A number of fishermen and prospective investors in the mukene fishery from various fish landings in Uganda will be selected for training in Tanzania in the fabrication and operation of the lift net. The trained persons will on return be expected to train others in this new technology.

Promote hygienic processing and eating of Mukene as good source of protein

Mukene is a cheap source of protein. Because of its small size, appropriate amounts can be packed or heaps prepared according to the affordability of the consumers. The majority of mukene is dried in unhygienic conditions (mainly on sand) and results in a poor quality product. Well-processed mukene can be a good source of fish protein for humans. Studies have shown that of the three countries sharing the lake, Uganda has the lowest consumption rate of Mukene. Unlike in Kenya where the yield of mukene is not enough for the internal market, in Uganda most of mukene ends up in the neighboring countries, which include Democratic Republic of Congo, Rwanda, and Kenya. The department therefore intends to encourage Ugandans to sundry their mukene on raised racks in order to attain good quality mukene fit for human consumption. Higher prices are paid for better-dried mukene. This quality of the product will also attract more human consumers and will thus make mukene compete favorably in the diet of Ugandans with other table fishes from Lake Victoria.



Processed (sun-dried) mukene loaded into trucks

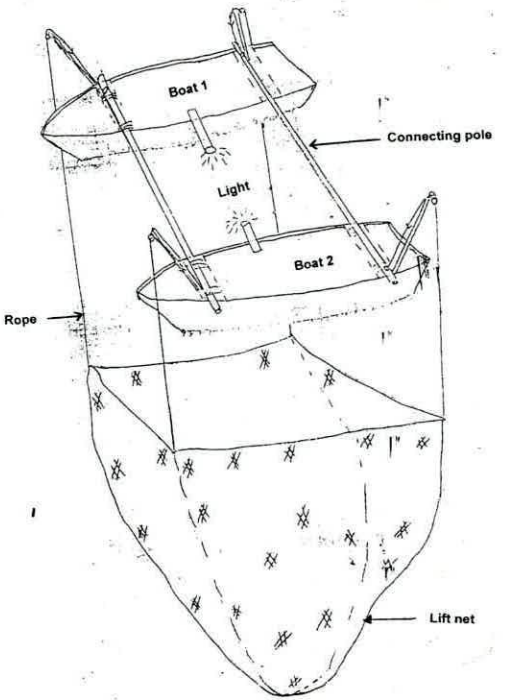
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MAAIF - DFR/FIRRI

STRATEGIES TO INCREASE COMMERCIAL CATCHES OF MUKENE (RASTRINEOBOLA ARGENTEA) IN LAKE VICTORIA



LVEMP

INTRODUCTION

Mukene *Rastrineobola argentea* is one of the three most abundant fishes that can be targeted to increase commercial fish catches in Lake Victoria. The fish is caught by light attraction. Light from kerosene pressure lamps is used to concentrate the fishes before they are scooped out using a variety of gears all involving small meshed (mosquito) nets. Fishing gears for mukene currently in use in the Ugandan waters of the lake are beach seines, boat seines and scoop nets. These gears are efficient in shallow near shore waters but are not effective in open deep waters. Surveys have shown that Mukene occurs throughout the lake with highest densities in the open waters. The rough weather conditions in the open waters has made fishing for mukene in these waters, using the above gears difficult thus most fishing is concentrated in sheltered shallow areas of the lake. The sheltered areas also serve as breeding and nursery grounds for both mukene and other fishes in the lake. Catches from sheltered waters include high proportions of immature mukene and other fishes as by-catch. Mukene in the open waters remains largely unfished. It is therefore the intention of the Department of Fisheries Resources (DFR) to encourage exploitation of these open water stocks of mukene in order to boost the country's fisheries output. The Department has come up with a number of strategies to increase commercial catches of mukene and increase the role of fisheries in the economic growth of the country.

STRATEGIES

Awareness raising on the dangers of fishing in shallow waters

The majority (83%) of boats used in the Mukene fishery in Uganda are operated using oars. They are also small and unstable in bad weather conditions. They thus concentrate in sheltered bays and shallow inshore waters where they land a high proportion of by-catch in the form of juvenile Nile perch, Tilapia, mukene, and Haplochromines. Catching the young of other fish species as mukene by-catch is detrimental to the fisheries of those species. It is therefore a threat to sustainability of fishery resources and should be discouraged. Mukene fishermen will be encouraged to fish away from small bays and shallow inshore waters which are nursery grounds for many fish species in the lake

Awareness raising on advantages of fishing in deep waters

Recent stock assessment results show that the amount and the size of mukene increase with distance from the shoreline and depth. Landing sites with motorized boats which fish in deeper offshore waters land about twice the amount of fish landed by manually operated boats fishing in the inshore waters. This information shows that targeting the deeper waters can double Mukene catches.

Train fishermen in how to operate and encourage them to invest in lift nets-catamarans

Lift nets operated from two canoes joined into a catamaran (Figure 1) have been introduced in the Tanzanian part of Lake Victoria from Lake Tanganyika where a light fishery is well established. The crafts are more stable in rough weather and can be operated in very deep waters (L. Tanganyika at 1470m is the second deepest lake in the world). The lift net is a more efficient gear for harvesting mukene especially in the deep open waters than those currently in use in the Ugandan waters. Using lift nets, Tanzania has become the leading producer of mukene in the region.

This fishing method has however not yet been introduced to the Ugandan fishermen. The Department of Fisheries Resources therefore intends to introduce this gear to the Ugandan fishermen so as to exploit the abundant offshore stocks of Mukene.

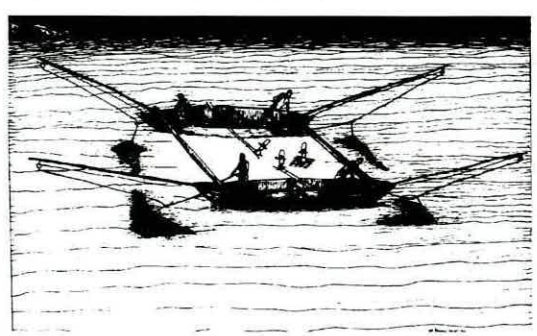


Figure 1 *Hauling a lift net on a catamaran*