Indigenous species for aquaculture development in Ghana

In Ghana the Nile Tilapia and Clarias are the main farmed fish, although there are several freshwater species that are highly valued for their flesh quality and exploited from the wild. One of the main actions that could be taken to enhance consumption popularity and biodiversity conservation of such species is to bring such species into production in captivity: aquaculture.

Potential Indigenous Species

Chrysichthys nigrodigitatus

One indigenous species that is well known and hold potential for fish farming is *Chrysichthys nigrodigitatus*, in the Bagridae family.

*Chrysichthys* is quite well known among fish farmers in Ghana but few deliberately produce them in their ponds. The species frequently invade fish farms from neighboring water bodies. Recent studies on growth performance of the fish by KNUST, Ghana and Virginia Tech, USA have shown that they grow fast in earthen ponds with even minimal feeding, and almost doubling their weight every month. The optimal feed for juveniles of this fish has about 35-40% protein. The flesh quality is well appreciated by consumers and may be dried smoked or fresh but most people prefer it smoked. Chrysichthys is definitely an economic species that can be produced on a commercial scale without much difficulty as it accepts formulated fish feeds.

**Heterotis niloticus**

Another species that is worth considering for production in captivity is *Heterotis niloticus* (family Osteoglossidae). The species is an opportunistic omnivore and consumes a variety of food resources, ranging from aquatic invertebrates to small seeds, including small benthic organisms, fishes, shrimps, plant remains and terrestrial insects.

In captivity, the species makes its nest in vegetated areas of the pond. Additional knowledge on ecological, behavioral and nutritional factors at early growth stages is required for commercial production of the species. One major problem with the species is the absence of distinct external features to distinguish between males and females. The prospect for *Heterotis* contribution to Ghanaian aquaculture will depend largely on resolution of problems associated with early growth and development and sexing.

Parachanna obscura

*Parachanna obscura* (family Channidae) is a commercially important fish species belonging to the family Channidae and with a wide distribution in rivers, lakes, marshy habitats and bank vegetation. They occur in almost all river basins in Ghana. In flowing waters they tend to inhabit calm areas and avoid swift currents. Capture of the species in open waters is difficult so most
fishermen result to using traps or hooks. Culture of the species is not developed in Ghana. Fish farmers mostly keep them in their ponds without feeding them. People who are familiar with the species consider it ancient and relish the flesh. In Ghana, Parachanna is marketed mostly smoked but sometimes dried. Due to its good taste, most fishermen and market women consume with their households the few they obtain; hence the species is not commonly encountered on the market.

Information on food and feeding habits of *P. obscura* is rather scanty. Seasonal changes in food and diet are common. The larval fish feed on protozoa and algae, while early fry feeds on plankton and crustaceans. Adults tend to prey on other fishes, while juveniles feed on prawns, copepods, and aquatic insect larvae. It can easily devour a fish half of its length and it swallows its prey whole.

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