

Productive potentialities of the Agribusiness sector in the Apurimac region, Peru: opportunities for international trade

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ABSTRACT

The region under study has, for centuries, had agriculture as its main economic activity. Since pre-Hispanic times its fertile lands have had an agricultural vocation. In the last 20 years this reality changed and migrated to gold, silver and copper mining activities mainly. Although, the macroeconomic numbers of GDP and export values are important, this has not translated into local endogenous development and produces little added value. On the other hand, the size of the region's agricultural activity was gradually reduced.

The objective of this research was to understand and identify the productive potential of the Agribusiness sector in the Apurimac region, in order to assess its opportunities for insertion into the dynamics of

international trade, leveraging its comparative advantages in natural resources and its Andean agricultural supply. A qualitative approach was used with a document-type methodology based on primary and secondary information sources, which allowed the collection and classification of information with a longitudinal temporality between 2017 and 2019 with a non-experimental design level.

Strengths and opportunities were found to face a process of Agribusiness export with solid bases, for which it is necessary to overcome challenges such as; the production of self-consumption, the atomization of the producers, to promote the associativity, besides strengthening the chains of value of Agro export that manage to integrate the Andean production to the large production, marketing and logistic centers of the coast and Peruvian north that allow to face successfully a process of internationalization

Keywords: Agribusiness, Agroexport, Interoceanic Road, Sustainable Development, Value Chains.

1 INTRODUCTION

Currently, one of the most demanded items globally is food, either in the form of processed (industrial) foods or products of agricultural origin. In this sense, the growth of the world population has brought with it new challenges and opportunities in the context of international trade. The first ones ask us questions -recalling the Malthusian theory- such as the following: Is it possible to feed a world population that grows arithmetically while food production grows geometrically? According to estimates by the Food and Agriculture Organization of the United Nations, FAO (2009), it is calculated that in the year 2050 the planet will have 9,500 million inhabitants, 35% more than the current population, which will demand 70% more than food (Larrea, et al, 2018)

Regarding the paradigm of opportunities, there are comparative advantages for the Latin American region, which possesses a third of the planet's freshwater resources, more than any other developing region,

if measured on a per capita basis. It also has about 28% of the world's fertile land -which has been identified as having medium to high potential- for the sustainable expansion of arable areas. As a whole, it is already the region with the world's largest net food export, and has so far only achieved a small part of its potential to expand agricultural production for regional consumption and global export. (IDB, 2014)

As regards Peru and its position within this scenario, we see that it ranks first among the countries with the highest agro-export growth in the Latin American region with average annual rates between 15% and 20%. It is worth saying that the Agribusiness sector has become, in the last two decades, the second most profitable economic activity after mining, multiplying its earnings almost ten times at the level of exports of non-traditional products for a value of \$13,791 million, which They represent 8% of the national GDP. The growth of this sector is given by three fundamental factors: a) The opening of the Peruvian economy from the decade of the 90's with promotion and support of the State for the agricultural sector b) The subscription of Peru to Free Trade Agreements Trade (FTA), Regional and Bilateral International Trade Agreements c) Flexibility of labor and tax conditions for the agro-export sector.

According to the latest National Agricultural Census (INEI-CENAGRO 2012), it indicates that 60% of agricultural exports are focused on the coastal region, while the largest number of units

agricultural -quantified in 64%- are found in the mountains. This concentration is mainly due to the facilities offered by the irrigation projects and the road infrastructure available on the coast and north of Peru. (Cheng and Pintado, 2015).

When referring to the Apurímac region, we must know that its name comes from a Quechua word that etymologically means: Apu= God and Rímac= Talker, that is, "God who Speaks". This beautiful region is part, in turn, of the so-called macro-south region of Peru, which is integrated -in addition to Apurímac- by six more departments, namely: Arequipa, Cusco, Madre Dios, Moquegua, Puno and Tacna, for a total of seven departments. The southern macro region has great potential in what has to do with its inventory of natural resources; biodiversity, its fertile lands and abundant water. The macro-south region enjoys an excellent geographical location, which brings it closer to large foreign markets represented by Bolivia, Brazil and Chile, to which access is facilitated by land through the Interoceanic highway. The most important foreign populations -due to their size and commercial capacity- that adjoin the aforementioned region are; the states of Acre, Rondonia and Mato Grosso (Central Western Brazil) and Arica-Tarapacá (Northern Chile). For the purposes of this investigative work, we will focus on the aforementioned states of Brazil. All of the above represents a world of opportunities for promoting international trade in the macro-south region as a whole and especially for Apurímac.

The region under study, historically has had agriculture as its main economic activity, this is how, since pre-Hispanic times, its fertile lands have had a marked agricultural vocation, having as protagonist the important civilization of the legendary Chancas who later succumbed to the domination of the Empire. Inca, under the reign of Pachacútec. With the arrival of the Spanish, the livestock activity was introduced, bringing new animal species such as cattle, horses, sheep and pigs that adequately adapted to the

environment and added to the species of South American camelids, such as the Llama, the Alpaca, the Vicuña and the Guanaco, which are native to the South Trans-Andean zone, constituting the fundamental economic activities for long centuries in the region. (INEI, 2000)

Towards the end of the 1990s, mining began in the southern Peruvian Andes, mainly in the departments of Arequipa and Cusco. Later, with the beginning of the new century, the extraction and international commercialization - on a large scale - of mining would begin in the Apurímac region. This activity has been displacing the level of importance

economy, to the ancestral agriculture of Andean products, as well as livestock production. Currently, according to figures from (INEI, 2020), the productive dynamics of mining contribute 61% of the region's GDP, while agricultural production adds 6% to GDP.

These two realities are clearly contrasted. While agricultural and livestock activity is extensive, which allows generating more productive employment, both direct and indirect, favors associativity and strengthens local economies, creating wealth and resources that impact the redistribution of regional income, for its part, mining activity is typically an intensive activity, which requires less labor - due to its high degree of technology - compared to agriculture. In addition, its orientation is clearly extractive and export to foreign markets, leaving very little added value in the region.

The objective of this research is focused on knowing and identifying the productive potentialities in the agribusiness sector of the Apurímac region with an exploratory perspective to evaluate opportunities for the insertion of the regional economy in the dynamics of international trade, leveraging on its comparative advantages of natural resources and its Andean agricultural offer, within a process with a more inclusive vision and with a greater socio-economic impact on the Apurimeña population.

2 MATERIAL AND METHODS

The present investigation was carried out under a qualitative approach with a documentary-type literature review methodology from primary and secondary information sources, obtained through databases such as Scielo, Google Scholar and Latindex, as well as university repositories, institutional digital libraries and specialized online magazines that allowed the collection and classification of information with a longitudinal temporality between the years 2017 and 2019 with a level of non-experimental design that had as its primary objective to know and identify the potential in the Agribusiness sector for the export of non-traditional products from the Apurímac region as an opportunity to enter the dynamics of international trade. Likewise, the geographical and climatic characteristics of the region, the native agricultural products and their commercial potential were determined, as well as the strengths and weaknesses of the regional Agribusiness sector were identified to later observe the trends and opportunities of foreign markets, specifically the states. western center of neighboring Brazil; acre, Rondonia and Mato Grosso, which border the Peruvian macro-southern region of which the department of Apurímac is a part. Finally, strategies were proposed to address the

international marketing objectives in the agri-food business. Regarding the statistical information that supports this work, some of them were obtained from different databases of the Ministry of Foreign Trade and Tourism- Promperú (MINCETUR), Ministry of Labor and Employment Promotion (MTPE), National Institute of Statistics (INEI), Brazilian Institute of Geography and Informatics (IBGE), the Food and Agriculture Organization of the United Nations (FAO). And others were processed through the Office 2016 package: Word word processor and Excel spreadsheets, under the Windows 10 program.

3 RESULTS

Area and Territorial Division

The department of Apurímac was founded on April 28, 1873. It is located in the southeastern part of the Republic of Peru. Its territorial extension is 20,895.8 km², which represents 1.63% of the national territory. Its limits are: to the North with the Departments of Ayacucho and Cusco, to the East with the Department of Cusco, to the South with the Departments of Arequipa and Ayacucho, to the West with the Department of Ayacucho. Regarding its political division, it has a total of 7 provinces and 80 districts.

Geographical and climatic aspects of the Region

Its territory is rugged, deep valleys and rugged peaks, alternate with high plateaus or punas and snowy peaks. The climate is varied according to the floors of altitude. Warm and humid at the bottom of the deep canyons of Apurímac, Pampas and Pachachaca, temperate and dry at medium altitudes. Cold and with accentuated atmospheric dryness in the high mountains and very cold in the snowy peaks. The temperature variation is very significant and increases with altitude. Rainfall is abundant from December to April and the dry period, with little rain from May to November. In the rainy season, landslides, floods and landslides are very frequent phenomena and constantly affect the communication routes. (PERX-Apurímac, 2006)

Natural resources. Soils and Water

The department has a land surface of 2,089,579 hectares (Ha), which represents 1.62% of the national total (Peru 128,521,560 Ha.). The highest percentage of surface corresponds to protected lands, followed by lands for agricultural use, where pastures represent 62.1%, followed by protected lands with 20.1%, mountains and forests represent 9.1%, and irrigated lands and dry only 8.7 %.

The Region has an extraordinary water potential, the flow of water that circulates through the system comes mainly from surface water, from rainfall, melting of glaciers and snow-capped mountains, which form and give rise to rivers with permanent flows. The hydrographic drainage in the territory of this department has a general orientation from South to North and all its rivers belong to the Apurímac river basin, to which they flow from the left bank.

Social and economic indicators of the Apurímac region

Below are the basic socio-economic indicators of the Apurímac region.

Table N° 1:

Indicators	Description
Population	405,000 inhabitants
EAP*	267,881 people
Employment	Employment: 35%, Unemployment: 3.8%, Under-employment: 62%
Poverty	Poverty: 35%, Extreme poverty: 5.6%
GDP Mining	61.7%
GDP Agriculture	6.5%
Illiteracy	Women: 22.6% Men: 5.6%
HDI*	Position No. 22 of 24 regions evaluated

Source: Own elaboration based on data from the Ministry of Foreign Trade and Tourism of Peru (Mincetur) 2019

Note: * Economically Active Population / * Human Development Index

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The number of underemployment of the Economically Active Population (EAP) is striking, taking into account the size of the population, which is relatively small, and the high rate of illiteracy among women in the region.

Profile of the main agricultural products of the Apurímac region. Exportable offer.

The ancestral culture of the inhabitants of the Peruvian Andes allowed him to develop techniques such as cultivation on terraces and drip irrigation. Throughout the centuries and given the special climatic conditions and the fertility of the land, in Peru unique agricultural products have been produced on the planet due to their high nutritional and medicinal value with unmatched characteristics, which have been called the " Superfoods" and are called to be an appreciable opportunity to make the world known and contribute to the food security of humanity. (Promperu, 2019)

Below is a list of the main ones, see Table No. 2:

Product	Nutritional properties
<i>Fruits</i>	
Custard apple	It provides a high energy value due to its high carbohydrate content. It is rich in vitamin B and Potassium
lucuma	Rich in carbohydrates, vitamins and minerals. Provides Betacarotenes. Strengthens the immune system.
<i>Cereals and Menestras</i>	
Quinoa	High content of vitamin B, C and E. Provides proteins, Phosphorus, Calcium and Potassium. It is considered a "superfood".

Tarwi	Rich in protein and unsaturated fat. Perfect meat supplement. Known as "Andean soy".
Kiwicha	High in essential amino acids. Contains calcium, phosphorus, iron and potassium. It is considered the "perfect food".
Potato <i>tubers</i>	Compete with wheat and rice. It provides food security to humanity. It is one of the Andean contributions to the gastronomic world. In Peru there are about 300 varieties. The most common varieties in the mountains: yellow potato, chairo and native potato.
olluco	Originally from the Peruvian highlands. Rich in protein, starch and sugars. High nutritional value in vitamin C and Iron.

Source: Own elaboration based on data from the Ministry of Agriculture of Peru (MINAGRI) 2019

SWOT analysis of the export competitiveness of the Apurímac region

When international business opportunities for export are analyzed, it is essential to know the real possibilities of achieving said goal, based on the strengths and weaknesses available, as well as the opportunities and threats that exist in the environment. , all of which is decisive to visualize the success of the activities. When studying the profile of the region's agro-export sector, the characteristics shown in Table N° 3 were found at the level of competitiveness:

Table 3. SWOT analysis Agribusiness sector Apurímac region

Attributes Quadrant	
<i>Strengths</i>	<i>Opportunities</i>
Biodiversity	Trade agreements
seasonality	interoceanic highway
Climate Diversity	world famous products
Abundant Water Resources	Proximity of target markets
Large cultivable areas	Organic and non-traditional products
ancient knowledge	High demand
Labour	International transport
<i>Weaknesses</i>	<i>Threats</i>
land fragmentation	Climate changes
poor infrastructure	international competition
Low technological level	Barriers to tariffs
Self-consumption production	Monopolies and commercial tractors
Need for training and certification	Social and political conflict
Weak international logistics	Drug trafficking and terrorism

Table No. 3. Source: self made

It is clear that the region has great strengths that generate greater opportunities, but this will depend on how the weaknesses are mitigated to better face the threats of the environment. This exportable offer must be validated with marketing instruments in subsequent studies to determine its feasibility.

Macroeconomic indicators of the Brazilian destination markets

Knowing the destination markets is a fundamental task to prepare the strategies and design the objectives; sales, marketing and logistics. For this, a fundamental tool is the macroeconomic indicators that serve to identify their socio-economic and commercial profile.

These are the data that were found from the neighboring Brazilian markets, which would be commercial destinations in a first stage. See Table N° 4. It is worth noting that these states in the north of Brazil are closer to the macro region than to the capital of Brazil itself, Brasília:

Table 4. Macroeconomic indicators of the Brazilian center-west

State	Population	GDP Per Capita	IDH*	Extension (km2)
Acre	894,740	\$2839	0,716 (higher)	164,122
Rondonia	1,796,640	\$3391	0,725 (alto)	238,513
Mato Grosso	3,526,220	\$3393	0,725 (higher)	903,207

Source: Own elaboration based on data from the Brazilian Institute of Geography and Statistics (IBGE) 2019

As can be seen, only three Brazilian states represent a market size of more than 6 million inhabitants - greater than the population of the southern macro region as a whole - which are potential consumers of the region's agricultural products, with an average per capita income of \$3,393.

Interoceanic Highway. A path to progress in the Southern Peruvian Macro Region

The Interoceanic highway constitutes a great commercial window to prop up the development of the macro-south region as a whole and especially for the Apurímac region. The Interoceánica not only generates new markets for Apurímac's current agro-export offer, but also the demand for products that the region does not yet offer, but that has the potential to develop them, such as; mechanical maintenance services for international cargo transport units, fuel and lubricant supply, customs and logistics services, storage, insurance, etc. Taken together, these variables signify the creation of productive, direct and indirect employment, generation of local added value, development of the countryside and its productivity, increase in productive and commercial associativity, in short, improvements in the level of income in the region. and therefore their quality of life.

It is noteworthy that the distance between Andahuaylas and the border region of Iñapari (Brazil) is barely 1,179.95 km, which represents a relatively close land trip of approximately 24 hours of transit. In other words, the region's products are a day's journey away - to the commercial entrance of Brazil - to be placed in that large neighboring market. Likewise, this road offers the possibility of connecting the macro-southern region of Peru with the Atlantic Ocean through the main port of Brazil -Santos port- facing the markets of Africa and Asia with potential consumers representing 70% of the world's population. (MINCETUR, 2017)

4 DISCUSION

The results are quite clear to affirm that there are great opportunities for the development of export agribusinesses in the region. Of course, the task is not easy given the current conditions, where the extractive economic activity of raw materials for export is privileged, such as gold, silver and copper, which has come to disrupt an entire millenary way of life. represented by Andean agricultural activities. This is how we see how the mineral extractive industry shows macroeconomic figures like these; From 2015 to 2019, the region's GDP has tripled, going from \$1.1 billion to \$3 billion with a contribution of 61%, while the GDP provided by agricultural and livestock activities, in the same years, fell from 14.9% to 6.5%, that is, it reduced its size by more than 50%. See table N° 5. Paradoxically, the unemployment rate in the region presents an increase from 3.1% to 3.8% in the referred years, while the informality and sub-employment rate reached 88% and 62% in 2018, respectively. (MTPE, 2019).

Figure 1. Historical Data GDP Apurímac region: Mining Vs Agriculture and Livestock



Source: Own elaboration based on data from the National Institute of Statistics and Informatics (INEI) 2019

This panorama suggests a profound contradiction of the economic model that prevails in the region and that exposes a harsh reality: the extractive activity of raw materials yields large macroeconomic numbers that do not directly impact the quality of life of the Apurimeño because it contributes very little value. local aggregate. The benefits arrive indirectly -via the mining Canon- to the central government that are then redistributed -downstream- to the other levels of government. In this way, on the one hand, mining exploitation is deepened, with concessions to transnational companies at 30 and 40 years of validity, while the autochthonous productive activities of the region are gradually diminishing.

The other side of the coin -in a contrasting way- shows us that Peru today has become one of the largest producers and exporters of agri-food in the world, ranking first among producers of asparagus, blueberries and quinoa. , the second in mandarins, third in avocado and olives, fourth in hearts of palm and its derivatives and fifth in production of fresh grapes, which shows that there are two different economic realities within the same country and the question that fits would be; Why not integrate and consolidate all

the productive regions of the country in the same synergy and dynamics of international trade? In such a way that, once and for all, the interoceanic highway becomes a great opportunity to promote investments for the development of the southern region of Peru that allow leveraging national and international economic integration. The border areas, those of the central west of Brazil (Acre, Rondonia, Mato Grosso States) and northern Chile (Arica-Tarapacá) are the most important markets, due to their size and commercial capacity.

If we add to this the fact that merchandise coming from the Peruvian macro-south region can operationally use Brazil's main port -Santos port- located on the Atlantic side- as a springboard to reach the markets of Africa (1,200 million inhabitants) and Asia (4,500 M inhabitants), in economic terms, this could become a gateway for the sustainable development of Apurímac or simply be an opportunity lost in time, which will leave us behind in the path of international trade and move us away from the long-awaited economic growth. In this sense, the Interoceanic highway also offers the opportunity to recover the integration of southern Peru with the world, as the Incas did and later the Spanish accentuated it during the colonial era.

5 CONCLUSION

Finally, we can conclude that the main challenge facing the region is to resume the path of agricultural production -as a traditional economic activity- based on a renewed vision of export agribusiness, preferably directly, as a valid option that allows Overcoming the semi-rural economic structure, the generation of employment, the production of self-consumption and the fragmentation of producers -the latter once overcome- would directly favor associativity with a view to the creation of commercial export consortiums, free zones, among others . In addition, the Agro-export value chains that manage to incorporate and integrate Andean production to the large centers of production, marketing and logistical advantages that exist on the coast and in the north of the country must be strengthened. Strategies should focus on medium- and long-term technical-productive approaches rather than a short-term political vision, taking into account that politics in our countries often goes one way and economic development goes another. Additionally, as proposed in his own work (Promperú, 2015), there is an urgent need to unite the active forces of the country and the region around common goals that allow the amalgamation of the State as a facilitating and promoting entity, the private business community represented in foreign trade organizations such as ADEX, COMEX, Chambers of Industry, Commerce and Tourism that have an active presence in the southern macro region and of course, the Academy, represented by national and private universities, in its role as trainer- trainer-researcher and adviser. The great challenge of southern Peru lies in overcoming its current spatial, social and economic fragmentation. On the other hand, the region has enormous possibilities of becoming the great economic hinge between the gigantic expanding Asian and African world with close to 5.5 million inhabitants and the southern Peruvian, Bolivian and Brazilian axis, the latter being our border neighbors. (PUCP, 2019)

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