



## Strengthening the capacities of fish farmers in the Republic of Congo – Phase 2 (RECAFIP-2)

In the Republic of Congo, the development of small-scale family fish-farming – initiated in the 1950s – has never truly taken off. Yet, annual per capita fish consumption, at over 26 kg, is among the highest in sub-Saharan Africa. According to the FAO, in 2013, domestic production covered 62% of the population's needs, while the remaining 38% was met by imports. The country was therefore unable to meet local demand. Small-scale aquaculture accounted for only a small share of this production and was largely intended for self-consumption. In practice, the industry, marked by a low level of organisation among stakeholders, was virtually non-existent.

### General presentation of the project



#### General objective

To strengthen the capacities of civil society actors and local authorities in the aquaculture value chain to support diversification of the local economy through the development of family agroecological fish farming for the consumer market.



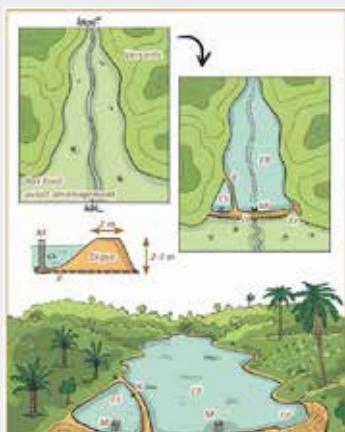
#### Specific objectives

- To strengthen and structure the stakeholder networks within the fish farming value chain.
- To scale-up sustainable and profitable fish production.



#### Intervention strategy

The action is an extension of the capacity-building project for stakeholders in the fish farming sector (RECAFIP-1) launched in 2016. The Association for the Promotion and Rural Development in Africa (APDRA) promotes a fish farming model based on converting lowland areas into a pond-dam system. This system comprises a main pond for fish growing and a smaller service pond used for breeding (Figure 1). This model, classified as extensive, does not require the use of external inputs at farm level. It enables fish farmers to become self-sufficient by reducing dependence on external supplies of equipment, feed and fingerlings. The proposed approach aims to integrate commercial fish farming into family farms, which requires careful consideration of social dynamics to ensure long-term sustainability and development.



Political institutions concerned with the sector are also expected to be actively involved in the process.



#### Expected results

- R1. The optimised organisation of the value chain improves local conditions for the production and distribution of farmed fish.
- R2. Producers' networks contribute to the recognition and promotion of family-based fish farming.
- R3. A tailored extension service is established to support new producers and increase fish production in line with the local context.
- R4. Pilot initiatives are implemented to test and validate new context-appropriate approaches to fish farming intensification.



#### Partners

APDRA Pisciculture Paysanne and the Forum for the Promotion of Rural Groups (FPGR).



#### Timescale

48 months (2020–2024).



#### Budget

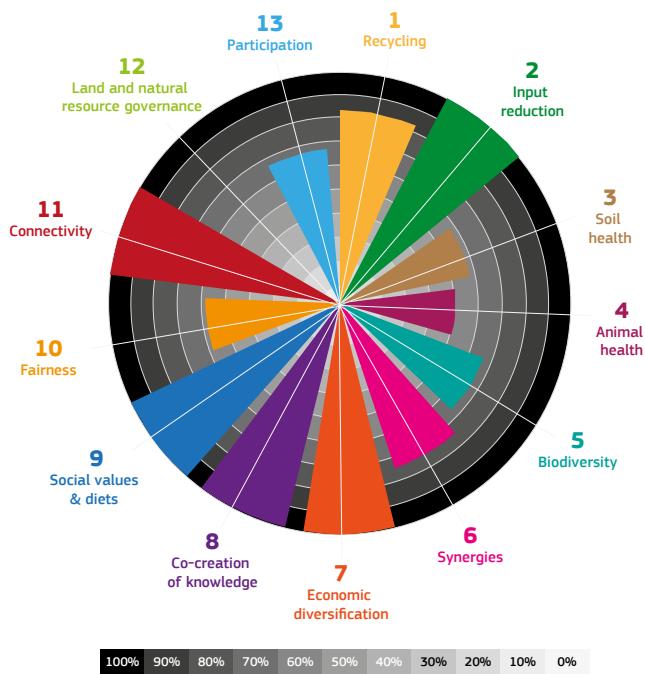
EUR 1,224,402 financed by the European Union (89.5%) and the French Development Agency (10.5%).



#### Intervention area



## Agroecological classification of the project according to the 13 principles of the HLPE



### 1 Recycling

The project places strong emphasis on the recycling of nutrients, biomass and water. Agricultural by-products such as cassava, taro and sweet potato leaves, as well as compost made from plant waste and animal manure, are used to fertilise the ponds. Integrating rice cultivation with fish farming can also increase biomass through plant decomposition. Pond water can be reused for other agricultural activities such as market gardening, or extensive pigs or poultry rearing. This recycling practice has the additional advantage of reducing greenhouse gas (GHG) emissions generated by the production and transport of synthetic inputs.

### 2 Input reduction

The pond-dam model developed by APDRA is based on extensive fish farming without the use of synthetic inputs. Fertilisation is ensured by the continuous flow of water and the decomposition of biomass present in the pond. The inputs are limited to the initial stocking of fingerlings and, if necessary, the addition of agricultural residues for pond fertilisation and fish feeding. This approach, in addition to being environmentally beneficial, promotes fish farmers' self-sufficiency by reducing their dependence on inputs. This model is particularly suited to family farms, which often face financial constraints and limited access to expensive inputs. Thanks to the natural productivity of the ponds, it is not necessary to provide external feed, as the fish feed directly from their environment. This production method also requires no fossil energy and local marketing is preferred, thus reducing fuel consumption.

### 3 Soil health

In the context of the project, focused on peasant fish farming, the concept of soil health is not explicitly addressed. However, it is partially considered through the natural improvement of soil fertility. This is achieved by the continuous flow of biomass, the addition of organic waste, and the anti-erosion measures put in place upstream of the pond-dam system. These measures include hedgerow planting along contour lines, the creation of grass strips and wooded buffer zones near ponds, especially in fragile areas.

### 4 Animal health

The project does not explicitly address the issue of animal health, but the extensive farming practices developed by APDRA are in line with the principles of animal welfare. The project also encourages feeding based on the use of on-farm agricultural by-products and natural fertilisation of the ponds. This means that no synthetic chemicals likely to compromise animal health are introduced.

### 5 Biodiversity

The project focuses on biodiversity within the ecosystem and the family farm by using the fish farming model developed by APDRA, which is based on agroecological principles. Creating ponds by flooding lowland areas and introducing fish has a significant impact on the original ecosystem. However, a new ecological balance can be naturally achieved by maintaining a wetland environment that attracts a wide range of plant and animal species. No external intervention is planned to avoid disrupting the natural regulation of the established food chain. This extensive fish farming approach—without synthetic inputs and based on water flow—helps minimise the risk of chemical pollution. According to APDRA's experience, the pond-dam system also contributes to regulating river flow, managing runoff, and replenishing groundwater levels.

### 6 Synergies

The enhancement of synergies between the different organisms present in the agroecosystem is strongly embedded into the project. It adopts a landscape approach, encompassing the protection of the watershed located upstream of the fish pond, through measures such as revegetation and channelling of runoff water, among others. The development of lowland areas improves soil fertility, promotes biodiversity, and recharges aquifers, thereby offsetting environmental degradation observed in the project intervention area. According to APDRA, greenhouse gases (GHGs) emissions are minimal, as pond construction only contributes to emissions when it involves the clearing of vegetation cover (with no cement used, except in the monk structure). Furthermore, the technical pathway is also low-emission, requiring very few or no external inputs. Locally produced fish will have a significantly lower carbon footprint than that of imported frozen fish sold on the market.

## 7 Economic diversification

The main objective of the project is to diversify the sources of income of small family farms. Aquaculture provides additional income while promoting household food diversification, especially when combined with rice farming. The pond's natural productivity is enhanced by the simultaneous farming of different fish species (tilapia, catfish, *Heterotis*, *Hemichromis*) with complementary diets. Unlike agricultural activities, fish farming is not tied to a cropping calendar. Fish farmers can therefore adapt their production to their needs, either by planning catches during lean season and/or when they need additional cash flow, in particular for schooling, ceremonies or medical expenses. Thanks to its reduced vulnerability to climatic hazards, aquaculture offers improved income stability and more reliable expense planning.

## 8 Co-creation of knowledge

APDRA implements a collective training method built on experience-sharing. Fish farmers are brought together to facilitate the exchange of knowledge and skills. The project supports the networking of producer groups to foster the emergence of a professional aquaculture sector. Local and international exchange trips, especially with Ivory Coast, and mentoring by experienced fish farmers are organised to support beginner farmers. The project has also adopted an action-research approach in conjunction with research institutes such as CIRAD, IRA and ENSAF to identify opportunities for agroecological intensification (for example, rice-aquaculture systems, integration with livestock or market gardening), and to support the structuring of the sector. Producers are fully involved in this action-research approach.

## 9 Social values & diets

In the Republic of Congo, annual per capita fish consumption is one of the highest in the sub-Saharan region, exceeding 26 kg/year. Freshwater fish is highly valued but often scarce in local markets. Local production is generally destined to self-consumption due to low volumes. Therefore, the project aims to promote a diet that is diversified, healthy and adapted to the food preferences of the local populations.

## 10 Fairness

The project is partially committed towards promoting fairness. During the project first phase, very few women signed up for the fish farming project, only 6 women out of 162. Several reasons were put forward: they were not the target of awareness-raising and information campaigns; they had little time and money to spend on anything other than food crops and household chores, and they often had limited access to land. In addition, the mobilisation of men on unpaid work sites and over the duration of the development had a significant negative impact on women's workload. Based on this observation, a gender analysis was conducted to better take into account possible changes such as working time, access and control over resource or the distribution of roles in the second phase of the project. Young people were also

identified as an under-represented group, as they often have little access to the land and resources needed to commit to such projects. They were mainly involved as day labourers. Constraints related to labour mobilisation, financial resources and access to land exclude parts of the population.

## 11 Connectivity

The project adopts a connectivity approach, responding to strong local demand for fresh fish. Since domestic production remains largely insufficient, part of the demand is met by frozen fish imports. The action aims to promote short supply chains by strengthening the organisation of the fish value chain to promote marketing of local fresh fish. The structuring of producers into organised networks aims to integrate them optimally into the local economy, as well as to improve the match between local supply and demand and the quality of the fish offered on the market, with an emphasis on the marketing of naturally raised fresh fish. This approach contributes to improving the availability of essential food products within the territory. The approach adopted by APDRA presents several advantages: it enables consumers to access a source of essential, quality, and affordable proteins; it guarantees



better remuneration for producers; it ensures secure income for stakeholders involved in marketing while household food expenditures are reinvested locally, unlike imported fish. APDRA also promotes solidarity within groups of fish farmers (about ten people), who work collaboratively to build facilities that require significant physical labour.

## 12 Land and natural resource governance

The project does not explicitly address land and natural resource governance.

## 13 Participation

Participation is an essential part of this project. All the civil society actors working in the aquaculture value chain, as well as local authorities and technical services, are closely involved throughout the project through numerous exchanges and debates. These interactions have given rise to a consultation platform promoting the co-construction of the future of peasant fish farming. The objective of the project is indeed to promote a national model of peasant fish farming that aligns with the principles of agroecology. It is embedded in the policies and strategies for reviving the fish sector in Congo. APDRA also collaborates with a Congolese NGO (FPGR) throughout the different stages of the project. The long-term objective is to enable this civil society organisation to drive the sustainable development of aquaculture.

### SUCCESS FACTORS/CHALLENGES

- ⊕ The peasant fish farming approach developed by APDRA is based on an intangible principle of self-financing. The fish farmers must invest in their own production facilities. The project only intervenes to provide technical advice and ensure the supply of fingerlings for the first stocking, once the pond-dam system is ready for production. This approach, despite not being always well received by villagers accustomed to projects relying on subsidies (food, money for work, equipment), undoubtedly guarantees better sustainability.
- ⊖ The model is viable due to its independence from external inputs. The current approach prioritises the autonomy of producers to facilitate the construction of facilities and the exploitation of ponds.
- ⊖ The initial individual investment required to be eligible for the project can be a barrier for women, youth and those with limited access to land. However, APDRA establishes self-help groups and promotes the sharing of experiences and know-how to make the project as inclusive as possible.
- ⊕ The intervention covers the entire aquaculture sector, which remains poorly structured. Farmed fish – representing only 0.5%<sup>1</sup> of Congolese freshwater fish production – is typically sold directly at the pond site.
- ⊖ The development of aquaculture contributes to the diversification of the local economy and supports the emergence of a variety of actors. Finally, a partnership with a Congolese NGO ensures the continuity of the project and supports its scale-up to additional sites.

1 FAO FishStats



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