

TILAPIA AQUACULTURE IN SUB-SAHARAN AFRICA

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Abstract

Despite a promising taking off of fish culture in Sub-Saharan Africa during the 1940 under the colonial rule, and after 1960 in the framework of many research, development and R & D projects, it can be assessed that today, African fish culture remains in stand by. This situation cannot be explained by bio-technical reasons as many efficient and simple fish culture techniques have been developed and experimented in some African countries on research stations and pilot farms and extended to a number of other ones, particularly under regional projects and networks in the 1970 and the 1980. At that time, four types of fish culture could be discriminated: 1) subsistence fish farming, 2) artisanal aquaculture as a small-scale commercial undertaking, 3) “segmented aquaculture” and 4) industrial large-scale aquaculture.

The first type has been widely promoted and supported by a number of organizations involved in development field projects such as FAO, USAID with its Peace Corps as well as many NGO's. This type of fish culture showed clearly that it was totally inadapted to the target populations because of its insufficient productivity and of the impossibility for it to be integrated into the agricultural production systems. Moreover it requires skill and professionalism, two words lacking in the tool box of most of fish culture extensionists. Then big hopes were invested in the second type of fish culture but its development showed to be a difficult one due to many factors, especially in periurban areas, such as access to land, access to credit, cost of inputs, decreasing purchasing capacity of consumers.

Concerning the two last types of fish culture, some entrepreneurial fish (or shrimp) farms have been implemented and, even if initially successful, they were unable to face any economical crisis (as they did in Asia) due to a poor social, economical and technical environment, except for a very few number of farms operated by international agro industrial companies.

New options and alternatives emerged in the early 1990 aiming at assessing a sustainable development of fish culture through several approaches such as agronomic/systemic appraisal, participatory research for integrated aquaculture and the promotion of an efficient and commercial rural aquaculture.

The participatory approach has emerged while the public services, due to their inefficiency, were declining, replaced by local authorities and communities, private

operators, farmers' associations, NGO's to which the tools for managing fish culture development have been transferred. This approach does not focus mainly on profitability of fish culture or quantitative production targets but on shared objectives between fish farmer and extensionist and on the selection of culture techniques by the fish farmer not necessarily aiming at the optimisation of the production. The selection of fish farming techniques is operated through a process of trial/error among a panel of techniques proposed by the extensionist and the scientist: the concept of model farming technique is not explicit.

The agronomic and systemic approach is based on 20 years-old concepts such as agrarian systems, culture system, production system, technical practices. It also put emphasis on the historic and socio-economic component of agricultural activities. The choice of technical solutions is then derived from the constraints the fish farmers have to face and not the contrary. The concept of model farming technique is in this case essential.

The promotion of a rural and commercial fish culture gives greater place to this second approach. It is supposed to face the challenge of its integration into the existing agrarian systems dynamics in Africa which are predominantly characterized by a low availability in inputs and based on extensive production systems. This leads the African farmer to maximize the sparest production factor which generally is human labour and not land. Moreover, the farmer aims, every time it is possible, at increasing his land tenure and decreasing risks of any kind through diversification in general and fish culture in particular (Olivier de Sardan, 1998).