



Project CFC / FSCFT - 19

**DEVELOPMENT OF PROCESSING AND MARKETING OF TILAPIA PRODUCED IN BIG
LATIN AMERICAN RIVER BASINS
(PHASE I)**

Project Completion Report

18th January 2007

PROJECT COMPLETION REPORT

I. Project Summary

1. **Title:** Development and Processing of Tilapia produced in big Latin American River Basins
2. **Number:** CFC / FSCFT 19
3. **Project Executing Agency (PEA):** INFOPESCA
4. **Location:** Low São Francisco valley (Brazil) and Venezuelan lowlands (Llanos venezolanos)
5. **Starting Date:** 2nd June 2003
6. **Completion Date:** 31st August 2006

7. **Financing:**

- Total Project Cost:	USD 1,493,560
of which:	
- CFC Financing (Loan/Grant):	USD 954,160
- Co-financing by other donors: (in kind)	USD 347,400
USD 71,400 (INFOPESCA)	
USD 180,000 (CODEVASF)	
USD 96,000 (INAPESCA)	
- Counterpart Contribution from participating companies:	USD 192,000

II. Background and Context in which the Project was conceived:

II – 1: Background of the project approval by the CFC

The project proposal was identified by INFOPECA and was submitted during the Regional Round Table Meeting on Commodity Development in Latin America and the Caribbean, held in Guatemala in August 2000. It was subsequently endorsed by FAO in November 2000 for submission to the Fund's Consultative Committee for consideration.

The Consultative Committee considered the project proposal at its 27th meeting in January 2001 and noted that the project addresses the issue of poverty alleviation in some of the poorest rural areas of Brazil and Venezuela and is, therefore, consistent with CFC's criteria and priorities. However, it also pointed out the areas where improvement could be made.

With the necessary modifications, the proposal was re-submitted to the 28th meeting of the Consultative Committee in July 2001. The Committee noted that the revised proposal had made an effort to address the concerns raised at the previous meeting. The project was now found to focus on two countries, which helped scale down the costs, and it provided additional information relating to the production and marketing situation in the target countries. Notwithstanding the importance of the export market for tilapia, the Committee suggested that the project's initial focus should mainly be on domestic markets. The project would be implemented in two phases comprising of a preparatory phase with grant-financed activities and a second phase comprising activities to be carried out with loan financing. The loan component would need to be elaborated, with the assistance of a consultant or Project Preparation Facility, and funding for the second phase would be contingent on the production of detailed information on costs and expected returns from loan financed operation, and details of loan administration. With this understanding, the Committee recommended the first phase activities for approval and for the loan component to be re-submitted to the Committee when satisfactorily elaborated.

In the dissemination component, some target countries have been identified in South and Central America such as Colombia, Guatemala and Honduras. Other interested countries in the region may be invited to the regional seminar through the PEA.

The Executive Board of the Fund approved the project, "Development of Processing and Marketing of Tilapia Produced in Big Latin American River Basins – Phase I", as described in document CFC/EB/32/18 with a grant of USD 954,160 (equivalent to SDR 740,353). More resources shall be allocated to technical training and the marketing component with due attention to export markets; the budget was increased by USD 100,000 for this purpose.

The Board noted that Phase II of the project would comprise a loan in the amount of USD 2 million (equivalent to SDR 1,551,843) with details to be elaborated through the Project Preparation Facility of the Fund.

II – 2 – Objectives, targets and envisaged outputs of the project

II – 2.1 - The project according to its logical framework

In the logical framework, included in the project proposal and in the project Appraisal Report, the project goal was to “contribute to the development of emerging Latin American fresh water aquaculture production”.

The way the goal achievement was foreseen to be measured was through an “increased contribution of fresh water aquaculture production, mainly tilapia, in the overall seafood production in Latin America, particularly in the two participating countries, as well as an increased participation of tilapia as a commodity in the seafood world trade.” The FAO statistics for aquaculture production show clearly that the fresh water aquaculture production, particularly tilapia, is in a process of strong increase in Latin America. Undoubtedly, at its level, the project has contributed to this development.

The project had six specific purposes:

- a) to provide market information
- b) develop value added product from tilapia;
- c) training of producers in quality control and Marketing;
- d) development of seals of origin;
- e) equip and organize producers through loans;
- f) disseminate the results of the project

The actual achievement of these purposes was to be indicated through:

- a) the publication and distribution of reports on market surveys, marketing tests and the participation to fairs;
- b) products developed and being marketed;
- c) higher quality of products and origin being recognized by buyers; producers better equipped and organized

We shall see in detail, in part III of the present report, how all three indicators were largely met.

The foreseen outputs of the project, presented in the logical framework of the appraisal report, were:

- 7 surveys published, 2 marketing tests
- 2 pilot plants installed and working efficiently (one in each country)
- training courses (QC and Marketing) for producers of 2 countries
- CFC and local banks open US\$ 1.000.000 credit line in each country
- 1 dissemination seminar realized

II – 2.2 - the key commodity issues the project was intended to address and relevance to the strategy of the sponsoring ICB

To date, ICB has followed the strategy adopted by the 1984 FAO World Conference on Fisheries Management and Development, which includes the objective of assisting developing countries to increase the benefits gained from intra and inter-regional trade in fish and fishery products. This is to be achieved through the support to relevant investment programmes, promotion of international co-operation in trade related matters, assistance for the upgrading of products, removal of obstacles hindering trade

development, etc.

II –2.3 - the specific objective(s) and expected outputs

The three main objectives of the project were:

- 1 - to contribute to the development of emerging Latin American fresh water aquaculture production;
- 2 - to give technical assistance to the development of products with high quality standards in order to be competitive on the national and on the international markets; and,
- 3 - to give assistance to local aquaculture producers in two important Latin American countries for the development of processing lines in order to add value to their production.

The project comprised the following six components and immediate objectives, each one having several outputs:

*immediate objective 1 : **identification of market opportunities***

- 1.1 - *output 1*: The Seafood market in Belo Horizonte
- 1.2 - *output 2*: The Seafood market in Salvador
- 1.3 - *output 3*: The Seafood market in Recife
- 1.4 - *output 4*: The Seafood market in Maceió and Aracajú
- 1.5 - *output 5*: The Seafood market in Caracas
- 1.6 - *output 6*: The Seafood market in Valencia/Maracay
- 1.7 - *output 7*: The world market for tilapias
- 1.8 - *output 8*: Local marketing test in Brazil
- 1.9 - *output 9*: Local marketing test in Venezuela

*immediate objective 2 : **Product development***

- 2.1 - *output 1*: installation of a small pilot fish handling workshop in the São Francisco Valley, including ice plant, stainless steel working tables, working tools and fish boxes.
- 2.2 - *output 2*: realization of training courses for the processing of tilapias in the São Francisco Valley
- 2.3 - *output 3*: installation of a small pilot fish handling workshop in Venezuela, including ice plant, stainless steel working tables, working tools and fish boxes.
- 2.4 - *output 4*: realization of training courses for the processing of tilapias in Venezuela

*immediate objective 3 : **Training in Quality Assurance and in Marketing***

- 3.1 - *output 1*: preparation of Quality Control standards for the São Francisco producers
- 3.2 - *output 2*: preparation of Quality Control standards for the Venezuelan producers
- 3.3 - *output 3*: local training in Brazil and in Venezuela for domestic marketing
- 3.4 - *output 4*: practical training in the promotion of tilapia for export

*immediate objective 4 : **Assistance for the adoption of a seal of origin***

- 4.1 - *output 1*: legal project for the adoption of a seal of origin "Tilapia of the São Francisco" (or similar)
- 4.2 - *output 2*: legal project for the adoption of a seal of origin "Tilapia of Venezuela" (or similar)

immediate objective 5 : **Dissemination Seminar**

5.1 - output 1: realization of a regional dissemination seminar

immediate objective 6 : **Support to local producers for their loan applications**

6.1 - output 1: loans for São Francisco producers

6.2 - output 2: loans for Venezuelan producers

II – 2.4 - the targeted beneficiaries and extent of benefits

Direct beneficiaries from the project were cooperatives and fish farmers associations as well as small rural aquaculture producers in both regions of the project. The successful implementation of the project enhanced the local people's ability to add value to their products, thus strengthening their competitive positions and increasing their income.

II – 2.5 - project cost and financing plan:

The total cost foreseen for the phase 1 project was USD 1,493,560, of which USD 954,160 were provided by the Common Fund as grant. The project was co-financed by CODEVASF (São Francisco Valley Development Company, Brazil), INAPESCA (National Fisheries Authorities, Venezuela) and INFOPESCA in the amount of USD 180,000, USD 96,000 and USD 71,400 respectively. Counterpart contributions from the Participating Companies were equivalent to USD 192,000. The last financial report of the project demonstrates that substantial savings could be achieved and that the grant effectively provided by the CFC was less than initially foreseen.

II – 2.6 - the management and implementation arrangements

INFOPESCA served as the PEA. Its staff, working on the project, remained unchanged during the whole implementation of the project. The FAO Sub-Committee on Fish Trade acted as the Supervisory Body. The FAO officer in charge of supervising the project implementation also remained unchanged during the whole time. At the CFC, the Senior Project Manager managed the project from the time of its proposal until its completion. Both CFC manager and FAO supervisor were present on the field, together with the PEA staff, during the launching mission, the mid-term review and the dissemination seminar. Working together since the beginning of the project favoured the good understanding among the members of the team (CFC, FAO and PEA) and assured the soft continuity of all the project activities until their completion.

The counterpart participation, CODEVASF in Brazil and INAPESCA in Venezuela had very important roles, as their staff were mobilized to assure the necessary field support to the PEA .

The CODEVASF staff, under the coordination of the director of aquaculture of this federal institution, remained unchanged during the duration of all activities and accompanied their progressive results. The activities of the project were complementary to the activities of CODEVASF in developing aquaculture in the region and CODEVASF, from the beginning, felt and acted as a very close ally to the project.

In Venezuela, during the whole implementation of the project, the direction of INAPESCA changed three times, implying also changes in national aquaculture policies. At the

beginning of the project implementation, the Venezuelan fisheries authorities insisted in changing the benefited producers from the states of Portuguesa, Falcón and Anzoategui, initially foreseen in the project document for those of the state of Barinas. As a matter of fact the recently appointed president of INAPESCA discouraged strongly the existing tilapia producers of the three foreseen benefited states, which ended up closing their businesses. In Barinas, fish farmers were encouraged to change any tilapia farming for the production of native species, mainly "cachamas" (*Colassoma spp*). These changes of the country aquaculture policies, parallel to the changes in its political environment, were however not considered as hampering the broad objectives of the project and the activities went on, adapting to the new realities.

A third president of INAPESCA, nominated close before the mid-term review mission, demonstrated a great interest in the achievements of the project and during the period of her presidency, INAPESCA's staff strongly collaborated with the PEA.

Approximately one year after, however, a fourth president was nominated at INAPESCA, which also changed the habitual counterparts with whom the PEA used to work. At that time, the INAPESCA headquarter in Caracas went on fire and the institution changed twice its address. The changes in INAPESCA's staff together with the burning of its headquarter affected somewhat the memory of the institution. The PEA resumed the contacts, having to explain the project objectives and activities from the beginning. At the time the new counterpart officers were getting involved, the project reached its completion.

III - Project Implementation and Results Achieved

III -1 Project Implementation:

The official launching of the project in Brazil was realized on 2nd June 2003 in the town of Penedo (state of Alagoas), with the participation of representatives of the CFC, of FAO and of INFOPECA as well as Brazilian Federal, State and Municipal authorities (see specific report about the project launching mission). The official launching of the project in Venezuela was on 4th August 2003 at Caracas hotel Hilton, with the participation of FAO and INFOPECA representatives as well as the Venezuelan Minister of Agriculture and the President of INAPESCA.

The last activity of the project was the dissemination seminar realized in Costa Rica on 31st August 2006. In between, during slightly more than three years, the PEA was in charge of executing the project according to its objectives and to the Project document.

III – 2 Project Results Achieved:

The activities were executed according to all immediate objectives foreseen by the project and their results have reached all the initial target beneficiaries and, often, also other producers of the regions, attracted by the project activities and willing to participate, were benefited.

(A) Identification of Market Opportunities

immediate objective 1 : identification of market opportunities

- 1.1 - *output 1*: The Seafood market in Belo Horizonte
- 1.2 - *output 2*: The Seafood market in Salvador
- 1.3 - *output 3*: The Seafood market in Recife
- 1.4 - *output 4*: The Seafood market in Maceió and Aracajú
- 1.5 - *output 5*: The Seafood market in Caracas
- 1.6 - *output 6*: The Seafood market in Valencia/Maracay
- 1.7 - *output 7*: The world market for tilapias

The surveys about the markets for general seafood, including tilapia, in the main towns and cities of interest for the producers of the Low São Francisco valley and of the state of Barinas represented important outputs as they ignored until then the possibilities of reaching these markets with their products.

The market survey of Belo Horizonte was considered unnecessary during the mid-term review mission, due to the distance (over 1500 Km) of this city from the low São Francisco valley. It did not interest the producers. On another hand, a deeper approach was given to the surveys of Aracaju and Maceió which are the state capitals closer to the production sites, giving place to two reports instead of one. The report about the world market for tilapia, initially prepared in English as foreseen, was also translated into Spanish and published.



The market surveys reports were published and distributed in the producing regions and worldwide

- 1.8 - output 8: Local marketing test in Brazil
- 1.9 - output 9: Local marketing test in Venezuela



Marketing test at CODEVASF center in Aracaju, Brazil



Joint marketing test with Cativen supermarket chain in Venezuela

Both marketing tests were implemented as planned. They helped the producers to realize the importance of the good handling and processing of fish, facilitating sales and allowing them to receive better prices for their products. High quality tilapias fillets in Aracaju, for instance, were sold at R\$ 15,00/Kg (US\$ 5,60/Kg) without difficulty.

(B) Product Development in Pilot Fish Plants

immediate objective 2 : Product development

2.1 - output 1 : *installation of a small pilot fish handling workshop in the São Francisco Valley, including ice plant, stainless steel working tables, working tools and fish boxes.*

Actually, the project was able to install two small pilot fish handling workshops , including ice plants, instead of one, in the São Francisco valley, distanced 155 Km and benefiting directly two cooperatives.



ice plants being inspected by CFC Senior Project Manager during the mid-term review mission in Brazil:

← in Betume

and in Xingó →



The project also provided working tools and fish boxes to a third processing plant (in Propriá) built by the Federal Government in conjunction with the municipality in order to benefit the local fish farmers. It is worth to say that the construction of the Propriá plant was highly encouraged by the good results obtained by the fish handling workshops upgraded by the project in Xingó and in Betume. By the end of 2006, another small fish plant was under construction with Federal government support in Penedo. One can say without exaggeration that the project has boosted the good handling and processing of tilapia in the whole Low São Francisco valley.

2.2 - output 2: *realization of training courses for the processing of tilapias in the São Francisco Valley*



Training courses in Xingó and in Betume

filleting tilapia: an art to be taught



The project has popularised fish filleting in the Low São Francisco valley with practical training courses in Xingó and in Betume. Filleting was considered the most suitable way to add value to the product with simple but efficient techniques.

2.3 - *output 3*: installation of a small pilot fish handling workshop in Venezuela, including ice plant, stainless steel working tables, working tools and fish boxes.



Fish processing plant of the Viscayno project, in Barinas, under construction in April 2006 – it was effectively inaugurated end August 2006

The installation by the project of a small pilot fish handling workshop in Venezuela, including ice plant, has suffered many difficulties. During two years, all efforts to import the already purchased ice plant, free of duties (according to formal agreements between the CFC and the Government of Venezuela), were vain. The problem was at the National Customs which never answered seriously to the repeated requests from the PEA and also from INAPESCA.

As a matter of fact, the national fishery authority, INAPESCA, was simultaneously benefiting from a Spanish project, known as “Viscayno Project”, with a programme of building tens of fish processing plants all over the country, destined to local producers. After some years of uncertainty, this Spanish project finally was initiated in 2006, with the construction of the first fish processing plant, in Barinas. Surprisingly, and despite all the previous information received by the PEA from INAPESCA ascertaining the contrary, this plant also included an ice plant.

As a result, for Barinas, a processing unit with ice plant were effectively installed, not by the CFC project but by the Viscayno one. However, in Barinas, the CFC project contributed with working tools and fish boxes to the associated producers.

2.4 - *output 4*: realization of training courses for the processing of tilapias in Venezuela

The training activities for the processing of the fish farmed by the producers of Barinas were implemented the same way as they were in Brazil, essentially practical.



Training course in Barinas, Venezuela

(C) Training in Quality Control and Marketing

immediate objective 3: Training in Quality Assurance and in Marketing

3.1 - *output 1*: preparation of Quality Control standards for the São Francisco producers

3.2 - *output 2*: preparation of Quality Control standards for the Venezuelan producers



Besides effective training courses regarding quality assurance in both countries, the project prepared a manual for tilapia filleting enterprises, including the quality control standards.

3.3 - *output 3*: local training in Brazil and in Venezuela for domestic marketing

The training for domestic marketing in both countries was closely related to the immediate objective 1 (see above). It included formal seminars in Caracas (Venezuela) and in Propriá (Brazil). The marketing tests can also be considered as additional practical training sessions as the beneficiaries had the opportunity to explore new distribution channels with the full support of the project.



Marketing seminars in Caracas and in Propriá

3.4 - *output 4*: practical training in the promotion of tilapia for export

The project installed a booth at the 2005' Brussels Seafood Exposition, totally dedicated to promote the products of the Low São Francisco and Barinas fish farmers. The participation of both Venezuelan and Brazilian delegations of producers also allowed them to discover the reality of international trade and the existing competition from other countries, particularly Asian.

Additionally, the practical training also included the visit to the seafood wholesale market of Rungis, in the outskirts of Paris, which is one of the main gates for European seafood imports. Both Latin American delegations had the opportunity to meet directly French importers at their working places.



Project booth at the Brussels Seafood Exposition 2005



Visit to Rungis seafood wholesale market in Paris

(D) Assistance for the Adoption of a Seal of Origin

immediate objective 4 : Assistance for the adoption of a seal of origin

4.1 - output 1: legal project for the adoption of a seal of origin "Tilapia of the São Francisco" (or similar)

4.2 - output 2: legal project for the adoption of a seal of origin "Tilapia of Venezuela" (or similar)

The adoption of a geographical appellation of origin represents a long way to go for any producing region. As a matter of fact, the WIPO directives for the appellation of origin is adopted in the national legislation of both countries, Brazil and Venezuela, which differ only by the rigor of their interpretation by the national ruling institutions.

The long way include several steps, the first of them being the registry of a common trade mark for the producers of the region. This first step was attained in both countries with the legal registry of the common regional trade mark. A definite recognition of an appellation of origin requires a longer tradition in production and might be achieved in the coming years.



Registered common regional trade marks in Brazil and Venezuela

An unforeseen result of this project component, deeply felt by the producers themselves, in both countries, was the self-esteem and the pride developed by them regarding their products, associated to the image of their native regions. This pride made them feel as somehow responsible for not devaluating the image of their region with bad products. Quality assurance can therefore not be uniquely associated with possible higher incomes, but also with deeper human sentiments.

(E) Dissemination of the Project Results

immediate objective 5 : Dissemination Seminar

5.1 - output 1: realization of a regional dissemination seminar



Dissemination seminar in San José, including field visit to tilapia farms and processing plants

The dissemination seminar was realized in San José, Costa Rica, from 29th to 31st August 2006. It represented the last activity of the project. Participants of several Latin American and Caribbean countries (see specific report) listened to a general project report, from its generation to its completion and to the testimonies of the Brazilian and Venezuelan participants. They also presented the evolution of the tilapia aquaculture, processing and trade in their own countries. The two days seminar was completed by a field visit to two big Costarican tilapia farms and processing units.

(F) Assistance in the Application for Loans

immediate objective 6 : Support to local producers for their loan applications

6.1 - output 1: loans for São Francisco producers

6.2 - output 2: loans for Venezuelan producers

The project, in conjunction with the participating local producers, prepared 2 business plans, one in each country, which might be used for the application for loans through the bank system. For the time being, in Brazil as in Venezuela, these small producers are benefiting from subventions from the central governments through the construction of some infrastructures they need. It is the case of the Propriá processing plant (already built), the Penedo one (under construction) and the Viscayno project in Barinas.

The preparation of the business plans and the discussions about possible investments have however helped the local producers to visualize their business under the logics of economic profitability.

III – 3 Dissemination of Project Results:

Further to the dissemination seminar, the project results have benefited a wide dissemination through the quarterly magazine “INFOPECA Internacional”, published by the PEA, as well as through the other magazines published by the sister organizations of the Fish Info Network. These results were also often cited in the international seminars, in different Latin American countries and elsewhere in the world, to which the PEA staff is regularly invited to present conferences.

The project has presented many novelties for the fisheries and aquaculture sector in Latin America and will certainly continue to be cited as successful examples in the coming years.

IV. Lessons Learned:

The implementation of the project lasted three years. Actually, the project had over six years life since its identification in early 2000. The experience gained during this period allowed the learning of different lessons. These lessons could be useful for other projects, be them for seafood commodities or for other ones.

IV - 1. Development Lessons:

There is no doubt that the project concept and design, focusing on tilapia, a tropical fresh water aquaculture species, was very appropriated for the region and in some aspects even premonitory: the Latin American as well as the world production of tilapia has strongly increased during this period and its market evolved worldwide. The same is happening with several other fresh water aquaculture species, especially in tropical regions.

One of the main difficulties in the identification of a project is to identify real problems and sets of possible solutions which are sufficiently broad to allow them to remain updated two or three years afterwards. These problems and their solutions must also be sufficiently disseminated, at least in the region, in order to allow the project implementation to have a valid demonstrative effect allowing the solutions to be adopted by the same commodity producers in other countries or regions.

The solutions elaborated to deal with the identified problems were particularly appropriated and still are. They can be replicated in similar situations, not only in Latin America but worldwide.

There is also no doubt that the world changes fast and, in three years between the project identification and the beginning of its implementation, the situation can change, sometimes sharply and unpredictably. This was the case, in the present project, with the changes occurred in the Venezuelan fisheries administration, occasioning radical changes of national policies and priorities. The Venezuelan tilapia production which was increasing regularly at the time of the project identification was disrupted at the beginning of the project implementation. The coordinated action between the PEA, the ICB and the CFC however permitted the flexible adaptation to the new realities without changing the basic objectives of the project nor its expected results.

IV - 2. Operational Lessons:

The need to adapt to changing conditions is absolutely necessary in the implementation of any project once it does not change its wider nor specific objectives.

The changes in the conditions and in the production sector of the São Francisco valley did not affect at all the good implementation of the project. In fact, the changes were the consequence of the strong development of the activity and the project was highly contributing to it. These positive changes enhanced the project results which were bigger than initially expected.

In the case of Venezuela, the changes observed in the country fish farming sector can finally be considered as having a minor impact on the project results. Tilapia is not the only tropical fresh water aquaculture species and all the logics of the project applying to tilapia, in this case, could also be applied to another tropical fresh water aquaculture species which production had become a priority at national level. The problems were the same and so were the solutions. On another hand, it is probable that, in a near future, the national fisheries authorities will reconsider the possibility of farming tilapia at the light of the successes obtained by tilapia production in neighbouring countries and apply the results of the project, obtained with Barinas' fresh water farmed fishes, also to tilapia.

One of the great lessons of the project was also that it is never too early to begin with the purchase of equipment, mainly when it is necessary to import it from abroad. In many countries, the bureaucracy for importing equipment free of duty can be heavy. Apparently, in the Venezuelan case, the customs officers were not aware of the agreement signed between the CFC and the Venezuelan State exempting from duties the equipment imported in the frame of a CFC project. Even after having received a copy of the signed agreement, and during two years, until the completion of the project, no satisfactory solution was given by the customs authorities to the case. Of course, an operational alternative would have been to pay the duties, but this would be unacceptable to the CFC.

V. Conclusions and Recommendations:

The project "Development and Processing of Tilapia produced in big Latin American River Basins" can definitely be considered as a very successful project, having attained all its objectives and having benefited not only the direct beneficiaries in two countries but also the whole Latin American region through the wide dissemination of its results.

The solutions brought to the basic identified problem (basically: how to enhance tilapia production, marketing and trade with value added processed products) and the results attained could be useful not only in Latin America but also in other regions of the world dealing with similar problems. The results of this project could therefore be more widely disseminated to other continents.