

## **Improving farm yields through integrated aquaculture-horticulture in the Lake Victoria basin, East Africa.**

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fish ponds**

### **Abstract**

Studies on farmer participatory approaches to “integrated aquaculture – horticulture” (IAH) were conducted during November 2005 to December 2006 among small-scale rural fish farmers. The objectives were to research into and promote integrated aquaculture, inculcate the critical importance of IAH to the sustainable use of natural resources and enable subsistence farmers acquire improved aquaculture techniques.

The fish species cultured was *Oreochromis niloticus*. Both traditional and exotic vegetables were integrated with fish culture. Pond environmental parameters were monitored. Vegetable and fish sales data were collected. Improved fish and vegetable yields and the adoption rate of the IAH were key indicators of the success of IAH.

Fishpond sizes ranged from 50 m<sup>2</sup> to 300 m<sup>2</sup>. The highest numbers of fishponds were within the range 100 – 200 m<sup>2</sup>. After conducting farmer training on integrated fish farming, bigger fishponds (> 200 m<sup>2</sup>) were constructed. The total time taken from stocking to harvest varied from farmer to farmer with average of 7 months. *O. niloticus* grew from a mean stocking size of 3.51 ± 0.15 cm TL to a mean size at harvest of 20.00 ± 1.22 cm TL. Manure was applied at 10 – 20 kg year<sup>-1</sup> regardless of pond size. Most farmers harvested their fish at a much smaller size often at 18 – 20 cm.

Analyses on gender participation in fish farming, bio-resource utilization, manuring rates and utilization of both traditional and exotic vegetables in fish culture are presented.

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