Will fish pond management principles from the temperate zone work in tropical fingerponds?

Author Pokorny, J., Prikryl, J., Faina, R., Kansiime, F., Kaggwa, R.C., Kipkemboi, J., Kitaka, N., Denny, P., Bailey, R., Lamtane, H. and Mgaya, Y.D.

Abstract

Wetlands are important for the livelihoods of millions of people. They provide food and income, support biodiversity and form a hydrological and ecological buffer between upland areas and water bodies. Population growth and the associated environmental degradation exert increasing pressure on wetlands. An example is the Lake Victoria region in East Africa, where human population growth, introduction of exotic fish species, overfishing and eutrophication have led to a deterioration of the wetland resources. For the riparian communities, this means a threat to their livelihoods as they depend on the wetland for food and income from fishing, seasonal agriculture and harvesting of wetland products. There is a need for integrated food production and waste processing technologies that enable communities to secure their livelihood without endangering the integrity of the natural resources. One such technology is integrated wetland pond aquaculture, or "fingerponds". Ponds are dug from the landward edge of wetlands and extend like fingers into the swamp (hence the term "fingerponds"). Soil from the ponds is heaped between the ponds to form raised beds for crop cultivation. The ponds are stocked with fish through natural flooding in the rainy season. As the waters recede, the trapped fish are cultured using manure, crop and household wastes to fertilize the ponds and feed the fish. UNESCO-IHE and partners in Tanzania, Uganda, Kenya, Czech Republic and UK are currently involved in an EU-funded project to investigate the feasibility of this technology. Research focuses on the technical aspects, and on the socio-economic and environmental impacts of this technology. Also, options for integrating fingerponds with other wetland technology, such as the use of natural or constructed wetlands for wastewater treatment, need to be evaluated. Initial results of the research from Kenya and Uganda show that flooding can yield enough fish for stocking the ponds and that manuring of the ponds can increase their productivity.

Key Word fish pond, fingerponds