Context

Rural and peri-urban areas of the Bolivian Amazon basin are characterized by high levels of food insecurity and poverty, which in recent years have been exacerbated by weather phenomena such as floods, forest fires and other conditions that have an impact on the quality of life of the region’s population. In 2012, the Plurinational State of Bolivia approved the Framework Law on Mother Earth and Integral Development for Living Well [Ley Marco de la Madre Tierra y Desarrollo Integral para Vivir Bien]. According to this law, security of access to territory and natural resources represents the primary basis for food production.

Because of their high nutritional quality, Amazon fish can make a significant contribution to food security and sovereignty in Bolivia. The country’s per capita fish consumption (1.8 kg/person/year) is one of the lowest in the world (the world average is 16.8 kg/person/year; FAO, 2012), a situation that is even worse in urban areas with underdeveloped markets, and rural areas with no access to bodies of water.

Key messages

- Average per capita fish consumption in Bolivia is low. Fish from the Amazon contribute to the food security of the Bolivian people.
- An exchange between indigenous fishers from Bolivia and Brazil contributed to understanding the potential of paiche, an introduced species that has drastically changed the value chain of fish in the Bolivian Amazon region.
- More than 500 fishers and fish farmers actively participated in drafting the proposed Law on Fisheries and Aquaculture of the Plurinational State of Bolivia (Ley de Pesca y Piscicultura).
- The authorities now recognize and value the importance of fish for the regional economy and the food security of the Bolivian people.
In 2011, a team of Bolivian and Canadian experts, supported by fishers and fish farmers, launched the Peces para la Vida (“Fish for Life”), or PPV project. At this time, the marginalization and invisibility of the fisheries and fish farming sector in Bolivia and the weakness of national policies promoting their development were challenges faced by the United Federation of Fishers, Fish Sellers, and Fish Farmers of Bolivia’s Northern Amazon Region (FEUPECOPINAB – Spanish acronym). With an innovative approach based on action research, the team proposed the identification of local leaders, organizational strengthening and the appreciation of lessons learned from various social-technical initiatives as the basic pillars to catalyse the development and implementation of a legal-institutional framework, as well as strategic planning for the sector at local, regional and national levels.

Two pilot zones were selected to test the model (Figure 1). The first was located in the northwest of the Bolivian Amazon Basin, where the fisheries sector has changed drastically since the introduction of paiche (*Arapaima gigas*). The second was in the southeast of the basin, where native species such as the tambaqui (*Piaractus brachypomus*) are farmed.

### Emerging outcomes

**Emergence of local leaders through action research**

One of the main outcomes was bringing fishers and fish farmers together to identify and analyze their needs and seek alternative solutions to existing problems. Through a strategic alliance involving diverse actors, a participatory research process was implemented to improve understanding of fishery and fish-farming resources, the production chains and their main bottlenecks. This process built mutual trust and resulted in the appropriation of various participatory tools by the stakeholders. For fisheries, a participatory monitoring system was established and subsequently enriched; for fish farming, a technical support group was created, composed of key stakeholders involved in the sector.

**Emerging outcomes**

**Amazon people discover the potential of an introduced species**

In a knowledge exchange among indigenous communities of northern Bolivia (Pilot Zone A, Figure 1), a participatory paiche counting technique was introduced to inform community-based lake management, based on a model developed and used successfully in Brazil for a number of years. Consequently, local indigenous technicians were trained on the paiche counting method, and the optimal social yield of the fishery was established. This process catalyzed the recognition by regional indigenous authorities of the value of commercial fishing in indigenous territories, where it had previously not been allowed. As a pilot experience, an Indigenous Community Centre facility for value-added processing of paiche (meat, skin, and scales) was set up in one community in the Multiethnic Indigenous Territory (TIM II).
This integrated development experience brought new economic opportunities along the entire value chain. An additional result was the contribution of the PPV project to the participatory design and improvement of the fish-market space in the rural-indigenous food market, Abasto, located in the peri-urban area of Riberalta, where 3,000 families have low fish consumption and experience high levels of food insecurity. The perception of fish quality in the new fish market space rose from 48% to 92%, according to those surveyed.

Family fish farming for development
A diagnostic study conducted by experts from Canada, Brazil and Bolivia was carried out to identify the main limitations of fish farming activity in Bolivia. The project promoted family-based fish farming with a gender focus, providing technical training to build local capacity and supporting the development of stakeholder alliances. Working directly with the Yapacani Integrated Northern Region Fish Farmers Association (APNI), Pilot Zone B (Figure 1), the project built on the earlier successes of this group, developed with the support of the Centre for Rural Agricultural Promotion (CEPAC).

Prior to project interventions, fish farming activity in the municipality of Yapacaní was carried out by 40 families. Today there are 130 active families, and overall fish production has increased from 50 to 400 tonnes per year (70% is consumed locally and the rest in other regions of the country), thereby improving the local economy and contributing to local and national food security.

Currently, the women contribute to family income, hold positions of responsibility in their community organizations and participate in municipal events. PPV found in a study that 63% of the administrative/economic responsibility in families is now in the hands of women, with high levels of participation in and commitment to fish production activity.

Towards a new fisheries policy based on local experience
When the project began in 2011, communications and public relations among fishing and fish farming organizations was very low. Today, thanks to support from the PPV project, more local leaders have learned how to influence public policy and are actively developing a voice for the sector. FEUPECOPINAB was one of the organizations that was instrumental in

| National | Proposed Fisheries and Aquaculture Law (under review) | Law No. 448 creates the National Program for Small Ruminants and Fisheries |
|          | Ministerial Resolution for paiche fishery regulation and management in the Bolivian Amazon (under review) | Supreme Decree No. 1922, creating the Decentralized Public Institution of Fisheries and Aquaculture (IPD PACU) |
|          | Guide for analysis and planning of tropical aquaculture (in press, to be published by government) | Supreme Decree No. 1939, regulating Law 448 and creating the National Program for Fisheries and Aquaculture |
|          | Strategic guidelines for the development of tropical fish farming in Bolivia (in press, to be published by government) | Ministerial Resolution No. 440, approving the National Agricultural and Livestock Strategic Plan 2014-2018 |

| Regional (departmental) | The Regional Federation of Amazon Fishers, Fish Farmers and Sellers (FEUPICOPINAB) is consolidated | The Regional Federation of Amazon Fishers, Fish Farmers and Sellers (FEUPICOPINAB) is consolidated |
| Local (municipal) | Two Municipal Bylaws creating the Amazon Fishers’ Day (Riberalta, Beni, Porvenir, Pando) | Departmental Law creating Amazon Fishers’ Day in Pando |
| Local (indigenous) | Local indigenous territory regulation modified to include commercial fishing | Local Economic Development Strategy in 4 indigenous territories, including TIM II |

Table 1: Peces para la Vida (“Fish for Life”), in collaboration with fishers, fish farmers and government authorities, is improving governance in fisheries and fish farming in Bolivia.
this process. Organizational strengthening in the sector has yielded positive results; fishers and fish farmers called for respect, visibility and the appreciation of their contributions to the food security of the Bolivian people and, most importantly, achieved attention and recognition from the State.

As a result of this process and with support from the PPV, a national committee, comprising organizations from the fisheries and aquaculture sector of the three basins (Plata, Amazon and Altiplano) drafted and agreed on a proposed new Law on Fisheries and Aquaculture in 2013 that is now being reviewed by the government. In parallel to this, the State has recently approved related legislation and created the Decentralized Public Institution of Fisheries and Aquaculture (IPD PACU), as the sector’s new national authority.

Conclusion

Organizational strengthening and governance activities in the fisheries and fish farming sectors have brought together all the stakeholders involved in the fish value chains and contributed to the approval of tools that will impact the development of public policy. Lessons learned from national and local experiences have contributed to a strong foundation from which fishers and fish farmers are now successfully influencing policy development; in the short and medium term this will define the contribution of fish production to food security and food sovereignty for the Bolivian people.

References


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