Project Update: 2nd Rufford Small Grant

Project Title: Enhancing Local Community-Based Conservation: An effective strategy to conserve Lesser Flamingo habitat in Chelekleka wetland in Bishoftu, Ethiopia

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1. Background

Wetlands are one of the most biodiversity-rich ecosystems, and play an important role in ecological processes and socio-economic development. However, they are also one of the systems that face human-induced threats, in which Chelekleka wetland is one. Among Chelekleka wetland birds, the Lesser flamingo (*Phoeniconaias minor*) population is declining that resulting in the species being listed as Near Threatened in the IUCN Red List of Threatened Species due to various anthropogenic factors (Childress *et al*. 2008; Parasharya *et al*. 2015; BLI 2018). The Lesser flamingo's high level of specialization and dependence on a small number of saline lakes and their phytoplankton availability (Zaccara et al. 2011), strict protection of its primary habitat ranges that serve as a shelter, feeding, and breeding ground is essential for its conservation (Krienitz *et al*. 2016; Schagerl 2016). Major activities identified for the conservation of the Lesser flamingo include protection of its habitats, management of key sites, and increasing public awareness of the need for protecting the species and its habitats (Childress *et al*. 2008). Therefore, this project aims to assess the status of the Lesser flamingo and engage the local community and legislatures to protect the species, the wetland, and its inhabitants

2. Achieved goals and activities

I. Boundary demarcation of the Chelekleka wetland

Following the recording of the coordinates on the edge and each land use type of the Chelekleka wetland, the boundary and land use types of the wetland are demarcated using ArcGIS software (Version 10.8). During the wet season, open water and swampy grasslands constituted the large cover types of the wetland, followed by farmland and forest land use types, respectively. However, due to adverse anthropogenic factors, these habitats are degraded, and open water and grassland habitats are lost during the driest months of the year.

II. Identification of conservation challenges and opportunities of the Lesser flamingo and the Chelekleka wetland

To identify the challenges and opportunities for the wetland and its biodiversity, direct field observations (Fig. 1) and household surveys were conducted in the project area. As a result, the following findings are documented (Table 1 and Fig. 2).

Table 1: Challenges and opportunities for the sustainable conservation of the Chelekleka wetland and its biodiversity

Chelekleka Wetland's Conservation	
Threats	**Opportunities**
• Deforestation: at the upper catchment of the wetland (Yerer Mountain) and in its fringe • Sedimentation and Pollution • Water Abstraction and Expansion of Agricultural Practices • Eutrophication and Weed encroachment • Unplanned Settlements and Urbanization • Illegal harvesting • Channelling Bishoftu City runoff and disconnections • Lack of law enforcement	• Conducive physical and chemical characteristics of the wetland • The presence of high biodiversity • Availability of diverse habitats • High Tourist Destination Areas in Bishoftu • Readiness of appropriate national principles, proclamations, policies, and regulations • Availability of international conventions and treaties for bird and wetland conservation in which Ethiopia is a signatory

III. Preparation of designation and management plan

Based on the IUCN, Ethiopian Wildlife Conservation Authority, and Oromia Regional State Council guidelines and criteria for the designation and management of protected areas (i.e. community-based conservation areas), a draft of the designation and management plan proposal for the proposed "Chelekleka community-based conservation area" is prepared. The draft proposal is under review by relevant stakeholders.

IV. Lesser Flamingo censuses

The population of Lesser flamingo was estimated twice per week December 2024 to March 2025, at two ground vantage points by two trained observers. Counting was conducted by naked eyes and using binoculars (10 × 42). The monthly abundance of Lesser flamingo varied significantly ($p < 0.05$), with a maximum of 704 flamingos during December 2024.

V. Community outreach

Three awareness enhancement meetings were conducted with a total of 150 people, who were selected from the representatives of the local community, farm investors on the fringe of the wetland, delegates of relevant governmental and non-governmental institutions, about the significance of Lesser flamingos, wetlands, conservation prospects, and threats of the species and the wetland, ecotourism practices and community-based conservation areas (Fig. 3).

3. Difficulties faced

Due to recent changes in the master plan and the reconstruction of Bishoftu town, most residents in the districts surrounding the wetland have been relocated. The displacement of residents, uncertainty among others, and overlapping responsibilities of government officials have delayed some community outreach activities for the project. Unfortunately, as part of the new master plan for Bishoftu town, the Chelekleka wetland is proposed to be transformed into an artificial lake. Consequently, some pre-construction activities began in the wetland a year ago, but these are now temporarily halted following ongoing discussions with relevant government officials. These challenges have impacted the project's activities relative to the timeline. To address these issues, the project team decided to undertake an additional task: preparing and submitting a report to regional officials outlining the drawbacks of transforming the wetland into an artificial lake and advocating for its designation as a community-based conservation area. To enhance the success of this effort and influence the decision on the restoration approach, a team of seven members has been formed, comprising local community representatives, investors, and conservation practitioners.

4. Next steps

- Manuscript writing to publish the results of the project in a reputable, peer-reviewed scientific journal. To create awareness and improve the stakeholders' engagement in conservation activities, we will present the final report of the project in annual research presentation symposiums of scientific societies, bird and/or wetland conservation organizations, and local communities.
- Accomplishing the remaining community outreach activities. We planned to conduct at least two radio talk shows on one of the local FM stations, one more workshop to

promote ecotourism practices and community-based strategies for conservation of bird biodiversity and the wetland.

- Working closely with the already established team and Wildlife protection clubs in the schools surrounding the Chelekleka wetland to achieve the sustainability of the wetland and its biodiversity.

5. Supplementary photos

Figure 1: Field observation activity by the Project team and field assistant on the right (Photo; Melese Moareta, 2024) and Flock of Lesser flamingos on the right (Photo; Mebrat Teklemariam, 2025)

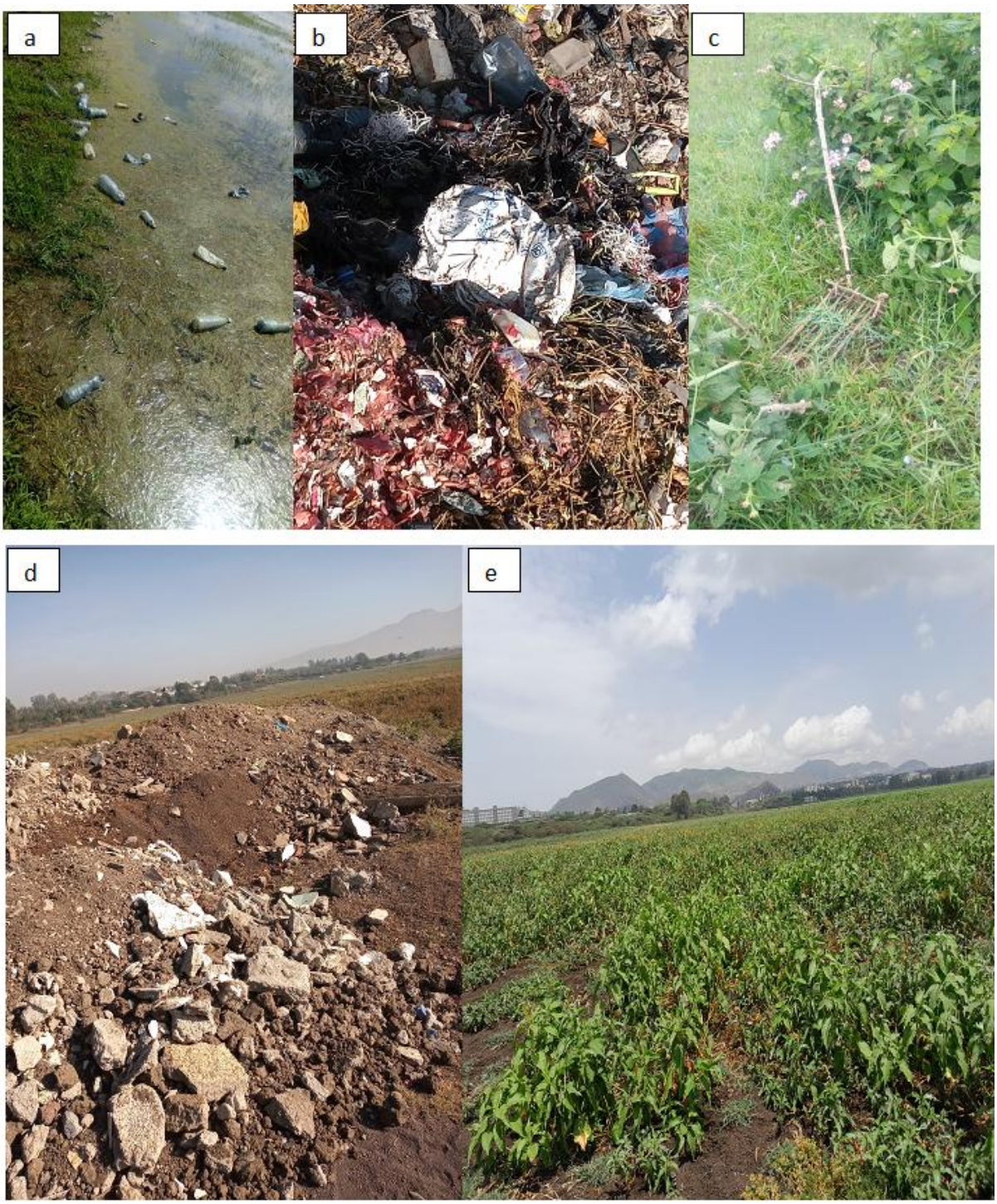

Figure 2: Some threatening factors of Chelekleka wetland and its biodiversity (a) eutrophication as a result of liquid waste disposal, (b) solid waste disposal into Chelekleka wetland, (c) illegal hunting using snares, (d) construction by product disposal and (e) weed expansion (Photo; Mebrat Teklemariam, 2024)

Figure 1: Some community outreach activities of the project (i) discussion with multidisciplinary experts, (Photo; Yoseph Samuel, 2024), (ii) and (iii) panel discussion with stakeholders (Photo; Lulu Alemu, 2024)