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Ethiopian Institute of Biodiversity



Threats, Economic Value and Management Interventions for Restoration of Lake Chitu

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Out line

- Introduction
- Objectives
- Methodology
- Results
- Conclusion



1 Introduction

- The Ethiopian Rift Valley is characterized by
 - ✓ endemic birds
 - ✓ endemic wild animals
 - ✓ microbial communities
 - ✓ soda abstraction
 - ✓ commercial fish farming
 - ✓ recreation
 - ✓ great scientific interest



- Communities surrounding most Ethiopian lakes share a single ecosystem.....
- They also share similar challenges pollution, water quality
- In response to these challenges, the Government has given special.....
- **The Ethiopian Institute of Biodiversity** recognized that.....
- Unless urgently addressed, the continued loss of biodiversity, will affect.....



2 Objectives

- ❖ Identifying threats of the Lake Chitu for *in situ* conservation site.

Specific Objectives

- To see major threats for general ecosystem disturbance
- To see the use of the lake for the surrounding community
- To identify stakeholders for integrated *in situ* conservation site



3 Methodology

Area

- The lake is located at South of Addis Ababa in west Arsi zone Aje woreda, Labu subuqa kebele





- It has an area of 0.8 km² and a maximum depth of 21m
- It lies between 7°24'13"N and 38°25'16"E
- About 275kms from Addis
- There are hot springs at the mouth which supply the lake
- *Arthrospira fusiformis* being the single dominant species



- *Arthrospira fusiformis* (formerly called *spirulina*)
- Cultivated world wide in different.....
- protein (60%-70%) 10 times >the amount being in meat
- Carbohydrates 15-20%
- contains 4-7% lipids
- fat 5%
- essential amino acids
- more minerals and vitamins than the vegetarian diet (7%)
- reducing cholesterol level
- fight cancer
- slow HIV progression



Sampling Methodology

- ❖ Random sampling method by taking villages as a cluster
- ❖ 12 villages (10 respondents from each)

Data collection

✓ Primary Data Collection

- **1** semi structured questionnaires (randomly)
- **2** Focused Group Discussion
- **3** Key Informant Interview Opinion leaders selected deliberately





✓ Secondary Data Collection

- ❖ Published documents
- ❖ woreda and kebele data

Data analysis

qualitatively based on intended issues to be known

SPSS version 17



4 Results

- 804 house hold heads are reg. in kebele
- 634 Male household heads & 170 are female household heads

Sex

- Of the 120 interviewed households, (81.6%) were males and (18.4%) were females

Livelihood

mixed agricultural system main economic activity around the Lake 72.5% wheat belt



- Other people under go Crop cultivation is the community **27.5%**

➤ **Source of Drinking Water**

63.3% use tap water as source of drinking

36.7% both tap water & spring water (after cooling)

Nobody use lake water for drinking



Use of the Lake for Surrounding Community

- 100% said they use lake water only for the purpose of sanitation
- wash their clothes on the shore because of its soap nature





- Use spring water as a source of drinking for their cattle...
- As a grazing field.....





- few young associations are delivering soil salt to the market which is important in fattening





Major Threats of the Lake

➤ Deforestation is the main threat of the lake

lack of awareness (regime change)

political instability during the last two transition

Population increase...

need land agricultural land





- Erosion (Siltation and sediment loading)
- deposition of animal and plant debris
- Addition of detergents and toxic substances
- The catchment serving as grazing field for cattle



Consequences due to.....

- As a result water quality changing..
- No. of flamingo and migratory birds decrease
- Extinction of several wildlife
 - Monkeys
 - Apes
 - Bushbuck
 - Clip spring
 - Warthog
 - guzzle were left the area
 - Fox, Hyena and few bird species are the only existing wildlife species



Stakeholders Analysis

- The five stakeholders were identified for to restoration and conservation the of the lake biodiversity
- They are the
 - Ethiopian Institute of Biodiversity from Federal Government (**EIB**)
 - Ethiopian Wild Life Conservation Authority (**EWCA**)
 - Woreda environmental protection and Land use Office
 - Woreda agricultural office
 - Community



5 Recommendation

Conservation and Management Strategies

- Community awareness about Conservation
- Integration of stakeholders in planning and implementation
- Afforestation (catchments need need urgent rehabilitation measures)
- increasing the protected status of the lake
- Implementation based on results



Thank you!!!!