

## Introduction

Lake Albert (Figure 1), shared between Uganda (54%) and Democratic Republic of Congo (46%) supports a multi-species fishery, comprising originally about 55 species (1,2) of which over 15 species appear in the commercial landings. The exploitable species vary in sizes at maturity from the small (< 15 cm, total length – TL) e.g. *Engraulicypris bredoi* and *Brycinus nurse* to the large-bodied species e.g. *Alestes baremose*, *Hydrocynus forskahlii*, *Bagrus bajad*, *Labeobarbus bynnii* and *Lates niloticus* (plate 1). The multi-species nature of the exploitable species poses a management challenge particularly selection of appropriate harvesting methods in absence of adequate scientific information on the harvestable stocks. Here, we present information on the status of the commercial fisheries of Lake Albert and provide some management recommendations for the diverse stocks.

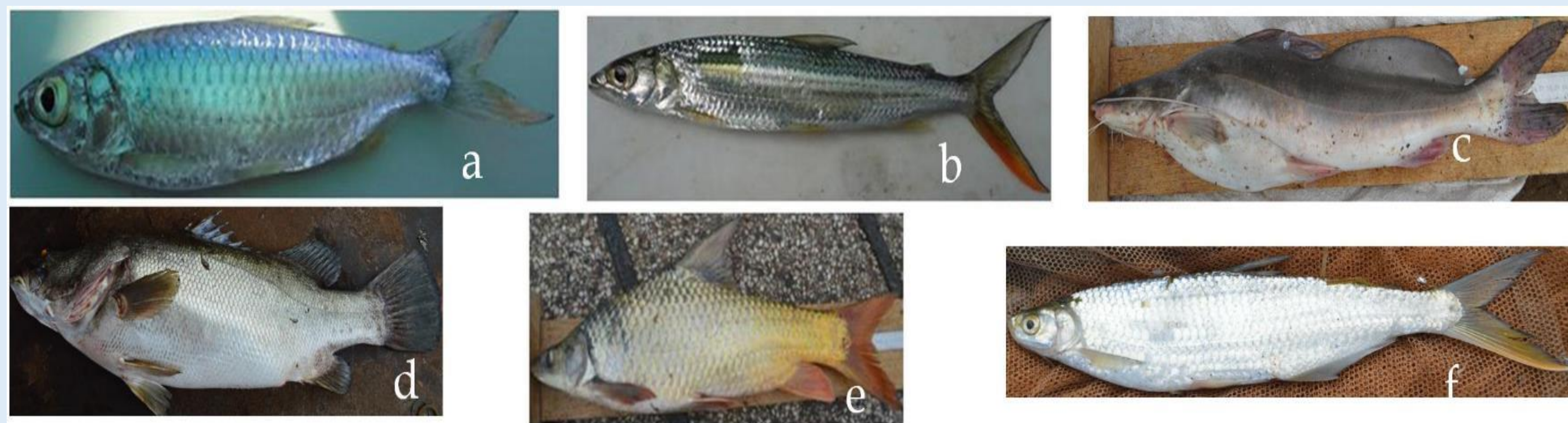


Plate 1. a-*Brycinus nurse*, b-*Hydrocynus forskahlii*, c-*Bagrus bajad*, d-*Lates niloticus*, e-*Labeobarbus bynnii*, and f-*Alestes baremose*.

## Materials and methods

Data was collected from 22 landing sites on the Uganda portion of Lake Albert (Figure 1) through Catch Assessment Surveys (CASs) following the Lake Victoria Fisheries Organization (LVFO) Standard Operating Procedures (SOPs) (3). Historical catch records were obtained from NaFIRRI reports and compared with the current results to establish catch trends.

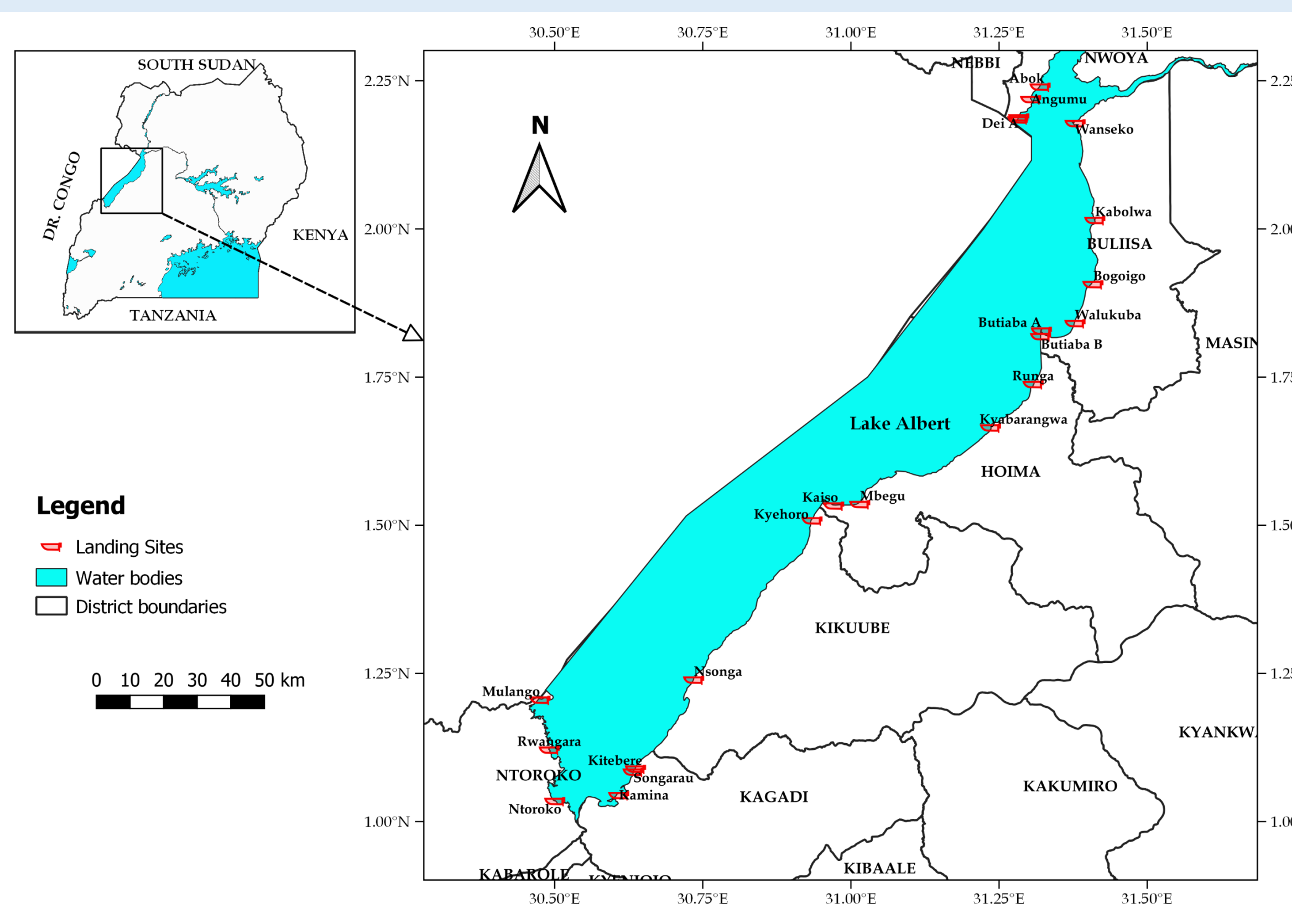


Figure 1: Location of the 22 CAS landing sites sampled on the Uganda portion of Lake Albert

## Results

- A total annual catch of 335,475 tones (t) valued at UGX: 761.5 billion (US\$ 205.8 million) was estimated on the Uganda part of Lake Albert (Figure 2). The catch was contributed by 17 fish species groups, dominated by the two emerging small pelagic species; *E. bredoi* (121,105.6 t, 36.1%) and *B. nurse* (67,331.5 t, 20.1%). The other species that contributed over 3% to the commercial landings are presented in Figure 2 and include; *Lates spp* (10%), *Hydrocynus forskahlii* (5.2%), *Alestes baremose* (3.8%), *Tilapia spp* (3.6%), *Bagrus spp* (3.6%), and *Barbus spp* (3.3%), with the rest of the species grouped as others contributing 19%.
- The small pelagic species despite contributing 56% to the annual catch only fetched 26% of the catch revenue while the large-bodies species; with minimal catch contribution recorded higher revenues e.g. *Lates spp* (19%), *H. forskahlii* (10.8%), *Alestes spp* (7.8%), *Barbus spp* (6.5%), and *Tilapia spp* (5.5%). The rest of the species combined accounted for 18.4% of the revenue (Figure 2).

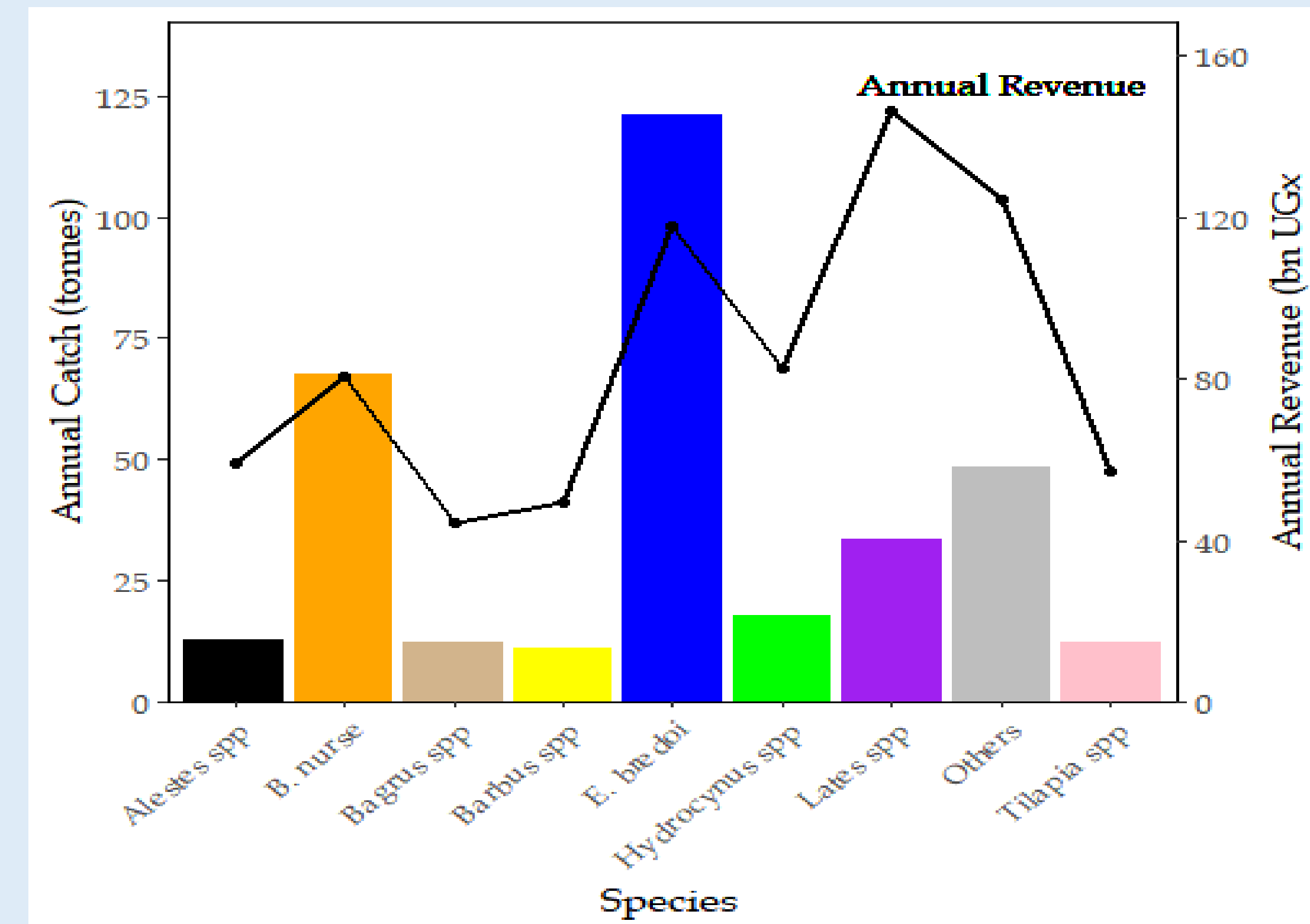
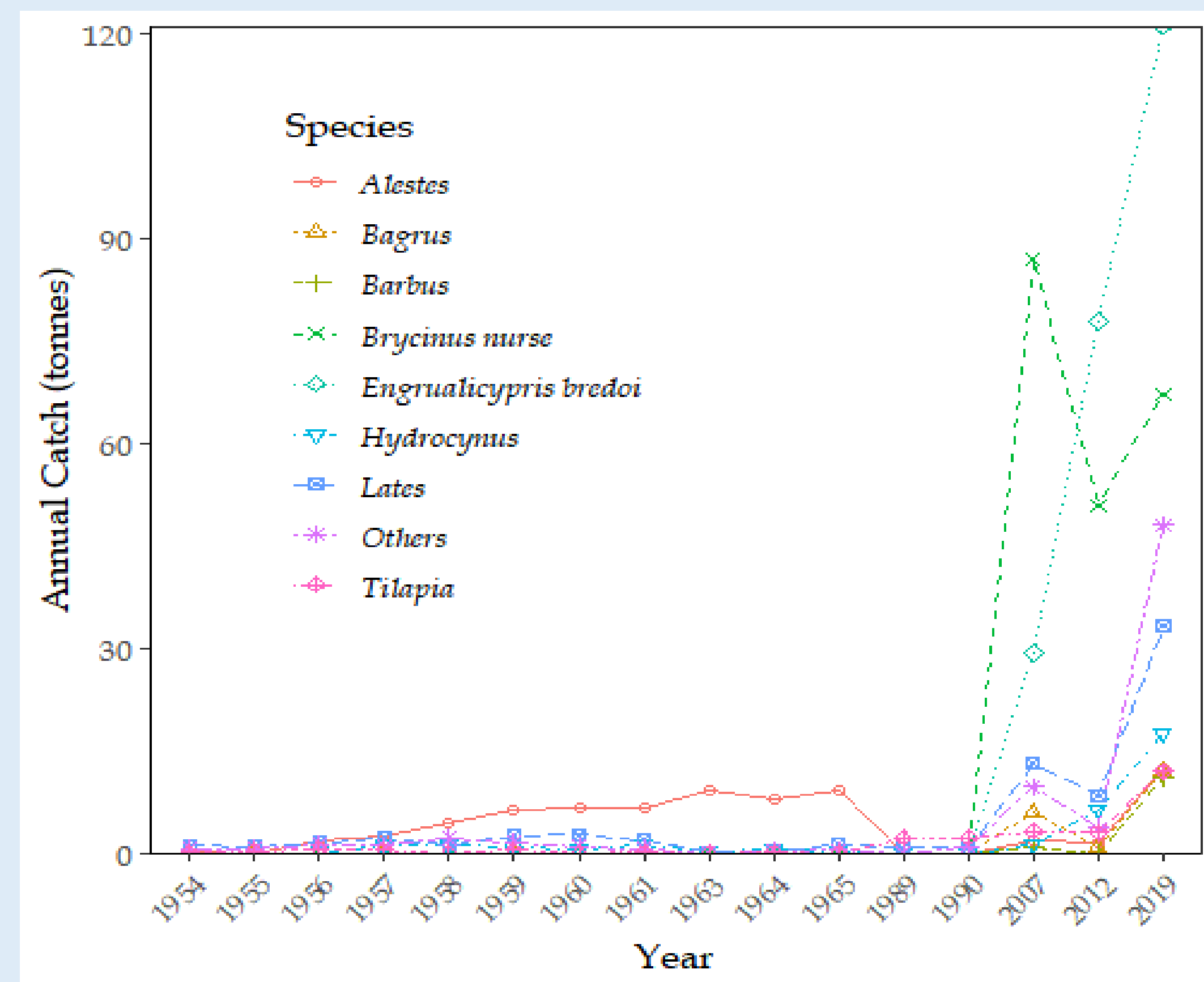


Figure 2: Estimated annual catch (X1000 t) and Beach Revenue of catch from the Uganda portion of Lake Albert

- There has been a remarkable increase in annual catch landings from 19,000 t (in 1990) to currently 335,475 t (in 2019), representing a 17-fold increase. Until the 1990s, the commercial fisheries of Lake Albert, Uganda were dominated by the large-bodied species *Lates spp*, *Alestes spp*, *Hydrocynus spp*, *Barbus spp*, and *Tilapia spp* and catches were relatively low (Figure 3). Currently, the two small pelagic species; *E. bredoi* and *B. nurse* which emerged on the Lake in the early 2000 (4) constitute the major component of the commercial catch.



## Discussion

- Despite maintaining a multi-species fishery, the emerging small pelagic species *E. bredoi* and *B. nurse* form the back bone of the Lake Albert commercial fishery. However, both species, harvested mainly using artificial lights and small seine (Lampara) still contribute less to the economic revenue (< 30%) due to poor post-harvest handling (plate 2) and are mainly utilized in animal feed industry. The large-bodied species are economically valuable albeit the reduced catches.
- The reduction in catches of the large-bodied species is attributed to over exploitation characterized by the use of illegal fishing gears and methods e.g. beach seines, boat seines, under-size (< 4 inches) gill nets, cast nets, basket traps, and monofilament gill nets.



Plate 2. *E. bredoi* and *B. nurse* processed on bare sand after harvest. Photo taken at Kaiso landing site, Lake Albert.

## Conclusion

- The fish catches on the Uganda section of Lake Albert have greatly increased due to the emergency of the small pelagic species whose economic value is still low. The weak enforcement of existing fisheries regulations has allowed the persistence of illegal fishing practices that have driven down the stocks of the large-bodied species.

## Recommendation

- There is need to build efficient and cost-effective post-harvest handling and processing facilities for the small pelagic species, in addition to product development and value addition to increase acceptability and economic value.
- The existing fisheries regulations should be strongly enforced to eliminate any form of illegal fishing practices and excessive effort.
- Designation of species-specific management plans for the major commercial species of the lake is required

## Acknowledgement

- The Nile Equatorial Lakes Subsidiary Action Program (NELSAP) funded the 2019 CAS under the Multi-national Lakes Edward Albert Integrated Fisheries and Water Resources Management (LEAF II) Project. The contributions towards CAS implementation by staff from NaFIRRI, Directorate of Fisheries Resources (DiFR), and the Fisheries Officers and CAS Enumerators from the districts of Hoima, Kagadi, Pakwach, Buliisa and Ntoroko.