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Engaging the Fish: Elixir for Nigeria's Self-sufficiency in Fish Production

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Abstract

Nigeria is blessed with wide range of aquatic resources, which are very rich in flora and fauna resources. These vast endowments of natural marine and freshwater fisheries resources could be turned into wealth, thereby contributing immensely to poverty eradication in Nigeria. This is, however, not the case now, as these resources are currently mismanaged. *Engaging the fish*, through unlocking of the environmental variables and their intermixture that may be manipulated or controlled to ensure enhancement of performance and sustainable fish productivity, is an important tool needed to address this. Investments in fish production systems have been failing due to poor knowledge of *engaging the fish*. Thus, it is necessary to create information base as regards getting to know the rearing environmental variabilities of fish both in the wild and culture systems. This will definitely support development of enduring and sustainable system aimed at bringing Nigeria's fish production to self-sufficiency and realisation of its national income-generating capacity.

The connecting nexus between these abundant aquatic resources and its availability for sufficient fish food production in Nigeria is what various research efforts seek to address by *engaging the fish*. Hence, from various research activities, documentation of various interplays among key physicochemical parameters in both Nigeria's coastal and inland wetlands in relation to primary and fish productivities in these systems were done. Based on these information, *in vitro* studies were carried out to replicate these interplays so as to establish needed database for production of these fishes under culture conditions.

Research efforts in bringing more fish for culture have been well documented and key new species such as *Parachanna obscura* and *Gymnarchus niloticus* have been well engaged by developing production chart for these species. Through various research efforts, sustainable feed development and enhancement techniques for increased production and health management through the use of probiotics and phytogenic additives were established. Also, use of bio-gradable phytogenic in control of unwanted fish population in culture condition were successfully demonstrated.Another dynamic to *engaging the fish* through research activities, is the study of behavioural responses of aquatic life to the pollutants generated from anthropogenic activities in and around Nigeria coastal and inland wetlands. Also research efforts have been able to successful identified approaches to the use of agricultural by-products in fish feed development. Various studies have led to successful promotion of the social and economic benefits of use of insect proteins in fish feed production. Efforts in *engaging the fish* have led to development of sustainable approaches to integrated fish farming. These include innovative approaches to waste management leading to 100% fish products utilisation. These approaches are indubitable tools that can be used to put Nigeria's on strong footing for self-sufficiency in fish food production.

It was concluded that the goal of achieving self-sufficiency in fish production is very attainable within a very short period of time by dextrously *engaging the fish* through demand driven research approach. Various recommendations were made for effective engagement of fish towards solving problem of insufficiency in fish food production.