at some distance from the observer targeting to local visitors.
- Designing picnic spots: Picnic fashion among local people has been growing rapidly. But the management of proper locations is highly needed. Sometimes the public mass is out of control in certain occasions such as a new year period and during holidays and local festivals. So such mass need to be managed by mitigating low risk to the local environment.



Boating in Ojahuwa Lake

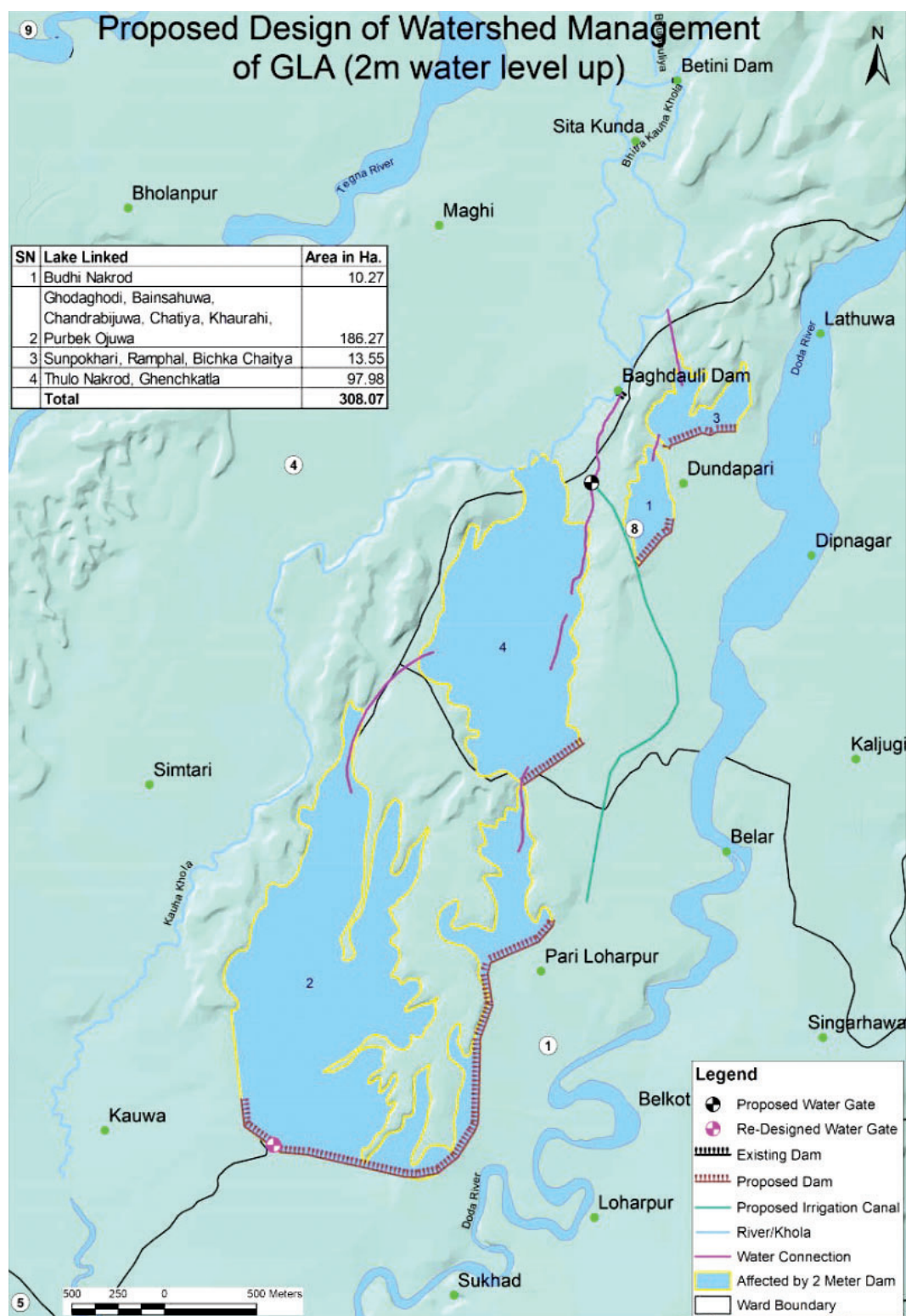


Figure 6. Affected area due to increase of 2 m water level in GLA

Proposed Action Plan

Inputs/ Activity	Action	Priority	Performance indicators	Outcomes
Input 1	Conservation of Betahani and foothills of Chure			
Activity 1	Bet plantation	P1	2-3 thousand bet plants will be planted in Betahani area including oxbow lake fringes	Protection of Betahani watershed area and production for bet based cottage industry
Activity 2	Control of haphazard movement of tractors in the jungle and river course	P1	Regularize the disciplined movement of tractors in the forest and river bed	Improve wildlife habitats, reduce landslide and soil erosion.
Activity 3	Ban of tree felling in Betahani area community forests	P1	Make Forest user's committee members more responsible	Stop forest degradation of watershed area of GLA
Input 2	Restore water level and improve water connectivity in between associated lakes			
Activity 1	Restoration of dried lakes	P1	Ten already dried lakes will be re-stored.	Increase the groundwater recharge, increase the numbers of aquatic birds, increase the fish production.
Activity 2	Cleaning of lakes	P3	Improvement of some degraded parts of Ghodaghodi, Nakror and other lakes	Reduce eutrophication and improve water quality of lakes.
Activity3	Construction of embankment	P1	Construction of four embankments around Ghodaghodi to Nakror (approx. 2800 m), Nakror (395 m), Budhiya Nakror (325 m)	Increase the water holding capacity for irrigation and aquatic life, Prohibit further encroachment of lakes.
Activity 4	Connect lake system with natural spring water source	P2	All lakes will be connected with Kauwa Khola natural water spring	Make the water availability during dry season.
Activity 5	Land acquisition	P3	Encroached land from Sonpokhari to Ghodaghodi	Improve lake structure, control further encroachment
Input 3	Regulation of fish farming			
Activity 1	Limiting of fish license	p2	Provide fish license for only few lakes that do not affect biodiversity and aquatic life	Control of fish mismanagement, enhance biodiversity status
Input 4	Restructuring/ re-designing irrigation facilities			
Activity 1	Designing new irrigation infrastructure	P2	Re-structuring of irrigation facility to ward no. 1, 4 and 5	New irrigation structure increase productivity, decrease the pressure on Ramsar site.
Activity 2	Construction of an alternate irrigation canal	P1	Construction of new irrigation canal in ward no. 8	New irrigation structure increase productivity, decrease the pressure on Nakror lake.
Input 5	Habitat restoration around lake periphery			
Activity 1	Plantation of useful plants in oxbow lake margins and around periphery	P2	Plantation of economically important and medicinal plants	Alternate income generation to local people
Input 6	Ecotourism infrastructure			
Activity 1	Establish Information center with Souvenir shops	P1	Establishment of information center	Increase economic activities, recognition of GLA
Activity 2	Nature walk & cycling trails	P3	Construction of local trails	Attract nature lovers to visit the area
Activity 3	Resting benches and Dust bin installation along the walking & cycling trails	P1	Installation of approx. 50 benches and 50 dustbins along the nature walk and watching tower	Decrease polluting waste material and keep environment clean

Activity 4	Bird watching wooden or bamboo secret cabins	P2	Construction of approx. 5 bird watching secret bamboo/wooden cabins in Ghodaghodi and Nakror	Minimize the disturbance to birds and encourage wildlife photography
Activity 5	Delineation of restricted zones for free human activities	P1	Restriction of High water bird zones of Ghodaghodi and Nakror	Improve wilderness for protected species
Activity 6	Selected zones for boating area	P3	Restriction of human movement in water bird zones	Attract ecotourism
Activity 7	Fishing tourism	P3	Selection of fishing spots	Enhance game fish tourism
Activity 8	Crocodile basking/nesting sites	P2	Building sandy bank	Attract tourists and increase reproductive capacity
Activity 9	Bird resting/foraging wooden/bamboo pillars	P3	Several dozens of resting pillars fixed to strategic location in the lake	Attract bird watchers, provide foraging activities of birds
Activity 10	Designing picnic spots	P2	Delineate and construct picnic spots	Proper management of picnickers

4. Conclusion

In conclusion, Ghodaghodi lake system is the most important area of global significance. It is water-store house and wetland bird conservation area linking with hundreds of lakes upto the Indian borders. So its conservation and watershed management is an urgent need. Watershed management and wise-use of the different lakes of Ghodaghodi will enhance the biodiversity conservation, improve irrigation facilities to the farmers for the livelihood improvement of local people and develop the area as center for ecotourism.



Ghori Ghora Temple

Local stories in regarding to the Ghorighora Lake

Story 1

6

ANNEX

Concerning to the Ghorighora Lake there are many social stories of which, once upon a time, it is a local story; that the Ghorighora Lake (GL) was a village which was leading by a brave, claver and self-empowered village leader and dealing with the villagers for religious, social and cultural works for the betterment and care of the villagers and their family members, domestic cattle and production of agricultural food-grains for livelihoods including for village development in the ways of religious limitations. The Ghorighora Lake was an ancient village as for evidence there is still found some parts of mud-pots scattering here and there of the west part of the Lake.

It is said that one day at calmly mid-night he sunk in a 'notorious dream' while deeply sleeping, at the same time moon lights from the roof and wall holes of his house, were focus-fully playing in his sleeping room nearby and attached with sacred place which is, now-a-days, known as *Minjhari* (like God and Goddess room) wherein Tharu people place their 'Kul Deuta'. While he woke up, he was dangling with fear and apprehension recalling the dream which he saw. The dream was, the village was sinking under-ground of the huge water, all of the village people cattle and food-grains were following with water flood.

After a while he horribly got down from his bed-test early in the morning, he called '*village chiraki*' (village watchman) to gather all of colleague villagers with their family members in a certain open meeting place. After gathering the village people, he started speaking that he saw a notorious dream that their village was sinking under-ground of huge water and they were last breathing together with their family members and cattle. Most of the people believed on the 'dream' and some them did not. While, they were talking about the 'dream' at the same time from one side of the village people were dread crying because disaster was started. So the 'village leader' cried to the village people to escape from the village and he himself rode in a he-horse and the horse zipped so as his wife was also rode in a she-horse and followed her husband. His he-horse together with his wife's she-horse where they zipped in such way, likewise the village was sinking under-ground of huge water. Therefore, now we people look the 'Ghorighora' Lake with numerous '*tandi*' (banding parts).

After the notorious disaster, the village people who were left and alive, started to resettle and built a new village that is known as 'Ghorighora Village' but which is this village, it is left for research and study. They started to worship their beloved leader and his wife as the statues of he-horse and she-horse together with their ancients (known as *pitri*). Now the practice of worshiping has become as a necessary social culture and tradition that offering new food-grains including rice-made wine, cow-milk and holy-water etc and *Bali* (holy offer) of piggery, he goats and barking cocks to the he-horse and she-horse in each year which is known as '*Lawangipuja*' for traditionally faith healing of family members from different diseases, domestic cattle from diseases and wildlife and agricultural products from fungicides and insecticides and became as a social cultural believe. Thus the 'Lawangi Puja' a great Tharu ritual fest is called "*Ghorighora Lawangi Punja*".

During 1990 BS, once the 'Ghorighora Lawangi Puja' was not celebrated, man-eating tiger killed many of the domestic cattle and many of the people who were working in their farms nearby the jungle around the Ghorighora Lake Area (GLA) and settlements such as Lathuwa, Dipnagar, Shivpur, Basanta, Asnagara, Siranagar, Tanakpur, Sandepani, Belar, Loharpur, Sukhad, Nimdi, Kauha, Bardahwa, Simtari, Sitalpur, Maghi, Gaidakhera, Rampur, Ganeshpur, Shikharjhala etc. The man-eating tiger killing and eating of domestic cattle and people became like a 'Jungle Ghost' the situation was socially known as *Baghesari* (tiger affecting jungle). Then again, the 'Ghorighora Lawangi Puja' was regularized the *Barghariya* (village leaders) to celebrate each year as before. And again, Baghesari terror was stopped and people were generalized.

Ghorighora Name and Ghorighora Lawangi Puja

Story 2

In accordance with *Shreemadbhagwat Mahapuran Granth*, during the ethical epoch, God *Bishnu* (*Narayan*) took a deity birth as *Haegriv* (horse) to end the exploitation of huge giant King *Haegriv* (*Danavraj*). According to this ethical story, indigenous *Tharu* people living in Nepal or elsewhere, they are nature worshipers and therefore they worship the clay-made statues of *Ghori* and *Ghora*: God *Bishnu* and Goddess *Laxmi* (horse and she horse) in the north-east deity corner (local name *Minjhari*) within their houses as well as in the village *Dewthan* (like deity hut), so as from ancient period of time, all of the householders with their family members of *Tharu* people of this 'Ligtappa' (*Ligtappa* of Kailali district is an area which covers *Kanhra* River in the east, *Kandra* River in the west, *Shiwalik Churia* hill in the north and *Mohna* River in the south), worship God and Goddess *Lawangi Puja* (which is known as in local language *Ghorighora Lawangi Puja*) in each year in the *Ghorighora Dewthan* which is located at the south corner of *Ghorighora Lake* near and associated with E-W highway. Especially this Great *Ghorighora Lawangi Puja* is celebrated in the *Bibah-panchami* in the month of *Mangsir* in each year. It is believed that God and Goddess (*Ghorighora*) protect them from natural calamity, dangerous wildlife and from diseases and their domestic animals and agricultural crops are also secured. With these religious facts, it is named with "Ghorighora Lake".

As per mentioned in an devotional event in the '*Shreemadbhagwat Mahapuran*' a great religious book of *Hindu* in the *Kshir sagar* (ocean) Goddess *Laxmi* is devotionally serving to the God *Bishnu*, at that moment, God *Bishnu* wakened himself and straight looking at her face and got laughing in a loud voice. Looking and hearing such laughing of God *Bishnu*, Goddess *Laxmi* gently asked and asking him about the causes of laughing, but the God *Bishnu* did not give answer her gentle inquiry. As a result, Goddess *Laxmi* with her angrier face, she gave a 'Vow' (*Shrap*) that head of the God *Bishnu* will cut down while all of the God and Goddess facing from an unknown challenge.

The huge giant King *Haegriv* (*Danavraj*) son of *Diti*, wife of *Rishi Kashyap*, he had received a truth blessing from Goddess *Laxmi*. Once upon a time, the huge giant King *Haegriv* (*Danavraj*) took a long and hard sit down (*Tapshya*) in the name of Goddess *Laxmi* to get 'not death' with any God, Goddess, *Gandharv* and *Kinnar*, but having same face and head of his huge giant King *Haegriv* (*Danavraj*) such a living creature may kill him. In this regard, Goddess *Laxmi* endorsed it being happiest with his long and hard sits down. Since then, the huge giant King *Haegriv* (*Danavraj*) started to fight with God and Goddess including *Devidewtas* etc. and won the most of the great battles and fighting. Hence he became the king of '*Sworga*' and passing his time as being '*Swargadhipati*'. On the other, God and Goddess including *Devidewtas* approached to the God *Verma* to save their lives and asked him to protect them from catastrophe of the huge giant King *Haegriv* (*Danavraj*). In this situation, God *Verma* suggested God and Goddess including *Devidewtas* to go to great God *Shiva* to get potential ways as getting rid from the catastrophe of the huge giant King *Haegriv* (*Danavraj*) so as they did. The great God *Shiva* advised them to approach the God *Bishnu* for suggestion. From the interaction and discussions, it was summarized to fight battle with the huge giant King *Haegriv* (*Danavraj*). The battle between God and Goddess including *Devidewtas* and the huge giant King *Haegriv* (*Danavraj*). In the battle all of the battalions of the huge giant King *Haegriv* (*Danavraj*) were killed, but the main time, they woke up due to the treatment with 'deity words' (*Mantra*) such as '*Mahamritunjaya*' of guru (teacher) *Shukracharya* which he received from great God *Shiva*. Guru *Shukracharya* is Guru of *Rakshas* and *Danav*.

During the operation of battle, all of the God and Goddess including *Devidewtas* got tiredness and getting rest for a while. Main while, the God *Bishnu* became a little bit more tiredness and slept down. After a moment, all of the God Goddess including *Devidewtas* became ready to go to battle but God *Bishnu* was absent. So the great God *Shiva* and God *Verma* excavated. And all of the God and Goddess

including *Devidewtas*, great God *Shiva* and God *Verma* went for looking him, where he is. On the way in the forest, they saw the God *Bishnu* was sleeping with having a front force of boo on his chin. The main problem emerged who will make him awake and how? The God *Shiva* and the God *Verma* created an idea that God *Verma* made an insect (as the same of his color): in *Tharu* language it is known as '*Sina*' and *Dhamira* in Nepali and God *Shiva* put a soul within the insect. After a while the insect started to cut rope of the boo and the boo with no rope was fiercely become straight at that time the head of God *Bishnu* cut down. Thus, problem again emerged, how to solve such a challenge that became a discussion matter among the God and Goddess including *Devidewtas*. So the Goddess *Laxmi* repeated the event description of cutting of head of God *Bishnu* that once upon of time she was devotionally serving him at that time he woke up and he loudly laughed with looking at her face and she asked him about the causes of laughing, but he did not gave answer of her gentle inquiry, so she with her face gave a 'Vow' that his head will cut while God and Goddess including *Devidewtas* facing a problem. Because of this event, the head of the God *Bishnu* has been cut down. Once a time, the huge giant King *Haegriv* (*Danavraj*) had received a blessing from Goddess *Laxmi* that he may be killed by the living creatures which have the same face and head like the huge giant King *Haegriv* (*Danavraj*). Discussion of God and Goddess including *Devidewtas* found out a way to join the head of horse so as did. Due to such a way that the blessing of Goddess *Laxmi* applied accordingly. Now, the God *Bishnu* got a same face and head as like as the huge giant King *Haegriv* (*Danavraj*) and the Goddess *Laxmi* was also got the face and head of the she-horse. Thus both horse and she-horse with other God and Goddess including *Devidewtas* killed the huge giant King *Haegriv* (*Danavraj*). Thus, all of the *Devidewas* got their '*Sworga*' and *Devraj Indra* got again his crown. God *Bishnu* wherein he got the face and head of a horse, a small hut was made with logs and have grass-roofed, where God *Bishnu* and Goddess *Laxmi* with the face and head of horse and she horse settled and hence the worshiping of them started.

Later on a very long period of time, the indigenous *Tharu* people identified this 'hut' as '*Dewthan*' that about of this story is a forum of story among *Tharu* community. It is true that most of the *Tharu* people they worship the statues of horse and she horse made with mud-clay in their home and in the public *Dewthan*. Now this worshiping tradition has become a great and main religious culture among *Tharu* community.

Another most important thing is; the traditional faith healers (*Guruwa* and or known as *Baidda*) are key personalities and play the roles of the doctor in the *Tharu* society, while a patient become cured, they arranged and did a worship that is known as '*Tokta*' worship in *Tharu* language. Moreover, it is believed that the faith healer found out during treatment period with his '*Mantra*' (holy words and statement) that which ghosts are depressing exploiting the patient and so they asked to the God and Goddess to cure the patient and made threatens to the ghosts. In the main time, they promised for offerings to the God and Goddess and some time to the ghost also. At the stage of patient cured, so-called '*Tokta*' worship event is arranged. During the *Tokta* worship event, dried head of bull is offered to God *Shiva* to make happy, winning holy flag is offered to *Bajrangbali Hanuma* and *Devidewtas* to make happy them a chariot is offered to *Devraj Indra* to happy him and a boo and a small house of the *Dhamira* are offered to God *Bishnu* to awake up him, at last all of the God and Goddess and ghosts are worshiped with holy Mantra, cow milk, fresh water, *bali*, burning small lamp, scent (*dhup*) and *tika* etc. by the traditional faith healer.



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