

# The Aquaculture Sector in the Democratic Republic of the Congo

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**Research summary**

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**Country**

Democratic Republic of Congo

**Author**

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# Introduction and overview

This is a summary of a 'rapid assessment' of the aquaculture sector in the DRC undertaken for the DFID DRC private sector development programme. The study aims to describe the sector's structure and looks at its potential value in terms of both reducing poverty and improving nutrition among the poor population in the country. It sets out the implications for decision makers looking to support the development of a sustainable aquaculture market system within the DRC.

The report cites research which points to a decline in fish production in the DRC. Currently, the overall contribution of aquaculture to the total volumes of fish consumed is marginal<sup>1</sup>. Demand is increasingly met (though arguably not in full across all feasible markets) by large volumes of fish imported from China and east Africa.

However, the study suggests that the high demand for fish in the DRC, supported by a growing population and sufficient wealth in key regions, means there is a good long-term development opportunity for aquaculture. This could help improve food security in a country where more than 13 million people are currently considered to be 'severely food insecure'<sup>2</sup>.

The paper describes the scope for developing aquaculture in Kinshasa, and North and South Kivu, where existing aquaculture activity is currently clustered. It also looks at the possibilities present in Tanganyika.

The full version of the report can be downloaded at <http://bit.ly/DRCaquaculture>.

<sup>1</sup> Breuil, C. and Grima, D. (2014) 'Baseline Report DR Congo'. SmartFish Programme of the Indian Ocean Commission, Fisheries Management FAO component, Ebene, Mauritius.

<sup>2</sup> United Nations Food and Agriculture Organization (FAO) (2018) 'Democratic Republic of the Congo: Situation Report October 2018'. Available at: [www.fao.org/emergencies/resources/documents/resources-detail/en/c/1156574/](http://www.fao.org/emergencies/resources/documents/resources-detail/en/c/1156574/)

# Summary of findings

## Features of the DRC aquaculture sector

Fish farming in the DRC is largely informal and integrated with other income-generating activities. It is most often a secondary activity conducted by smallholder farmers who are primarily growing crops or raising livestock.

As yet the sector lacks the necessary organisation and investment needed to significantly increase production. Procuring consistent quantity and quality of inputs, particularly feed and fingerlings (young fish, especially less than a year old, and about the size of a human finger), tops the list of challenges.

However, as you might expect across a country as large as the DRC some features are specific to each region:

- North and South Kivu are strongly influenced by east African supply chains and knowledge sources, importing inputs and farmed fish from east Africa and Asia. This contributes to efficient production and market access for consumers.
- Kinshasa's industry structure is quite different, with larger farms acting as a small private sector cluster, though still with limited access to feed and equipment. A market does exist in Kinshasa, though it is largely disorganised.
- Tanganyika has very limited aquaculture production and appears to be more reliant on wild fisheries (and imported fish).

## Capacity-building

The Government's Service National d'Aquaculture (SENAQUA), or National Service for Aquaculture, lacks sufficient capacity and funding to provide effective services beyond core compliance and registration.

Currently, the International Institute of Tropical Agriculture (IITA) is providing more of the support services (such as extension support and supply of fingerlings) than SENAQUA, which is focusing resources on core compliance. The IITA has a hub in Kalambo, outside of Bukavu, and an office in Kinshasa.

Strengthening public sector capacity to provide relevant guidance and support for small and large industry actors alike will be key to ensuring that the necessary technical knowledge and extension services needed for the sector to thrive are in place. This must in turn build the capacity of the fish farmers themselves, who currently have limited knowledge and support, often having to trial methods themselves.

## Feed

Feed supply is critical for high-quality fish farming and it is the single most important factor limiting the potential of the aquaculture sector in the DRC.

No processors are available to produce feed commercially in the DRC. Some farms are trying to produce their own feed but are struggling to find the right quality and combination of ingredients, meaning that reliable at-scale volumes are not available and will significantly constrain the sector's development. The standard of most local feed therefore remains very poor and is often just a combination of two or three ingredients, e.g. rice bran and maize. Where local feed is used it significantly compromises productivity.

Evidence across the regions confirms that even when operating at larger scale and with more capacity a strategy relying on local feed production in the short to medium term could pose significant risks to the efficient growth of the sector. This means that at the moment any increase in productivity in the sector is tied to the availability of high-quality and affordable feed from southern and east Africa.

## Production of fingerlings through hatcheries

The infrastructure to produce young 'seed' fish and distribute them to farmers is not effective. For example, SENAQUA has a reproduction station near Bukavu, responsible for supplying fingerlings to the Kivus. However, this is rarely operational due to a lack of finance and electricity issues. Fish farmers in this region are importing seed from Uganda and Rwanda, though importing live fish is against current trade regulations. In Kinshasa the Government is supporting the production of catfish and tilapia fingerlings through a hatchery they built in 2013, which aims to grow, produce, and distribute 1 million fingerlings to farmers for free. However, farmers are not yet well informed of this offer and only half of the agreed number of fingerlings have been produced to date. It is still the case that most of the Tilapia fingerlings found in Kinshasa are imported from Zambia, Belgium, and Uganda.

## Pro-poor impacts

The economic benefits of fish farming are determined by land ownership, which provides a bias towards older men, with women tending to occupy trading functions, and children and young people as workers. The involvement of children and youth in aquaculture, particularly informally as unpaid family labour, raises questions around child labour, although some casual farm activities on a household farm may be considered to be consistent with learning skills and development<sup>3</sup>.

Though small-scale fish farming may enhance food security and nutrition on a subsistence level, access to land and skills are effective barriers to the ultra-poor. Supporting small-scale fish farming will create casual youth employment opportunities on farms, as well as opportunities for women traders. However, the support required would be on a pre-commercial level, and therefore not entirely consistent with the intervention logic of a market systems programme. Cage aquaculture and larger-scale pond farming, in contrast, does have routes to poorer consumers and can be a source of employment for hundreds of workers.

<sup>3</sup> [www.ilo.org/ipec/facts/lang-en/index.htm](http://www.ilo.org/ipec/facts/lang-en/index.htm)

## Market development

Support to medium-sized cage and pond producers, particularly around areas where market demand for fish is high (Kinshasa, Goma, and Lubumbashi), has strong potential to generate a good return in trade and employment opportunities. Trade routes are key to the development of the sector; access into Goma and Bukavu for high-quality feed is crucial for commercial development in the Kivus. Eliminating trade barriers for feed and other inputs is recommended for supporting institutions. For Kinshasa, there appears to be high potential for growth but developing large-scale distribution networks beyond local sales or open markets would be challenging.



Photos credited to Andrew Parker, Imani Development

# Conclusions and recommendations

There is a good long-term development opportunity for aquaculture in the DRC. However, production gains would require a commitment to long-term investment across all parts of the value chain, including: feed production; in the supporting functions (both public and private), including research and development, education and training; and extension services.

Any commercial developments in the aquaculture sector in the Kivus should be focused on the viability of cage or larger-scale pond farming using the best quality inputs, often sourced from or through east Africa.

Market systems development in the Kinshasa region should focus on improving the cold chain and market access. Collaboration between producers is advisable in importing good-quality feed and achieving other efficiency gains to help them be competitive in the fish market.

The capacity of fish farming in Tanganyika appears to be very sparse and would require pre-commercial investment (that is, investment that may not be possible through private sector funding alone).

Common nationwide challenges point towards several key focal areas for future interventions:

1. **Feed is the highest priority.** Low-grade feed is currently a serious constraint on the growth of the industry. In the longer term there may be opportunities to improve local feed production capacity, with some progress and scale being achieved in Kinshasa, but under the current conditions securing the supply of good-quality feed imports is a much better prospect.
2. **Supporting pooled buying of feed** may be a means of securing this supply. The particular feed and supply route will vary by region, but the benefits of **linking organised cooperatives with commercial feed importers** holds across regional contexts. Such a step would have coordination costs but should be commercially feasible.
3. Extension services and knowledge transfer are needed to support disparate actors lacking advice and support, and who have to find adequate solutions that are costly to achieve, to de-risk their aquaculture businesses. Improvements could include encouraging fish farmers to work in clusters and the intensification of lead fish farmers in particular regions, from whom other farmers can learn.
4. Availability of **quality fingerlings** is an ongoing problem. Whilst new hatcheries are under development in both South Kivu and Kinshasa, it will take time before the benefits of these are realisable, and their geographic reach into rural areas and other regions will be very limited. Also, they will require strong management of plant and distribution to provide impact. In the medium to long term this should

be paid for by farmers on a commercial basis so that good-quality fingerlings are built into the business model.

5. In order for the benefits of an improved fingerling supply to be fully realised, extension services will need to be strengthened. A first step is to focus on **strengthening the capacity of SENAQUA personnel**, who, with their limited technical knowledge, are themselves unequipped and under-resourced to support both smallholder farmers and the formal industry as it develops.
6. Aquaculture interventions should **lend support to industries which will strengthen feed value chains** (e.g. chicken feed), tying in with other agricultural capacity programmes (i.e. proximate industries where targeted investment will lead to mutual benefits, increasing capacity for complementary sectors/industries beyond what would be achievable by any one individually). **Integration with other agro-processing industries** will ensure that capacity is strengthened in value-addition activities as well as in primary production.



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