

At 6 months, each fish was sold at 5,000/-, after an investment of 2,500/- per fish (labour and feeds). This translates in 100% profit per investment unit. Market survey in Moroto and Napak Districts showed high demand for fish. Therefore, this trial of cage fish farming could form a basis as a model for managing aquaculture in other valley dams of Karamoja drylands, this can be used by development partners for fish farming in Karamoja.



Figure 4:

Table size Nile tilapia (Average weight; 500g) harvested after six months



Marketing of fresh fish to the communities in vicinity of Arecheck valley dam

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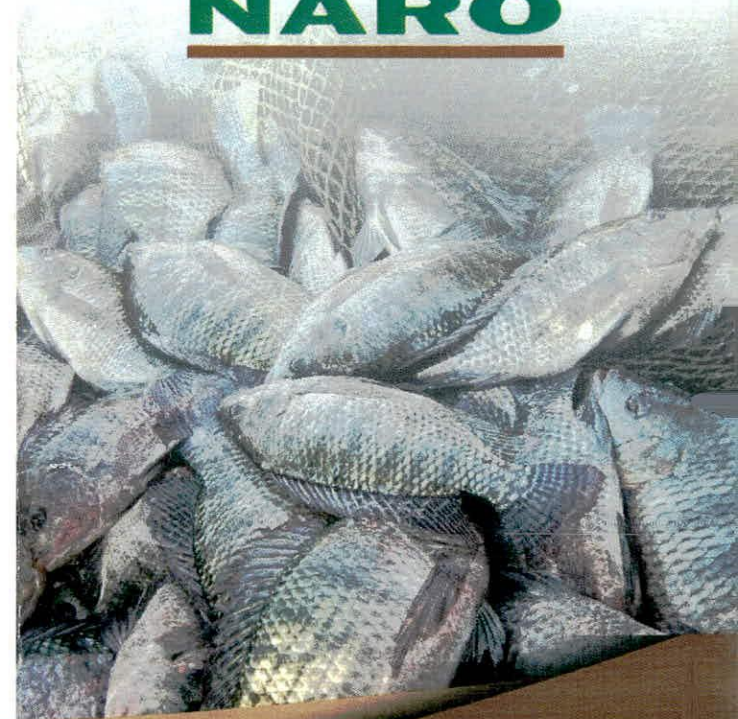
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The potential of Nile tilapia (*Oreochromis niloticus*) cage aquaculture in valley dams of Karamoja drylands



Communities in Karamoja depend mainly on livestock and some cropping for their livelihoods. The livelihood options are limited especially in the dry season when crop farming is not possible, and the livestock production is grossly affected by scarcity of pasture and water.

In the last 10 years, the government of Uganda through the ministry of water and environment has made considerable investment in valley dams to improve water for production. These dams retain water throughout the year, offering an opportunity to do fish farming to increase food security, diversify income base, and improve nutrition quality in the semi-arid area of Karamoja.

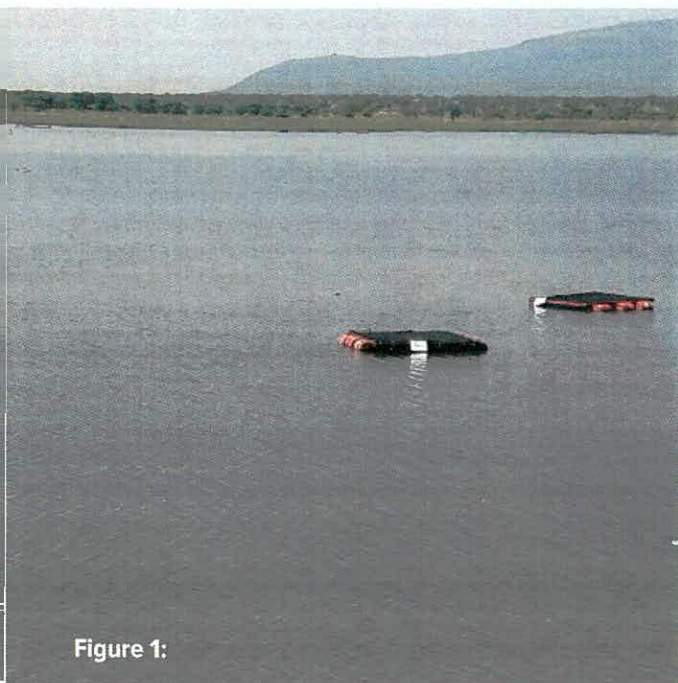


Figure 1:

Low volume high density floating fish cages on Arecheck dam

Previously the valley dams in Karamoja sub-region were only used for livestock production. Under the ATAAS project, Nabuin ZARDI introduced fish production (Nile tilapia) as an alternative option for integrated use of the valley dams. Cage fish aquaculture is an intensive fish farming practice that ensures high productivity within relatively smaller volume of cage enclosure. The practice remains the most appropriate option for integrated use of water for production in the valley dams.

We determined the appropriate stocking density in cage fish farming, to enable farmers stock the right quantity and quality of seed in the production system, thereby ensuring improved productivity and production. This also enables maximized profitability and mitigation of adverse effects of fish farming on the environment.



Figure 2:

Research team grading Nile tilapia after harvest

We established that Nile tilapia (*Oreochromis niloticus*) grows well in Karamoja waters under fish cage farming. The optimum performance level was observed at a stocking density of 100 fish/m³ of cage. In five months growth period, mean final fish weight was 311.5 g, from initial 4.2 g. The mean fish total lengths was 23.3 cm, from 5.6 cm. Survival rate was 86%.

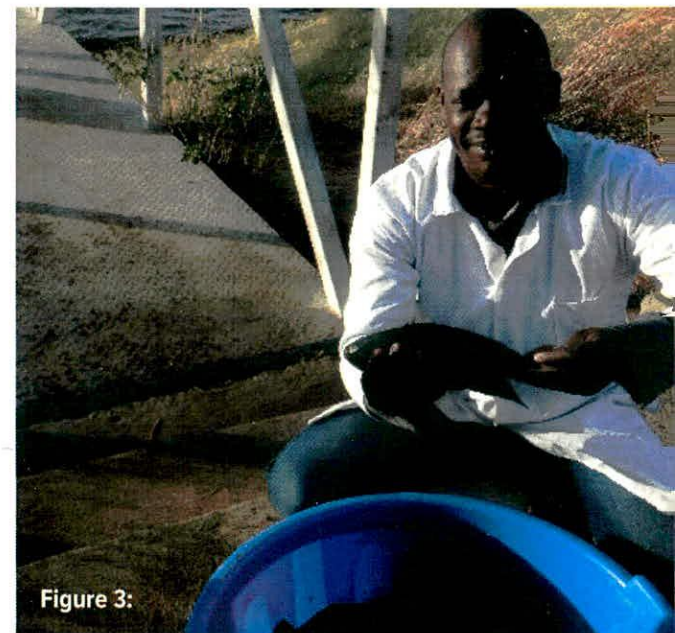


Figure 3:

Partial sampling after 4 months of growth

