



Project Proposal

Enhancing Amazonian Seafood Products on the World Market

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31st October 2005

A - Project Summary

The Sub-Committee on Fish Trade of the FAO Committee of Fisheries, as the designated International Commodity Body (ICB) for Fishery Products, hereby submits the following project proposal with its recommendation for financing through the Second Account of the Common Fund for Commodities.

Enhancing Amazonian Seafood Products on the World Market

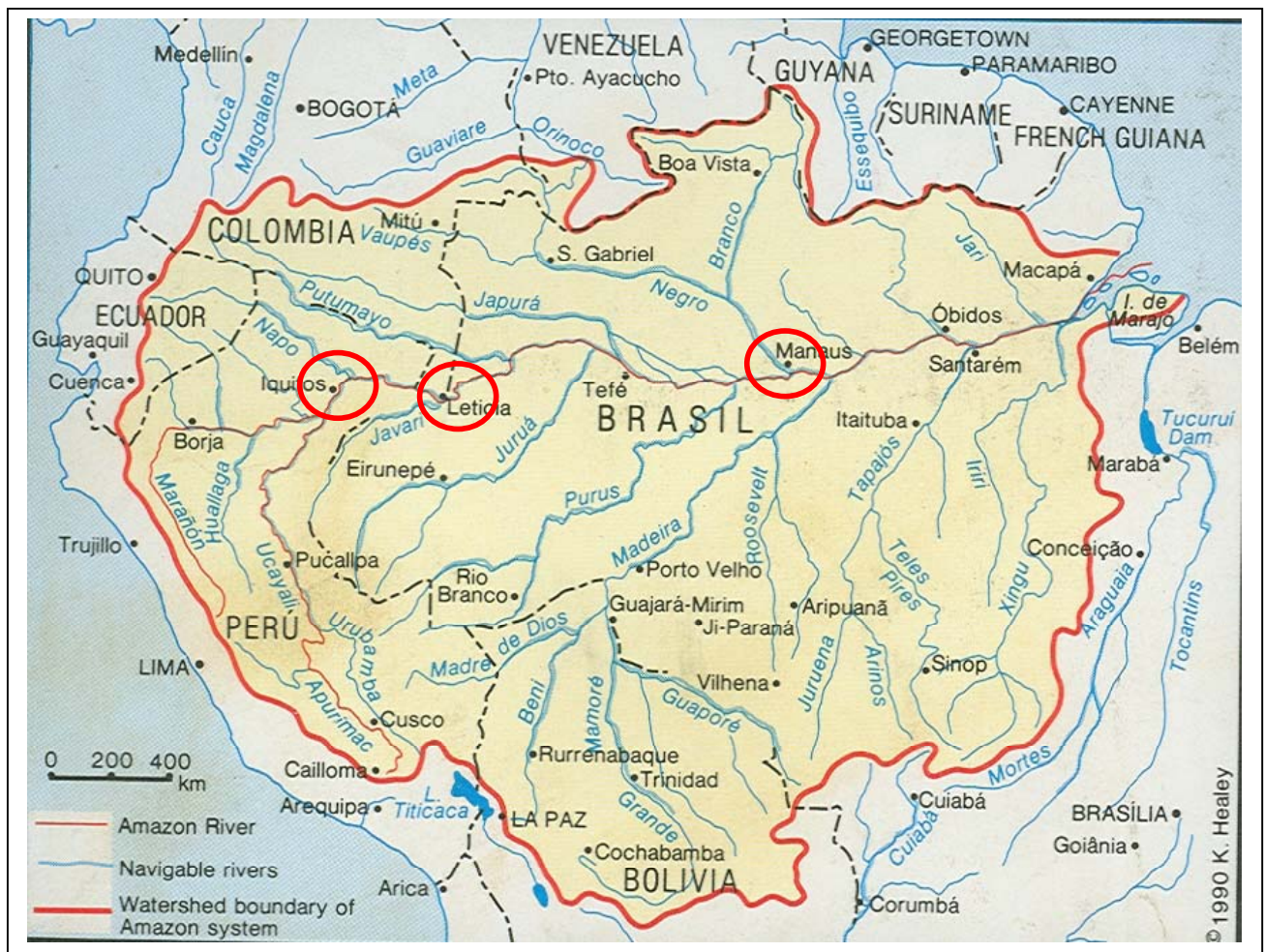
<i>Duration:</i>	3 years
<i>Location:</i>	Peru, Colombia, Brazil
<i>Nature of activities:</i>	Introduction of quality Amazonian fish products on the international markets in order to encourage the development of a large scale sustainable aquaculture in the Amazon region.
<i>Estimated total costs:</i>	US\$ 2.914.104
<i>Financing thought from the Common Fund (grant):</i>	US\$ 1.243.104
<i>Counterpart contributions in cash and in kind:</i>	US\$ 1.671.000
<i>Project Executing Agency:</i>	INFOPECA
<i>Supervising Body:</i>	Sub Committee on Fish Trade of the FAO Committee of Fisheries, as the designated International Commodity Body (ICB) for Fishery Products
<i>Estimated starting date:</i>	at signature of contract

Enhancing Amazonian Seafood Products on the World Market

The world biggest river basin, sheltering the world biggest rain forest, is still widely unknown and largely unpopulated. Its 5.711.000 Km² cover one third of the whole South American continent and contain 20% of the world fresh water reserves. The Amazon river has a length of 6.437 Km and the water flow at its delta is 212.500 m³/s (over 100 times the European Rhine which has a flow of 2.120 m³/s at its estuary)

Historically, the region has developed cyclical extractive activities, like rubber, timber, fruits or mining. River fishery has long represented (and still represents) the main protein supply to the diet of its fast growing population. Nowadays, aquaculture is considered not only as a production method that prevents the overfishing of rivers and lakes (where some wild species are already close to extinction) but as a real strong and sustainable way to develop the region. In the early 19th century, the prairies of the US Middle West were largely settled and developed following the cattle trails. In the early 21st century, the development of the Amazonian region, intimately linked to water, is growingly being associated with the expansion of aquaculture.

Map 1 - The Amazon Basin



While the basin encompasses 8 countries, the Amazon river itself only crosses 3 of them. The main cities bordering the river, in these 3 countries, are Iquitos (in Peru, 450.000 inhabitants), Leticia (in Colombia, 30.000 inhabitants) and Manaus (in Brazil, 1.700.000 inhabitants).

A – Background and Strategy

A1 – Structural Conditions of the Production and Marketing

In the three countries crossed by the Amazon river, and particularly in their main cities, we can find elements indicating the formation of aquaculture clusters: existence of traditional local fisheries and strong local markets for seafood, research institutions involved in the development of aquaculture technology, government institutions engaged in the promotion of aquaculture and a growing number of fish farmers pioneers already installed and trying to develop the activity.

As for the Amazonian region as a whole, there is no doubt that aquaculture is a strategic choice to booster regional development. The region has the main fresh water reserves of the planet and land is easily available. The preparation of large quantities of fish feed is possible in the region and facilitated by the development of river navigation: for instance, an important part of the Brazilian grain production (particularly soy and corn) of the Mato Grosso region, is already transported by barges on the Madeira river until Santarem where it is transhipped for export. As for fish meal, Peru is the first world producer and its transport to the Amazonian region is possible through the river port of Pucallpa, itself linked by road to the Peruvian fishing ports of the Pacific coast.

Each of the main cities has its own particularities.

Iquitos

Located at 1000 Km northeast of Lima, Iquitos' altitude is only 117 meters over the sea level. This low altitude allows oceanic ships to reach the city. Besides a 95 Km road joining Iquitos to Nauta, there is no terrestrial road linking the city to the rest of the country or elsewhere. Any transport must therefore be by air or by water: 3700 Km downstream to the Atlantic ocean or 1025 Km upstream, through the Ucayalli river¹, until the town of Pucallpa (at an altitude of 127 meters over the sea level) where a 860 Km road begins, linking this region of the Peruvian Amazon to the capital Lima and the Pacific ocean, crossing the Andean at altitudes reaching 4000 meters (a road travel from Lima to Pucallpa normally takes 18 hours)

Aquaculture was introduced in the region already in the 1940's, mainly regarding the local species called "paiche" (*Arapaima gigas*, "pirarucu" in Brazil and in Colombia – see picture 2). Since then, aquaculture techniques were, and still are, being improved by the IIAP (Instituto de Investigación de la Amazonía Peruana – Peruvian Amazon Research Institute). The IIAP also has its own laboratory for fish reproduction and provides fingerlings to the producers. The fish farmers association "Asociación de Piscicultores de la Región de Loreto" regroups 198 producers installed along the road Iquitos – Nauta.

As for catches, the department of Loreto has produced 19.850 MT of fresh water fishes in 2003 (round 54% of the Peruvian fresh water fish production). From this volume, 8.447 MT were landed in Iquitos. Only 60% of this production is sold fresh, locally. Due to the lack of other preserving techniques, the remaining 40% is sold cured, mainly salted and dried. Considering the population of Iquitos (400.000 inhabitants) we can

¹ The Ucayalli river, when joining the Marañon river, forms the Amazonas river, 130 Km upstream from Iquitos.

estimate the *per capita* consumption of fish in the town to be around 21 Kg per year. As a matter of fact, the wholesalers and fishmongers of Iquitos do not use to sell their products elsewhere.

Fish farming competes directly with catches. During catching high seasons, the voluminous simultaneous landings drop the market prices at a level fish farmers can not afford to sell. Furthermore, fishes from catches are generally bigger than those of fish farms, attracting the preference of consumers. Farmed fish can thus only be sold during the low seasons of catches. These difficulties have led some fish farmers, mainly Iquitos' paiche farmers to sell live fingerlings for export (particularly to China) instead of growing the fish for flesh.



Picture 1

Plant for extruded fish feed at IIAP



Picture 2

Farmed paiche at IIAP



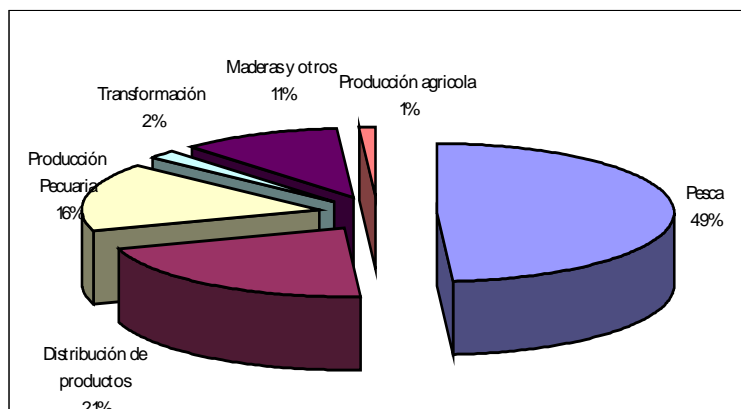
Picture 3

Farming of surubis at IIAP

Leticia

Leticia is located at the triple Peruvian – Colombian - Brazilian border (it is conurbated with Brazilian Tabatinga), at 1100 Km from Bogotá (straight line), 510 Km downstream of Iquitos and 1680 Km upstream of Manaus. It counts 30.000 inhabitants. As in the case of Iquitos, it has no land access and depends on river navigation or flights for its transport. Leticia is situated 100 meters over the sea level, and the town basically lives from fisheries, timber and tourism (figure 1). It is a remarkably safe and friendly town, considering Colombia's poor reputation for security.

Figure 1 - Economical activities in Leticia - 1995.



source: Instituto Amazónico de Investigaciones Científicas: *Bagres de la Amazonia Colombiana: Un recurso sin fronteras*, 2000.

As a matter of fact, even being smaller than its Brazilian neighbour Tabatinga, Leticia is particularly well organized regarding fish trade. 20 fish wholesalers, with cold rooms, work in town, buying most of their fishes (up to 85%) from Brazilian producers and (up to 10%) from Peruvian producers, freezing them in poor conditions (or salting them – see pictures 4 to 6) and sending by plane to the fish market of Bogotá. They normally use the regular daily flight of AeroRepública (Boeing 737) but when fish landings are voluminous, they can also call for special flights for the transport, using the other way to bring a variety of products from the capital to Leticia. In 2004, these wholesalers have sent 4800 MT of Amazonian fishes to the fish market in Bogotá (table 1).

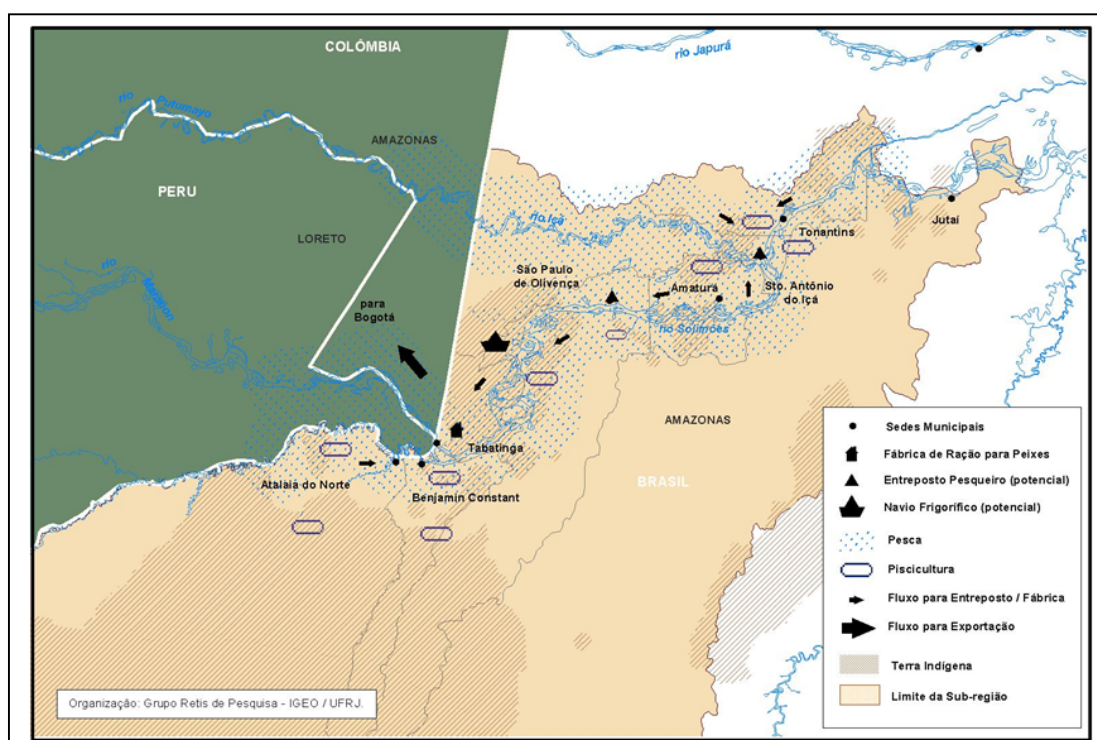
Brazilian fish producers located in the High Solimões² region, be them fishermen or fish farmers, seem to accept very well the sale of their production to Colombian wholesalers. As a matter of fact, the prices of fish in Colombia are traditionally higher than in Brazil. The well-established Colombian fish wholesalers of Leticia are also being considered as the main outlet of aquaculture production of the Brazilian High Solimões region, planned by different Government institutions (see map 2). Following these plans, a fish feed plant was recently installed in the town of Benjamin Constant, located opposite to Tabatinga, at the triple frontier.

² “Solimões” is the name given by Brazilians to the Amazon river between the triple frontier down to Manaus where it is again called “Amazonas”, after joining with the rio Negro.

Table 1 - Fish (in Kg) sent by Leticia wholesalers in 2004

1	JOSE A MORALES G	958.729
2	JOSE EDWIN GUZMAN C	952.806
3	LUIS G PARADA G	808.350
4	MARTIN I ANGARITA T	379.000
5	RAFAEL LOZANO P	276.410
6	DISPEZ AMAZONAS LTDA	208.745
7	ROLANDO GROSSO	99.700
8	ALEXANDRA ROSERO V.	98.900
9	MANUEL MONTAÑEZ	98.900
10	HAROLD W ALZATE D	98.200
11	RUBEN JAIMES	96.650
12	GLORIA I CASTRO	95.750
13	RUBEN D LOPEZ M	95.680
14	HERIBERTO PARADA G	92.870
15	IGNACIO MURCIA S	92.600
16	SERAFIN QUEVEDO L	84.550
17	OSCAR E ORTEGA S	81.500
18	MAURICIO PARADA G	73.400
19	ALVARO PORRAS	58.000
20	MERCEDES MORENO M	49.075
	Total	4.799.816

Source: INCODER - Leticia

Map 2 - Planned development of aquaculture in Brazilian High Solimões

Source: Retis Research Group, Federal University of Rio de Janeiro



Picture 4

Typical fish wholesaler cold storage in Leticia.

The discharging truck is from Brazilian Tabatinga.



Picture 5

Inside a cold room, under inadequate temperature (-12°C to -15°C) fishes are packed in bags, without any special care or quality control



Picture 6

Cured surubi (*Pseudoplatistoma fasciatum*), at a wholesaler store in Leticia.

Manaus

Manaus is the capital city of the state of Amazonas, the biggest Brazilian state, covering 18% of the country area, with 1.577.820 Km². This is quite equivalent to the area of the UK, France, Germany and Spain together. The population of the state is around 3 million inhabitants, 1,7 million of them living in Manaus. This city has rapidly grown during the last decades due to the installation of high-tech industries attracted by the government fiscal incentives.

Manaus is linked by road to the Brazilian Center-West as well as to Venezuela. Its international airport offers direct cargo flights to the USA and to Europe. Actually, Manaus airport is the 3rd Brazilian airport for the volume of cargos. Its industrial products as well as primary commodities are also exported through its harbour, able to receive big oceanic ships, at 1330 Km from the ocean.

According to Brazilian fisheries statistics, the state of Amazonas has produced round 60.000 MT of fresh water species in 2003, all of it being of artisanal origin (table 2). 15 species have landing volumes over 1000 MT.

Map 3 - The Brazilian State of Amazonas

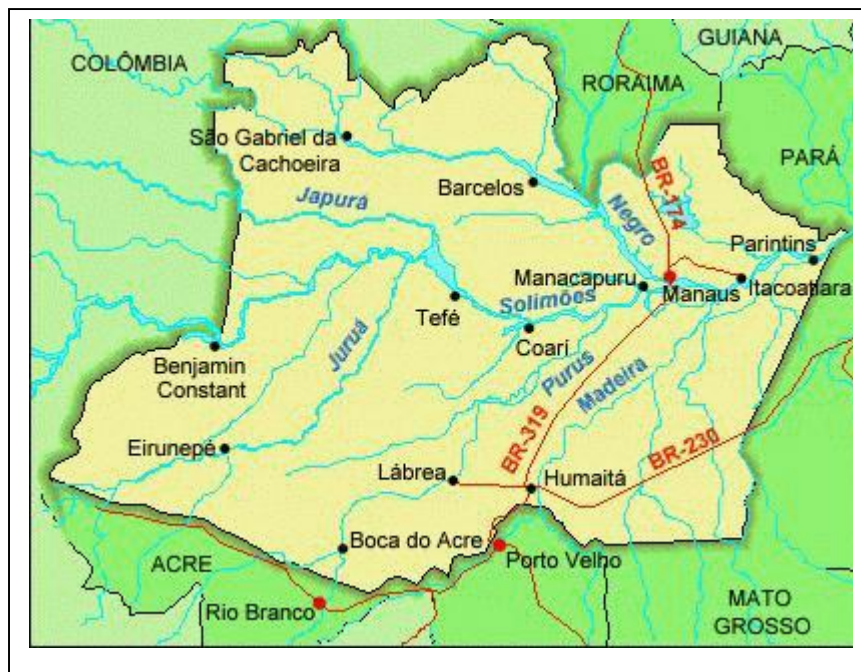


Table 2 - Fish landings in the Brazilian State of Amazonas - 2003

Brazilian name	Family	Latin name	MT
Jaraqui	Curimatidae	<i>Semaprochilodus spp</i>	10.666,5
Curimatã	Curimatidae	<i>Prochilodus spp</i>	9.887
Pacu	Characidae	<i>Metynnis spp</i>	6.088,5
Piramutaba	Pimelodidae	<i>Brachyplatystoma vaillantii</i>	3.383
Matrinxã	Characidae	<i>Brycon melanopterus</i>	3.116
Tambaqui	Characidae	<i>Colossoma macropomum</i>	2.636,5
Sardinha	Characidae	<i>Triportheus spp</i>	2.341,5
Mapará	Hipophthalmidae	<i>Hipophthalmus marginatus</i>	2.262
Tucunaré	Cichlidae	<i>Cichla spp</i>	2.198
Dourada	Pimelodidae	<i>Brachyplatystoma flavicans</i>	2.097,5
Surubim	Pimelodidae	<i>Pseudoplatystoma spp</i>	1.977,5
Pirapitinga	Characidae	<i>Piaractus spp</i>	1.860,5
Aruanã	Osteoglossidae	<i>Osteoglossum bicirrhosum</i>	1.558,5
Dourado	Characidae	<i>Salminus spp</i>	1.311,5
Cubiu	n.a	n.a	1.084,5
Other species			7.456,5
Total			59.925,5

Source: DIFAP/IBAMA

These fisheries statistics also mention the aquaculture production of 3.307 MT in the state of Amazonas in 2003, 95% of which being of the species Tambaqui (*Colossoma*). Fish farmers are organized in the Aquaculture Association of the State of Amazonas.

These statistics give an indication of the current production, totally oriented to local consumption. Having in mind the population of the State (3 million inhabitants) the *per capita* consumption in the State of Amazonas is 20 Kg per year, very similar to the consumption patterns registered in Iquitos (21 Kg). As a matter of fact, fish production in the state of Amazonas has remained stable during the last 20 years, while the population has doubled.

Two strong research structures, EMBRAPA (Empresa Brasileira de Pesquisa Agropecuária) and INPA (Instituto Nacional de Pesquisas Amazonicas) are present in Manaus. The first one is more involved in aquaculture research while the second institution has a strong sector for food processing research (including fish). Furthermore, Manaus also counts with a local agency of the Federal Secretariat of Aquaculture and Fisheries (SEAP) as well as with the Amazonas state Agency for Amazonian Agribusiness. This last institution currently works to disseminate a “green label” as an eco-friendly seal of origin.

On another hand, despite the volume of fish landings in Manaus and in other towns in the State of Amazonas, the processing and the wholesale structure of the region is small. There are 6 working fish cold storages in the State. One of them, located in Iranduba (linked by road, at 44 Km from Manaus) has the authorization from the federal sanitary authorities to export.

International organizations involved in the region

ACTO

The Amazon Cooperation Treaty Organization was founded in 1978 with 8 member countries (Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname and Venezuela) and is based in Brasilia. ACTO's member countries aim to promote joint actions and efforts towards harmonically developing their respective Amazonian territories, through environmental preservation and rational utilization of the region's natural resources, aiming at equitable and mutually beneficial results. However, for the time being, no special activity regarding aquaculture or fisheries has been reported.

See www.octa.org.br

IICA/PROCITROPICOS

Procitropicos was installed through an agreement in 1991 between IICA (Inter-American Institute for Cooperation on Agriculture) and the National Institutes of Agriculture Research of 7 countries from the Amazon basin (the countries of ACTO less Guyana). PROCITROPICOS is involved in coordinating aquaculture research in the Amazon region and organizes a Network of Amazonian Aquaculture.



Picture 7

Fishing port in Manaus –
seen at one of its lowest
water level in October 2005



Picture 8

Salted and dried pirarucu
fillets being sold in Manaus:



Picture 9

Fish at one of the municipal
markets in Manaus:

*Aruanã (Osteoglossum
bicirrhosum)*

A2 – Problems affecting the Commodity

Several problems still hold back the booming of the Amazonian aquaculture :

- There is an immense variety of autochthonous fish species, many of them very appreciated as seafood in the region, but they are largely unknown to the rest of the world. Some promotion was done recently, particularly through the Swiss Cooperation (SIPPO), regarding the Peruvian *paiche* in European seafood fairs (Brussels, Bremen...).
- From the beginning, fish farming in the Amazon region was production-oriented rather than market-oriented. The orientation given to the fish farmers was to produce species easy to grow, rather than species easy to sell. Not all Amazonian native species, particularly those having many bones (such as *Colossomas*, for instance), can be easily proposed on the international seafood market.
- The deficiency of equipment, installations and of quality control procedures, mainly in the wholesalers cold storages. Ice is seldom used in enough quantity and the water used in the old fashioned ice plants is normally not treated.
- International transport logistics is still poor in the region. Despite the goodwill and efforts of the Amazonian countries and the ACTO, and with the exception of the Brazilian/Colombian border at Tabatinga/Leticia, it is still difficult to travel from one country to another through the Amazonian basin.

The analysis of the current situation of fisheries and aquaculture in the three sites considered to be benefited by the project, leads us to some conclusions regarding the potential exports of Amazonian seafood:

- One should keep in mind that fish importers normally have three demands to their suppliers: quality, regularity and price. In this exact order. This means that if a supplier is able to deliver quality and regularity, the price can be negotiated.
- Having in mind these demands, from the variety of fish species of the Amazon, a choice of some few exportable species is needed. The choice for first export experiences should be oriented to those species having white flesh and few bones, that can be filleted, and for which fish farming techniques are already well dominated or close to be. For instance *paiche* and *surubi* are among these species.
- As air transport is currently the best choice in the three sites, and as this costly type of transport is normally only valid for high priced products, the easiest value addition to a fish is to organize a transport logistics able to bring it fresh (gutted or filleted, in ice) with total quality to the markets. The careful association of the fish with its Amazonian origin should also add value to the product by the exotics that the region inspires in most people around the world.
- Amazonian fresh water fishes are normally more resistant to natural spoiling than sea fishes. However, we must not forget that the Amazon river is located on the Equator, with a year round high temperature. Ice is therefore absolutely vital from the moment the fish is taken from the water. The longer shelf life of the product represents an additional commercial argument and must benefit the importers abroad, rather than the producers.

- The introduction of high quality Amazonian fish species on international markets should preferably be through market segments able to appreciate it and pay for it, like restaurants in the US and European biggest cities. As for many new products being launched, a market-skimming pricing policy seems the most adequate when one enters the market with a relatively small volume of new products.
- There is a vast number of international and national institutions and also NGOs involved in the overall development of the Amazon region. Any project in the development of aquaculture and fisheries in the Amazon region should try to involve as many institutions as possible, each one bringing in its main strengths and experiences. The involvement of complementary institutions can be through direct participations to the project or through the encouragement to launch complementary projects.
- Any result obtained by the project at the three proposed sites should be demonstrative to the whole Amazonian region (8 countries), i.e.: one third of the South American continent.

B – Project Objectives and Rationale

The present project follows and complements a series of national and international projects that were implemented in the region during the last decades. The development of processing, quality assurance, trade and marketing aspects of Amazonian fisheries and aquaculture constitute an indispensable complement to those projects regarding mainly production, social and environmental aspects of aquaculture and fisheries.

The choice of specific species to be promoted on the international markets will consider specially those species with white flesh, few bones and offering good filleting possibilities, for which fish farming technology already exists. At least two species, *paiche* and *surubí*, are already recognized as meeting these conditions.

The information to Amazonian exporters about how regional and international markets work can be provided through the realization of market surveys, coupled with marketing training workshops, provided by the project.

The handling of high value fresh products should be coupled from the catch with the use of ice prepared with adequately treated water. Basic fish processing (gutting, heading, filleting), according to export quality standards can be achieved through practical training through the project, in coordination with national sanitary competent authorities of the three countries. Polystyrene boxes and plastic wrapping for packaging fish for air transport and export are available at plants located in the tax free industrial district (Zona Franca) of Manaus. This packaging material can easily and relatively cheaply be transported by ship to Leticia and Iquitos.

The identification of market segments, specially restaurants and speciality seafood stores in the US and European countries and their normal supply chain, basically wholesalers/importers will be done through the project with the support of the commercial attachés of the embassies of the three countries involved as well as with the support of their national export promotion offices (PROMPEX of Peru, PROEXPORT of Colombia and APEX of Brazil). These offices can also participate in the promotion effort by disseminating information about the products and their national Amazonian producing regions, in a coordinated way through the project.

A common (or similar) seal of geographical indication - fish product from the Amazon - can be submitted for international register through WIPO (Agreement on Trade-Related

Aspects of Intellectual Property Rights -TRIPS) or through the national services for intellectual property (INDECOPI in Peru, Superintendence of Industry and Commerce in Colombia, INPI in Brazil).

The main purpose of the project will be to achieve the export of a regular flow of Amazonian fish products, even in small quantities at the beginning, with a quality standard considered acceptable by the sanitary authorities and meeting the demands of quality and regularity of wholesalers of the importing countries. It is believed that such a regular flow of exports will encourage much more voluminous trade flow, including other product presentations, such as frozen for instance.

B1 –Wider Objectives

As wider objectives of the present project, we have the development of the international trade of new seafood commodities, making them known to the world, and turning possible the sustainable development of a wide region of the world through environment friendly aquaculture production on a large scale.

B2 – Immediate Objectives

As immediate objectives we have first the ***identification of Amazonian fish species*** able to succeed on the international markets, taking into account previous experiences of Amazonian research institutions such as INPA in Brazil, IIAP in Peru and the Amazonian base of UNC (Universidad Nacional de Colombia). As a first objective, 4 species will be identified.

The ***training of fishermen and fish farmers*** in the correct handling of fishes, including the use of ice from the moment fish is taken out of water. This training will utilize demonstrative filleting and packaging workshops, duly equipped with ice plants (2MT/day, with water treatment) installed by the project.

The ***training of wholesalers*** in the correct handling of fish, including the preparation of plans (HACCP plans) for the levelling of their cold storages to the requests of the national sanitary services, responsible for issuing export authorizations.

The contribution to a better understanding of the regional market through the realization of ***market surveys*** in Lima, Manaus, São Paulo and Bogotá.

The ***identification of potential clients*** (restaurants and specialty seafood stores) and their respective distribution chains in main US and European cities (for instance Miami, Paris, Milan, Madrid). This identification should include the participation of national export promotion offices as well as embassies in promoting their national products.

The promotion and protection of a ***common geographical indication*** for the fish products of the Amazonian countries.

The pertinent ***organization of transport logistics*** together with the producers or the wholesalers from Iquitos, Leticia and Manaus, as well as air freight companies, including possible transshipments, to the identified regional and international importers.

The ***wide dissemination of results*** in the Amazonian countries, as well as in Europe through the organization of 2 dissemination seminars, co-organized by international institutions working in the region, like SIPPO, CEAM and IICA / PROCITROPICOS, for instance.

C – Project Components

Component 1: *identification of Amazonian fish species*

Objective 1: *identification of fish species suitable for export*

Output 1.1: identification of 4 main species

Activity 1.1.1: critical review of document and researches from Peruvian IIAP

Activity 1.1.2: critical review of document and researches from Colombian UNC/Leticia

Activity 1.1.3: critical review of document and researches from Brazilian INPA

Component 2: *training of fishermen and fish farmers*

Objective 2: *purchase and installation of ice plants and workshops at 3 production sites of fishermen/fish farmers associations*

Output 2.1: 3 installed demonstration workshops with ice plants

Activity 2.1.1: purchase and installation of workshop with ice plant in Peru (Iquitos)

Activity 2.1.2: purchase and installation of workshop with ice plant in Colombia (Leticia)

Activity 2.1.3: purchase and installation of workshop with ice plant in Brazil (Manaus)

Objective 3: *training of fishermen and fish farmers in fish handling and quality control*

Output 3.1: trained of fishermen and fish farmers in fish handling and quality control

Activity 3.1.1: training activities in Iquitos

Activity 3.1.2: training activities in Leticia

Activity 3.1.3: training activities in Manaus

Component 3: *training of wholesalers*

Objective 4: *training of wholesalers and workers in Quality Control practices*

Output 4.1: trained wholesalers and workers in Quality Control practices

Activity 4.1.1: training activities in Iquitos

Activity 4.1.2: training activities in Leticia

Activity 4.1.3: training activities in Manaus

Objective 5: *preparation or revision of HACCP plans for wholesalers cold stores and processing facilities, where possible*

Output 5.1: prepared HACCP plans in cold stores / processing facilities

Activity 5.1.1: preparation or revision of HACCP plans in Iquitos

Activity 5.1.2: preparation or revision of HACCP plans in Leticia

Activity 5.1.3: preparation or revision of HACCP plans in Manaus

Component 4: *regional market surveys*

Objective 6: *publication of reports about the seafood markets in 4 regional seafood consumption centres*

Output 6.1: Seafood market report of Lima

Activity 6.1.1: implementation of market survey

Activity 6.1.2: publication of market report

Output 6.2: Seafood market report of Manaus

Activity 6.2.1: implementation of market survey

Activity 6.2.2: publication of market report

Output 6.3: Seafood market report of São Paulo

Activity 6.3.1: implementation of market survey

Activity 6.3.2: publication of market report

Output 6.4: Seafood market report of Bogotá

Activity 6.4.1: implementation of market survey

Activity 6.4.2: publication of market report

Component 5: *The identification of potential clients*

Objective 7: *identification of potential restaurants and speciality fish stores in one US and 3 European cities*

Output 7.1: turning potential into effective clients in a US city

Activity 7.1.1: identification of potential clients in a US city

Activity 7.1.2: identification of the components of the distribution chain needed to reach these clients

Activity 7.1.3: effective sale of available quantities for regular supply

Output 7.2: turning potential into effective clients in a 1st European city

Activity 7.2.1: identification of potential clients in a 1st European city

Activity 7.2.2: identification of the components of the distribution chain needed to reach these clients

Activity 7.2.3: effective sale of available quantities for regular supply

Output 7.3: turning potential into effective clients in a 2nd European city

Activity 7.3.1: identification of potential clients in a 2nd European city

Activity 7.3.2: identification of the components of the distribution chain needed to reach these clients

Activity 7.3.3: effective sale of available quantities for regular supply

Output 7.4: turning potential into effective clients in a 3rd European city

Activity 7.4.1: identification of potential clients in a 3rd European city

Activity 7.4.2: identification of the components of the distribution chain needed to reach these clients

Activity 7.4.3: effective sale of available quantities for regular supply

Objective 8: *Advertising and publicity*

Output 8.1: preparation of press releases and folders about species and origin

Activity 8.1.1: preparation of press releases and folders in the language of buying countries

Activity 8.1.2: distribution of promotion material to national export promotion services of the 3 producing countries involved in the project

Activity 8.1.3: distribution of promotion material to national embassies of the 3 producing countries involved in the project in the 4 buying countries

Output 8.2: promotion of selected Amazonian fishes on the export markets

Activity 8.2.1: lobbying of media of buying countries by national embassies of the 3 producing countries

Activity 8.2.2: achieve the publication of publicity in general and specialized media of buying countries

Component 6: *common geographical indication*

Objective 9: *registration of the Amazonian fishes as “geographical indication”*

Output 9.1: follow national registration procedure for geographical indication

Activity 9.1.1: presentation of the register application in Peru

Activity 9.1.2: presentation of the register application in Colombia

Activity 9.1.3: presentation of the register application in Brazil

Output 9.2: preparation of a common geographical indication for Amazonian countries

Activity 9.2.1: requirement by national intellectual property services to WIPO, according to agreed international procedures

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Component 7: *organization of transport logistics for fresh fish*

Objective 10: *identify the quickest and the cheapest means of transport from producers to clients*

Output 10.1: identified quickest and cheapest means of transport from producing to buying areas

Activity 10.1.1: identification of best transport channels from Iquitos to buying markets

Activity 10.1.2: identification of best transport channels from Leticia to buying markets

Activity 10.1.3: identification of best transport channels from Manaus to buying markets

Component 8: *wide dissemination of results*

Objective 11: *publication of a dissemination manual*

Output 11.1: dissemination manual

Activity 11.1.1: preparation of the manual

Activity 11.1.2: printing of the manual

Activity 11.1.3: distribution of the manual

Objective 12: *realization of dissemination seminars*

Output 12.1: 2 dissemination seminars

Activity 12.1.1: organization of the dissemination seminar in the Amazonian region together with IICA / PROCITROPICOS

Activity 12.1.2: organization of the dissemination seminar in Europe together with CEAM and SIPPO

D –Tentative Cost and Financing

The cost of implementing such a project, in 3 Amazonian countries and over a period of 3 years is estimated US\$ 2.914.104, distributed as follows (for detailed cost table, see annex III)

Machinery and Equipment	US\$ 195.300	6,7%
Civil works	US\$ 31.500	1,1%
Material and supply	US\$ 992.250	34,0%
Personnel	US\$ 247.500	8,5%
Technical assistance	US\$ 648.000	22,2%
Duty travel	US\$ 191.604	6,6%
Dissemination and training	US\$ 220.500	7,6%
Operational costs	US\$ 283.500	9,7%
Supervision and monitoring	US\$ 103.950	3,6%
Total	US\$ 2.914.104	100%

The total contribution sought from the CFC is a grant of US\$ 1.243.104, which represents 42,7% of the project. The other contributors to the project are the producers and the exporters, by supplying fish and other materials, of course, but also by supplying labour for the construction of workshops. The national governments of the 3 benefited countries are called to contribute by mobilizing their existent institutions to actively support the project activities, in particular:

- their national fisheries and aquaculture authorities
- their national services for export promotion
- their embassies in the importing countries
- their national services for intellectual property
- their national Amazonian research centres

A special effort is made to involve other international or regional institutions, already involved in the development of Amazonian aquaculture, in the financing of the project, in particular INFOPECA, PROCITROPICOS, SIPPO and CEAM

CFC	US\$ 1.243.104	42,7%
Producers /Exporters	US\$ 995.400	34,2%
National Fisheries authorities	US\$ 288.000	9,9%
National Export promotion services	US\$ 144.000	4,9%
INFOPECA	US\$ 138.600	4,8%
Other institutions (Procitropicos, CEAM, SIPPO...)	US\$ 105.000	3,5%
Total	US\$ 2.914.104	100%

E - Implementation Arrangements and Management

The PEA: INFOPESCA

INFOPESCA is the Centre for Marketing Information and Advisory Services for Fishery Products in Latin America and the Caribbean. It was started in 1977 by the Food and Agriculture Organization of the United Nations (FAO) and became a self-sustained intergovernmental organization in 1994, based in Montevideo, Uruguay, and independent from FAO with which it however maintains a close working relationship within the FISH INFOnetwork (also including INFOFISH, INFOPECHE, INFOSAMAK, EUROFISH, INFOYU and GLOBEFISH).

Well known for its regular publications (mainly the fortnightly newsletter *INFOPESCA Noticias Comerciales* and the quarterly magazine *INFOPESCA Internacional*, among others), INFOPESCA is also known for its advisory and consulting activities and for the management of projects involving fisheries development (including aquaculture), seafood processing and marketing as well as the implementation of quality control systems.

In order to develop these activities, INFOPESCA has its own diversified staff of experts with good experience in Latin American fisheries. This staff is well known to the CFC once it has successfully developed the CFC project FSCFT/14 for the rehabilitation of the seafood processing industry in Rio Grande and in Mar del Plata, project FSCFT/19 for the processing and marketing of tilapia in the big Latin American river basins (São Francisco valley in Brazil and Venezuela) and it is currently involved in improving marketing efficiency of artisanal fishermen in Central America, Mexico and the Caribbean.

Participating institutions:

A – National Fisheries and Aquaculture authorities:

- Vice Ministry of Fisheries in Peru
- INCODER in Colombia
- SEAP in Brazil

B – National services for the Promotion of Export:

- PROMPEX in Peru
- PROEXPORT in Colombia
- APEX in Brazil

C – National and Regional research institutions:

- IIAP in Peru
- UNP/Leticia in Colombia
- INPA in Brazil

D – National services for intellectual property

- INCODEPI in Peru
- Superintendence of Industry and Commerce in Colombia,
- INPI in Brazil

Other institutions involved:

- FAO

- COPESCAL
- SIPPO
- CEAM - Centro de Estudios Amazónicos (Spanish NGO)
- IICA / PROCITROPICOS

F Beneficiaries and Benefits

The beneficiaries of the project will be all the Amazonian countries as the project will help to boost the development of the region by opening international markets to the local production of fish products. The current production can be many times multiplied through the regional potentialities, creating wealth for the whole region.

The beneficiaries will also be the current fish producers of the three participating countries, be them fishermen or fish farmers, who will receive a direct strong support to increase the quality of their products, adding value to them, and opening new international market possibilities for them.

In particular, three producer associations and two wholesalers associations will be directly involved and participating to the project:

Participating producers:

- Asociación de Acuicultores de la Región de Loreto
El Varillal, Km 12 de la carretera Iquitos – Nauta, Loreto, Peru
- Asociación de Pescadores del río Amazonas ASOPESCAM
Calle 7 n° 10-20, Leticia, Colombia
- Associação dos Aqüicultores do Estado do Amazonas
Rua Japurã 140, Centro, Manaus, Brasil

Participating wholesalers (coldstorages)

- Wholesalers Association of Leticia
- Wholesalers Association of Manaus

G - Issues and Follow-up Actions

The big issue of the present project is the development of sustainable aquaculture as a major economical activity in the Amazonian region.

As a matter of fact, the objective of all national governments as well as international institutions (beginning with ACTO) is the harmonic development of the region. All the activities realized until now by research institutions, fisheries and aquaculture development authorities, international projects (FAO, COPESCAL, PROCITROPICOS, SIPPO, CEAM, etc.) point to the enormous potential of aquaculture in the region.

On another hand, the world consumption of seafood has increased constantly since the end of World War II, be it in total or on a *per capita* basis. The increased demand is likely to continue (moreover when one thinks about the current sanitary problems affecting cattle and poultry) and the foreseeable problem will be the lack of offer, once the catches of wild species have already reached their limits and the rate of expansion of aquaculture is slowing down after over a decade of booming, mainly due to the Chinese efforts in this field. The opening of a new and immense territory for

aquaculture, will possibly contribute to the continuity of the world aquaculture expansion at the same rates observed in the 90's. All main components are there: availability of land and water as well as access to grains and fish meal for feed, with the first ingredient already navigating down the Madeira river from the huge grain farms of Brazilian Mato Grosso, and the second one having the possibility to navigate down the Amazon river from Ucallpa, in Peru, which has a road access to the huge fish meal factories of the country.

All Amazonian countries agree that only native species of the basin should be farmed in the region. This is a wise decision, having in mind the immense diversity of native species of the region. However, the choice of species easy to farm instead of species easy to sell is somewhat braking the development of the activity. Moreover, Amazonian species are still largely unknown to the world. Choosing species that can be farmed and giving them presentations that can be well accepted on the world market is the challenge that the present project intends to demonstrate practically. There is no doubt that the results of the project, widely disseminated, will inspire a great number of new projects, be them public or private, to take advantage of its results.

H – Environmental Impacts

One of the biggest problems in the Amazonian region is the deforestation realized for developing agriculture and husbandry activities. All agronomic research institutions in the world have already pointed that this is a suicidal way of developing the Amazonian region once its soil is not able to support these activities for many years, and degrades quickly into a desert.

On another hand, this immense region must be developed in a sustainable way, in order to feed its inhabitants. As a matter of fact, the immense Amazonian region has the potential to feed the whole world.

The main characteristics of the Amazonian region is water and 20% of all the world reserves of fresh water are said to be in this region. The best way to develop the region is therefore to make a sustainable use of this water. Aquaculture of Amazonian autochthonous species is certainly an excellent way for it, possibly the best one. Furthermore, some of these species are already overexploited through catches (it is specially the case of *paiche*). The fish farming of these species helps to recover them.

ANNEX I

LOGICAL FRAMEWORK FOR SUMMARIZING PROJECT DESIGN
Project Title: Enhancing Amazonian seafood products on the world market

Est. Project Completion Date: 31 December 2010

Date of this Summary: 31 October 2005

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Program Goal: Contribute to the development of large scale sustainable aquaculture in the Amazon region through the development of international trade of Amazonian fish products</p>	<p><u>Measures of goal achievement</u> Increased contribution of Amazonian aquaculture products in the overall seafood production in Latin America. Increased participation of Amazonian fish products in the world seafood trade</p>	<p>National production and trade statistics of participating countries</p> <p>National statistics of Amazonian seafood imports in the US and in Europe</p>	<p>Macroeconomic and political environment in participating countries will continue to favour the sustainable development of the Amazon Region.</p> <p>General macroeconomic and political environment in major seafood importing countries will continue to favour the increase of their seafood markets.</p>
<p>Project Purposes a) identification of Amazonian fish species able to succeed on international markets; b) training of fishermen and fish farmers in fish handling and quality control; c) training of wholesalers and preparation of HACCP plans; d) regional markets surveys in 4 cities; e) identification of potential clients and respective distribution channels; f) development of geographical indication for Amazonian products; g) organization of transport logistics; h) wide dissemination of results</p>	<p><u>Conditions that will indicate purpose has been achieved: End of project status</u> a) choice of 4 species; b) trained fishermen and fish farmers of the 3 participating producers associations; c) set of HACCP plans for wholesalers cold storages in the 2 participating wholesalers associations; d) 4 market reports published; e) set of foreign clients and effective purchase orders; f) complete file presented for register at competent authorities; g) effective export on regular basis; h) realization of 2 dissemination seminars and publication of project results</p>	<p>a) PEA progress reports and national statistics; b))and c) PEA progress reports and supervision on field; d) published reports; e) and g) commercial/ export documents; f) reception document from competent authority h) report of seminars</p>	<p>The interest in exporting Amazonian fish products, manifested by the producers as well as by national authorities will continue in the coming years.</p> <p>Air freight will continue to be affordable for fresh fish in the coming years</p>
<p>Outputs Choice of species to be marketed; demonstration workshops with ice plants working in 3 countries; published market reports; increased quality of fish being marketed and geographic indication; Regular flow of Amazonian fish products being sent to the US and Europe; Wide dissemination of results</p>	<p><u>Magnitude of outputs necessary and sufficient to achieve purpose</u> Choice of 4 species; 3 workshops and ice plants installed, one in each participating country; exports authorized by sanitary inspection; geographic indication registered in the 3 countries; effective exports to be measured in MT/ month; 2 seminars and 1 publication</p>	<p>PEA project progress reports Published market reports Registered geographic indication for Amazonian fish species Export documentation Seminar reports, publication</p>	<p>Land and construction for demonstrative workshops and ice plants will be made available by collaborating institutions without too much bureaucracy</p>

LOGICAL FRAMEWORK FOR SUMMARIZING PROJECT DESIGN (cont.)
Project Title: Enhancing Amazonian seafood products on the world mark

Est. Project Completion Date: 31 December 2010
Date of this Summary: 31 October 2005

Inputs: activities and types of resources	<u>Level of efforts/expenditure for each activity (in US\$)</u>		
a) Machinery and equipment b) Civil works c) Material and supply d) Market intelligence and sales e) Technical assistance f) Training	a) US\$ 195.300 b) US\$ 31.500 c) US\$ 992.250 d) US\$ 826.554 e) US\$ 648.000 f) US\$ 220.500	PEA progress reports Publications Annual audit reports Supervision of ICB Periodic reports and on-site visits Dissemination seminars	Financing of all sources is made on a timely basis in line with the proposed activities and Annual Plan/Budget. The PEA, collaborating institutions and beneficiaries coordinate and execute the project efficiently

ANNEX III: Detailed Cost Table (grants)

category	Component Inputs	unit	year 1	year 2	year 3	Unit price	year 1	year 2	year 3	total base cost	contingency %	Contingency amount	total cost	financing source
I	Machinery & Equipment													
I	Ice plant with silo	unit	3			40.000	120.000			120.000	5%	6.000	126.000	CFC
I	Water treatment unit	unit	3			12.000	36.000			36.000	5%	1.800	37.800	CFC
I	Equipment for processing workshop	set	3			10.000	30.000			30.000	5%	1.500	31.500	CFC
II	Civil Works													
II	Building material for workshop	set	3			10.000	30.000			30.000	5%	1.500	31.500	CFC
III	Material and Supplies													
III	Polystyrene boxes for fish export	Country/month	18			1.000	18.000			18.000	5%	900	18.900	CFC
	Polystyrene boxes for fish export	Country/month		36	36	1.000		36.000	36.000	72.000	5%	3.600	75.600	exporters
III	Rolls of plastic wrapping	Country/month	18			500	9.000			9.000	5%	450	9.450	CFC
	Rolls of plastic wrapping	Country/month		36	36	500		18.000	18.000	36.000	5%	1.800	37.800	exporters
III	Supply of fish	Country/month	18	36	36	9.000	162.000	324.000	324.000	810.000	5%	40.500	850.500	exporters
IV	Personnel													
IV	Labour for construction	country	3	3		10.000	30.000			30.000	5%	1.500	31.500	producers
IV	extensionists	M/M	36	36	36	2.000	72.000	72.000	72.000	216.000			216.000	Fisheries authorities

category	Component Inputs	unit	year 1	year 2	year 3	Unit price	year 1	year 2	year 3	total base cost	continge ncy %	Continge ncy amount	total cost	financing source
V	Technical Assistance													
V	Project coordinator	M/M	4	4	4	9.000	36.000	36.000	36.000	108.000			108.000	CFC
V	International marketing expert	M/M	4	4	4	8.000	36.000	36.000	36.000	108.000			108.000	CFC
V	Quality assurance expert	M/M	4	4	4	8.000	36.000	36.000	36.000	108.000			108.000	CFC
V	Fish handling expert	M/M	4	4	4	8.000	36.000	36.000	36.000	108.000			108.000	CFC
V	Aquaculture experts	M/M	6	6	6	4.000	24.000	24.000	24.000	72.000			72.000	Fisheries authorities
V	Embassies trade attachés/trade promoters	M/M	6	6	6	8.000	48.000	48.000	48.000	144.000			144.000	Embassies/ export promotion services
VI	Duty Travel													
VI	Montevideo – Amazon region	travel	15	12	12	1.600	24.000	19.200	19.200	62.400	5%	3.120	65.120	CFC
VI	Montevideo - USA	travel		2	2	1.400		2.800	2.800	5.600	5%	280	5.880	CFC
VI	Montevideo - Europe	travel		3	3	1.800		5.400	5.400	10.800	5%	540	11.340	CFC
VI	DSA in the Amazon region	DSA	180	144	144	160	28.800	23.040	23.040	74.880	5%	3.744	78.624	CFC
VI	DSA in the USA and Europe	DSA		60	60	240		14.400	14.400	28.800	5%	1.440	30.240	CFC
VII	Dissemination and Training													
VII	Training material for fishermen and fish farmers	set	1			15000				15.000	5%	750	15.750	
VII	Training material for wholesalers	set	1			15000				15.000	5%	750	15.750	
VII	The seafood market in Lima	Publ.	1			20000	20.000			20.000	5%	1.000	21.000	CFC

category	Component Inputs	unit	year 1	year 2	year 3	Unit price	year 1	year 2	year 3	total base cost	contingency %	Contingency amount	total cost	financing source
VII	The seafood market in Bogotá	Publ.	1			20.000	20.000			20.000	5%	1.000	21.000	Infopesca
VII	The seafood market in Manaus	Publ.	1			20.000	20.000			20.000	5%	1.000	21.000	Infopesca
VII	The seafood market in São Paulo	Publ.	1			20.000	20.000			20.000	5%	1.000	21.000	Infopesca
VII	Dissemination seminars	seminar			2	50.000			100.000	100.000	5%	5.000	105.000	Procitropicos CEAM SIPPO
VIII	Operational costs													
VIII	Administration PEA	month	12	12	12	5.000	60.000	60.000	60.000	180.000	5%	9.000	189.000	CFC
VIII	Telecommunications	month	12	12	12	2.000	24.000	24.000	24.000	72.000	5%	3.600	75.600	INFOPESCA
VIII	Others	month	12	12	12	500	6.000	6.000	6.000	18.000	5%	900	18.900	CFC
IX	Supervision and Monitoring													
IX	Audit	audit	1	1	1	3.000	3.000	3.000	3.000	9.000	5%	450	9.450	CFC
IX	Supervision ICB	lumpsum	1	1	1	15.000	15.000	15.000	15.000	45.000	5%	2.250	47.250	CFC
IX	Supervision & evaluation CFC	lumpsum	1	1	1	15.000	15.000	15.000	15.000	45.000	5%	2.250	47.250	CFC
	Grand Total						1.008.800	853.840	953.840	2.816.480		97.624	2.914.104	