Peces para la Vida (Amazon Fish for Food) is the first multi-stakeholder platform dedicated to the fisheries and aquaculture sectors in Bolivia. It provides technical and social information, creates opportunities for exchange, facilitates access to micro-credits, and helps strengthen artisanal fisheries and small-scale fish farming and their value chains in the Bolivian Amazon.

Amazon Fish for Food: Canada helps in Scaling Up!

The Amazon Fish for Food Project (Peces para la Vida II), now in its 2nd of 3 years, proposes to scale-up and strengthen fishing and aquaculture-based livelihoods and their Integrated Production Complexes in Bolivia. The project focuses on two main scaling-up models:

- Public policy development, multi-stakeholder partnerships, fisheries management, improved market access, and provision of micro-credits to improve benefits from *Arapaima* (paiche) fisheries for indigenous communities;
- Small-scale family-based fish farming based on women’s leadership, with multi-stakeholder partnerships, provision of micro-credit and improved access to markets.

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The Peces para la Vida II Project aims to improve the contribution of fish to food security and poverty reduction in the Bolivian Amazon, particularly for women, children and indigenous families.

Peces para la Vida II is being implemented by six institutions from Bolivia and Canada:

- CEPAC, Centro de Promoción Agropecuaria Campesina (Bolivia)
- FAUNAGUA, Instituto de Investigaciones Aplicadas de los Recursos del Agua (Bolivia)
- WFT, World Fisheries Trust (Canada)
- IMG, Ingeniería Marketing Gestión Consulting (Bolivia)
- CIDRE, Institución Financiera de Desarrollo (Bolivia)
- UVIC, University of Victoria (Canada)

Supported by the Canadian International Food Security Research Fund (CIFSRF), a program of Canada’s International Development Research Centre (IDRC), undertaken with financial support from the Government of Canada, provided through Global Affairs Canada (GAC).
A group of key innovative solutions were chosen based on the experiences of a first phase of the project, considered proven, adaptable, and ready to contribute to scaling up. This set of strategies proposed by the PPVII are helping to influence public policy, build joint public-private partnerships and improve production, marketing and knowledge management. They are also contributing to improved livelihoods, equity, gender equality, and environmental sustainability. Some examples of results are:

- **Products**: Research Protocols to evaluate and monitor consumer habits, fish quality and handling, an interactive fish farming manual, protocols for trade fairs and commercial events.

- **Services**: Financial (loans, leasing, savings and insurance), and international exchanges.

- **Integrated Models**: Increased production of paiche fisheries through changes in access rights, increased economic value of paiche, “best practices” for fish handling and hygiene, opportunities for dialogue (platforms), a socio-economic model with gender equality, a model for the provision of technical assistance to fish farmers, a public-sector investment model.

- **Policies**: Paiche fishing regulations, fish quality and safety regulations, advocacy in public policy, specialized training.

The figure below presents an overview of the Project’s scaling-up process as a Roger’s Innovation curve, indicating the approximate stage of the project components and the path to improving livelihoods and providing quality fish to consumers.

Effective scaling-up is strongly rooted in social processes, including both direct effects of interventions and less predictable indirect effects – including the generation of conditions, scenarios and/or environments conducive to change. Both quantitative and qualitative indicators of these effects are being monitored by the project.

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Fish Farming

Strengthening human capital

Training human resources is one of the fundamental pillars for implementation of “best practices in aquaculture.” Between December 2015 and May 2016, the Amazon Fish for Food II Project trained 40 female and male technical assistants for fish farming. This strengthens legitimate, certified support for aquaculture associations and fish farming families. Participants came from the departments of Beni, Cochabamba, Tarija and Santa Cruz.

Baseline research conducted by AMAZON FISH FOR FOOD identified that the main weaknesses in the fish farming sector are human capital (insufficient skills and knowledge), lack of access to technical assistance and the lack of ability to implement “Best Practices”. These shortcomings significantly affect the levels of productivity, efficiency and profitability of aquaculture (see Bulletin No. 2, March 2016, Baseline: the reality of the fish farming sector [link]).

To help address this need, Amazon Fish for Food II initiated the training of local fish farming human resources, who, soon, can provide effective technical support to farming families.

The mechanisms used in the capacity-building process are:

- Selection of participants
  The main aquaculture organizations and municipalities in the Project area recommended participants based on: 1) people that were committed to applying peer-to-peer methodology for technical assistance; 2) balanced access and participation of men and women. This included farmers, municipal support staff, and students.

- Course certification
  Together, CEPAC and the Integral Faculty of Ichilo UAGRM / ICAP (Popular Training Institute of the Autonomous University Gabriel René Moreno) drafted and approved the curriculum for the “Technical Aquaculture Assistant” Certificate Program. The curriculum content and material were designed to follow the cycle of fish production.

- High quality support
  The course included presentations by experienced specialists from Bolivia, as well as Brazil (EMBRAPA), Argentina (PROTEGER) and Canada (WFT) through South-South cooperation facilitated and supported by WFT (Canada).

- Practical Training
  The course consisted of 800 academic hours, with 184 hours spent in the classroom and 616 hours of practice in the field.
The practical Technical Aquaculture Assistant course is six months long and combines modular courses, technical information, field work, practicum hours, continuous evaluations, academic courses, and a graduation project. Together, these elements constitute a new approach to aquaculture training in Bolivia, a differential provided by the Peces para la Vida Project.

Participants’ place of origin:

The first offering of the training program at the end of 2015, saw an enrollment of 40 students (24 men and 16 women), with most coming from the Project’s core area. Of the 40 students, 80% completed the training process (19 men and 13 women).

In September 2016, the second “Technical Aquaculture Assistant” program began, with 39 new students (14 from the adjacent Tropical region of Cochabamba Department). The six-month course is expected to be completed in February 2017.
Geoportal: Assessing the suitability and risks for fish farming in the Bolivian Amazon

Over the last year, the Project has developed a predictive mapping model for suitability and risks of aquaculture of pacú or tambaquí fish, with a resolution to the municipal level.

To develop the predictive model, the Faunagua mapping team identified various types of variables and assigned threshold values based on the importance of each for successful fish production. The characterization was done with the support of male and female experts in technical meetings and workshops. The methodology identified biophysical factors (water availability, temperature, flooding and soil type) and accessibility factors (markets, fish feed, fingerling providers, and technical assistance), which are considered determinants of success or failure to aquaculture initiatives. Analyzing these factors provided a resulting predictive model which was validated with field work in different sites from the study area. From April to June 2016, with the support of World Fisheries Trust, the FAUNAGUA team received Felipe Lobo, a Brazilian expert in Geographic Information Systems trained at the University of Victoria, to improve upon this planning tool, considered to be a critical model for defining the most suitable areas for fish farming.

In the following months, this Geoportal will be shared as an important new planning tool for the public sector. Users will be able to download customized maps detailing suitability of fish farming in their municipalities and thus improve its development.

Process for the selection of variables:

1. Literature
2. Meetings with technical staff and experts to select initial variables
3. Preliminary list of variables for the model
4. Meetings with groups of producers and experts to discuss aquaculture themes
5. Validation and consideration of new variables based on expert input
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Modeling process:

Predictive Suitability model:

Very suitable
Suitable
Moderately suitable
Not much suitable

Accessibility potential
Ecological restriction
Biophysical risk

Variable Rasterization
(900 M ARCGIS)

Accessibility variables
Biophysical variables
Restriction variables

Accessibility
variables

Social factors are currently being integrated into this predictive model
Fisheries: A livelihood in indigenous communities

A field survey of 4 Indigenous Territories (TCOs) in Bolivia’s northern Amazon show that commercial and subsistence Fisheries for Arapaima (paiche) and native fish species offer opportunities for communities and indigenous families but that these are differentially accessible and important.

During the months of October and November 2015, a team of researchers from FAUNAGUA and the University of Victoria, in alliance with the Indigenous Centre of the Amazon region of Bolivia (CIRABO) and the Unique Federation of Fishers, Vendors, Fish Farmers, of the Northern Amazon (FEUPECOPINAB), traveled to 25 communities in the four TCOs of Chácobo Pacahuara, Cavineño, Tacana-Cavineño and Multiethnich II, to better understand their communities and the productive activities undertaken by their families (activities that produce a valued goods or service). Ten workshops were carried out (152 men and 100 women participated) and 127 individual interviews on fisheries were completed. This work identified 436 fishers (414 of them considered subsistence fishers, and 73 commercial fishers).

The TCO TIM II is the most active user of its fishery resource, followed successively by the TCOs Tacana-Cavineño, Cavineño and Chácobo-Pacahuara. Communities with highest annual fish production (commercial and subsistence) are Flor de Octubre, Lago El Carmen, 27 de Mayo and Santuario (TCO TIM II) while the communities with lowest annual production include Siete Almendros, Tres Bocas, San Joseph and Alto Ivon (TCO Chácobo-Pacahuara). Of the 127 respondents, 42 fish paiche commercially. The TCO TIM II has the largest annual production of paiche, followed by the Tacana-Cavineño and Cavineño TCOs, while the TCO Chácobo-Pacahuara do not sell fish nor sell paiche.

Indigenous fishers identified the main problems that limit engagement in the fishing activity as weak organization, lack of knowledge about internal regulations, the low price of fish, lack of indigenous fish markets and poor road infrastructure. Nevertheless, paiche presents a potential for commercial fishing, while native fish are key for domestic consumption. Paiche is an introduced fish species that has shown up in the region relatively recently after accidental release into the Peruvian headwaters of the Rio Madre de Dios 50 years ago.

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Fisheries Law: Key tool for the Fisheries activity and sustainable use of resources

Over the last semester, the Autonomous Departmental Service for Agriculture (SEDAG) (1) organized three large participatory workshops between fishers, traders, and public and private authorities, to analyze, update, supplement and amend the existing, over 20-year old, Fisheries and Marketing Regulation for fish species in the Department of Beni.

To allow participation of the entire fisheries sector of the Beni Department, two workshops were organized in Trinidad and Riberalta for complementation and analysis of the regulation. The meeting in Riberalta was made possible thanks to the institutional alliance between SEDAG, FEUPECOPINAB and the Amazon Fish for Food (PPVII) Project. Agreements were signed to guarantee inter-institutional support and strengthening of the North Amazonian fisheries sector.

A third workshop took place on June 9 and 10, 2016 in Riberalta, for the consultation and consensus of amendments to the Regulations, in which 119 people (78 men and 41 women) from different fishing municipalities participated. The amended regulation is expected to take effect in 2016.

It is worth noting that the amendments and additions made in the workshops are part of the strategic policies designed by the Government to support and strengthen the development of fisheries and aquaculture in the Bolivian Amazon. These form part of the framework of the State Constitution, the Law of Mother Earth and Integral Development for Living Well, and the Patriotic Agenda of 2025.

Actors in the fisheries value chain consider that the implementation and operation of legislative tools for departmental fisheries management is essential to control fishing activities and to optimize the sustainable use of aquatic resources. A national law on fisheries and aquaculture that provides better strategic guidelines for the activity and sector as a whole is sorely needed.

(1) dependent on the Departmental Secretariat of the Environment, Climate Change, and Agricultural Development of the Autonomous Departmental Government of Beni.

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Value chain

New information about fish handling, fish quality, and fish consumption in major Bolivia urban centers and the project areas

The AMAZON FISH FOR FOOD team, through IMG, successfully completed a national market survey to better understand the conditions of fish handling, quality and consumption habits in the urban centers of La Paz, Cochabamba, Santa Cruz and Tarija, in addition to the PPVII Project’s intervention areas (Riberalta municipality in Beni, municipalities of San Juan, San Carlos and Yapacaní in Santa Cruz, and municipalities of Entre Ríos and Puerto Villarroel in Cochabamba).

As indicated by IMG’s Director: “this research allows us to identify and characterize the demand for fish and consumption habits nationwide. The results help us implement tools to improve access to marketing channels, and to help create new and improved markets for the fisheries and aquaculture sectors”.

The study focused on six units of observation:

1. Points of Sale
2. End consumers
3. Producers of pacú and tambaqui and paiche fishers
4. Restaurants
5. Wholesalers
6. Supermarkets

MAIN RESULTS
Average consumption of fish meat per capita:
Total consumption in Bolivia’s four major urban centres:

- **Pacú/Tambaquí**: 320.9 t/year (2.4% of total fish consumption in the major urban centres)
- **Paiche**: 135.3 t/year (1% of total fish consumption)

Potential Demand:

- In the four major urban centres: 359.9 t/year
- In the Project Intervention area: 504.3 t/year

The current demand for fish represents only 37.6% of the potential demand. This finding demonstrates that there is a potential market growth margin of over 60%.

We were also able to infer with statistical probability, that given an adequate supply of fish, in quality and quantity, the population would consume 2.66 times more fish than it currently consumes.

Reasons and habits for fish consumption:

- 75.4% of people surveyed eat fish at home and only 24.3% consume fish outside the home. There are differences in these levels in each of the cities and in the areas of project influence.
- 81.6% of respondents said that the quality of vendor stalls is fair or poor.
- The primary factors affecting people’s decision to purchase fish are: freshness, 45.1%; price, 11.4%; presence of red gills, 10.4%; and appearance and color of fish, 9.7%.
- 64.9% of people said the price of fish is generally high.

Consumer profile

The identification and characterization of consumer profiles show that the greatest potential market for farmed pacú and / or tambaquí is made up of middle-class families with incomes of up to Bs. 3,900 Bolivianos/month ($563 USD/month). In the case of paiche, the target market would include more upper-middle class families with income higher than $563 USD/month.

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Building improved markets and equitable access to marketing channels for fisheries products

The Amazon Fish for Food Project is seeking to bring high quality fish closer to consumers with improved marketing systems as well as equitable pricing systems. By providing advice and technical assistance to processors and wholesalers since June 2016, the technical team and its local partners, seek to improve negotiation and relationships between fishers and fish wholesalers, as well as improving fish handling practices.

Social responsibility and development of inclusive business models, while protecting public health, are achievable through the implementation of Good Fish Handling and Conservation Practices, as well as provision of systems and fair practices at the market level. Good handling practices, and the standards that support them, can improve and expand food trade by promoting specific national regulations and certifications for fish meat.

Where are Good Handling Practices applied?

- In the design of the processing plant’s infrastructure
- In the handling of raw materials and supplies
- In the process of preparing a food product
- In staff hygiene and waste management
- In the storage and transportation of products

“We want to present our industry and our products as reliable” explains a Riberalta wholesaler who is committed to assuming greater responsibility in the handling and conservation of fishery products. To ensure food safety, wholesalers must improve trade and working relationships with suppliers (fishers) at the initial stages. Good fishing practices and fish conservation, including storage, transportation, distribution, and even processing companies and markets, would help develop and strengthen relationships of trust and fairness. To achieve these objectives, and at the request of the leading vendors, the Project is promoting agreements and commitments with two of the largest wholesalers in Riberalta to provide advice on improving their good production practices.

With the first wholesaler, the Project will work on improvements to their fish processing plant, complying with the provisions of current legislation, with the intent of achieving certification by the national authority, SENASAG. With the second wholesaler, work will entail adapting their production unit and providing technical development assistance to produce further processed products (e.g. sausages, hamburgers) with added value.

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Second aquaculture platform established in Puerto Villarroel

Following the request by the Municipal Government of Puerto Villarroel and the Aquaculture Association of the Fifth Section, an innovation platform (roundtable) specific to this municipality was formed. Between March and September 2016, IMG convened several social training workshops aimed at building this new multi-stakeholder aquaculture platform, the second of the Amazon Fish for Food Project.

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New Aquaculture platform operating in Entre Rios

Due to the increasing growth of fish production, and the need expressed by producers, the Amazon Fish for Food Project, with direction from IMG, began building a new multi-stakeholder aquaculture Platform in the municipality of Entre Rios, Cochabamba. This municipality, with a population of approximately 32,000, is the second largest fish-producing municipality in the Tropic of Cochabamba. It has a 200-member Aquaculture Producer Association operating approximately 415 ponds that total 553,000 m² of water surface. This aquaculture platform initiative is intended to create a space for technical consultation and planning among public and private sector groups involved in the Integral Aquaculture Production Complex. It has the support and commitment of the Municipal Government of Entre Rios, the commonwealth of municipalities within the Tropic of Cochabamba, other public organizations and programs, and the civil organization and productive population of this vital sector.

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Increasing visibility and recognition of the work of women in fish farming

As part of its gender strategy, the Amazon Fish for Food Project held the first meeting of male and female fish-farming leaders to look at the role of women in fish farming.

To increase visibility and recognition of the work of women in fish-farming and to propose strategies that help achieve gender equality amongst local organizations, Amazon Fish for Food, through CEPAC, organized the first meeting of fish-farming leaders in Ivirgazama, on August 25 and 26. The event was attended by representatives of various organizations of fish-farmers and by technicians from the municipalities of San Carlos, Yapacani, Entre Rios and Puerto Villarroel, with an attendance of 60 participants (33 men and 27 women).

Spaces were created for reflection on the importance of incorporating a gender perspective into the various organizations. The sector was analyzed from a holistic point of view, helping to develop strong partnerships and empowered fish-farming families and fostering efficiency, management capability (at the production and marketing level), democratic decision making, and incorporating gender equality.

Three women leaders, who managed to consolidate their fish farming ventures despite substantial challenges, shared their experiences at the event. Several women leaders have developed successful ventures, and have become examples of tenacity, perseverance and entrepreneurship in fish-farming at the local level.

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Financial Services

Financial innovations for fisheries and aquaculture

Under the Amazon Fish for Food Project, CIDRE IDF tests new financial products to support the fishing and aquaculture sectors.

To address the challenge of scaling up production of fish from the fisheries and aquaculture sectors, CIDRE IDF identified the need to innovate and develop new financial services. The organization has assumed the risk and challenge of testing their design and now offer the following products:

<table>
<thead>
<tr>
<th>Financial Innovation</th>
<th>Problem Solving</th>
<th>Number of Families</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leasing of equipment for balanced fish feed production plant</td>
<td>Poor fish feed quality for fish producers</td>
<td>22</td>
<td>USD $ 42 360</td>
</tr>
<tr>
<td>Leaseback with credit insurance</td>
<td>Lack of credit for starting investments in all production complexes served by a financial system that bases its assessments on the customers’ current income</td>
<td>22</td>
<td>USD $ 27 597</td>
</tr>
<tr>
<td>Fishing contracts structured with fish processing company</td>
<td>Little formality in the trade relations among actors of the fisheries and fish farming complexes</td>
<td>7</td>
<td>USD $ 199 924</td>
</tr>
</tbody>
</table>

These products are pilot tests to assess the potential to carry out these services in a sustainable manner. For each of these innovations, the company has developed manuals, procedures and contracts. These have been placed for consideration for approval by government bodies. Staff has been trained to implement operations at the pilot level, and measures will be taken for monitoring and tracking the impacts of these new products. Progress already seen in these pilot tests indicates that these innovations will serve as the “best solutions” for the problems encountered in scaling fisheries and aquaculture through financial services. It should be noted that to implement new financial services nationwide, CIDRE must comply with the rules and regulations of the regulatory body. For this, the pilot tests made possible by the AMAZON FISH FOR FOOD allow the preparation for scaling up, to a more massive offering within the various economic sectors. Also as part of the CIDRE development, the organization needs to convert into a chartered bank. The Canadian Executive Overseas Service (CESO) is providing advisory services for this process, a spin-off from the Canadian technical exchange arranged early in the Amazon Fish for Food project by WFT.

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Credits applied to fisheries in Riberalta

CIDRE has increased lending within the fisheries sector, since March 2016, thanks to the efforts of its new Riberalta agency.

To date, under the Amazon Fish for Food Project, CIDRE has managed to allocate 95% of its projected portfolio to the freshwater fisheries sector, with $236,017 USD allocated to 39 lending operations.

This, along with a smaller but sustainable growth in other agencies, has allowed CIDRE to increase its credit placements in the fisheries and fish farming sectors by more than 220% since December 2015.

Most loans provided by the Riberalta agency are allocated to members of the indigenous community of Trinidacito, located in the North Amazon TIM II Communal Territory of Origin, in Pando, Bolivia. This community has a strong background of fishing Paiche and is one of the main areas of intervention of the Amazon Fish for Food Project. The 28 credit operations carried out in this region show that there is great potential for strengthening the fisheries sector in the Bolivian indigenous communities through the granting of inclusive microcredits.

Public-private agreements

The agreement reached by CIDRE with the public financial institution, Productive Development Bank, resulted in the supply of credit at competitive rates for the fisheries and fish farming sectors. A considerable increase of available credit has been observed since 2015. The designation of public funds in the form of loans for the fisheries and fish farming sectors increased by more than 400% since last year, reaching a total disbursement of $258,903 USD to the end of August 2016. This included a loan for starting up a paiche processing plant in Riberalta, whose main suppliers are fishers (mostly men) of the indigenous communities of Trinidacito and Santa Elena. This growth reflects the potential that exists in the fisheries and fish farming sectors for strategic alliances between the public and private sectors to scale food security at the national level.

Initial planning is taking place to integrate two types of customers - private entrepreneurs and indigenous communities - by offering structured loans, where by the processing plant and main paiche distributor act as payment retention agents for loans given to the indigenous communities. Social responsibility and mutually beneficial agreements ensure that there is a focus on equality.

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11th Educational, Cultural and Gastronomic Fish Fair is a success

On August 5th and 6th, 2016 the 11th Educational, Cultural and Gastronomic Fish Fair took place in Riberalta. This event was organized by the United Federation of Fishermen, Fish Farmers and Wholesalers of North Amazonian Bolivia (FEUPECOPINAB), with support from more than ten public and private institutions. Attractions included the “Chalupa del Pescador” (a paiche weighing more than 90 kilos), over 12 varieties of fish dishes, the Technical Itinerant Development School, folk groups and a music band. With technical and legal support of the Amazon Fish for Food Project, through FAUNAGUA and the Agency for the Development of Macro-Regions and Borders (ADEMAF) under the Ministry of the Presidency of the Plurinational State of Bolivia, the FEUPECOPINAB officially approved the Base Regulation of the Educational, Cultural and Gastronomic Fish Fair through a Board Resolution (No. 002/2016). This legislation requires organization, quality and hygiene standards for food outlets, and penalizes speculation market prices at the Fair, the sale of alcoholic beverages to minors and the mistreatment of visitors. It guarantees high quality fish products and thus, food security for visiting families. The Educational, Cultural and Gastronomic Fish Fair is institutionalized by Municipal Ordinance No. 18 / 2012-13 of the Honorable Municipal Council of Riberalta.

Second International Symposium on Aquaculture: a comprehensive approach

Led by the UNIBOL Quechua, and assisted by Amazon Fish for Food project, the final details for the Second International Symposium on Aquaculture, to take place from December 5 to 7, are being fine-tuned in Chimoré, Cochabamba. This event will feature the participation of national and international experts in integrated aquaculture, aquatic biodiversity, innovation technologies, policies, programs, sectoral projects and climate change. The organization of this important event counts with the effective participation of Amazon Fish for Food project partners, the Association of Municipalities of the Tropic of Cochabamba, the municipal governments of Chimoré, Shinahota, INIAF, SEDAG, FONADAL, the Fish Farming Association Shinahota (APISH), and the six Farmer federations of the Tropic of Cochabamba, amongst others.

For more information:
LINK www.facebook.com/simposioacui/
Aquaculture Canada 2016 Conference
Members of the Amazon Fish for Food team traveled to St. John’s, Newfoundland, Canada on September 18-21 to present the experiences of the Project at the Aquaculture Canada 2016 Conference. The objective of the conference was to highlight progress in the science and technology of aquaculture and its contribution to sustainable food production (fish). IDRC sponsored a special session at this conference for international CIFSRF projects dealing with aquaculture. Aquaculture experiences in the Project’s core area were presented, with a strong emphasis on the impacts of small-scale fish farming on the family unit, its economy and food security.

Meeting with IDRC and Global Affairs Canada
On September 23 a meeting was held in Ottawa, Canada with Amazon Fish for Food members and the International Development and Research Centre (IDRC) and Global Affairs Canada, the institutions that are financing the Project. The World Fisheries Trust organized this meeting with the Project’s coordinator to discuss scaling up topics in Bolivia’s fisheries and fish farming sectors.

Bolivian students and researchers in Canada
Dr. Fernando Carvajal, a fish and fisheries researcher from FAUNAGUA traveled to Victoria, Canada on September 15 to conduct postdoctoral research activities. With support from the World Fisheries Trust and the University of Victoria, the biologist is building a socio-economic-biological model that considers the main factors influencing the distribution of paiche, and mapping its fishing potential and threats to this fishery in Bolivia.

Ahmed Eid, an employee of CIDRE, also returned to Canada in September, 2016, to continue his Master’s degree in the Geography Dept. of the University of Victoria. He is working on the analysis of some of the pilot financial instruments CIDRE is developing, and is currently finishing his courses, developing his thesis proposal and building his thesis committee.

Canadian doctoral studies in Bolivia
Alison MacNaughton and Sean Irwin are also continuing their doctoral studies on the social impact of paiche fisheries and aquaculture, respectively. A book chapter on the role of women in Bolivian fisheries, led by Alison and Tiffanie, of WFT, and co-authored by other project participants, has just been published. Alison also presented components of her work at the International Conference on Small Scale Fisheries in Korea in May 2016.

Amazon Fish for Food project presented in FAO workshop
World Fisheries Trust convened an experts workshop in Rome for the FAO in June, 2016, to discuss Aquaculture Diversification, including a presentation of some of the Bolivian work. As spin-offs of this visit, linkages have been established between FAO researchers and the Amazon Fish for Food project on the topics of aquaculture development, as well as aquaculture and fisheries microfinancing and insurance. John Wojciechowski of the World Fisheries Trust subsequently presented information on the Participative Financial Viability Assessment approach being used by the project, with expectation of future collaboration. A linkage on the monitoring and improvement of fish quality in the market was also developed.
News in Brief

Strategic alliances to optimize funds for project implementation
The Association FAUNAGUA signed a financial and technical agreement (No. 037/2014) with the National Institute of Agricultural and Forestry Innovation INIAF under the Ministry of Rural Development and Lands (MDRyT) the Plurinational State of Bolivia, to implement the project “Technical Basis for full use of paiche (Arapaima gigas) in the northern department of Beni”, with the objective to contribute to food security through the development and strengthening of a program for sustainable use. Together with various other investigations in indigenous territories to define a socio-environmental model of integrated fisheries in indigenous territories and protected areas, this is providing supplementary funds to achieve joint goals of the Amazon Fish for Food and INIAF projects. CEPAC is likewise negotiating an agreement with INIAF to work on Aquaculture best practices and monitoring within the auspices of the Amazon Fish for Food project.

Advisory Board
An advisory board for the project has been established, consisting of Drs. Armando Ferrufino (Bolivia), Anthony Charles (Canada), Doris Soto (Chile), and Brian Davy (Canada). This committee will provide an on-going evaluation of the project’s progress and strategies. So far, an initial visit to the project and a short review has been carried out by Dr. Ferrufino, to be supplemented by field visits by Dr. Soto and Davy in December 2016.

Lastest publications

Gender transformative approaches with socially and environmentally vulnerable groups. Indigenous fishers of the Bolivian Amazon
Alison E. Macnaughton, Tiffanie K. Rainville, Claudia I. Coca Méndez, Elaine M. Ward, John M. Wojciechowski, and Joachim Carolsfeld in Transforming Gender and Food Security in the Global South
Ed(s): Jemimah Njuki, John R. Perkins, and Amy Kaler Publisher: Routledge, IDRC, September 2016, 312 p. LINK

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