

technopolis |group|



20 September 2017

EU-CELAC Innovact Platform: Innovation to promote Territorial Cohesion

Mapping Report Border Area Colombia-Peru



EU-CELAC Innovact Platform: Innovation to promote Territorial Cohesion

Mapping Report Border Area Colombia-Peru

20th September 2017

For any information regarding this document please contact:

Juan Carlos Salazar

juan.salazar@technopolis-group.com

+57 320 211 5880

Inés Sagrario, Task Leader for Task 2, Competitiveness

ines.sagrario@competitiveness.com

+34 626163032

Table of Contents

1	Summary in EN	5
2	Resumen en ES	6
3	The Context of the Peru-Colombia Border Area.....	8
4	National Level Priorities on each side of the Border	10
4.1	The two major areas of the Border Integration Zone (BIZ)	10
4.2	The BIZ within the priorities of the Peruvian national level.....	10
4.2.1	Institutional setting	10
4.2.2	General approach to border integration policy	10
4.2.3	The border integration policy on the border Peru Colombia.....	11
4.3	The BIZ within the priorities of the Colombian national level	11
4.3.1	Institutional setting	11
4.3.2	The objectives of the Border for prosperity Plan.....	12
5	Value Chain Mapping in the Border Area	13
5.1	Special aroma cocoa in the Amazonian Trapezium and Putumayo basins	13
5.1.1	Key Value Chain Characteristics and Economic Indicators.....	13
5.1.3	Key Challenges and Barriers to Development	15
5.1.4	Opportunities for Cross-Border Collaboration.....	16
5.2	Pisciculture in the Amazon Trapezium and the Putumayo basins	17
5.2.1	Key Value Chain Characteristics and Economic Indicators.....	17
5.2.2	Mapping of Key Players in the Value Chain	17
5.2.3	Key Challenges and Barriers to Development	18
5.2.4	Opportunities for Cross-Border Collaboration.....	19
6	Selection of Priority Value Chains	20
7	Recommendations for Next Tasks.....	21
7.1	Key stakeholders	21
7.2	Political issues.....	21
7.3	Training and capacity building needs	21
7.4	Project management and resources	22
	Appendix A Contact Details of Interviewees	23
	Appendix B Bibliography.....	27
	Appendix C Previous projects supported by the EU in Peru, Colombia and the border region, and other initiatives	29
	EU-Peru Policy Dialogue (2013).....	29
	EU-Colombia Policy Dialogue (2015).....	29
	Project in the Brazil-Peru border on pisciculture (2015).....	30

INPANDES	30
Other initiatives	30
Appendix D Infraestructura disponible en el Trapecio Amazónico	31

Tables

Table 1. Prioritization criteria in Border Region Peru-Colombia	20
---	----

Figures

Figure 1 Colombia – Peru border map.....	8
--	---

1 Summary in EN

The Colombian-Peruvian border, with more than 1,600 km length, is in the Amazon, a geographic space with an ecosystem of tropical forests, a rich biodiversity and abundant natural resources. The Border Integration Zone (BIZ) covers more than 277,000 km². The Amazonas and Putumayo rivers, the most important within the complex water network that characterizes this region, besides being the boundaries of the two countries, constitute the most important way of penetration and permanent communication. In addition, of these rivers depends the economic model of subsistence that predominates in this area. Its population, of more than 600,000 inhabitants, is almost entirely made up of indigenous people. This population is mostly in poverty and marginalization. Its isolation from the poles of development, limited accessibility, great distances and dispersion of the population have made it difficult for both the attention of the State and the access to markets and consumer goods that are not produced locally. Social services, such as health and education, as well as water, basic sanitation and energy have very low coverage.

The mapping of value chains on the Peru-Colombia border has focused on the productive chains of special aroma cocoa and pisciculture. The decision to focus mapping in this border area on two value chains was taken with national authorities from both countries, and was based on the agreements derived from the working groups of the Binational Cabinet of January 2017. Given that the Peruvian-Colombian Border Integration Area covers two large areas corresponding to the Putumayo and Amazonian Trapezium basins, and that the characteristics of these two territories are markedly different, it was necessary, for purposes of mapping, to consider, where relevant, differential treatment in the characterization of special aroma cocoa and pisciculture value chains for each of these two regions.

The region still faces basic security challenges (especially on the Colombian side in the Putumayo basin, although with the peace process with the FARC the conditions have improved), and those regarding social, economic and institutional development: the high levels of unsatisfied basic needs, which put the border population in a situation of extreme vulnerability; the isolation of border populations, given the difficult geographical accessibility to markets and regional and national economic management centers; most cocoa producers and fish farmers are small producers, thus, there is a high atomization and fragmentation of the property and most of the production is done individually; the weak organization of producers, a situation that does not allow economies of scale to be exploited along the links of production, marketing and processing; and the lack or low supply of promotion, extension and technical assistance activities to improve productive processes in agriculture and pisciculture.

The Border Integration Zone (BIZ) created by the governments of Peru and Colombia offers favorable conditions for the development of cross-border collaboration activities within the framework of INNOVACT. The existence of a Development Plan for this area, an institutional framework for binational discussion and coordination, which includes a Development Fund, and a broad agenda of activities of mutual interest, including the topics addressed by INNOVACT, are notable opportunities for cross-border collaboration. The four chains (special aroma cocoa and pisciculture in both the Amazonian Trapezium basin and the Putumayo basin) offer valuable opportunities to strengthen cross-border cooperation and prior efforts; require support programs for their development; and their development would have a positive impact on the diversification of local economies. However, the possibility that the cocoa chain in the Amazon basin can be developed in a way that integrates into global value chains is a decisive factor in focusing INNOVACT efforts on it. In the case of pisciculture, although its potential to integrate into global chains is still low, the impact it could have on the local economy of the Putumayo Basin (Puerto Leguizamo and Soplín Vargas), as well as the existence of previous efforts and conditions conducive to its development, make an interesting choice for INNOVACT.

In sum, the combination of the two chains and the two areas of the Border Integration Zone in the prioritization exercise provides the opportunity for the project to generate greater learning and externalities. In this way, it responds to the diversity of characteristics and conditions that, from the social, economic and institutional development point of view, exist in the region.

2 Resumen en ES

La frontera colombiano-peruana, con más de 1.600 km de longitud, se encuentra en el Amazonas, un espacio geográfico con un ecosistema de bosques tropicales, una rica biodiversidad y abundantes recursos naturales. La Zona Fronteriza de Integración (ZIF) cubre más de 277.000 km². Los ríos Amazonas y Putumayo, los más importantes dentro de la compleja red de agua que caracteriza a esta región, además de ser los límites de los dos países, constituyen el camino más importante de penetración y comunicación. Además, de estos ríos depende el modelo económico de subsistencia que predomina en esta zona. Su población, de más de 600.000 habitantes, pertenece casi exclusivamente a pueblos indígenas. El resto se compone principalmente de colonos y mestizos. Esta población se encuentra en su mayoría en situación de pobreza y marginación. Su aislamiento de los polos de desarrollo, la limitada accesibilidad, las grandes distancias y la dispersión de la población han dificultado tanto la atención del Estado como el acceso a los mercados y bienes de consumo que no se producen localmente. Los servicios sociales como salud y educación, así como agua, saneamiento básico y energía tienen una cobertura muy baja.

El mapeo de las cadenas de valor en la frontera Perú-Colombia se ha centrado en las cadenas productivas de cacao nativo de aroma y piscicultura. La decisión de focalizar el mapeo en esta zona fronteriza en dos cadenas de valor fue tomada con las autoridades nacionales de ambos países y se basó en los acuerdos derivados de las mesas técnicas del Gabinete Binacional de enero de 2017. Dado que el Área de Integración Fronteriza Perú abarca dos grandes territorios (las cuencas del Trapecio Amazónico y del Putumayo), y que las características de estas dos son marcadamente diferentes, fue necesario, para efectos del mapeo, dar un trato diferenciado a la caracterización de las cadenas de cacao nativo de aroma y piscicultura en cada una de estas dos regiones.

La región todavía enfrenta desafíos básicos de seguridad (especialmente en el lado colombiano en la cuenca del Putumayo, aunque con el proceso de paz con las FARC las condiciones han mejorado), y en el desarrollo social, económico e institucional: altos niveles de necesidades básicas insatisfechas, que sitúan a la población fronteriza en una situación de extrema vulnerabilidad; el aislamiento de las poblaciones fronterizas, dada la difícil accesibilidad geográfica a los mercados y a los centros regionales y nacionales de gestión económica; la mayoría de los productores de cacao y piscicultores son pequeños productores, por lo tanto, hay una alta atomización y fragmentación de la propiedad y la mayor parte de la producción se hace individualmente; la débil organización de los productores, situación que no permite sacar provecho de economías de escala a lo largo de los eslabones de producción, comercialización y transformación; y la falta o escasa oferta de actividades de promoción, extensión y asistencia técnica para mejorar los procesos productivos en agricultura y piscicultura.

La Zona de Integración Fronteriza (ZIF) creada por los gobiernos de Perú y Colombia ofrece condiciones favorables para el desarrollo de actividades de cooperación transfronteriza en el marco de INNOVACT. La existencia de un Plan de Desarrollo para esta área, un marco institucional de discusión y coordinación binacional, que incluye un Fondo de Desarrollo y una amplia agenda de actividades de interés mutuo, que incluyen los temas tratados por INNOVACT, son notables oportunidades de colaboración transfronteriza. Las cuatro cadenas (cacao nativo de aroma y piscicultura tanto en la cuenca del Trapecio Amazónico como en la cuenca del Putumayo) ofrecen valiosas oportunidades para fortalecer la cooperación transfronteriza y los esfuerzos previos; requieren programas de apoyo para su desarrollo; y su desarrollo tendría un impacto positivo en la diversificación de las economías locales. Sin embargo, la posibilidad de que la cadena del cacao en la cuenca del Amazonas pueda desarrollarse de manera que se integre en las cadenas globales de valor es un factor decisivo para centrar los esfuerzos de INNOVACT en ella. En el caso de la piscicultura, aún bajo, el impacto que podría tener sobre la economía local de la cuenca del Putumayo (Puerto Leguízamo y Soplín Vargas), así como la existencia de esfuerzos previos y condiciones propicias para su desarrollo, constituyen una interesante opción para INNOVACT.

En suma, la combinación de las dos cadenas y las dos áreas de la Zona de Integración Fronteriza en el ejercicio de priorización brinda la oportunidad para que el proyecto genere un mayor aprendizaje y

externalidades. De esta manera, responde a la diversidad de características y condiciones que, desde el punto de vista social, económico e institucional, existen en la región.

social services and basic infrastructure; the development of a productive base underpinned by the sustainable use of natural resources; the strengthening of the cultural identity of indigenous peoples; management for the conservation and sustainable use of biological diversity; mitigation of isolation and disarticulation of the territory; and the strengthening of public, private and binational institutions.

In 2014, in a meeting of the two presidents and the First Binational Cabinet, a joint declaration was made in Iquitos, Peru, which led to the signing in Bogota and Lima, by the respective Foreign Affairs Ministers, of the “Agreement for the Implementation of the Plan for the Development of the Border Integration Zone (PDBIZ) between the Republic of Colombia and the Republic of Peru”. In 2015, in the Second Binational Cabinet, both presidents signed the Declaration of Medellin, which, among other issues, agreed to create the Border Integration Zone Development Fund. This fund receives resources from both governments to finance the PDBIZ. In 2016, 4 binational working groups were created: tourism, biodiversity, fisheries and pisciculture and regulation of cross-border transit.

National Strategic Projects in connectivity (roads, ports, airport, broadband, waterway network, Amazon ferry, navigability of the Putumayo River), basic infrastructure projects, and Binational Programmes, to be financed with funds from the Development Fund, were defined in January 2017 in Arequipa on the Presidential Encounter and the Third Binational Cabinet. Binational Programmes refer to: infrastructure, innovation and cross-border sustainability, social inclusion and coexistence, and capacity building. For example, binational projects of special aroma cocoa and pisciculture will be supported in the Caballococha-Leticia area; for the Leticia-Puerto Nariño-Caballococha circuit, a strategic plan for the development of cross-border tourism will be designed; a community participation project will be implemented in support of the management of BIZ protected areas; and binational projects for the development of cross-border value chains of cocoa, camu-camu, Amazonian fish and sustainable forest management and reforestation, especially on the banks of the Putumayo River, will be formulated. As part of the INNOVACT project, the value chains of will be studied as. For those that are prioritized, strategies, action plans and concrete projects, which can be implemented in the short term, will be formulated. Previous projects supported by the EU in these countries and particularly in this border area are presented in Appendix C of this report.

4 National Level Priorities on each side of the Border

4.1 The two major areas of the Border Integration Zone (BIZ)

The Peruvian-Colombian Border Integration Area covers two large areas corresponding to the Putumayo and Amazonian Trapezium basins. The characteristics of these two territories are markedly different.

The territory of the Putumayo River basin has the longest territorial length of the border area (approximately 1,323 km). There, the indigenous population predominates, with some mestizo towns that present conditions of poverty. This is a very isolated territory. Economic activities, except in territories near the main cities (Puerto Leguísimo, San Antonio de El Estrecho and at a small level in Tarapacá), are subsistence and indigenous communities are engaged in hunting, fishing and raising small animals. In some cases, they organize family productive units (chagras) but their surpluses are meagre.

In the Amazonian Trapezium basin, Leticia (Colombia) and Caballococha (Peru) are located. The conditions of this basin are better than those of the Putumayo basin. It is an area linked to markets (Leticia, Tabatinga, Benjamín Constant and Iquitos), which has regular freight and passenger transportation companies, with services and quick access to emergency services. It is an area with a dynamic commercial activity, which has collection and distribution centers. Leticia has regional and local institutions of first level (universities, financial institutions, research institutions, health institutions among others). Caballococha has institutions at the municipal level. However, the population from the surroundings of these two cities and from the smaller towns of this basin also present conditions of poverty and insufficient social services.

4.2 The BIZ within the priorities of the Peruvian national level

4.2.1 Institutional setting

Since 1999, the Peruvian government has given a new focus to its foreign policy, through the creation, within the Ministry of Foreign Affairs, of the National Bureau of Border Development and Borders (nowadays, the National Development and Border Integration -DDF). The DDF is the governing body in matters related to border integration, and is the Executive Secretariat of the National Border Development Council (CNDF). Since its creation, this Directorate has been creating the institutional and normative basis for a structured border development and integration policy. In addition, it contributes to the decentralization process through actions for the development of border regions, as well as the promotion of border integration processes with bordering countries, within the framework of the National Development and Border Integration Policy (PNDIF).

4.2.2 General approach to border integration policy

The CNDF approved in February 2006, the "Foundations of the National Strategy for Border Integration and Development 2007-2021". This is a methodological model of intervention aimed at promoting processes of reversion of the situation of marginality and poverty of the population living in the border areas, and improving their articulation with respect to the regional and national dynamics. In this way, it is sought that this population receives the benefits provided by the State, as well as those derived from the economic growth of Peru.¹

The conceptual and methodological proposal of the strategy aims to harmonize the actions of the State and organizations representative of civil society, promote the sustainable development of border areas, foster rational occupation of the land, strengthen the presence of the State in said area, and contribute

¹ MRE (2012) *Desarrollo e Integración Fronteriza*. Ministerio de Relaciones Exteriores. Dirección de Desarrollo e Integración Fronteriza. Retrieved from [http://www.rree.gob.pe/politicaexterna/Documents/Propuesta%20contenido%20folleto%20DDF%20\(29MAY12\).pdf](http://www.rree.gob.pe/politicaexterna/Documents/Propuesta%20contenido%20folleto%20DDF%20(29MAY12).pdf). See also <http://www.rree.gob.pe/SitePages/politica.aspx#americas>

to the process of border integration and to the reaffirmation of national sovereignty and security. To this end, DDF has promoted the formulation and coordination of various concerted intervention projects in border districts, through regional, local and national governments, as well as international and sectoral technical and financial cooperation from international donors.

Within this policy, the concept of frontier encompasses the dimensions of development and the social, economic and cultural integration of populations on both sides of the borders. Its approach is inclusive and recognizes complementarity and interdependence with neighboring countries as strategies aimed at achieving better standards of living.

4.2.3 The border integration policy on the border Peru Colombia

The main policy instrument for implementing the PNDIF on the Peru-Colombia border is the Putumayo Basin Special Development and Border Integration Project (PEDICP). Its objective is to formulate and implement the Peruvian-Colombian Plan for the Integral Development of the Putumayo River Basin, as well as to execute national projects and actions of development and border integration. Currently the PEDICP is an Executing Unit of the Ministry of Agriculture. Its geographic scope covers an area of approximately 80,000 square kilometers and is located between the Putumayo, Napo, Yavarí and Amazonas basins. It encompasses the districts of Teniente Manuel Clavero and Putumayo; and part of the districts of Torres Causana, Napo, Mazán and the Amazonas in the province of Maynas; as well as the districts of San Pablo, Pevas, Ramón Castilla and Yavarí in the province of Mariscal Ramón Castilla of the Loreto Region.

The main function of the PEDICP is to contribute to the improvement of the quality of life of the population, through its full incorporation into economic and productive activities at the national and border levels, and the sustainable use of natural resources, investment in economic infrastructure and essential production oriented towards food security, and to the regional, national and international market. To this end, it establishes agreements and coordination with the regional government, local governments and social organizations of the indigenous peoples of the area of influence.

PEDICP, in addition, is the main instrument of the National Government to implement binational agreements and integration actions, and assumes the functions of Technical Secretariat and regional coordination of binational commissions. (PEDICP, 2013)

4.3 The BIZ within the priorities of the Colombian national level

4.3.1 Institutional setting

Since 2010, the Ministry of Foreign Affairs of Colombia, through the Borders for Prosperity Plan (PFP), has been developing a process of intervention and strengthening of the presence of the Colombian State in the border areas. This process has taken place through articulated action with the national, regional and local authorities, and with the communities that are direct beneficiaries of the Plan. The projects included in the Plan have been directed to the sectors of energy, sports, education, culture, governance, water and basic sanitation, health and economic development.

Since 2016, the PFP has been coordinated by the Directorate for Development and Border Integration (DDIF), which reports directly to the minister. Its role is to give continuity and long-term stability to the initiatives that the Foreign Ministry has developed in border areas. This institutional development seeks the intervention of the Colombian State in these areas, and additionally gives a boost to all issues of border integration that have been articulated from this ministry. Such is the case of the structuring and operation of the Binational Plan with Peru.

The Ministry of Foreign Affairs and the National Planning Department contribute to the construction and strengthening of the Borders for Prosperity public policy, through the coordination and operation of integration mechanisms with neighboring countries and those related to the benefit of communities located in border areas. This management is jointly carried out by the PFP with the entities of the

National Government, as well as with the territorial entities, private sector and third sector in the border regions.

4.3.2 The objectives of the Border for prosperity Plan

The objectives of the policy are: to strengthen the institutional framework of the National Government and territorial entities for the management of development, border integration and national sovereignty; to reduce the socio-economic gaps of the border territories in relation to the rest of the country; to promote conditions for the sustainable growth of border regions; to integrate the border territories with each other, the rest of the country and neighboring countries; and to strengthen the identity, worldview and social and political organization of indigenous peoples and communities.

On the promotion of sustainable development, the policy proposes enhancing competitive advantages and reducing production and transaction costs in border territories. To this end, in departments such as Putumayo and Amazonas, endogenous capacities should be recognized and investments in productive activities that have comparative advantages over other regions should be encouraged; that is, to understand the characteristics of the Putumayo and Amazonian Trapezium basins, such as international trade and sustainable local development.

With the “National Development Plan. Prosperity for All. 2010-2014”, the National Government initiated the strengthening of the processes of attention to these territories, by means of understanding the diversity of each one of them. In this sense, it included in the policy guidelines the concepts of regional approach, country characterization by departments, and strategic guidelines for the formulation of differentiated regional policies and strategies. In this context, the agricultural sector was subject to its own responsibilities, which is why the need for institutional strengthening has been accentuated. In view of the above, the MADR decided to encourage the creation of new entities such as the National Fisheries Authority (AUNAP), the Land Restitution Unit (URT), both of which are present in the regions; and the Rural Agricultural Planning Unit (UPRA). Additionally, the ministry undertook a process of strengthening its own institutions.²

² MADR (2015) “Estrategia de Priorización de la Inversión del Ministerio de Agricultura y Desarrollo Rural Mediante Pares”. Ministerio de Agricultura y Desarrollo Rural.

5 Value Chain Mapping in the Border Area

The mapping of value chains on the Peru-Colombia border has focused on the productive chains of special aroma cocoa and pisciculture. The decision to focus mapping in this border area on two value chains was taken with national authorities from both countries, and was based on the agreements derived from the working groups of the Binational Cabinet of January 2017. As already mentioned, this border zone has two large regions whose characteristics make it necessary to consider them differently in the analysis.

It is worth to mention that the Putumayo basin has become a national priority for the Colombian government, within the framework of the national strategy of the Post-conflict. During the last decades, the internal conflict in Colombia has affected this region and significant challenges remain in the irrational exploitation of natural resources and the presence of illicit crops and illegal mining. The post-conflict strategy in Colombia still poses major security challenges in this region.

In conclusion, it is necessary, for purposes of mapping, to consider, where relevant, differential treatment in the characterization of special aroma cocoa and pisciculture value chains for each of the two regions.

5.1 Value Chain 1: Special aroma cocoa in the Amazonian Trapezium and Putumayo basins

5.1.1 Key Value Chain Characteristics and Economic Indicators

The special aroma cocoa produced in these regions is the basis of gourmet chocolate. In total, this kind of cocoa accounts for just over 5% of world cocoa production, and is considered as a separate and highly specialized market, with its own characteristics of supply and demand. In the Amazon region, the production of cocoa is made under environmentally sustainable conditions, in tropical rainforest areas, and through the organic farming system. Unlike conventional cocoa, it is grown in association with other plant species and agroforestry systems, which contribute to the conservation of the regional ecosystems.³

From the technological and industrial point of view, cocoa has had very limited progress in producer countries and in the Amazon region. There, production takes place in small holdings, under subsistence farming systems and facing problems of genetic incompatibility. The producers are poorly organized, have precarious infrastructures and must use intermediaries to sell their crops. They face a very concentrated market with few buyers, who sell cocoa beans to an equally concentrated processing industry. Of all the world cocoa, two-thirds are processed in the industrialized world.

In the development of the present analysis of the cocoa value chain, no quantitative information was found for its economic characterization. However, it was found relevant information that has been collected by PEDICP and SINCHI, which gives some insight into the characteristics of this activity in the area near Leticia and Cabalococho: 618 ha of cocoa have been planted on agroforestry plots in 52 localities, which are distributed as follows: 435 ha and 36 locations in Peru; and 183 ha and 16 locations in Colombia. For the Putumayo basin, no figures were found.

The participation of this region in the production of cocoa at the national level, both in Colombia and in Peru, is very insignificant. And productivity in the case of cocoa production in the Peruvian Amazon is 642 kg / ha, below the national average of that country (720 kg / ha). In Colombia, the productivity national average is 386 kg / ha.

5.1.2 Mapping of Key Players in the Value Chain

The following are the links of the cocoa value chain:

³ MINCETUR (2007) y Barrientos (2015)

- **Production and support services.** The following actors participate in it:
 - Cocoa producers, who conduct their production units. They in turn carry out different activities, such as sowing, fruit harvesting, grain extraction, and postharvest (fermentation and drying).
 - Suppliers of inputs, such as seeds or seedlings
 - Suppliers of training and technical assistance
 - Suppliers of equipment and machinery
 - Financial service providers (formal and informal),
 - Certification providers
 - Conveyors.
- **Processing.** Statistical information about this link is limited. Cocoa bean processing produces intermediate products (liquor or cocoa paste, butter, cocoa powder) and processed products (chocolates and other related products such as chocolates and chocolates).
- **Marketing.** The organizations of producers and collectors of industrial enterprises are mainly involved.
- **Consumers.** In a differentiated manner, in this link intervene those who use the wide range of intermediate and final products resulting from processing and/or industrialization: cocoa liquor, cocoa butter, cocoa powder, and chocolate.

In the first three links, as regards the Border Integration Region, the following key players in the value chain would be highlighted, according to sectors:

In the **government sector:** the national and regional entities of the countries, as territorial authorities and/or specialized in productive promotion, sustainable development and improving the quality of life of the border population.

- On the Peruvian side, among other, the key actors are:
 - At the national level, the Ministry of Foreign Affairs, the Ministry of Foreign Trade and Tourism, the Ministry of Agriculture and Irrigation, the General Service of Agrarian Health (SENASA), the National Superintendence of Customs and Tax Administration (SUNAT), the Program for the Development of Natural Resources (INRENA), the Special Land Titling Program (PETT), the National Program for Watershed Management and Soil Conservation (PRONAMACHS), Innovation and Competitiveness for the Peruvian Agro (INCAGRO), and the Program for the Development of the Amazon (PROAMAZONIA);
 - At the regional and local levels, in the Amazon Trapezium region, PEDICP, the Province of Mariscal Ramón Castilla, the Municipalities of Caballococha and San Pablo, as well as the Regional Government of Loreto and the Regional Directorate of Loreto Production, the Regional Environmental Authority of Loreto (ARA), and CITE Productivo (Maynas).
 - At the regional and local level, in the Putumayo region, the Municipal District Teniente Manuel Clavero and the Municipality of Soplín Vargas.
- On the Colombian side:
 - At the national level, the Ministry of Foreign Affairs, the Ministry of Agriculture and Rural Development, the Ministry of Commerce, Industry and Tourism, the Colombian Agricultural and Livestock Institute (ICA), the National Food and Drug Surveillance Institute (INVIMA), and the National Tax and Customs Office (DIAN)
 - At the regional and local level, in the region of the Amazon Trapezium, the Municipality of Leticia, the Municipality of Puerto Nariño, the Amazonas Governorate, the

Departamental Secretary of Agriculture, Environment and Productivity, Corporation for the Sustainable Development of the South of the Amazon (Corpoamazonia)

- At the regional and local level in the Putumayo region, the Municipality of Puerto Leguizamo, the Municipality of Puerto Asís, Putumayo Governorate, La Paya Park, Corporation for the Sustainable Development of the South of Amazonia (Corpoamazonia)

In **the productive sector**: the producers of special aroma cocoa, through a few organizations but mainly individually, the Chamber of Commerce of Leticia, and the Chamber of Commerce of Mocoa.

In the **research and academic sector**:

- On the Peruvian side, the Amazonian Institute for Research in the Peruvian Amazon (IIAP), the Technological Institute of Production (ITP), the National Institute of Agrarian Innovation (INIA), the National University of the Peruvian Amazon
- On the Colombian side: the Amazonian Institute of Scientific Research (SINCHI), and the National University of Colombia, in Leticia.

5.1.3 *Key Challenges and Barriers to Development*

In general terms, this region still faces basic security challenges (especially on the Colombian side in the Putumayo basin, although with the peace process with the FARC the conditions have improved), and those regarding social, economic and institutional development.

From the **social and the productive activity perspectives**, the main challenges are:

- The high levels of unsatisfied basic needs, which put the border population in a situation of extreme vulnerability.
- Isolation of border populations, given the difficult geographical accessibility to markets and regional and national economic management centers.
- The practice of migratory agriculture and the increase of illicit crops, which affects primary and secondary forests, and competes with licit activities in the decisions of the population about their productive activities.
- The lack of information (for example, opportunities for state support, or about prices) and means for sustainable production with higher added value.
- Most cocoa producers are small producers. Thus, there is a high atomization and fragmentation of the property and most of the production is done individually.
- The weak organization of producers. A clear majority of producers are not organized. This situation does not allow economies of scale to be exploited along the links of production, marketing and processing. This impedes greater efficiency in access to capital, inputs and services of technical assistance and training, as well as transportation services and marketing and processing activities.
- Informality for the development of productive activities, processing and access to credit and to the market by producers and their organizations.
- The lack or low supply of promotion, extension and technical assistance activities to improve productive processes in agriculture and pisciculture.

From the **institutional perspective**, the following are the most important challenges and barriers, affecting both cocoa production activity and pisciculture:

- The weak binational local institutions for the implementation of border integration policies and actions, as well as the lack of a BIZ information system.

- The limited allocation of public resources for the promotion of productive activities and sustainable services.
- The need to improve the border regime to boost the development of productive, industrial and commercial activities, as well as the flow of people.

5.1.4 *Opportunities for Cross-Border Collaboration*

The Border Integration Zone (BIZ) created by the governments of Peru and Colombia offers favorable conditions for the development of cross-border collaboration activities within the framework of INNOVACT. The existence of a Development Plan for this area, an institutional framework for binational discussion and coordination, which includes a Development Fund, and a broad agenda of activities of mutual interest, including the topics addressed by INNOVACT, are notable opportunities for cross-border collaboration

For more than a decade, PEDICP and SINCHI have been carrying out actions to promote and develop agricultural activity, which require support for a greater projection of their objectives. International cooperation, and in particular INNOVACT, could reinforce initiatives already under way.

In the Peruvian area, the following support infrastructures have been installed for the post-harvest and processing of cocoa:

- Post-harvest cocoa modules in (1) Palo Seco, (2) Nazareth (Peru), (3) San Pablo, and (4) Cabalococha.
- Modules of transformation of cocoa in Cabalococha and San Pablo.

Colombia, for its part, advances the establishment of 150 ha of cocoa (Clones) in the rural area of Puerto Nariño and Leticia, benefiting an equal number of families in the agroecological management of the species, with a view to consolidating the cocoa value chain in the Amazonian Trapezium as sustainable productive alternative.

The activities carried out by these entities are articulated in the Cocoa Working Group of the Province of Mariscal Ramón Castilla and of the Loreto Region. They establish mechanisms of coordination and complementarity that avoid duplication of actions. There are also binational groups of Agrobiodiversity and Regulatory, formed by the initiative of the Binational Commission of the BIZ Peru-Colombia, where the SINCHI Institute, the municipality of Puerto Nariño and the Governor of Amazonas participate.

There are also other general conditions that offer interesting opportunities for the development of the special aroma cocoa value chain in this region:

- Cocoa production is an important substitute for illicit activities and is an important generator of employment, to the extent its production is labor-intensive.
- There is an Andean Preferential Tariff to enter the United States and European Union markets. In fact, the European Union is one of the most important importers of cocoa in the world, and in recent years has shown an increasing trend in its import volume.
- There is an increasing global interest in the conservation of biodiversity and environmental services, which are closely related to the type of production carried out in the Colombian-Peru border region.

5.2 Value Chain 2: Pisciculture in the Amazon Trapezium and the Putumayo basins

5.2.1 Key Value Chain Characteristics and Economic Indicators

Pisciculture development in local production systems has been considered as a tool for rural development in the border area, and it has arisen especially because of the depletion of natural resources caused by indiscriminate fishing. This situation has taken place more in Peru than in Colombia. In the case of the Amazonian Trapezium, especially in Leticia, fishing predominates over the pisciculture. Aquaculture in the border region is still marginal and small-scale, despite significant advances in the cultivation of species such as *paiche* (or *pirarucú*), *gamitana* (or black cachama as it is called in Colombia), *paco* (white cachama, in Colombia), *Boquichico*, *Sábalo* and *Arawana*. The production is destined practically in its entirety to the local market and self-consumption. (MIPRO, 2009)

The efforts made to date have been limited in recent decades to the construction of ponds. But these results have not been satisfactory (Agudelo et al, 2006). An inventory made in 2002 for the Putumayo basin showed that there were 34 ponds on the Peruvian side, with a total area of 106,130 m². On the Colombian side, 31 ponds totaling 51,000 m² were identified. (Guerra, 2002)

According to an inventory carried out by PEDICP and the SINCHI Institute (2007b), 337 fish farmers, 383 fish ponds and 45.6 ha of fishponds were identified in the Amazon Trapezium zone in the Amazon region of Ramón Castilla in Peru, and the Leticia area and in Puerto Nariño in Colombia.

The degree of technical and entrepreneurial progress of the fish farmers varies. There are some already established associations, others organized in fish-farming groups and with fish-farming with a medium productivity degree (6 to 7 ton/ha/year), and non-organized peasants with low productivity (1.9 to 3 ton/ha/year).

5.2.2 Mapping of Key Players in the Value Chain

The following are the links of the pisciculture value chain:

- **Production and support services.** The following actors participate in it:
 - Fish farmers who carry out the following activities: preparation of infrastructure (ponds), fish fattening and harvesting.
 - Suppliers of inputs hatcheries (seeds, fingerlings), fishmeal and fish oil for aquaculture,
 - Suppliers of training and technical assistance
 - Financial service providers (formal and informal)
- **Transport and Processing.** Conveyors and cold chain suppliers
- **Marketing.** The organizations of producers.

In the first three links, within the Border Integration Region, the following key players in the chain would be highlighted, according to sectors:

In the **government sector**, the national and regional entities of the countries, as territorial authorities and/or specialized in productive promotion, sustainable development and improving the quality of life of the border population.

- On the Peruvian side, the key actors are:
 - At the national level, the Ministry of Foreign Affairs, the Ministry of Foreign Trade and Tourism, the Ministry of Agriculture and Irrigation, the General Service of Agrarian Health (SENASA), the National Superintendence of Customs and Tax Administration (SUNAT), the Program for the Development of Natural Resources (INRENA), the Special Land Titling Program (PETT), the Program for the Development of the Amazon

(PROAMAZONIA), the National Institute of Fisheries Health (SANIPES) and the Institute of Sea of Peru (IMARPE).

- At the regional and local levels, in the Amazon Trapezium region: PEDICP, the Province of Mariscal Ramón Castilla, as well as the Regional Government of Loreto, the Regional Directorate of Aquaculture of Loreto, and the Regional Environmental Authority of Loreto (ARA).
- At the regional and local level, in the Putumayo region, the Municipal District Teniente Manuel Clavero and the Municipality of Soplín Vargas.
- On the Colombian side:
 - At the national level, the Ministry of Foreign Affairs, the Ministry of Agriculture and Rural Development, the Rural Agricultural Planning Unit (UPRA), the Ministry of Commerce, Industry and Tourism, the Colombian Agricultural and Livestock Institute (ICA), the National Aquaculture and Fisheries Authority (AUNAP); the National Food and Drug Surveillance Institute (INVIMA), and the National Tax and Customs Office (DIAN);
 - At the regional and local level, in the region of the Amazon Trapezium, the Municipality of Leticia, the Municipality of Puerto Nariño, the Governor of Amazonas, Corporation for the Sustainable Development of the South of the Amazon (Corpoamazonia);
 - At the regional and local level in the Putumayo region, the Municipality of Puerto Leguizamo, Secretary of Agriculture, Rural Development and Environment, naval base of the Colombian Navy in Puerto Leguizamo, the Municipality of Puerto Asís, Putumayo Governorate, La Paya Park, and the Corporation for the Sustainable Development of the South of Amazonia (Corpoamazonia)

In **the productive sector**, fish farmers and associations of fish farmers (ARAPAIMA in Puerto Leguizamo), Chamber of Commerce of Amazonas, Chamber of Commerce of Mocoa.

In the **research and academic sector**,

- On the Peruvian side, the Amazonian Institute for Research in the Peruvian Amazon (IIAP), the Technological Institute of Production (ITP), the National University of the Peruvian Amazon
- On the Colombian side: the Amazonian Institute of Scientific Research (SINCHI), and the National University of Colombia, in Leticia.

5.2.3 *Key Challenges and Barriers to Development*

In addition to the general challenges and barriers above mentioned in the value chain of cocoa, in the specific case of the value chain of pisciculture, the following factors limit the development of this value chain:

- Low fish production and low crop productivity, result of underutilized fish infrastructure, inadequate crop management, and limited access to technology transfer and technical assistance.
- Inadequate financial management of fish farming activities.
- Poor access of local fish production to the different markets due to lack of production continuity, stable volumes, as well as the non-supply of value-added products, and a non-existent marketing chain.
- High levels of informality of the activity among producers.
- Difficulties due to the implementation of a complex cross-border trade regime, which are problematic to fulfill by small and medium-sized producers.

- Low levels of associativity, as well as low levels of development and business management of existing enterprises.

5.2.4 *Opportunities for Cross-Border Collaboration*

As in the case of the cocoa chain, several initiatives have taken place in the Border Integration Zone that have strengthened the collaboration between Colombian and Peruvian actors around pisciculture. Since the late 1990s there have been binational actions. The first activities, in the late 1990s, were mainly diagnoses of the situation in the region. In 2001, the Binational Integrated Management of Fisheries Project was formulated, and developed by the two countries in 2002 through the SINCHI Institute and PEDICP. Subsequently, the SINCHI Institute and PEDICP formulated the binational project "Practical Models to Produce Fish for Human Consumption and Ornamental Use for the Development of the Border Integration Zone of Peru and Colombia - MPPP", which was financed by the European Union and managed by the Andean Community of Nations –CAN.

As results achieved with the implementation of the MPPP project, a global area of 50,981 m² of water mirror was enabled and managed. In addition, four Pilot Centers were implemented in Amazonian fish farms in Caballococha (CPCC) and El Estrecho (CPEE) in Peru, as well as in Leticia (CPLET) and Puerto Leguizamo (CPLGZ) in Colombia. Sustainable commercial fish farming models of Amazonian fish were validated. And technology transfer was carried out in pisciculture to more than 1,000 people.

Since 2014 SINCHI has continued to support the strategy of Practical Farm Models in the Pilot Centers of both departments, both in Leticia and Puerto Nariño, as well as in Puerto Leguizamo.

PEDICP, with funding from the European Union (INPANDES) and CAN management, has been developing the project "Integration, Inclusion and Innovation in the Napo - Amazonas Transboundary Production Corridor" (December 2015 - December 2017). This project benefits 112 fish farmers and their families through the construction and/or rehabilitation of fish ponds and the development of production cycles with permanent technical assistance. This action has included the construction of an Amazon Fish Breeding Center, which has a laboratory for incubation and larviculture, ponds for breeding stock and raising of fingerlings, as well as the construction and implementation of a plant to produce balanced feed for fish in the town of Caballococha.

Given these developments, and the potential offered by fish farming in the region as an alternative economic activity, there are notorious opportunities to contribute to consolidate the collaboration between actors of the two countries. These opportunities exist in the development of technology transfer, new product development, marketing and marketing activities.

6 Selection of Priority Value Chains

Table 1. Prioritization criteria in Border Region Peru-Colombia

Prioritization criteria	Weight	Cross-border Value Chains mapped			
		Cocoa /Amazon basin	Cocoa Putumayo	Pisciculture Amazon	Pisciculture Putumayo
Importance of the value chain for cross-border cooperation and cohesion	0,2	4	4	4	4
Impact of the value chain on the border area's economy	0,2	3	3	3	4
Urgency of support programs	0,2	4	4	4	4
Potential to integrate the local value chain into a global one	0,2	4	3	2	2
Existence of previous projects and propitious local conditions	0,2	4	3	4	4
TOTAL SCORE	1	3,8	3,4	3,4	3,6

The prioritization indicates that the two value chains selected are those of cocoa in the Amazonian Trapezium basin and that of pisciculture in the Putumayo basin.

The four chains offer valuable opportunities to strengthen cross-border cooperation and prior efforts; require support programs for their development; and would have a positive impact on the diversification of local economies. However, the possibility that the cocoa chain in the Amazon basin can be developed in a way that integrates into global value chains is a decisive factor in focusing INNOVACT efforts on it.

In the case of pisciculture, although its potential to integrate into global chains is still low, the impact it could have on the local economy of the Putumayo Basin (Puerto Leguizamo and Soplín Vargas), as well as the existence of previous efforts and conditions conducive to its development, make an interesting choice for INNOVACT.

In sum, the combination of the two chains and the two areas of the Border Integration Zone in the prioritization exercise provides the opportunity for the project to generate greater learning and externalities. In this way, it responds to the diversity of characteristics and conditions that, from the social, economic and institutional development point of view, exist in the region.

7 Recommendations for Next Tasks

7.1 Key stakeholders

Among the key players identified in the mapping of value chains, the following should be highlighted as champions:

- On the Peruvian side:
 - PEDICP
 - Ministry of Foreign Affairs
 - Municipality of Caballococha
 - Regional Directorate of Loreto Production
 - CITE Productivo de Maynas (cocoa)
 - IIAP
- On the Colombian side:
 - Ministry of Foreign Affairs
 - Amazonian Institute of Scientific Research (SINCHI)
 - National University of Colombia, in Leticia
 - Secretary of Agriculture, Environment and Productivity of Amazonas
 - Municipality of Puerto Nariño
 - Municipality of Puerto Leguízamo, Secretary of Agriculture, Rural Development and Environment
 - Naval base of the Colombian navy in Puerto Leguízamo
 - ARAPAIMA Association in Puerto Leguízamo

7.2 Political issues

- The current Colombian national government ends its period in August 2018 and has been explicit in requesting that the project show concrete results by that date.
- The inclusion of the Putumayo area was an express request of the government of Colombia. This area is a geopolitical priority in the border development policy of both countries, but especially for the Colombian government, since it is a strategic area within the Post-Conflict strategy.
- The mayor-elect of Puerto Leguízamo is in preventive detention, and therefore there is a political crisis in the municipality. The naval base of the navy in this municipality has traditionally assumed a leading role in relations with local communities in matters of security, as well as social and economic development. This role has become even more important in the current political conjuncture. Therefore, the project must count on the participation of the naval base in the activities that take place in Puerto Leguízamo.

7.3 Training and capacity building needs

- The agenda of activities of the Binational Cabinet (Annex 5 of the Arequipa Declaration) included a commitment made by DG Regio to provide technical assistance for capacity building in the border region. The assistance also includes the completion of the Second Binational Border Integration Course on innovation and clusters in border areas. All these activities will be carried out within the framework of INNOVACT. The course will give special emphasis to governance issues, an issue that was singled out, among the chains' agents, as the most important.

7.4 Project management and resources.

- The long distances between the regions of the integration zone, the weaknesses in connectivity and the inclusion of the two basins of the BIZ in the project pose a challenge in the management of the project and in the management of resources.

Appendix A Contact Details of Interviewees

Name	Organization	Position	Email	Telephone number	Comments
Alejandro Imbachi Nuñez	MRE-DIDIF	Tercer Secretario	freddy.imbachi@cancilleria.gov.co	3814000/4539	
Luz M Acevedo M	COLCIENCIA	Asesor DDTI	lmacevedo@colciencia.gov.co	6258480/6501	
Mauricio Rodríguez Triviño	MADR- OAI	Contratista	wilson.rodriguez@minagricultura.gov.co	(571) 2543300 Ext 5708	
Rosa Elena Martínez Ponce	INNPULSA COLOMBIA	Profesional	rosa.martinez@innpulsacolombia.com	3166919530	
Alejandro Sarasti	INNPULSA COLOMBIA	Director	alejandro.sarasti@innpulsacolombia.com	3207272784	
Santiago Uribe	Ministerio De Ambiente - ODI	Asesor	suribe@minambiente.gov.co	3323400 Ext 2407	
Jairo A Benavides	MRE - DDIF	Asesor	jairo.benavides@councilbric.gov.co	3107966110	
Jennifer Natalia Martínez M	MRE - DDIF	Asesora Junior	jeniffer.martinez@cancilleria.gov.co	3214359007	
Martha Patricia Zambrano	MINCIT - DIE	Asesora	mzambrano@mincit.gov.co	3006125077	
Santiago Cembrano	MINCIT - DIE	Asesor	scembrano@mincit.gov.co	3005742724	
Rodolfo Cano	DNP - DDTS	Asesor	rcano@dnf.gov.co	3208864409	
Javier Waical Alpala	Cancillería DDIF	Asesor	javier.waical@cancilleria.gov.co	3002007343	
Gabriel Alfonso Beltrán Muñoz	DNP	Asesor De Desarrollo Rural	gbmuunoz@dnf.gov.co	3815000 Ext 17016 5960300 Ext 2113	
Luis Humberto Guzmán Vergara	Dirección De Cadenas Pecuarias, Pesqueras Y Acuícolas - Ministerio De Agricultura	Director		2543300 Ext 5413 - 5541	

Name	Organization	Position	Email	Telephone number	Comments
Guillermo Marín Torres	Gobernación De Amazonas	Secretario De Agricultura, Medio Ambiente Y Productividad	agricultura@amazonas.gov.co	5927000 3115381653	
Pascual Alfonso Rabadan Galindo	Alcaldía De Leticia	Secretario De Competitividad, Medio Ambiente Y Turismo	medioambiente@leticiaamazonas.gov.co	(8)5924498	
Juana Isabel Hoyos Ruz	Comisión Nacional De Competitividad Del Amazonas		promocion@ccamazonas.org.co juisa2877@yahoo.com	3115343200	
Wenceslao Solsol Saldaña	Asociación De Paichicultores De Iquitos	Presidente	fusrsol@gmail.com	(51)963649937 - 945270343	
Teófilo Solsol	Asociación de Productores de Cacao	Presidente	
Gabriela Baluarte	Dirección Regional de la Producción de Loreto	Directora de Acuicultura	gabrielacristinab@gmail.com	..	
Luis Suarez	Instituto Tecnológico De La Producción (Encargado Transfronteriza)	Director Ejecutivo	lsuarez@itp.gob.pe	(51)948019602	
Mauro Vásquez	MINAGRI -PEDICP	Director De Recursos Naturales	maurovasquezramirez@gmail.com mvasquez@pedicp.gob.pe		
Luis Fernando Álvarez G	PEDICP	Investigador	lcon.da.lgo@gmail.com	965609933	
Giovana del C. Babilonia Rios	IIAP	Investigador	gbabilonia@iiap.org.pe	965672120	
Claudia Núñez Pérez	IIAP	Investigador	cnunez@iiap.org.pe	973940585	
Manuel Martin B	IIAP	Investigador	mmartin@iiap.org.pe	995725196	
Cesar Delgado Vásquez	IIAP	Investigador	cdelgado@iiap.org.pe		

Name	Organization	Position	Email	Telephone number	Comments
Cristian Fernández Méndez	IIAP	Investigador	cfernandez@iiap.org.pe	965685028	
Harold Polania	ARAPAIMA	Presidente	hpolaniab@gmail.com	3218518233	
Nataly Hernandez	Contratista	I SINCHI	ingnatalyhernandez@gmail.com	3185688929	
Ronald Yalta Hori	PEDICP	Coordinador		966623971	
Julio Olaya Suarez	PNP			962988215	
Ericson Ruis F	Soplín Vargas	Campeño			
Mario Lansa Cuellar	Soplín Vargas	Campeño			
Wilder Díaz	PAS Agricultura	Alcaldía – Leguizamo		3125032030	
Javier Ramirez Davila	Fikapia	Presidente	ficapia@hotmail.com	968562994	
Manuel Zevallos Sosa	Municipalidad C	Imagen		935920013	
Nemesio A. Salas	Fikapia	Secretario		978525010	
Olgario M Vasquez	Educación	Profesor		97190547	
Odilio T.	Fikapia	Cacique			
Corina Manuyama T	Productora	Soplín Vargas			
Pedro Quinata	Banco Nacional	Administrador			
Luis Enrique C Asapaso	Municipalidad	Alcalde		942061991 151624807	
Carlos Nacimiento Ramirez	Poder Judicial	Juez de Paz		938511762	
Tomas Alvarez A	Sernanp	Guardaparque		959965378	

Name	Organization	Position	Email	Telephone number	Comments
Santiago Monsalva G	PEDICP	Biólogo	monsalva13@hotmail.com	976163632	
Ulices Cabrera S	Independiente	Productor		85362914	
Cesar C M	Independiente	Productor		80655367	
Abner Sanchez Yamashaco	PEDICP	PEDICP	asanchezyamashaco@gmail.com	945078869	
Luis Moya	PEDICP	Biólogo			
Herder Hidalgo Lozano	PEDICP	Director de Extensión y Desarrollo Agropecuario	hhlozano28@gmail.com	065-221352 / 242591 965610521	
Rolando López	PEDICP	Agrónomo			
Mauro Vásquez Ramírez	MINAGRI - PEDICP	Director	maurovasquezramirez@gmail.com	965610475	
Bladimir Rodríguez	PEDICP	Gestor			
Juan Martín Chanamé	Mesa Técnica de la Cadena de Cacao de Maynas	Secretario Técnico			
Mario Ríos Vásquez	Dirección Regional Agraria de Loreto	Director de Promoción Agraria			
Wellinton Vela	Dirección Regional Agraria de Loreto	Asistente Técnico	claudapo@hotmail.com	92 8576330	

Appendix B Bibliography

- Agudelo, E.; Alonso, J. C. & Moya, L. A (Eds) (2006). *Perspectivas para el ordenamiento de la pesca y la acuicultura en el área de integración fronteriza colombo-peruana del río Putumayo*. Instituto Amazónico de Investigaciones Científicas SINCHI & Instituto Nacional de Desarrollo INADE. 2006. Retrieved from https://www.sinchi.org.co/files/publicaciones/publicaciones/pdf/pesca_binacionalweb.pdf in July 2017.
- AUNAP (2014) *Plan Nacional para el Desarrollo de la Acuicultura Sostenible en Colombia – PlaNDAS* Autoridad Nacional de Pesca y Acuicultura. Ministerio de Agricultura y Desarrollo Rural, FAO.
- Barrientos, P. (2015) “La cadena de valor del cacao en Perú y su oportunidad en el mercado mundial”. En *Semestre Económico*, volumen 18, No. 37, pp. 129-156 • ISSN 0120-6346, enero-junio de 2015, Medellín, Colombia
- FAO (2013) *Diagnóstico de la Acuicultura de Recursos Limitados (AREL) y de la Acuicultura de la Micro y Pequeña Empresa (AMYPE) en América Latina* Serie Acuicultura en Latinoamérica. Número 7. Diciembre de 2012.
- FAO. (2016). “Seguridad alimentaria, producción para autoconsumo y acceso a mercados con productores rurales en departamentos de frontera: Amazonas, Chocó, Nariño, Putumayo, San Andrés y Providencia. Diagnóstico organizativo y resultados de la medición del emprendimiento. Putumayo, Colombia.”
- Guerra, H. (2002). Diagnóstico actualizado y pautas para el desarrollo de la acuicultura en la cuenca del río putumayo. Proyecto TCP/RLA/2802 – Apoyo al Ordenamiento de la Pesca en el río Putumayo. FAO. Iquitos. 55 p.
- MINAGRI (2016) *Estudio del Cacao en el Perú y el Mundo Situación Actual y Perspectivas en el Mercado Nacional e Internacional al 2015*. Ministerio de Agricultura y Riego. Dirección de Estudios Económicos e Información Agraria
- MINCETUR (2007) *Plan Operativo del Cacao Región Amazonas*. Ministerio de Comercio Exterior y Turismo. Perú.
- MIPRO (2009) *Plan Nacional de Desarrollo Acuícola*. Ministerio de la Producción. Diciembre. Retrieved from <http://www.produce.gob.pe/documentos/acuicultura/ds001-2010-produce.pdf> in July 30th 2017.
- MRE (2012) *Desarrollo e Integración Fronteriza*. Ministerio de Relaciones Exteriores. Dirección de Desarrollo e Integración Fronteriza. Retrieved from [http://www.rree.gob.pe/politicaexterna/Documents/Propuesta%20contenido%20folleto%20DDF%20\(29MAY12\).pdf](http://www.rree.gob.pe/politicaexterna/Documents/Propuesta%20contenido%20folleto%20DDF%20(29MAY12).pdf). See also <http://www.rree.gob.pe/SitePages/politica.aspx#americas>
- PEDICP y SINCHI (2017a) Proyecto “Fortalecimiento de la cadena de valor binacional del cacao nativo de aroma en el Trapecio Amazónico Peruano – Colombiano”. Formulario de Solicitud al Fondo de Desarrollo Fronterizo. Plan de Desarrollo de la Zona de Integración Fronteriza Perú-Colombia. Mimeo.
- PEDICP y SINCHI (2017b) Proyecto “Implementación de la cadena de valor de la piscicultura en la UGE 4 de la ZIF de Colombia y Perú”. Formulario de Solicitud al Fondo de Desarrollo Fronterizo. Plan de Desarrollo de la Zona de Integración Fronteriza Perú-Colombia. Mimeo.
- PEDICP. (1999). Boletín de Antropología. La pesca entre los ticuna: historia, técnicas y ecosistemas. Medellín, Colombia.

PEDICP. (2013). *Plan de Desarrollo de la ZIF. Plan de Desarrollo de la Zona de Integración Fronteriza PERÚ - COLOMBIA*. Lima y Bogotá. Abril

PTP (2010) “Planes de Desarrollo para cuatro sectores clave de la agroindustria de Colombia” Programa de Transformación Productiva, Ministerio de Agricultura y Desarrollo Rural Ministerio de Comercio, Industria y Turismo. ATKEARNEY. Noviembre. Retrieved 2 August de 2017, from <https://www.ptp.com.co/documentos/Plan%20de%20Negocios%20Chocolateria.pdf>

PTP y FEDEACUA (2015) *Plan de Negocios Sectorial de la Piscicultura de Colombia*. Programa de Transformación Productiva, Federación Colombiana de Acuicultores, AUNAP, Mnisterio de Agricultura y Desarrollo Rural, Ministerio de Comercio Industria y Turismo y Departamento del Huila. Consultoría realizada por el Consorcio formado por In-Nova Programa de Innovación Internacional S.L. y la Universidad Politécnica de Madrid

Appendix C Previous projects supported by the EU in Peru, Colombia and the border region, and other initiatives

EU-Peru Policy Dialogue (2013)

The [dialogue](#) addresses exchange of information and good practices, inter alia, on policies aimed at promoting economic, social and territorial cohesion as well as innovation and technological development; on cross-border, transnational and interregional cooperation; on setting up and implementing regional policies and development and border integration policies, including capacity building, in particular at regional and local level; on multi-level governance and decentralization issues; on sustainable economic development and corporate social responsibility at territorial level. The main areas of cooperation for the work programme of the EU-Peru dialogue on regional policy and border integration in 2013-2014 are regional innovation systems and cross-border cooperation.

- **Cross-border cooperation workshops 2012:** Three workshops on "regional development and border integration" were organised in November 2012 in Cusco, Tarapoto and Lima, which allowed DG REGIO and European experts to exchange experiences and good practices with Peruvian practitioners on regional policy definition, management and cross-border cooperation.
- **Regional Innovation System Study, 2013.** This is a comparative empirical study of the regional innovation systems of two Peruvian regions to explore desirable criteria upon which systemic innovation at the regional scale might occur. The study provides key findings and good practices through the development of two case studies underlying the place-based dimension of innovation. The main findings of the study were presented in a major international event on innovation and territorial development in 11-13 December 2013 in Lima and published for a wider audience in March 2015. See [full report](#) in English.
- **Study on value chains (Cusco y Puno).** It was intended to provide technical assistance and specialized training by European experts to contribute to the design of public regional innovation policies, and to open up channels of cooperation between regions of Peru and Europe and between actors in the innovation system of these regions (regional governments, universities, research centers and businesses). A number of competitive analyses of value chains in the regions of Cusco and Puno, more specifically in the coffee and camelid fabrics sectors. In addition to these assessments, the organization of visits, workshops and tutorials enabled the identification of the challenges of both chains and possible competitive improvement mechanisms for public and private bodies. See [full report](#) in English.

EU-Colombia Policy Dialogue (2015)

The [dialogue](#) concerns exchanges of experiences and good practices in policies concerned with promoting economic, social and territorial cohesion, which are of great importance for the post-conflict situation in Colombia.

The dialogue will also cover policies in the field of innovation and technological development; cross-border, transnational and interregional cooperation; development policies in post-conflict situations; the setting up and implementation of regional and cross-border development and integration policies, including the strengthening of administrative capacity, in particular at regional and local level; issues relating to decentralization and multi-level governance; issues relating to sustainable economic development and to corporate social responsibility at territorial level.

A study was reported as part of the implementation of this agreement to date. Its objective is to support the key public and private stakeholders in the Metropolitan Area of Cucuta to identify the main challenges and solutions to support the development and promotion of tourism in the territory. Particular emphasis will be made to their status as a border area. See [report](#) in English.

Project in the Brazil-Peru border on pisciculture (2015)

With the overall aim of disseminating the experience of the EU's regional policy and its best practices, both in terms of innovation and cross-border cooperation, the "EU-Latin America Cooperation on Cross-Border Regional Innovation Systems in the framework of Regional Policy" has promoted cooperation between authorities in the border regions of Peru and Brazil, and has identified the innovative sectors key to cooperation between the regions participating in this initiative.

The regions of Loreto and San Martín, in Peru, and the State of Amazonas, in Brazil, which borders on the Peruvian region of Loreto, were selected. As a result of the work, which included some activities in Colombia, aquaculture was considered a field of economic activity boasting great potential and a basis upon which to bolster cross-border cooperation through the creation of an interregional aquaculture value chain.

Based on the lessons learned through European experiences, and the results of collaboration with local stakeholders, a strategic approach was devised to guide actions at the regional level, making it possible to coordinate and align the different actors in the border area in light of the needs and opportunities posed by the aquaculture value chain as regards Cross-Border Cooperation (CBC), and the development of regions, their companies and peoples. See [report](#) in English.

INPANDES

La Comunidad Andina (CAN) trabaja con el objetivo de alcanzar un desarrollo integral social y económico, más equilibrado y autónomo, mediante el fortalecimiento de la integración andina, con proyección hacia Suramérica y Latinoamérica.

El Proyecto de Integración Regional Participativa en la Comunidad Andina ([INPANDES](#)) es un programa de cooperación entre la Comunidad Andina (CAN) y la Unión Europea (UE).

El Convenio de Financiación DCI-ALA/2011/022-123 "Integración Regional Participativa en la Comunidad Andina-INPANDES", se incluye en el Programa de Acción Anual 2010 (AAP 2010) y hace parte del eje de cohesión económica y social (CE&S), posicionando el tema en las agendas regionales y nacionales, la aplicación complementaria en iniciativas concretas, reforzando la capacidad institucional de la Comunidad Andina, en especial de su Secretaría General, mejorando la participación ciudadana y de la Sociedad Civil en el proceso de integración regional andino y estimulando las dinámicas económicas y sociales en los territorios fronterizos. Fue suscrito el 21 de diciembre de 2012, con la autorización de Bolivia, Ecuador y Perú, y la no objeción de Colombia (Nota: DM/VRE/DISTD No. 84914).

Está destinado a profundizar la cohesión económica y social dentro de la Comunidad Andina como principio del desarrollo económico. Cuenta con dos ámbitos de intervención: i) acciones regionales que fortalezcan la participación de los ciudadanos y de las organizaciones de la sociedad civil en iniciativas que generen integración y promuevan un sentido de pertenencia a la Comunidad Andina; y ii) acciones que promuevan el desarrollo económico y social, con base en la generación de trabajo digno, ingresos, servicios sociales y empleo en las Zonas de Integración Fronteriza (ZIF), mediante el fortalecimiento de capacidades de los gobiernos locales en la elaboración de políticas binacionales con participación de actores locales.

Other initiatives⁴

En la Zona de Integración ha habido un largo proceso de desarrollo e integración fronteriza entre el Perú y las repúblicas de Colombia, Ecuador y Brasil, acciones impulsadas por el Ministerio de Relaciones Exteriores del Perú, teniendo como apoyo técnico al PEDICP.

⁴ See PEDICP y SINCHI (2017)

Con Colombia, las acciones se iniciaron con el apoyo de la OEA en la década de 1980, elaborándose un diagnóstico rural integrado de un área común. Con base en estos resultados el Gobierno Peruano creó el PEDICP en 1992 y ambos gobiernos luego aprobaron el Plan Putumayo Colombo Peruano (PPCP) y el Plan de Ordenamiento de la Pesca en el río Putumayo, con el apoyo de la FAO. En esta última década ambos gobiernos con el apoyo de la CAF han elaborado y aprobado el Plan de Desarrollo de la ZIF Perú Colombia (2013).

En años recientes en la zona se han ejecutado cuatro proyectos binacionales financiados por el Proyecto CESCAN II de la CAN-UE, AECID-CAN y UE-CAN INPANDES, entre los que se encuentran:

- Gestión binacional de humedales con fines de seguridad alimentaria y conservación, en los lagos Caballococha (Perú) y Tarapoto (Colombia) con la participación activa de las organizaciones de pescadores, 2010-2011;
- Modelos prácticos de producción piscícola de consumo humano y uso ornamental para el desarrollo de la ZIF, mediante el cual se instalaron 4 centros pilotos de producción piscícola ubicados en Caballococha y El Estrecho (en el Perú), y Puerto Leguizamo y Nazareth (en Colombia), 2012-2014;
- Fortalecimiento de capacidades locales para la producción de cacao orgánico de aroma en la ZIF, en veinte (20) comunidades del área de Caballococha y Leticia. Estos proyectos alcanzaron el ámbito de las UGE 1, 2 y 4 de la ZIF Perú Colombia, 2015.
- Integración, inclusión e innovación en el corredor productivo transfronterizo Napo-Amazonas, en 41 comunidades para el fortalecimiento de plataformas públicas nacionales y binacionales fronterizas, la conformación de la cadena de valor del cacao, piscicultura y pesca mediante el apoyo a los productores, sus organizaciones y la dotación de infraestructura productiva de soporte para el desarrollo de la piscicultura y la post cosecha y valor agregado del cacao, 2016-2017.

Además de las acciones de promoción económica y social que se ejecutan en el marco de los proyectos binacionales, el PEDICP ejecuta acciones y proyectos de inversión en la zona, relacionados con la promoción e implementación de un modelo de desarrollo agropecuario integral con componentes de agroforestería con cultivos de cacao, camu camu, piscicultura, y la crianza de aves domésticas beneficiando a comunidades mestizas y mayormente indígenas de las etnias Ticuna, Yagua y población mestiza de las comunidades rurales.

Appendix D Infraestructura disponible en el Trapecio Amazónico

Así mismo, con inversión nacional y de la cooperación internacional, en la zona peruana se han instalado las siguientes infraestructuras:

- Módulo de post cosecha de cacao en Palo Seco, con una capacidad de procesamiento de 2 Tm por ciclo (fermentación y secado al 8%), con una duración de 10 días por ciclo, con ambiente para capacitación, almacenamiento y vivienda.
- Módulo de post cosecha de cacao en San Pablo y Caballococha, con una capacidad de procesamiento de 2 Tm por ciclo, con una duración de 10 días ciclo, con ambiente para almacenamiento de insumos y productos procesados.
- Módulo de transformación de cacao en Caballococha, con un equipamiento de: tostador de cacao; descascarillador-triturador-rompedor de granos; molino triturador de granos; homogenizador; mezclador, refinador de billas; conchador y temperador – dosificador. Con una capacidad de procesamiento de 250 kg/día de semilla seca y la obtención de 200 kg/día de pasta de cacao. Las instalaciones se encuentran en un terreno cedido por la Municipalidad Provincial de Mariscal Ramón Castilla.

- Módulo de transformación de cacao en San Pablo, con un equipamiento de: tostador de cacao; descascarillador-triturador-rompedor de granos; molino triturador de granos; homogenizador; mezclador, refinador de billas; conchador y temperador – dosificador. Con una capacidad de procesamiento de 250 kg/día de semilla seca y la obtención de 200 kg/día de pasta de cacao. Las instalaciones se encuentran en un terreno cedido por la Municipalidad Distrital de San Pablo.