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4.3 SOCIOECONOMIC ENVIRONMENT

The following is a description of the different aspects that integrate the socioeconomic component, which allows dimensioning the possible impacts generated by the exploitation of the mining deposit which is the object of this analysis.

This chapter analyzes the different variables required in the terms of reference for the Environmental Impact Assessment (hereinafter EIA), such as the guidelines for participation, the demographic, spatial, economic, cultural, archaeological, organizational and political dimensions, complemented by the development trends for the areas of indirect influence.

It also describes the criteria, techniques, methodologies and information gathering instruments required by this EIA and includes the necessary elements to generate the analysis required by the competent authority in the terms of reference.

For the primary data collection, the corresponding formats were elaborated and validated to obtain the necessary data for further processing and analysis. During the socialization events, in which the characterization surveys were applied, the greatest possible number of inhabitants of the villages was invited and the necessary inducements were made to highlight the importance of providing real information about the communities.

The data used for the collection of secondary information is official and verifiable from academic sources and technically valid for the purpose of this component.

The development of the different components of socio-economic characterization is presented below, together with the results and analysis of the information processed.

4.3.1 GUIDELINES FOR PARTICIPATION

The guidelines for participation are described through the following items.

4.3.1.1 CITIZENS AND ORGANIZED COMMUNITIES

During the implementation and within the framework of the EIA, a process of outreach, communication and information with the communities within the DAI was carried out in the defined areas, as described in this chapter.

4.3.1.1.1 Area of indirect influence

The AIIs defined in this EIA represent the urban capital of Segovia municipality and the village Center Fraguas town. The presentation in the IIA included the Municipal Administration of Segovia and the

Municipal Ombudsman's Office, through documents number 217614 and 217615. In addition, a personal meeting was held with El Corregidor of the town of Fraguas, where the project was handed over and the socio-economic characterization was implemented, dated on October 15, 2015, whose urban capital and population center was defined. Finally, a document was sent to the Autonomous Regional Corporation of Central Antioquia, CORANTIOQUIA, with file number 1508-1846, dated on August 24, 2015, as the environmental authority with legal responsibility for the project areas.

4.3.1.1.2 Area of Direct Point and Local Influence

The participation guidelines for the AID were developed in different phases in the villages El Pescado, low Cuturú and Laureles, including the areas with different local names, but which are part of the villages as an administrative unit, as explained in the AID definition. The phases developed in the DAI were socialization, characterization workshop and application of socioeconomic survey. Some of them were carried out in the same space.

During the socialization activities, the community was provided with general information about the EIA and the project's scoping matrix in order to establish a direct dialogue with the population that attended the events, as a way of recognizing the citizens' right to know about the activities that are directly related to its dynamics and that can generate positive and negative impacts.

The AID population was invited to an informative and participative meeting, which took place at "La Casa Campesina" zonal collection center located in the Laureles village where the inhabitants of the above-mentioned towns were present; this place was chosen due to the lack of other meeting spaces such as communal housing or JAC (by its initials in Spanish) headquarters. One of the situations found in the area is the lack of meetings to discuss issues of common interest and the precarious level of community organization.

As an example, El Pescado village does not have a Community Action Board (JAC by its initials in Spanish), according to some inhabitants, it is in the process of being organized because it was considered unnecessary, due to the difficulties and lack of interest from the local inhabitants. The closest villages to El Pescado with JAC are Laureles and San Miguel. The communities have carried out management activities in these areas, including the inhabitants of El Pescado. There have also been joint efforts by community initiative, such as the improvement of access roads, links and processing of State services, activities and procedures with the Ministry of Mines and requests to the civil officers of the Municipal Unit for Agricultural Technical Assistance (UMATA).

The fact of grouping together to manage specific resources and services shows a tendency of the communities in this area to generate spaces for articulation, organization and management, attending to the situations and not in the search to generate permanent and sustainable processes, philosophy with which organizational models such as the JAC were created. Another possible

interpretation of this short-term behavior is the fact that mining cultures in general develop a conception of immediate profit, for which reason it is common to resolve the “daily life" situations. This behavior, which has become a kind of "code of social conduct" influencing decisions at all levels, is taking place at the precarious levels of social and community organization and discouragement. In essence, people see organizational and management scenarios with little interest because in many cases they do not represent results or access to immediate resources. Additionally, armed conflict has generated a lack of motivation and even fear among the communities because, according to local reports, it is sometimes not well accepted by the actors of the armed conflict the organization of the communities and the leaders are often considered threats.

The following are the scenarios in which the socialization activities of the project and the EIA were performed. For these activities, the management, coordination and participation of Social Group, with the support of the technical area in the environmental and mining area, members of the Ingex Mining Group S.A.S. work team, consultant contractor for the EIA and representatives of the administrative area of Touchstone Colombia S.A.S., the company that holds the mining title contracts.

Call for socialization

In the case of the AIDs, the strategy was based on combining different activities necessary to provide the participation guidelines component, as well as informative presentations, workshops and activities, with the purpose of obtaining, recording and analyzing the data, concerns and opinions of the participating communities.

In order to facilitate the process of socialization and relationship, various mechanisms were adopted using different tools and methodologies, such as socio-economic characterization surveys, convening meetings by concentration in the villages, conducting the workshop "mapping the past, present and future" in rural schools and accompanying community activities.

Table 4.3-1. EIA socialization mechanisms in the areas of direct influence (punctual and local) and indirect.

Socialization mechanisms	No. of activities	dates
Networking events	2	September 27, 2015 January 27, 2016
Socioeconomic characterization survey AIDP	19	01 with 6 September 2015
Socioeconomic characterization survey AIDL	78	27 with September 30, 2015
Social connectivity ecological surveys AIDP	14	15 with 20 December 2015

Socialization mechanisms	No. of activities	dates
Surveys of ecological and social connectivity AIDL	2	18 December 2015
Trades settled before the competent authorities Mayor, Municipal Representatives and CAR	3	August 24, 2015
Interview with the corrigidor of Fraguas	1	October 15, 2015
Accompanying community activities	1	October 12, 2015

Source: INGEX, 2015.

Phase conducting workshop "Mapping the Past, Present and Future" and socialization.

The objective of the workshop was to generate a space for recognizing their current socio-environmental problems through the strategy of the talking maps and the community planning of the area in the future.

This workshop is a knowledge exchange space, presented to the community to develop the participation and planning strategy called "Maps of the Past, Present and Future", where the talking map methodology was used. The talking maps are technical methodological instruments that allow the organization and communication of decisions in the community environment, through the diagramming of scenarios (past, present and future) in territorial maps. The methodological objective of the talking maps is to gather in a graphic form the perception of the participants on the local territory and to strengthen the identity of the participants.

Each community produced three types of maps:

- Map of the Past: situation of the community back in time, in terms of natural resources, production capacity, availability of basic services, roads, schools, etc., all supported by the collective memory.

- Map of the Present: The maps of the present illustrate the problems faced by communities currently, such as resource scarcity, conflict, low self-esteem, poverty, hopelessness, armed conflict, displacement, etc.

- Map of the Future: they project the situation of the community into the future, show the hopes and dreams, the ideas of progress and well-being for future generations, graph what is considered a dignified life, and show the desire for changing.

These three maps become the baseline to be used as a reference for comparison to evaluate the results over time and to develop future plans. Through the maps, the community projects the planning of the territory, emphasizing the use and community administration of the resources: water, land, forests. The talking map is a three-step participatory process. First: Summoning and socialization of the methodological process. Second: Map Drawing. Third: field verification.

The inputs used, community participation and activities developed in these workshops are identified below (illustration 4.3-1, illustration 4.3-2, table 4.32).

Support inputs: Audio-visual material, basic presentation of the project with the components of the Environmental and Social Baseline and folding that contain the development of the construction of the baseline for the project.

Instruments for recording and systematization of each activity: Attendance sheets, camera and tools for talking maps for groups.

Level of participation: Community interaction (knowledge dialogue).

Participants: Parents, children and community residents.

Activities during each workshop:

Explanation of the methodological process
Grouping of participants in tables or working groups
Construction of the talking maps
Results presented by the working groups
Results summary from Maps of the Past, Present and Future



Illustration 4.3-1. Construction of talking maps. Amará Santa Isabel School. Cuturú Medio headquarters.
Source: INGEX, 2016.

Table 4.3-2. Number of participants socializations.

Village	No. Participants socialization
El Pescado	39
Cuturú Medio	10
Cuturú Abajo	11
Laureles	48

Source: INGEX, 2015

- **Participation analysis and participants' concerns**

During the phase of socialization and characterization with the AID communities, there were concerns and observations related to the following aspects:

- Reforestation processes of areas affected by the execution of the project.
- Habitat management of local wildlife and the risk involved in implementing the mining project for the species that inhabit the environment.
- Air pollution, noise and particulate material is released into the air through the execution of the project and transportation of materials by the access roads.
- Eventual reduction of supply and environmental changes in the landscape.
- Management of topsoil to be removed, earthworks and slopes.
- Water management in terms of abstraction, ore processing, quality and quantity of discharges (For this activity the community requests a manual to be provided to the population describing the process adopted for water resource management).
- Recruitment and local employment generation.
- Identification of arts, crafts and skills of people in the region.
- Management to the revitalization of the local and regional economy through demand for products, goods and services and rising prices that may affect the cost of living in the area during the different stages of the project.

- Management of the consequences for the adequacy and maintenance of access roads to the project in relation to the handling slope, dust, erosion and temporary reduced mobility.
- It gives handling the indigenous and Afro-descendent communities in the area to the company.

Illustration 4.3-2. Socialization AIDP event, AIDL. In the Peasant House of Vereda Laureles.
Source: INGEX, 2015

Faced with the questions raised and as a way to express the company's commitment to the community, it said that studies contain a description and analysis of these and other aspects and therefore mitigation, prevention and compensation proportional be taken to impacts generated.

The concerns with the greatest emphasis were related to the environmental impacts on water, air, soil and economic dynamics, where the generation of local employment was included with greater emphasis.

No concerns were raised regarding royalties and tax revenues generated by the operation of the project or compensation measures related to cultural and historical aspects. Here were no concerns related to royalties and tax revenues generated by the operation of the project or compensation measures related to cultural and historical aspects.

Survey application phase

A total of 97 surveys were conducted in the different villages in the areas of specific and local influence (AIDP and AIDL), where all the pertinent and necessary information was recorded for the socio-economic characterization and social ecological connectivity (AIDP and AIDL) (table 4.3-3 illustration 4.3-3).

Table 4.3-3. Implementation of surveys territorial unit

Village	Number of Surveys per Village
El Pescado	19
Cuturú Medio	20
Cuturú Abajo	29
Laureles	29

Source: INGEX, 2015

Illustration 4.3-3. Socioeconomic and ecological social connectivity through the implementation of surveys in AIDP and AIDL characterization.
Source: INGEX. 2015

4.3.2 SOCIOECONOMIC CHARACTERIZATION

The socioeconomic characterization contains data obtained in the field on the background and projections of the main variables that would affect the indirect area of influence of the project.

4.3.2.1 DEMOGRAPHIC DIMENSION

The present dimension was elaborated taking as a reference the data collected in the field and in the cases where it was possible and necessary they are complemented or compared with official data (Annex 1.5), with the aim of facilitating a greater depth in the quantitative and qualitative analysis of the different social variables and in order to have a clear panorama of the current

territory's conditions and to assess with greater precision the possible transformations that may occur due to the completion of the different stages of El Pescado project. Similarly, with the result of the analysis, the measures to be taken will be sized and projected in the face of the estimated impacts of the project, and the measures will also be generated to enhance the benefits produced by its execution.

4.3.2.1.1 Indirect Influence Area AII

The IIA dimension sets out the characteristics of the population, the current population, its distribution and characteristics, the main dynamics, projections and living conditions in the territories and scenarios defined in this document. In the case of Fraguas, not all the data are available in the official databases, so in some cases the figures are not presented. On the other hand, when the data is separated it is presented in the most detailed manner.

Population dynamics

The dynamics of occupation and the current distribution of the population in the Northeastern Antioquia sub region are determined mainly by three aspects: gold mining as the determining factor, the phenomenon of violence and armed conflict since the mid-twentieth century, and the new economic processes associated with agribusiness activities and infrastructure works, as will be analyzed later.

Demographic background

The formation of what is known today as the Northeastern sub region of Antioquia began at the end of the 16th century. Remedios, Yolombó, Cancan, San Bartolome and Marinilla were part of the province of Mariquita, whose control was later assumed by the province of Antioquia in order to ensure the collection of taxes from the mining areas, but also to obtain control of the exit to the port on the Magdalena River. By then, the communication lines between the areas producing primary goods such as gold and the ports of exit to the sea were already emerging as the determining factors for the configuration and location of the settlements.

At the beginning of the 16th century, the news of the gold wealth in Antioquia stimulated the arrival of Spaniards interested in the exploitation of the mineral. This is evidenced by the dates of the foundation of towns around rich gold deposits such as Santa Fe de Antioquia in 1541, Remedios in 1560, Yolombó in 1560, Cáceres in 1576, Zaragoza in 1581 and Guamocó in 1611.
The population of Santa Fe de Antioquia was one of the largest gold producers until 1580, when the population moved to Cáceres, Remedios and Zaragoza, a scenario which favored a significant increase in gold production in Antioquia. The period between 1580 and 1630 was called the initial cycle of gold mining, in which slave labor was implemented.

By the 18th century, migration waves were generated from what is now known as the East and Northeast of Antioquia to the Magdalena slopes, driven by the allocation of large tracts of land to businessmen in Medellín who began to plant sugar cane for the production of panela, coffee and livestock[1]. Commercial companies were also created to supply mining companies, cattle ranches, sugarcane and coffee growers and wood traders. Mining received an important boost with the arrival and installation of mining companies, which was complemented with the exploitation of medium and small alluvial deposits.

By the end of the 18th century, the Antioquia province's population had grown from 44,167 in 1777 to 110,662 in 1820[2]. This increase in population was stimulated by the economic consolidation of small mestizo, black Cimarron and free mulatto owners.

The increase in gold production in Yolombó during the colonial period began to decrease in the 19th century, which forced the exploration of other areas, which generated a new wave of colonization in the Northeast, especially along the banks of the Nechí and Porce rivers. Slaves who gained their freedom spread throughout the sub region and constitute the black heritage of a large portion of the population that can be observed today.

Gabriel Poveda Ramos in Miners in Antioquia[3] indicates that by 1880, the major technological innovations in Antioquia mining were introduced. According to him, this phenomenon was stimulated by the arrival of foreign businessmen, which also served Antioquia mining to establish itself as a major industry. By the end of the nineteenth century, "most of the mines were from Antioquia people owners; but the largest mines in the Northeast were already in the hands of foreign companies. In 1880 there were operated by Frontino and Bolivia Company, in Remedios; the Colombian Corporation, in Anorí; the French Society of Segovia, and the French Nechí Company and its tributaries, in Zaragoza "[4].

The centers of greatest production of gold were the banks of the Nechí, Tenche, Pocoró, Pocuné, El Bagre, Tinitá, Monos, Riachón, Anorí and other rivers, where foreign companies and barter companies or "mazamorreros" shared their holdings. The Northeast of Antioquia played a fundamental role in the economic development of Antioquia since it contributed to the accumulation of capital and thus the formation of elite that would drive the industrialization of the department.

[1] Government of Antioquia. Management of Integral Strategic Planning. Profile Northeast Subregion of Antioquia. Medellin. 2002.

[2] Source: Patiño Millán, Beatriz. In: "History of Antioquia". Director Jorge Orlando Melo. Medellin. South American Insurance Company. 1988 p.69.

[3] Poveda Ramos, Gabriel. Mines and Miners de Antioquia. Medellin. Bank of the Republic. 1981.

[4] Ibid.

Initial dynamics of settlement in the sub region were marked by conflicts over access to land and logging for Antioquia railway construction. They emerged and the municipalities of Anorí, Amalfi, Segovia and Yalí, driven by increased mining production were consolidated. These villages reached their peak, but quickly fell to the exhaustion of mines and opening of other territories[5] .

By the early 1930s, two major foreign mining companies The Frontino Gold Mines (now Zandor Capital) in Segovia and The Pato Gold Mines (now Miners SA) in Zaragoza were consolidated in Antioquia, which were an epicenter of fixing population and generation of formal employment in the region and meant a significant increase in gold production.

Gold production in the Northeast and the characteristics of the processes of settlement associated with it provided a glimpse into two types of people: the stable began to engage in agriculture as a way of investing gold rents in real estate such as land and workers in the formal companies engaged in mining, trade and services.

On the other hand, the semi-nomadic or floating population made up of people from other regions of Antioquia and the country who came in search of fortune and temporarily placed in mining areas, characterized by a minimal sense of belonging and rootedness, which was evident in practices of devastating exploitation that caused significant damage to soils and waters.

Among the settlers were peasant farmers, natives in the North, South and East of Antioquia and some farmers from the Magdalena Medio and southern Córdoba who settled on the banks of the river Nus and the area between Remedios and Puerto Berrio. For its part, the floating population was mainly composed of peasants and miners arriving in times of apogee or mining, from bonanzas in many cases the same areas of fixed inhabitants, but with high mobility and economic, social and family instability, in other words, with a high degree of displacement.

Another factor that was enunciated as a determinant of population settlement and mobility is the armed conflict and violence which, as well as the production of gold and in close association with this activity, is a phenomenon that has caused mobility dynamics in the population since the 1950s. From the 1980s onwards, the presence of irregular armed groups began a period of events, some against the civilian population, including the massacre in Segovia, justified in the fight against the insurgency. It should be noted that by then, the northeast was an electoral stronghold of the UP, the political arm of the FARC, and it was in this sub region that the annihilation campaigns of the activists of this political-electoral force intensified.

[5]Atlas peopling of Antioquia, XXI Century "Colonization and settlement of Antioquia" Ministry of Education and Culture Department - INER. Medellin. 1993

Illustration 4.3-4. Picture of the funeral of people killed in the slaughter of Segovia
Source: https://www.google.com.co/search?q=imagenes+del+conflicto+armado+en+segovia+antioquia&safe

Similarly, as will be described in the political dimension, one event which marked a significant milestone in the history of Fraguas or Machuca and was the death of 69 people on October 18, 1998 as a result of a fire caused by the Pocune River oil spill after an ELN bomb blast.

By the 2000s, the presence of the paramilitary groups, associated with the income (extortion) from gold production in the sub region, had already consolidated its presence and mutated into what are now known as BACRIM. For its part, the guerrillas continue to be present in rural areas and their activity is also associated with the income generated by mining activity due to the extortion of the miners and also with drug trafficking.

The other current phenomenon of population fixation and attraction is the construction of large infrastructure projects to link the center of the country with Uraba and to improve transverse connectivity in an east-west direction. Works such as the peace backbone, the prosperity motorways and the mountain motorways have routes that include the Remedios and Segovia passes, and this has been (and will be in the future) another factor of population fixation and mobility.

Illustration 4.3-5. Machuca image after the fire by the oil spill.
Source: https://www.google.com.co/search?q=imagenes+de+la+tragedia+de+machuca+en+segovia&safe

These characteristics of the settlement process provide elements for interpreting the behaviors that still persist today throughout the sub region and especially in the municipality of Segovia, a place of urban concentration of the entire population that is the heir to the uses and customs described in the historical component. The adventurous, unstable, aggressive, fickle and resistant character of the Segovia people has been constructed in centuries of history associated with the production of gold and the dynamics associated with its exploitation.

As already mentioned, to a lesser extent, today there are still floating population settlements associated with alluvial mining with backhoes and vein mines and settlements that in the past were areas of storage and concentration of trade and services.

This is a territory in constant construction, population and repopulation, characterized by the permanent migratory waves that attract and displace people constantly, the population is composed of people from practically all regions of the country. All this cultural diversity makes it difficult to establish a unique type of cultural pattern for the region and leads to the conclusion that the Northeast region is the meeting point of diverse cultures, whose territory is under permanent construction.

Current settled population

The AII have a total population of 33,595 inhabitants, of which 31,761 are in the Segovia urban center, while the Fraguas town center has 1,834 inhabitants (see table 4.3-4). Segovia is a municipality with 84% of the population living in the head and hence its importance and prominence to be considered as part of the AII of this EIA. Its only 5,811 rural inhabitants, including 1,834 from

the Fraguas town center imply that the municipality population density is high, considering only the head and very low for the rest.

Table 4.3-4. Total population, density, head and rest.

Segovia Total population	37,572
Total population density	30.6 inhabitants / Km²
Population density header	5206.7 inhabitants / Km²
Header inhabitants	31,761 inhabitants
Rest of inhabitants	5,811 inhabitants
Fraguas inhabitants	1,834

Source: www.segovia-antioquia.gov.co - Annual Indicators. 2012.

As already mentioned, the population of both headers is related to mining, given that the largest number of mines are found on the urban edges of the town, in the case of Segovia and in the vicinity of Fraguas. According to figures from Segovia Department of Agriculture, Mines and Environment, "the sector employs about 10,000 people directly, of which just under three thousand are linked to companies formally established and a little more than seven thousand were occupy in more than one hundred mines (According to Census figures mining of the Ministry of mines of Antioquia) classified as illegal "[6].

The density of the urban capital of Segovia is high if it is considered that the urban layout and topography are irregular, so that not all the areas of the capital are occupied by housing construction. In addition to topography, the use of a significant amount of the headland area is associated with the benefit of ore extracted from the mines in the denominated areas. According to data from the 2012-2015 Development Plan of Segovia and the Global Mercury Project of the Government of Antioquia, 100% of the population of the urban area is at high risk of mercury contamination, due to the fact that there are contaminating sources such as the 83 mills or processing plants and around 53 gold purchases and smelters of this metal, all located in the urban area, which are potential generators of contamination.

Fraguas, on the other hand, is a road port that in the past was also a center of commerce and population location in an intermediate site between Remedios, Segovia and Zaragoza. This settlement to date is catalogued as a township and its jurisdiction is not defined in the official cartography, beyond the town center. Other official documents[7] designate El Cenizo, Fraguas, Laureles and Mata as the township's jurisdiction. Its current population is characterized by the fact that it is mostly dedicated to mining work, as labor force of the farms dedicated to livestock, as

[6]Segovia Development Plan 2012-1015. "Orgullosamente Segoviano". Page 83.

[7] Anuario Estadístico de Antioquia, 2012. Departamento Administrativo de Planeación. Medellín: Gobernación de Antioquia, 2013.

farmers and as temporary employees of the companies present in the area (Ecopetrol and mining exploration companies).

Illustration 4.3-6. Image of the municipal capital of Antioquia, Segovia.
Source: https://www.google.com.co/search?q=imagenes+de+la+cabecera+municipal+de+segovia&safe

Illustration 4.3-7. Image of the main street Fraguas township of Segovia, Municipality of Antioquia, Machuca center
Source: https://www.google.com.co/search?q=imagenes+actuales+de+machuca&safe=active&rlz

Table 4.3-5. Territorial extension of villages and towns.

Municipality	Municipal Category	Extension Km²		No. Villages	Town 2000
		Total	Urban		
Segovia	6ª	1,231	6.1	28	1
Total Northeast		8,544	28.81	385	18

Source: Government of Antioquia. Administrative Planning Department. Statistical Yearbook of Antioquia. 2000.

Segovia is the second largest municipality in the Northeast after Remedios and has a total population of 37,572 inhabitants, of which 33,595 are part of the IIA, as mentioned above, since the largest number of inhabitants of the municipality live and work in the urban capital.

Fraguas is the closest town to the project's operating site, located on the edge of the road that connects the municipalities of Segovia and Zaragoza and a local pantry of products and some services, as will be noted in the economic and spatial dimensions.

There is no accurate data on Afro-descendant, indigenous and mestizo populations for IIAs. However, for the municipality as a whole, 79.2% of the population is mestizo and white, 19.6% is Afro-Colombian and 1.2% is indigenous (Table 4.3-6). This is concentrated in the Tagual-La Po indigenous reservation, which is located in the northeast of the municipality and has a population of 25 families, 268 people and an area of 1,890 hectares of territory.

Table 4.3-6. Total population of Segovia by ethnic group.

Mixed races & whites	(79.2%)
Afro-Colombians	(19.6%)
Indigenous people	(1.2%)

Source: www.segovia-antioquia.gov.co – Annual indicators. 2012.

The types of population currently settled can be associated with the dynamics of population growth brought about by the exploitation of gold and the activities that have been generated in a consistent and parallel manner in the region, such as livestock, agriculture and services. It is possible to deduce that there are essentially three types of settlers at present: miners, traditional peasants and urban population.

Structure of the current population by sex and age range

The structure of the population refers to the interaction between sex and age, with which important conclusions can be drawn such as population mobility or population location and registration trends. Below is the data consulted from the official databases for the town of Fraguas and the urban capital of Segovia.

Table 4.3-7. Age ranges population and sex of the Fraguas population center

Location	Total Men	Total Women	Age Ranges				
			0-5	6-17	18-65	Mayor 66	0-5
Machuca Village Center	933	901	188	545	1044	58	1834

Source: www.segovia-antioquia.gov.co – Annual indicators. 2012.

From the total population of Fraguas, 51% are men and 49% are women, which indicate an almost equal composition of the population of both sexes. With regard to age groups and considering the total population, it is noteworthy that 56% of the population is between 18 and 65 years old, that is, the bulk of the population is in adult and economically active age. Another aspect to be highlighted is the high percentage of the population between 6 and 17 years of age, which amounts to 30%. The rest of the population is made up of children less than 6 years of age and older adults (Table 4.3-7).

Table 4.3-1. Age Ranges of the urban headwaters of Segovia.

Age Ranges	0 a 1	1 a 4	5 a 14	15 a 44	45 a 59	More than 60
Number of persons	456	2611	8681	18125	5138	2561
% Over total population	1.21	6.95	23.10	48.24	13.68	6.82

Source: www.segovia-antioquia.gov.co – Annual Indicators. 2012.

In the urban capital of Segovia, the largest portion of the population is between the ages of 15 and 44, with a percentage of 48%, followed by 23% of the younger population, which is between the ages of 5 and 14 (Table 4.3-8). There is a particular similarity in the population proportions of IIAs. According to the data consulted, the majority of the population is in the age group over 4 years of age and at least until the age of 60 there are notable coincidences, which leads us to believe that this is a municipality where the majority of the population is young and of suitable ages for training and work.

Population dynamics

Population dynamics is understood as the interaction of the variables that define the increase and decrease of the population in periods of time and considering the intrinsic factors that are birth rate and mortality, in addition to the external factors that refer to migration.

Table 4.3-9. Birth and death rates, average life expectancy.

Crude birth rate	4
Crude death rate	5
Average life expectancy at birth	54.5 years
Men	52 years
Women	59 years

Source: www.segovia-antioquia.gov.co – Annual indicators. 2012.

In the case of Segovia, the Gross Birth Rate (GBR), understood as the number of births with respect to the total population, is 4. If we subtract the Gross Mortality Rate (GFR) of 5 (Table 4.3-9), the vegetative growth rate is -1, which is negative growth. According to the data consulted, the TBN indicates 4 live births per 100,000 inhabitants and for the TBM it indicates 5 deaths per 100,000 inhabitants for the period of time assessed.

Table 4.3-10. Intercensal growth rate in the municipality of Segovia by number of inhabitants.

Census														
July 15, 1964			October 24, 1973		October 15, 1985			October 15, 1993			June 30, 2005			
Total	Header	Rest	Total	Header	Total	Header	Rest	Total	Header	Total	Header	Rest	Total	Header
10.680	9.457	1.223	12.907	10.471	2.436	23.431	16.342	7.089	32.423	29.100	3.323	35.071	28.048	7.023

Source: Government of Antioquia. Administrative Planning Department. Antioquia Statistics Yearbook, 2014[Electronic Resource] Medellin: Planning Administrative Department, 2014.

The intercensal growth shows a tendency to increase the population in the municipality between 1964 and 1985 when a significant increase in the total population was registered, maintaining the trend of greater occupation in the urban capital, which can be associated with the establishment and consolidation of mining projects in the urban area and a special concentration of activities in this part of the municipality. For the year 1993, sustained population growth continues until the last projection for 2005. (Table 4.3-10 and Table 4.3-11).

Migration has been constant in the municipality due to the high mobility of the mining population and the repeated phenomena of violence and armed conflict. Below are the percentages of intercensal growth of the municipality, separated by head and rest, in the same period (Table 4.3-11).

Table 4.3-11. Inter-census growth rates in the municipality of Segovia in percentages.

Census											
1964 - 1973			1973 - 1985			1985 - 1993			1993 - 2005		
Total	Header	Rest	Total	Header	Rest	Total	Header	Rest	Total	Header	Rest
2,06	1,1	7,71	5,09	3,78	9,31	4,14	7,48	-9,04	0,67	-0,31	6,39

Source: Government of Antioquia. Administrative Planning Department. Statistical Yearbook of Antioquia, 2014[Electronic Resource] Medellin: Planning Administrative Department, 2014.

It should be noted that between 1985 and 1993 there was a decrease in the rest, which coincided with the period of the paramilitary attack in the area and the renowned massacre in Segovia in 1988. It is probable that the population decrease in the rest means that the population migrated to the headwaters, since it is in this period that the population grew more than in the other registered periods.

Table 4.3-12. People displaced in Segovia as Expeller and Receiver.

Year	People		Homes	
	Reception	Expulsion	Reception	Expulsion
2005	58	202	11	49
2014	44	365	11	134

Source: Unit for the Comprehensive Care and Reparation of Victims - UARIV, National Information Network - RNI, report date July 30, 2015 and Government of Antioquia. Administrative Planning Department. Antioquia Statistical Yearbook, 2014[Electronic Resource] Medellin: Planning Administrative Department, 2014.

Segovia, according to the consolidated data, is a municipality that expels the population due to the phenomenon of displacement, as shown in Table 4.3-12, where the years 2005 and 2014 are taken as a reference for the analysis.

When dealing with the displaced population and population data in general, it is necessary to consider that official data generally differ from those of the local level or from those of other sources. This trend is related to the lack of reporting by victims and to the fact that there is no effective cross-checking of figures between the entities responsible for recording the information.

In general, it is considered that population dynamics do not show significant variations over time and that their behavior corresponds to the conditions and characteristics of local activities and phenomena. The Development Plan, for example, raises the following questions when referring to the subject: "Unofficially it is known that there are currently around 70,000 people, these changes in the demographic structure of the population are probably due to reasons associated with the situation of the apogee of informal and artisanal mining, the economy of illicit crops and timber extraction, adding that the conflict over territorial control by the armed actors has led to an increase in the floating population, strengthening the inertia of the population (increased mobility). It is also stated in the document: "It is estimated that the population of the municipality is doubling thanks to the floating population that is temporarily settled for work reasons"[8].

As can be seen and deduced, to the population variable of the municipality, whose population is concentrated in a greater proportion in the urban headland for the reasons mentioned above, a high degree of uncertainty must be added, due to the floating population and the high mobility of the mining population, which generally does not appear in the official and unofficial registers.

[8] Segovia Development Plan 2012-1015. "Proudly Segovian." Page 79.

Population projections and trends in the urban capital Segovia

The urban capital of Segovia presents a stable growth trend according to the figures of the DANE (See Table 4.3-13). However, it is expected that with the start of the major road infrastructure works planned to be carried out in the municipality, the development of new mining projects and the reduction of violent actions in the face of the eventual peace treaty between the Government and the FARC as a result of the talks in Havana, the population will tend to increase in a greater proportion than estimated by simple statistical methods.

Table 4.3-13. Population projections for the urban capital of the municipality of Segovia.

2016	2017	2018	2019	2020
32.315	32.697	33.066	33.437	33.790

Source: Municipal population projections by area 2005-2020. DANE.

In any case, the population of the urban capital of Segovia and Fraguas concentrates the stable and floating population of the municipality. Linear settlements on the tracks can show significant increases with the development of mega road projects and the consolidation of medium and large-scale mining projects.

Living conditions

Living conditions are analyzed from the levels of poverty by Unsatisfied Basic Needs (UBN). These data are presented in percentages of the population by head and remainder. In addition, the coefficients of variation[9] are presented to show the degree of precision of the indicators. (Table -4.3-14).

Table 4.3-14. Poor population in the municipalities of Antioquia and in misery due to Unsatisfied Basic Needs (UBN). Year 2005

Poverty						Misery					
Header		Rest		Total		Header		Rest		Total	
Proportion of people (%)	cve (%)	Proportion of people (%)	cve (%)	Proportion of people (%)	cve (%)	Proportion of people (%)	cve (%)	Proportion of people (%)	cve (%)	Proportion of people (%)	cve (%)
35,52	4,25	66,54	2,04	41,37	3,02	14,78	8,33	37,4	4,22	19,05	-

Source: Government of Antioquia. Administrative Planning Department. Antioquia Statistical Yearbook, 2014[Electronic Resource] Medellin: Planning Administrative Department, 2014.

[9] The coefficient of variation is a measure of dispersion that indicates how accurate the calculated indicator is. A value below 7% is considered accurate, between 8% and 14% means that there is acceptable accuracy.

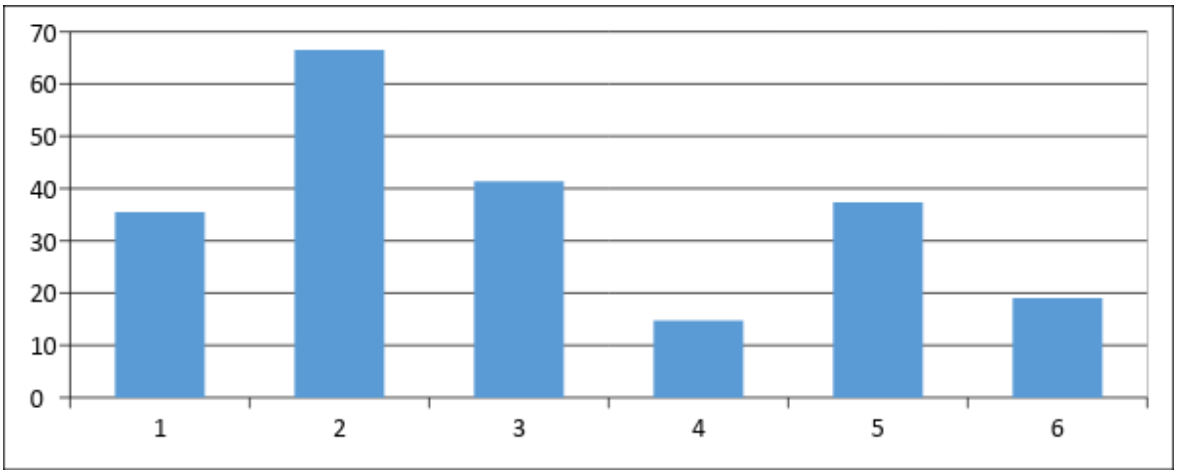

Illustration 4.3-8. Poverty and misery in Segovia.
Source: Government of Antioquia. Administrative Planning Department. Antioquia Statistical Yearbook, 2014[Electronic Resource] Medellin: Planning Administrative Department, 2014.

In the case of the urban capital of Segovia, the percentage of the population living in poverty is 35.52% and 14.78%, while the rest is 66.54% and 37.4%, respectively (Illustration 4.3-8 his indicates that about 60% of the registered population of the municipality is below the poverty line. If we compare the head and rural areas, this is twice the population of the head in the two indicators.

Economically active population

This dimension, because of the structure of this document, will be addressed in the economic dimension. In general terms, the economically active population is also referred as the labour force and is made up of the population able to exercise a remunerated activity and which is related to the production of goods or services. In the case of Segovia, it is considered that there is a high level of informal employment. For instance, in the public transport sector, the aforementioned Development Plan considers that there are 300 motorcycle taxis operating from the informal sector.

4.3.2.1.1 Area of direct influence AID (by its initials in Spanish)

As already mentioned in chapter 3, the AID is classified into AIDP and AIDL and comprises three trails. The DDAs include El Pescado, low Cuturú (including a spot called mid Cuturú) and Laureles. For the analysis of the data collected, a socioeconomic characterization was carried out that allows the dimensioning of the different variables for the population that will receive the direct impacts of the El Pescado mining project. For the corresponding analysis, data were collected on the structure and composition of the population, population dynamics, and type of families, living conditions and characteristics of the properties.

Territorial units and total population

As already mentioned, the territorial units defined as direct area of influence for the El Pescado project do not coincide in their entirety with the official mapping designations in the case of Low Cuturú trail, which for the present analysis includes the population of the area locally known as Mid Cuturú. The information for the AID is presented by district, including information for the Middle Cuturú area or sector on an individual basis when separate data are available. The data presented constitute evidence of the specific reality of these communities and their analysis corresponds to the criteria of depth and breadth required and demanded by the Environmental Authority.

Table 4.3-15 and Illustration 4.3-9 show the distribution of the population by AID territorial unit using SISBEN data and based on the socioeconomic characterization carried out in El Pescado.

Table 4.3-15. Number of inhabitants per territorial unit.

Low Cuturú SISBEN	Low Cuturú Characterization	El Pescado SISBEN	El Pescado Characterization	Laureles SISBEN	Laureles Characterization
243	165	129	44	129	97

Source: SISBEN and Socio-economic characterization, INGEX 2015.

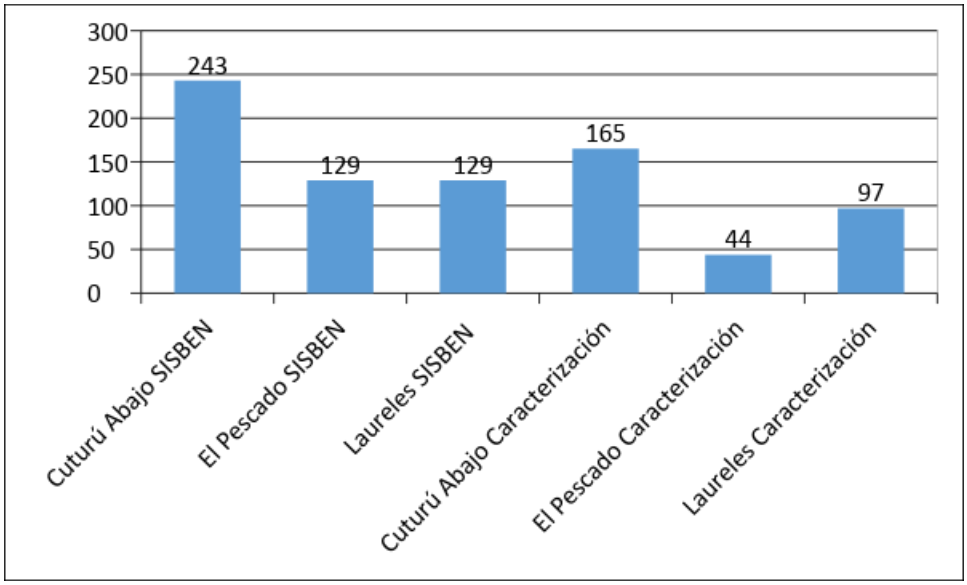

Illustration 4.3-9. Number of inhabitants per AID village.
Source: SISBEN and Socio-economic characterization, INGEX 2015.

Of the total population recorded with SISBEN data, El Pescado equals Laureles with 129 inhabitants and is surpassed by the population of Low Cuturú with 243 registered people (Illustration 4.3-9). However, the data collected in the field indicate that the total fixed population of Laureles is 44 people, Low Cuturú has 165 inhabitants and Laureles has 97. A marked difference is noted between the inhabitants recorded by the SISBEN database and the result of the information collected for this document. The total population for DAI, based on primary data, is 306 people.

The spatial distribution of the population indicates that there is homogeneity in the physical distribution between the territorial units of the AID if the data consulted are extended and considering that Low Cuturú includes a sector or place as described above, surpassed by Laureles which doubles the population of the other three sectors considered separately.

Table 4.3-16. Inhabitants of the village El Pescado with SISBEN data.

VILLAGE	MEN	WOMEN	0-5	06-17	18-65	GREATER THAN 66	TOTAL
EL PESCADO	58	71	10	18	96	5	129

Source: SISBEN, 2015.

The total number of inhabitants registered in the SISBEN database of the municipality of Segovia accounts for 129 inhabitants (Table 4.3-16), which contrasts significantly with the data collected in the field by the Ingex team during 2015, which accounts for 44 inhabitants in the 19 homes surveyed.

Illustration 4.3-10 shows this difference between the data recorded by SISBEN and those collected in the field and the corresponding analysis is carried out in order to account for the main characteristics.

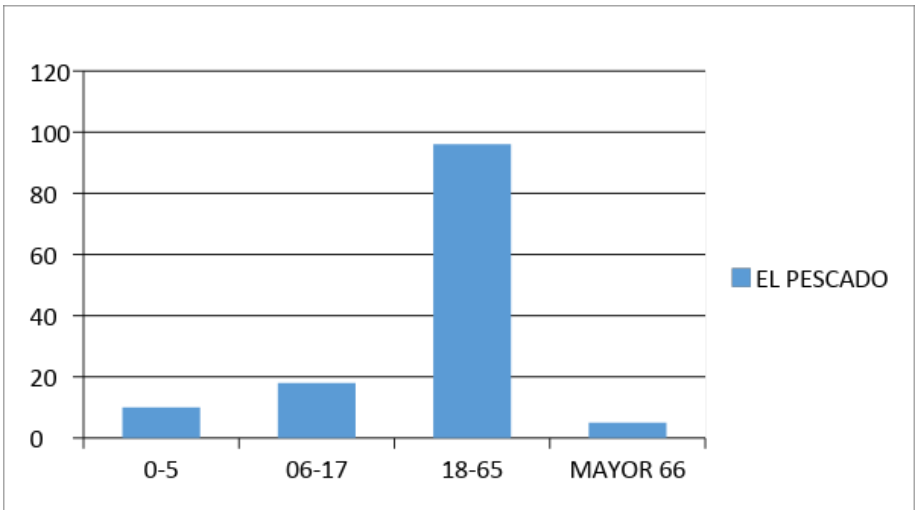

Illustration 4.3-10. Inhabitants of El Pescado trail by age range.
Source: SISBEN, 2015.

The previously recorded population may no longer be in the village or some people may have registered as inhabitants of the same without being registered. The inconsistency between the official and field data is raised as a reference to consider for eventual actions and decisions related to this analysis.

Below are the data from the primary data collection with which the corresponding analysis will be carried out. Illustration 4.3-11 shows the distribution of the population by age range of the AID with data from SISBEN and based on the socioeconomic characterization carried out in El Pescado.

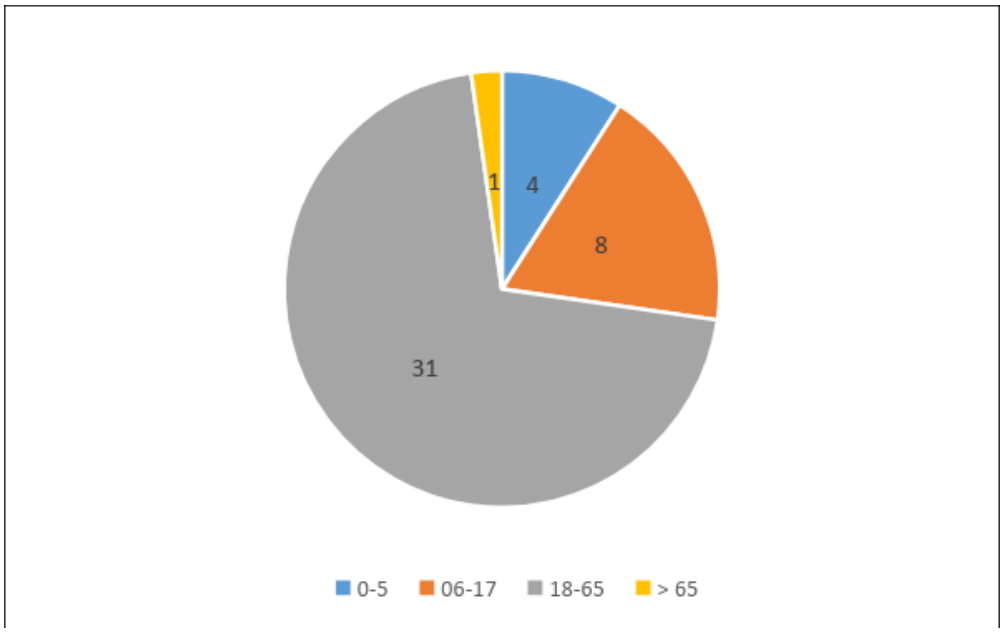

Illustration 4.3-11. Number of inhabitants of El Pescado by age range.
Source: Socio-economic characterization, INGEX 2015

The distribution of the inhabitants by age range of the village has a high preponderance of the range between 18 and 65 years old and also highlights that the lowest proportion corresponds to minors.

Population structure and composition

As a result of the socio-economic characterization carried out in the 19 houses of El Pescado, a total of 44 inhabitants were identified, of which 19 belong to the female gender and 25 to the male gender. Population density is low, and settlements are scattered rurally. The distance between the houses in the village is between 1.5 and 3 kilometers and the distance in a straight line between the operating area and the nearest house is approximately 2 kilometers, as can be seen in the attached cartography.

The population is distributed in similar proportions between men and women, except in the range of 18 to 65 years (see Table 4.3-17 and Illustration 4.3-12), which implies that there is no preponderance of a particular gender. In addition, the bulk of the population is between 18 and 65 years of age, where the largest portion is male, followed by the range between 6 and 17 years of age, where women predominate (see Table 4.3-17 and Illustration 4.3-12).

Table 4.3-17. Residents of the village El Pescado

Age group	Total H+M	Men	% Men	Women	% Women
0-5	4	1	2,3	3	6,8
06-17	8	3	6,8	5	11,4
18-65	31	20	45,5	11	25,0
> 65	1	1	2,3	0	0,0
Total	44	25	57	19	43

Source: Socio-economic characterization, INGEX 2015.

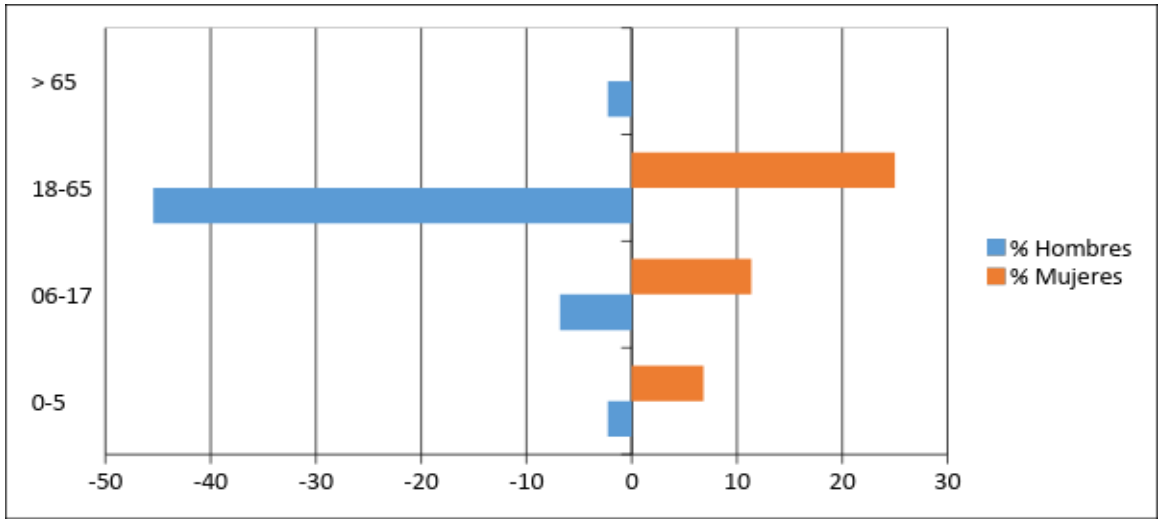

Illustration 4.3-12. Town in the village of El Pescado.
Source: Socio-economic characterization, INGEX 2015.

The lowest number of inhabitants are older adults with a percentage of 2.3% (Table 4.3-17), which suggests that the population does not reach this age or does not remain in the sector for any reason. It has already been noted that life expectancy is only 54 years on average and this behavior coincides with the life expectancy of the population.

The largest number of the population is distributed between 18 and 65 years of age, with men contributing the largest portion of the population in this segment with 45.5%. Women in this age range represent 25% of the total population. (Table 4.3-17).

Similarly, children under 5 years of age account for 6.8 per cent of the total population. As a result, the majority of the population is between the ages of 18 and 65, that is, the age at which they can enter the productive market.

Table 4.3-18. Inhabitants of the village of Low Cuturú

Age group	Total M+W	Men	% Men	Women	% Women
0-5	13	10	6,1	3	1,8
06-17	46	25	15,2	21	12,7
18-65	88	51	30,9	37	22,4
> 65	18	13	7,9	5	3,0
Total	165	99	60	66	40

Source: Socio-economic characterization, INGEX 2015.

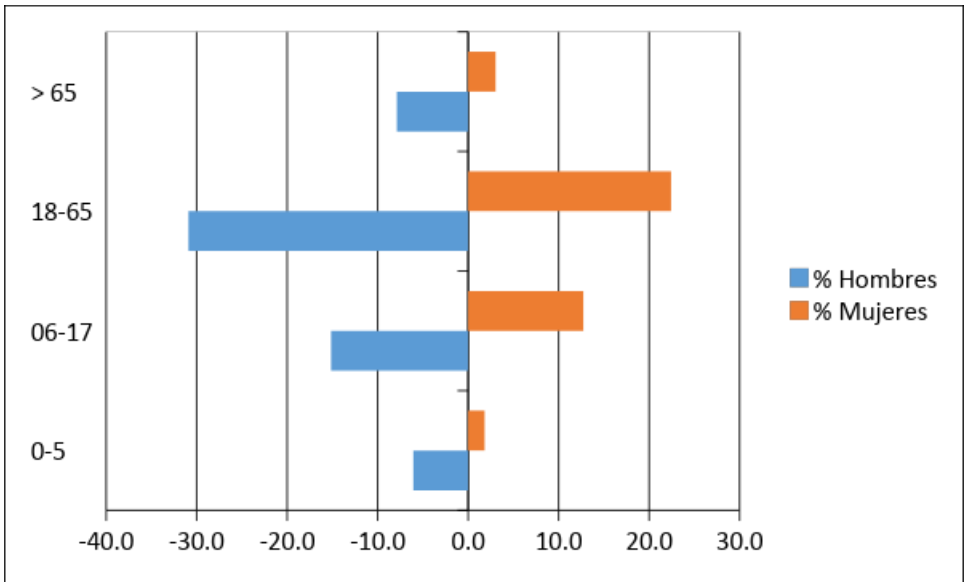

Illustration 4.3-13. Population of the village of Low Cuturú.
Source: Socio-economic characterization, INGEX 2015.

For the village of Low Cuturú, the lowest number of inhabitants is children under 5 years of age with a percentage of 7.9%, which suggests a low birth rate. Older adults account for 10.9% of the total population of this area, so the trend remains for the entire AID (by its initials in Spanish). (Table 4.3-18 and Illustration 4.3-13).

The largest population is distributed between the ages of 18 and 65, with men contributing the largest portion of the population in this segment with 30.9%, continuing the trend. Women in this age group account for 22.4% of the total population. (Table 4.3-18 and Illustration 4.3-13).

Children under 5 years of age account for 6.8 per cent of the total population. Consequently, the majority of the population is between the ages of 18 and 65 (Table 4.3-18 and Illustration 4.3-13),

that is to say, they are of the age to enter the productive market and for other academic, political and social activities.

Table 4.3-19. Inhabitants of the Laureles village

Age group	Total M+W	Men	% Men	Women	% Women
0-5	9	4	4,1	5	5,2
06-17	29	15	15,5	14	14,4
18-65	56	31	32,0	25	25,8
> 65	3	2	2,1	1	1,0
Total	97	52	54	45	46

Source: Socio-economic characterization, Ingex 2015.

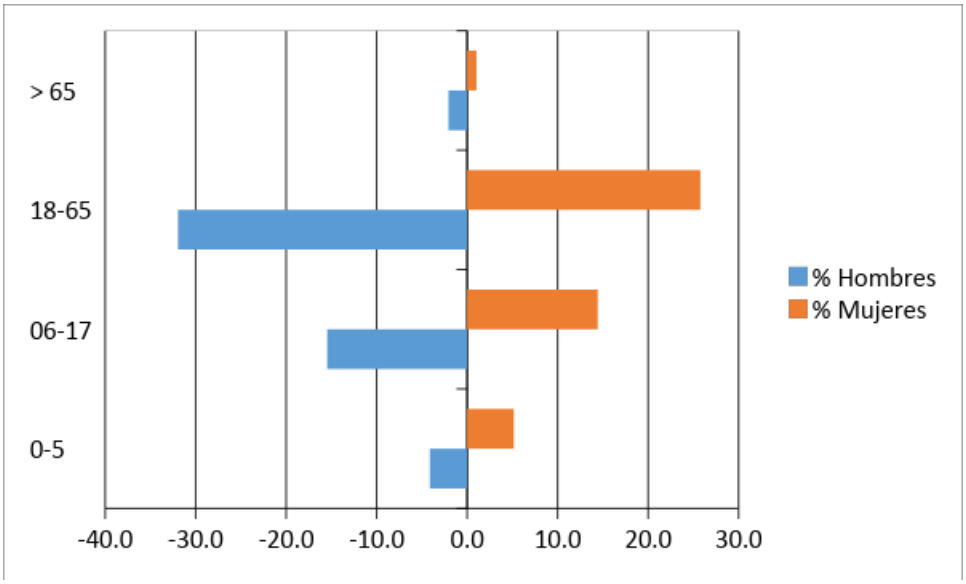

Illustration 4.3-14. Town of Laureles village.
Source: Socio-economic characterization, INGEX 2015.

In the Laureles area, the smallest number of inhabitants is the elderly, representing 3.1% of the total population. Children under 5 years of age contribute 9.3 percent, suggesting a low birth rate. (Table 4.3-19 and Illustration 4.3-14).

The largest population is between 18 and 65 years old, with men contributing the largest share of the population in this segment with 32%. Women in this age range represent 25.8% of the total population (Table 4.3-19 and Illustration 4.3-14).

The majority of the population of this village is between the ages of 18 and 65, that is, between the ages of 18 and 65, that is, the age to enter the productive market and for other academic, political and social activities.

Population Dynamics

Population dynamics are supported by phenomena such as birth rates, mortality or migratory phenomena. As the universe of a village has restrictions on access to all types of data and there are no records to evaluate birth rates and mortality, migration and floating population will be analyzed as determinants of population movement and dynamism.

The "floating" population can be characterized as people who temporarily settle in a given place and for a specific purpose. The floating population in the area covered by this EIA is directly related to mining activity.

In the village of El Pescado, no floating population or migrations were recorded, according to the reports of the local inhabitants and the primary information gathered in the houses of the AID sector. (Illustration 4.3-20).

Table 4.3-20. Floating Population and Migration in the AID.

Dynamic	El Pescado	Laureles	Low Cuturú
Floating Population	0	4	5
Migration	0	3	NR

Source: INGEX, 2015.

According to information obtained in the field, there are only 9 floating inhabitants and 3 people who recently migrated for work and study purposes. This condition shows a relative stability in the number of inhabitants and that there have been no events that generate population mobility. The Illustration 4.3-15 contains the layout of the dwellings in the area of direct influence of the project.

Part of the reason for this is because the inhabitants of this sector are mostly natives and smallholders who have clear roots in the land, where they carry out their domestic and daily activities. Another reason is the low number of people living in this territory, which translates into a low population density, which in turn can also influence the low level of conflict between neighbors. It is possible that neighborhood relations will be strong and stable, and this will also favor the coexistence and rooting of the population.

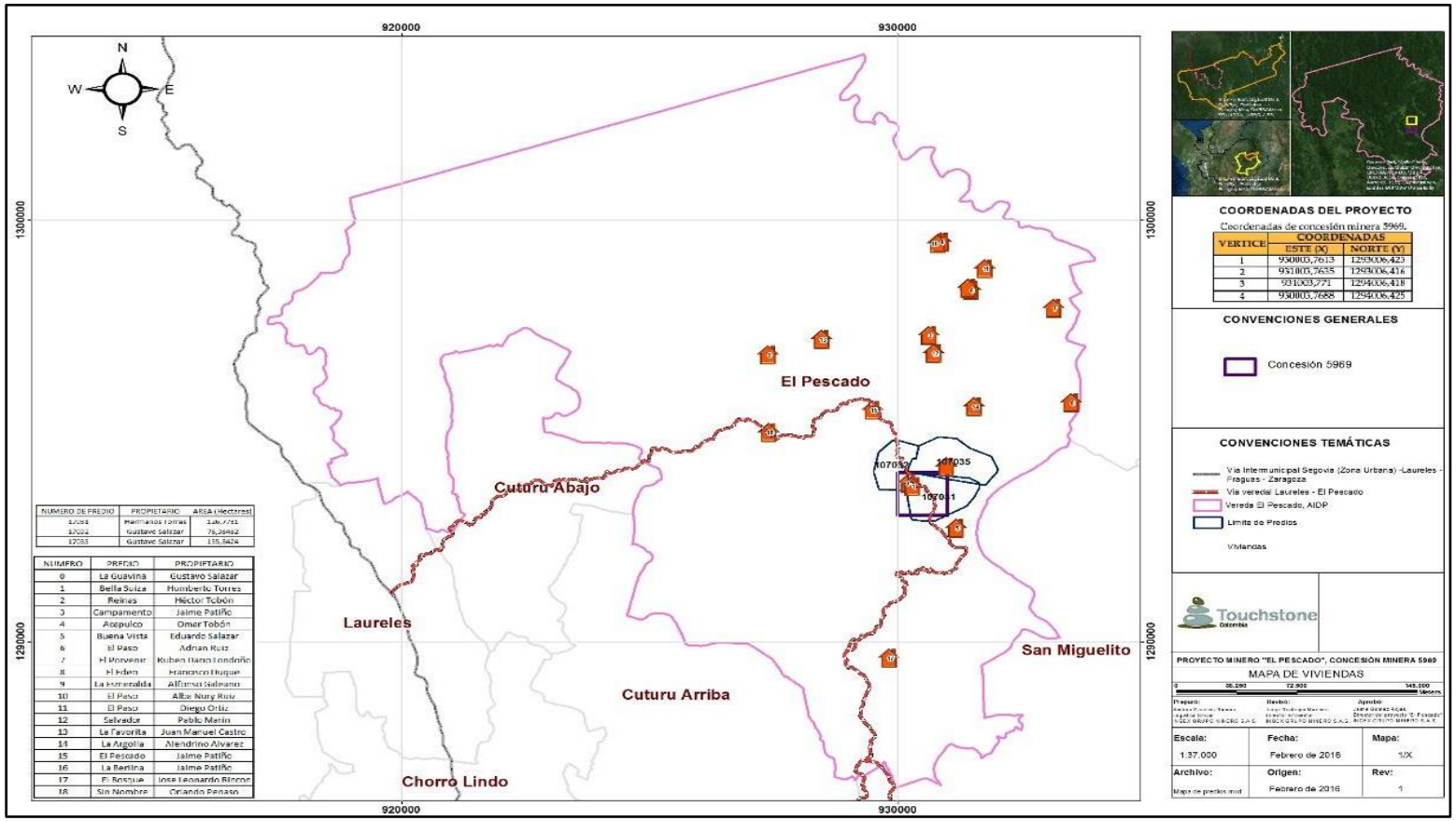

Illustration 4.3-15. Plan of the distribution of the houses in AIDP El Pescado Village. Characterization performed in the field.
Source: INGEX, 2015

Family typology

The predominant family typologies in the area of study are of the nucleated type (composed of the couple and the children, only the couple or only the siblings). Composite families (which include people who do not share consanguinity ties) and extended families (which include relatives of several generations) were also identified. There were no single person families or families comprising more than one household[10].

In general, this is an area where relatives generate bonds of solidarity and coexistence and it is common for family typologies to be integrated into different typologies as well.

Illustration 4.3-16. Population of the AIDPs and AIDL Fish Project.
Source: INGEX, 2015

Living conditions and NBI index

The variables for the assessment of living conditions and the NBI index are identified below.

Access to housing: Two dimensions are taken from this aspect: quality and overcrowding.

Quality of housing: The construction materials for housing in the most predominantly targeted territorial units are as follows:

[10] Household definition: "is the person or group of persons, relative or not, who occupy all or part of a dwelling; they meet basic needs from a common budget and generally share meals". Source: National Administrative Department of Statistics, General census methodology sheet, 2005.

Roofs: Most of them are made of zinc roofing tiles and some houses have waste roofs.

Walls: Most of the walls in the dispersed rural area are made of wood and in the populated or nucleated centers there are wooden constructions and a significant number of dwellings made of material (wood or brick) and, to a lesser extent, waste material.
Floors: The materials used in the floors of the houses are made of cement and stepped earth in the dispersed rural areas and in the nucleated centers they are made of cement and to a lesser extent the tiles are used. The dwellings consist of an average of 3 rooms per dwelling unit.

The chapter on the spatial dimension describes in detail the materials and characteristics of the dwelling. In the meantime, it can be said that people's living conditions are stable, and coverage of basic services is acceptable.

Illustration 4.3-17. Predominant housing in the AIDP, AIDL. El Pescado Project.
Source: INGEX, 2015.

Premises of the concession area, use and extension

The concession area covers an area of 200 hectares, with only two plots of land covering all the mining titles covered by this EIA.

The area of the land is 712 and 120 hectares and has 1 owner each. (Table 4.3-21 and Table 4.3-22).

Table 4.3-21. Characteristics of the tenure of the land covered by mining title 5969.

Property Name	Number of hectares	Name of the owner	Property document	Legal status
La Guabina	712	Gustavo Salazar García	Purchase and sale of improvements	In the process of certification
Bella Suiza	120	Humberto Mario Torres	Purchase and sale of improvements	In the process of certification

Source: INGEX, 2015

Table 4.3-22. Premises that include the mining title number 5969.

Land registry number	Property Name	Property Name	Number of hectares	Property document	Legal status
0107031	Bella Suiza	126.77	Siblings Torres/Humberto Mario Torres	Document	In the process of certification
0107032	La Guabina	76.36	Gustavo Salazar García	Property purchase and sale	In the process of certification
0107035	La Guabina	135.84	Gustavo Salazar García	Property purchase and sale	In the process of certification

Source: Municipal property registers of Segovia (Information compiled by the company Touchstone Colombia S.A.S.).

The main uses in both estates are agricultural and mining activities, it has banana, corn, yucca, rice and rice crops and there are pasture plantations (bracharia, Panamanian, cane and fodder crop) for livestock activities for all uses and productive activities that are developed in the estate. (Table 4.3-23).

Table 4.3-23. Main land uses on the 5969 mining title properties.

Property Name	Soil Usage	Crops	Types of grasses planted:
La Guabina	Agricultural activities Mining and quarrying	Banana, corn, yucca and rice	Brachiaria, Panamanian, Cane and fodder crop
Bella Suiza	Agricultural activities Mining and quarrying	Banana, corn, yucca	Brachiaria and Panamanian

Source: INGEX, 2015

Within the premises there is one dwelling for each property and they are inhabited by 2 people who are employees. The owners reside elsewhere.

With the arrival of the project, it is expected that the entire area to be required is the Guabina, as already noted, includes and covers all the areas in the mining title and therefore all the works necessary for the operation.

4.3.2.2 SPATIAL DIMENSION

The aim of this dimension is to analyze the urban capital of Segovia and the town center of Fraguas, from the provision of and access to public and social services, the media, infrastructures and basic facilities available to the population.

4.3.2.2.1 Area of indirect influence AII

The indirect area of influence comprises the territory where the project impacts potentially manifest themselves and is influenced by the following components:

Public services

This area will make it possible to assess the access and availability of services such as water supply, sewerage, waste, telecommunications, energy and natural gas.

Aqueduct

Water is a right that is enshrined in the Political Constitution (C.P.) of Colombia and as such became a matter of jurisprudence. For example, when confirming that water is a right, reference is made to Article 366 of the Constitution which establishes and enshrines "among the social purposes of the State, the improvement of the quality of life of the population and the general welfare. For this reason, the main objective is to solve unmet needs in health, education, environmental sanitation and drinking water."[11].

For the IIA of the El Pescado project, data on the coverage of the aqueduct are available and with regard to drinking water it is noted that it can be treated with restriction. In this regard, the Segovia Development Plan 2015-2019 establishes the following: "Drinking Water: for 7129 homes it is classified as "Favorable with Requirement", which means that 89% of the urban population consumes treated water but does not meet all the requirements to be consumed without restriction. 11% of the urban population consumes water without any treatment.

[11] Legal Ruling T-163/14. Constitutional Court of Colombia.

According to figures from the same Development Plan, the aqueduct coverage of the urban headwaters of Segovia has the following characteristics: "13% of the rural population consumes treated water but does not meet all the requirements to be consumed without restriction. A total of 179 houses have poorly maintained treatment plants, 11% of the rural population have access to potable water but do not yet have it. 76% of the rural population does not yet have a treatment plant.

On the other hand, the Sanitation and Dumping Management Plan[12] (PSMV) states that the aqueduct is owned by the administration. It has a conventional treatment plant and coverage of 52.3% and according to SISBEN, only 60.1% of the homes benefit from it. Due to its deficiency, most of the users have requested disconnection, not to mention that despite the 30 kilometers of the distribution network the conduction and distribution have poor operating conditions that, together with the inefficiency and high costs of pumping and storage, make this system ineffective. Rural coverage, according to data in this document, is 28%.

The above figures are indicative of the precariousness of the aqueduct service in the urban headwaters and the scarce coverage of the rural area. The town of Fraguas has an aqueduct that is in an acceptable[13] state but does not guarantee drinking water for consumption without restrictions for the population.

Despite the service's coverage, the drinking water availability remains unresolved, due to the fact that, as shown in Table 4.3-24 24, 98% of the inhabitants of the municipality do not have drinking water for consumption.

Table 4.3-24. Drinking water coverage in Segovia.

Capital				Rest				Total			
Houses with drinking water	%	Houses with drinking water	%	Houses with drinking water	%	Houses with drinking water	%	Houses with drinking water	%	Houses with drinking water	%
0	0	8.811	100	216	9,4	2.089	90,6	216	1,9	10.900	98,1

Source: Antioquia Statistical Yearbook, 2014.

Sewer system

For the urban area of Segovia, according to the PSMV, the urban sewerage system has sanitary and sanitary networks for rainwater made of PVC and concrete. The municipality has no waste treatment

[12] Sanitation and Dumping Management Plan (PSMV) for the municipality of Segovia. ISEA Ltda. Sanitary, Soil, Structures and Environmental Engineering. Segovia. 2008. Page 41.
[13] CORANTIOQUIA. Regional Environmental Management Plan 1998 - 2006. Northeast Region. Medellin. 257 p.

plants and is practically obsolete, which adds to the high population density. The consequence of this deficiency in the sewerage service is translated into a coverage of 14.1% and the most critical, according to the same PSMV, "due to the difficulties imposed by the relief, many homes discharge their wastewater directly and without prior treatment to open field, or on the streams that surround the urban area."[14].

According to SISBEN data, only 20.1% of urban dwellings are connected to the sewer system, in a network of approximately 15 kilometers that is completely obsolete. They also receive a large part of the solid waste, garbage and dumping from the 80 or so mining companies that are in their jurisdiction. This situation of high contamination translates into high risks of increased morbidity and mortality among the population.

The main collector of all this pollution is the La Cianurada stream, whose name refers to the high concentrations of cyanide and chemicals it receives, in addition to all the sewage from the urban area. Its appearance is a reflection of the pollution situation of the tributary. Illustration 4.3-18 summarizes the critical pollution situation of the Cianurada Creek, which concentrates the dumping of mining mills, housing and garbage. Another fact that aggravates the situation is the location on its banks of houses that expose its inhabitants to the effects of this pollution.

Illustration 4.3-18. Aspect of the La Cianurada stream in the urban area of Segovia.
Source: http://www.redsocialmonitoreo.com/microrrelatos-del-clima-partir-de-las-voces-campesinas-segovia/

[14] Ibid. Page 42.

Waste management

The toilet service at the headwaters has coverage of 84% and for the town center of Fraguas the service is provided by the local company in charge of the service, which, together with the village of Campo Alegre, covers a total of 584 homes with the service outside the headwaters.

In the urban headwaters, the toilet service has a coverage of 78% and according to unconfirmed data, it is reported that a considerable number of dwellings dump their waste into water sources. According to data from the statistical yearbook of Antioquia, in Segovia, including some rural subscribers, 10,048 subscribers to the toilet service are registered (Table 4.3-25). For the town of Fraguas, it is only known that it has a collection service.

Table 4.3-25 Subscribers to the municipality of Segovia.

Administrative entity	Residential							Commercials	Urban total
	Stratum								
	1	2	3	4	5	6	Subtotal		
Segovia Cleaning S.A. E.S.P.	3.864	4.064	1.077	32	0	0	9.037	1.011	10.048

Source: Government of Antioquia. Administrative Planning Department. Antioquia Statistical Yearbook, 2014[Electronic Resource] Medellin: Planning Administrative Department, 2014

Telecommunications

For All, available data for fixed, mobile and Internet telephony were taken (Table 4.3-26). The conclusion is that most of the area in question has coverage and in Fraguas there are some establishments that offer Internet service. Additionally, it is known that at present the data service used in smartphones is an Internet access, from which no data is recorded.

Table 4.3-26. Telephony and internet by strata in the municipality of Segovia.

Installed capacity (lines)	Residential						Subtotal	Industrial	Commercial	Others	Total	Public Telephones	Wireless Lines	Cabins	Internet, switch and broad
	Stratum														
	1	2	3	4	5	6									
4.096	588	862	941	12	0	0	2.403	0	320	88	2.811	45	2	6	2.680

Source: Government of Antioquia. Administrative Planning Department. Antioquia Statistical Yearbook, 2014[Electronic Resource] Medellin: Planning Administrative Department, 2014.

The AII areas in general have mobile telephone coverage from operators, which has contributed to improving communications, especially in rural areas, while in fixed telephony and broadband Internet, Edatel, part of the UNE - EPM Telecommunications business group, is the service provider.

Electricity and natural gas

According to EPM data, energy coverage is 91.5% for urban areas in the Northeast and 83% for the total. In rural areas, a program called Illuminated Antioquia is being implemented, which has the following characteristics: "To expand coverage in rural areas, EPM began the Antioquia illuminated - Rural Electrification Project in 2009, a project with which it managed to connect 47,000 rural users in three years. EPM expects to connect 31,000 more customers in the next two years to reach coverage in Antioquia of over 99%."[15]

The conclusion is that there is a global electrification coverage policy in place and therefore the conclusion is that IIAs will have the service in a high percentage, regardless of the current state of service coverage. For the header, as shown in Table 4.3-27 and Illustration 4.3-19, the coverage is 100% and for the rest 93% coverage is available.

Table 4.3-27. Coverage of the energy service in Segovia by headwaters and the rest.

Capital				Rest				Total			
Housing with energy	%	Housing without energy	%	Housing with energy	%	Housing without energy	%	Housing with energy	%	Housing without energy	%
8.811	100	0	0	1.578	68,48	726	31,52	10.390	93,47	726	6,53

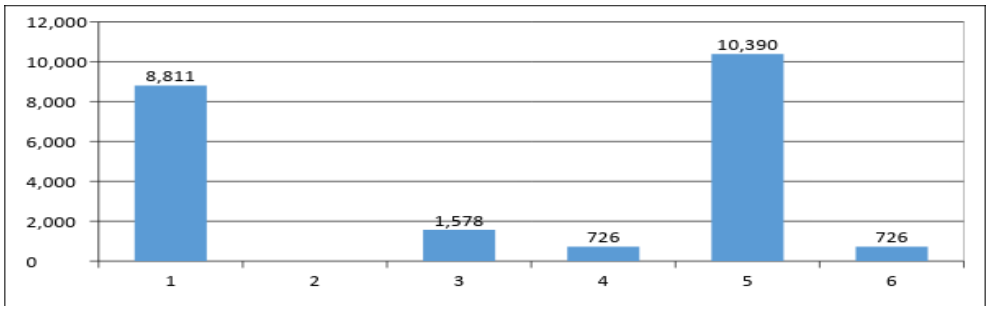

Illustration 4.3-19. Energy service coverage in Segovia.
Source: Antioquia Statistical Yearbook, 2014.

[15] On line: http://www.epm.com.co/site/clientes_usuarios/Clientesyusuarios/Nuestrosservicios/Energ%C3%ADa.aspx. Date of consultation: 19 February 2016.

In natural gas, the municipality has coverage of approximately 20% of the total of 9,431 registered dwellings in the urban capital of the municipality. This illustration shows the increase in coverage compared to 2010 when only 13 homes had this service. Of the 1,671 homes registered in rural areas, none have the service (Table 4.3-28 and Illustration 4.3-20). It is possible that the figures for urban coverage of the service to date will continue to increase as we know of the development of construction works for the extension of the networks at all levels.

Table 4.3-28. Subscribers of the natural gas service in the urban capital of Segovia.

Capital				Rest				Total			
Dwellings with gas by network	%	Dwellings without gas by network	%	Dwellings with gas by network	%	Dwellings without gas by network	%	Dwellings with gas by network	%	Dwellings without gas by network	%
1.685	19,12	7.126	80,88	0	0	2.305	100	1.685	15,16	9.431	84,84

Source: Government of Antioquia. Administrative Planning Department. Antioquia Statistical Yearbook, 2014[Electronic Resource] Medellin: Planning Administrative Department, 2014.

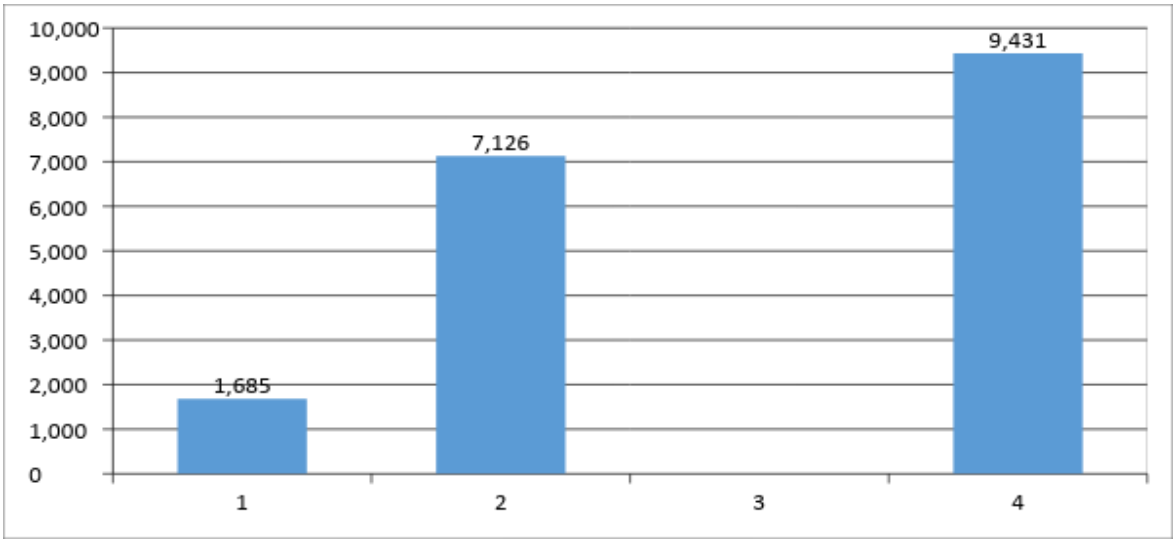

Illustration 4.3-20. Natural gas service coverage.
Source: Antioquia Statistical Yearbook, 2014.

Social services

Public or social services include or commit the state's responsibility in the provision and supply of services to citizens to facilitate minimum conditions of welfare and development and thus fulfill part of the constitutional functions.

Housing

For the area of the urban headland, the dwellings are concentrated between strata 0 and 3 and in the rural area, the dwellings are distributed in strata 1 and 4, 5, 6. It should be noted that most of the dwellings are located in urban areas with a total of 7,427 dwellings and 1,397 in rural areas. The trend towards concentration of the population at the head of the population and thus the demand for basic and social services is consolidated. The dwellings are concentrated for the urban headland in stratum 1 with 5,063 units, followed by stratum 2 with 2,705 dwellings. For rural areas, housing is also concentrated in stratum 1 with 1,172 dwellings and the rest is more evenly distributed (Table 4.3-29). As mentioned, the density of the urban headland is high, but the precariousness of some buildings and their location in high-risk areas, for which no official data are available, is evident.

Table 4.3-29. Dwellings by stratum in urban and rural Segovia.

Urban								Rural							
Year of stratification	Dwellings by stratum						Subtotal	Year of stratification		Dwellings by stratum					Subtotal
	1	2	3	4	5	6		Populated centers	Rural dispersed	1	2	3	4	5	6	
05/01/2012	5.063	2.705	291	19	0	0	8.078	01/15/2009	01/15/2009	1.172	170	104	86	47	67	1.646

Source: Government of Antioquia. Administrative Planning Department. Antioquia Statistical Yearbook, 2014[Electronic Resource] Medellin: Planning Administrative Department, 2014.

Health

The coverage and quality of health services in the IIA is acceptable in terms of the availability of infrastructure and personnel. In addition, the presence of companies such as Zandor Capital and the holders of operation contracts signed for the operation of owned mines between the company and individuals, contribute to the increase in the population covered by the services of the contributory regime. (Table 4.3-30).

Table 4.3-30. Health insurance coverage and population affiliated to the subsidized and contributory regime

Subsidized regime		Contributory system		Total coverage (%)	Population to be affiliated
Affiliates	Coverage (%)	Affiliates	Coverage (%)		
23.873	60,19	13.719	34,59	94,77	2.074

Source: Government of Antioquia. Administrative Planning Department. Antioquia Statistical Yearbook, 2014[Electronic Resource] Medellin: Planning Administrative Department, 2014

In Illustration 4.3-21, the coverage of the population under the subsidized regime is 60%, with 23,873 persons registered. In the case of persons covered by the contributory regime, the coverage is approximately 35%, giving a total coverage of 95%.

The figure of 2074 people pending to be affiliated may be due to two reasons: the first is that there are people in remote areas who have not made the corresponding affiliation procedures due to conditions of accessibility to the urban headland or security problems for their transfer. The second, probably a part of this population is linked to the municipality of Remedios because of the proximity of the township of La Cruzada, which is located closer to the urban capital of Segovia.

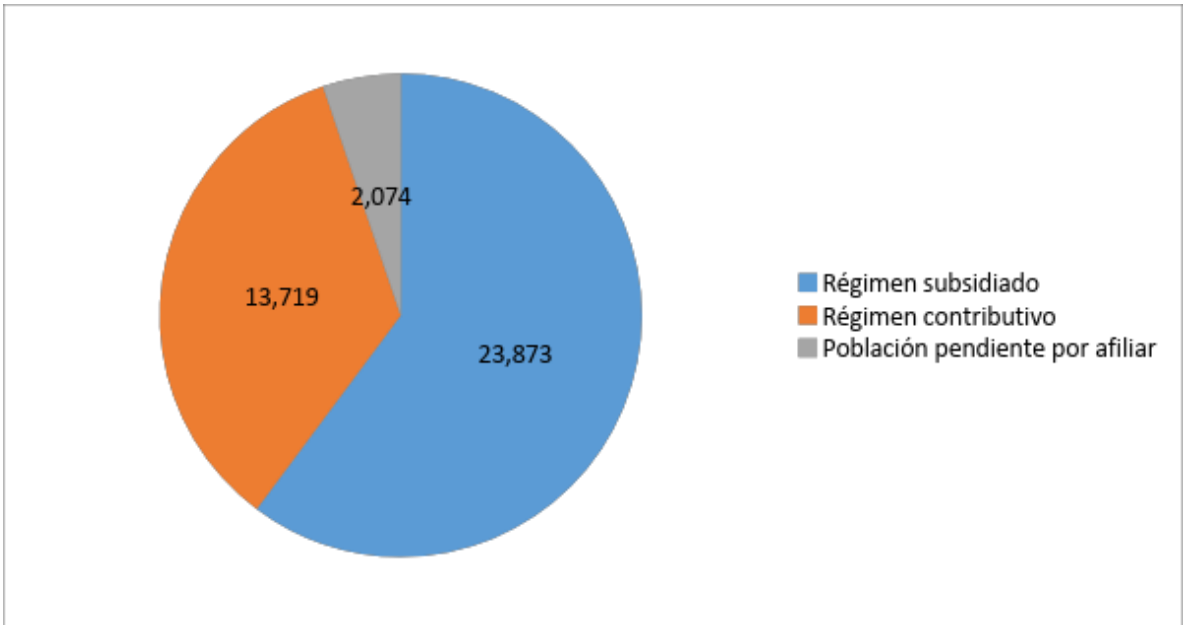

Illustration 4.3-21. Number of social security contributors to health insurance by regime.

The municipality of Segovia has two top-level hospitals, one of which is in the municipality of Segovia and the other in the company Zandor Capital, called La Salada. The level of coverage and availability of resources for health care for the population is considered acceptable. Table 4.3-31 below shows the corresponding data on Sisben affiliations.

Table 4.3-31. Sisben membership by level, sex and zone.

Sisben Level[16]					Sex		Zone	
N[17]	1	2	3	Others	Male	Female	Urban	Rural
1.498	18.908	3.255	207	5	11.088	12.785	19.952	3.921

Source: Government of Antioquia. Administrative Planning Department. Antioquia Statistical Yearbook, 2014[Electronic Resource] Medellin: Planning Administrative Department, 2014

The coverage of the Sisben-affiliated population in the municipality is concentrated in stratum 1, which probably corresponds to the largest population group. The proportions between the header and the rest also correspond to the highest concentration of urban population.

One of the situations that deserve special mention to refer to the environmental conditions that have a direct influence on the health of the urban population is the high degree of pollution derived from the extraction and processing of minerals, especially gold.

In Segovia, mercury vapor pollution has a concentration level between 192 and 679 micrograms per cubic meter of air; it is worth mentioning that the maximum acceptable without consequences for human health is 0.025 mg per m3. A study conducted for Ingeomines in 2005 shows that the metal is producing consequences in the inhabitants, such as tremor in the lips, an indicator of possible neurological damage. A correlation has also been found between the concentration of mercury in the environment and the presence of kidney disease and cases of genetic malformation in infants.

The Municipal Development Plan of the 2012-2015 administration states that "With respect to the environment and in consideration of the fact that Segovia is a municipality with high mining potential and that its greatest difficulty lies in the way in which metals are exploited, It can be said that 100% of the population of the urban area is at risk of mercury contamination, according to the Mercury Project of the Government of Antioquia (2003), given that there are contaminating sources such as the 83 mills or processing plants and about 53 gold purchases and foundries of this metal. According to data from the municipal administration, 216,000 tons of dissolved rock per year is registered only from the company Zandor Capital, since there are no other data available for the rest, so a more in-depth study will be required on this subject."[18].

[16] Levels established in Resolution 3778 of 2011 of the Ministry of Social Protection.
[17] Level "N" corresponds to the special population that is affiliated through census lists according to Agreement 415 of 2009 of the Ministry of Social Protection.
[18] Segovia Development Plan 2012-1015. "Proudly Segovian."

Table 4.3-32. Ten leading causes of death

Cause No.	Deaths
1 Intestinal infectious diseases	26
2 Tuberculosis and its consequences	20
3 Certain vector-borne diseases and rabies	11
4 Certain immune-preventable diseases	9
5 Septicemia, except neonatal	7
6 All other bacterial diseases	5
7 Syphilis and other venereal diseases	5
8 Viral hepatitis and sequelae	3
9 HIV disease (AIDS)	3
10 All other infectious and parasitic diseases	3
Other	51
Total Segovia	143

Source: Government of Antioquia. Administrative Planning Department. Antioquia Statistical Yearbook, 2014[Electronic Resource] Medellin: Planning Administrative Department, 2014. DANE, National Administrative Department of Statistics. Processed by Group of Information Systems of the Sectional Secretariat of Health and Social Protection of Antioquia, Government of Antioquia. Cut-off date: Figures cut-off on May 15, 2015 (Databases transferred from central DANE to departmental secretary on August 6, 2015).

Segovia, in addition to the two hospitals, has three health centers, one located in the town of Fraguas, in the Galán neighborhood and in the Campo Alegre area, operated by the ESE Hospital San Juan de Dios, where preventive health, prenatal control, growth and development, family planning, hypertension, malaria, among others, are carried out.

The Local Health Directorate develops prevention events and medical brigades in rural areas. Mining companies also carry out promotional, preventive and epidemiological surveillance events to monitor mercury poisoning.

Of the indicators presented, perinatal mortality in children under 5 years of age stands out, with high rates of occurrence (Table 4.3-33), which is significant for the conditions in which the population lives. In contrast, there are no cases of mortality from cervical or maternal cancer. There are also no deaths from dengue fever, malaria or child malnutrition.

Table 4.3-33. Trend in some indicators of the Antioquia Alliance for Equity (AAE) and the Millennium Development Goals (ODM by its acronym in Spanish), in the municipalities of Antioquia. Year 2014

Mortality indicators	Under-5 mortality rate (1) (Per 100,000 children under 5)	117,59
	Under-1 mortality rate (2) (Per 1,000 live births)	8,2
	Maternal mortality ratio (3) (Per 100,000 live births)	0
	Cervical cancer mortality rate (4) (Per 100,000 women)	0
	HIV/AIDS mortality rate (5) (Per 100,000 population)	2,52
	Malaria mortality rate (6) (Per 100,000 population)	0
	Dengue mortality rate (7) (Per 100,000 population)	0
	Perinatal mortality rate (8) (Per 1,000 live births)	24,59
	Neonatal mortality rate (9) (Per 1,000 live births)	6,15
	Under-five mortality rate (10) (Per 100,000 children under five)	0
Vaccination indicators	Triple viral vaccination coverage in 1-year-old boys and girls (%)	91,07
	FFD vaccination coverage of children under one year of age (%)	76,56
Fertility indicators	Adolescent pregnancy rate (per 1,000 women)	4,62
	Adolescent pregnancy rate 15-19 years (Per 1,000 women)	79,13
Assurance	Percentage of contributory insurance (11)	34,59
Epidemiological Monitoring	Incidence rate of immuno-preventable diseases - Pertussis (per 100,000 population)	0
	Incidence rate of immuno-preventable diseases - Mumps (per 100,000 population)	0
	Incidence rate of congenital syphilis (per 1,000 live births)	7,14

Source: Government of Antioquia. Administrative Planning Department. Antioquia Statistical Yearbook, 2014[Electronic Resource] Medellin: Planning Administrative Department, 2014.

The high rate of teenage pregnancies reveals a problem associated with lifestyle and probably denotes the lack of prevention programs and training in appropriate sexual behavior for the control of this type of pregnancy.

The general conditions, as indicated by the numbers (Table 4.3-33), show high rates of coverage in the care and linkage of the population to the different systems of care. A pending issue is related to effective prevention and promotion campaigns and to the high degree of environmental pollution,

the consequences of which have not yet been studied in depth for the establishment of the corresponding policies.

Education

Rates were calculated including adult education (CLEIS). The school-age population by level is: Preschool: 5 years, Basic Primary: 6 to 10 years, Basic Secondary: 11 to 14 years, Average: 15 to 16 years.

In some municipalities, the school enrolment rate exceeds 100 per cent, due to under-registration in the calculation of the school-age population, over-ageing or the displacement of the student population from one area to another. The distribution between rural and urban areas is made according to the student's area of residence. Calendar B is included.

The total school enrolment rate is 89% (Table 4.3 34), which implies an acceptable level of educational provision and that the population has available resources for access to education. In rural areas, the rate is lower because children are incorporated at an early age into family support work and as workers in productive activities. There are no data on child labor, but the levels are likely to be high because of the tradition in the countryside throughout the region of involving children in supporting adult farmers and miners.

Table 4.3-34. Gross enrolment rate in Segovia.

Urbana	Pre-school	115,72
	Primary school	161,29
	Basic Secondary	133,53
	Average	73,84
	Total	133,44
Rural	Pre-school	22,65
	Primary school	60,05
	Basic Secondary	29,24
	Average	14,21
	Total	38,99
Total	Pre-school	71,39
	Primary school	113,1
	Basic Secondary	84,02
	Average	45,7
	Total	88,59

Source: Government of Antioquia. Administrative Planning Department. Statistical Yearbook of Antioquia, 2014[Electronic Resource] Medellín: Administrative Planning Department, 2014.

School dropout rates show an average behavior between urban and rural areas of 6.84%, with a slight predominance of rural areas. The cases in which higher rates are registered are in preschool education, but it is noteworthy that for basic secondary and primary education the figures are higher than in secondary education (Table 4.3-35).

The municipality's education resources allow for a demand-side supply of schools, and the causes of dropout may be different from the lack of resources. According to data from the Secretary of Education of Antioquia in Segovia there are 32 Rural Educational Centers and 1 Educational Institution.

Table 4.3-35. School desertion in the municipality of Segovia.

Pre-school	Urban	Deserters	9
		Rate (%)	13,85
	Rural	Deserters	0
		Rate (%)	0
	Total	Deserters	9
		Rate (%)	14,75
Basic Primary	Urban	Deserters	186
		Rate (%)	5,74
	Rural	Deserters	72
		Rate (%)	6,59
	Total	Deserters	258
		Rate (%)	5,96
Basic Secondary School	Urban	Deserters	110
		Rate (%)	5,46
	Rural	Deserters	24
		Rate (%)	6,17
	Total	Deserters	134
		Rate (%)	5,57
Middle School	Urban	Deserters	10
		Rate (%)	2,06
	Rural	Deserters	3
		Rate (%)	4,69
	Total	Deserters	13
		Rate (%)	2,36
Total	Urban	Deserters	417
		Rate (%)	6,7
	Rural	Deserters	123
		Rate (%)	7,33
	Total	Deserters	540
		Rate (%)	6,84

Source: Government of Antioquia. Administrative Planning Department. Statistical Yearbook of Antioquia, 2014[Electronic Resource] Medellín: Administrative Planning Department, 2014.

Sports, Recreation and Culture

The provision of resources and scenarios for leisure and sports is a condition that favors learning processes and coexistence among the inhabitants. Segovia is a municipality with reduced public

spaces and low availability and use as environmental pollution conditions make it difficult to use and enjoy the existing ones, mainly in urban areas.

Table 4.3.36 below shows an inventory of current sports scenarios in the municipality, highlighting the scenarios for playing football and micro football. Also, the practice of yew tree stands out in the municipality. There are no records of the existence of stages such as children's playgrounds or public gyms.

Table 4.3-36. Sports venues in the municipality of Segovia.

Football pitch	Athletic track	Multi-sport plate	Pool	Colosseum	Yew tree court
28	1	24	5	1	11

Government of Antioquia. Administrative Planning Department. Statistical Yearbook of Antioquia, 2014[Electronic Resource] Medellín: Administrative Planning Department, 2014.

According to the statistical yearbook of Antioquia, with data from the PBOT, the public space index is 0.11 square meters per inhabitant, and there are 4 parks that are equivalent to 3,447 square meters.

The existing public spaces are saturated by informal sales, the invasion of space by commerce and the most important phenomenon at present that are motorcycles. Between motorcycle taxis and private individuals, it is estimated that in the urban headland there are up to three motorcycles per home, which is equivalent to around 20,000 vehicles of this type circulating through the narrow and steep streets of the town. One of the consequences of this saturation is the high level of stress, hearing and visual pollution and high levels of accidents.

The traditional festival celebrated in the municipality is associated with gold, as is hardly normal. It is called the Fiesta del Oro (Miner's Carnival) and is held at the end of July. It is characterized by a celebration with high levels of alcohol consumption and different acts of exposure of the population in the public space with extravagant costumes and the use of paint to stain the bodies of others.

There is the house of culture "Tierra Adentro" where cultural activities are carried out and also the promotion of reading with the adaptation of a library. According to data from the Government of Antioquia, the population does not have an Education Park.

Media & Communications

The existence of two radio stations and the coverage of one station in the municipality of Remedios are registered in the municipality. From Segovia, Colombia Stereo, the National Army's radio station, and Segovia Stereo, a privately-owned station, broadcast from Segovia. The largest coverage, mainly

in rural areas, is provided by the privately-owned station Norwest Stereo. No data are available on the existence of local television channels or written media.

Road infrastructure and transport

From the city of Medellín, the route is along the so-called Northeast main road that crosses the municipalities of Bello, Barbosa, Porcesito, Cisneros, Yolombó, Yalí, Vegachí, the townships of El Tigre de Vegachí and Santa Isabel and Otú in the municipality of Remedios, these through a paved road, finally take the road that connects the town of La Cruzada with Fraguas, the latter unpaved road. (Illustration 4.3 22).

The current conditions of the road are optimal because it was significantly improved with asphalt and concrete. Thus, the duration of the journey was reduced from 8 to 10 hours at the time when this road was uncovered to a maximum of 4 hours at present.

Another route that allows access to the municipality is the one that leads to Cisneros, San José del Nus, Maceo, Yalí, Vegachí, Santa Isabel, Otú, Remedios, La Cruzada and Segovia. The transport service is provided by the company's Fleet Northeast and Transport Segovia.

Illustration 4.3-22. La Cruzada-Fraguas, Laureles sector
Source: INGEX, 2015

The tracks between the urban headland and the sidewalks are divided into two main axes. The northeast leads to the Canaveral Trail and distributes population corresponding to the jurisdiction of Remedios and Segovia. In addition, there are trails and horseshoe trails. The north-west axis connects the urban headland with the sidewalks of this area through the road that goes to the

municipality of Zaragoza. The urban roads remain in an acceptable state, with the characteristic that there are sections with high slopes due to the topography and that the settlement that gave rise to the urban headland is located mainly on the top of hills that extend in different directions.
There is an airport located in the municipality of Remedios, Otú, which communicates directly from the Olaya Herrera airport of Medellín, with duration of approximately 35 minutes of flight time, with the novelty that commercial flights to this municipality were cancelled. To date, the flights to this terminal are private and are operated by the security forces with logistics or explosives to supply the formal mining operations.

Nucleated centers of influence

Fraguas is the only village in the municipality and town with the greatest influence. In addition, the subject matter of this EIA is in the IIA of the project. It is a linear settlement on the road that connects the municipalities of Segovia and Zaragoza. Its main characteristics are its elongated shape on the road axis and its small transversal streets that in turn give way to the different paths of the surroundings.

Regional summary of services

Basic services are generally available and covered for IIAs. One of the critical aspects to know about the headwaters and population center of Fraguas is the scarce sewerage coverage and the way in which this waste is released to water sources without any treatment or intervention.
No drinking water is available for any inhabitant. This is an equally critical situation given that, as already noted, access to drinking water is a right that citizens have.
Citizens also have the right to adequate spaces for leisure and recreation, as well as mobility. Public space is scarce in the IIA and scarce is exacerbated by the invasion of areas by local trade and the lack of control over construction techniques. For example, the platforms or sidewalks have not been designed with a criterion of continuity in mind, but rather interrupt the free movement of people.
Mercury, cyanide and waste pollution is another factor that should be assessed by the authorities in terms of the risks to public health of IIA inhabitants.
The lack of planning and control of gold mining, processing and trading has resulted in a high degradation of the landscape.
Among the tasks of gathering information, in addition to the above, the scarcity of cultural and leisure spaces and sites that facilitate training and learning processes for citizens stands out.

4.3.2.2.2 Area of direct influence AID

Population density is low, and settlements are scattered rurally. The distances between the houses on the sidewalk are between 1.5 and 3 kilometers between. By way of illustration, the distance in a straight line between the operating area and the nearest house is approximately 2 kilometers.

Housing

The following is an analysis of the aspect related to the dwelling for the DAIs and highlights the main characteristics that make up the relationship between people and the environment in terms of their place of residence. Therefore, tenure, types, materials, water and aqueduct, sanitary services, energy used, and waste disposal will be considered.

Tenure of the dwelling indicates the mechanisms, formal or not, in which the property is sustained, the documents with which the property is formalized and the degree or level of formality and legality of the same.

Table 4.3-37. Form of tenancy of the AID dwelling.

Tenure	El Pescado	Cuturú Abajo	Laureles
In the process of certification	11	29	14
With title	1	8	4
Possession	6	12	0
Others [19]	1	29	11

Source: INGEX, 2015.

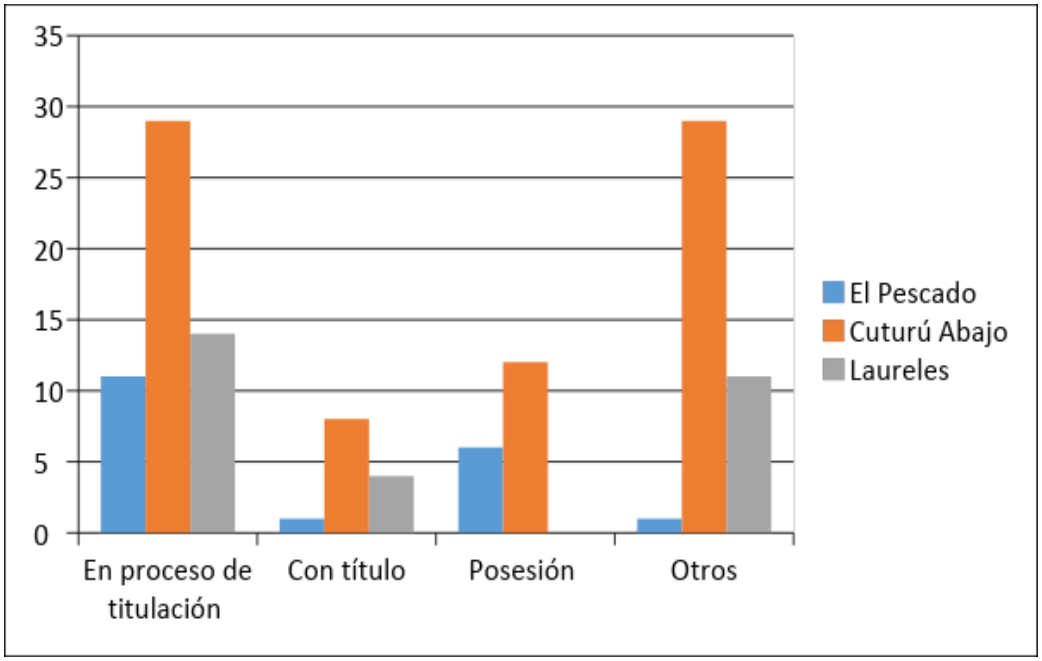

Illustration 4.3-23. Typology

[19] One form of tenancy is that the person inhabits the property because he or she is a worker of the owner or possessor of the property, or because he or she is on loan.

The type of housing for all AID trails is of the house type. Records from the field survey indicate that peasant houses predominate, with a distribution between the room and kitchen areas, in addition to the dining areas, which are generally the exterior corridors. Similarly, it should be noted that all the DAI settlements are scattered rural settlements and there are no concentrations of housing or population centers.

Of the total number of dwellings in El Pescado, the distribution by number of rooms is recorded, as shown in Table 4.3 38 below.

Table 4.3-38. Distribution of the number of rooms per dwelling in El Pescado.

No. of rooms	No. of housing
1	1
2	11
3	3
4	4
5	

Source: INGEX, 2015.

The largest number of houses on the sidewalk has 2 rooms, which defines a relatively small size with little space for the distribution of families. The spaces in general should be distributed between the occupation of the people, the storage of inputs and equipment and even of the animals.

Materials

As can be seen in Illustration 4.3-24, Illustration 4.3-25, Illustration 4.3-26, Illustration 4.3-27, Illustration 4.3-28 and Table 4.3-39, for IDAs, wood walls predominate, which indicates the availability and use of wood in the environment and is also a resource that lowers construction costs. Only one house in Laureles is built with block walls. The predominant ceilings are made of zinc foil, which has a high resistance to wear and tear and is easy to transport and install. It is also a low cost and traditional material in this type of construction in the area.

The material of the floors is distributed between cement and earth. There is a smaller portion of dirt floors in Laureles and in Cuturú Abajo the distribution is even, as in El Pescado.

Table 4.3-39. Type of materials used in walls, ceiling and floors of the AID.

Materials	El Pescado	Cuturú Abajo	Laureles
Wooden walls	19	44	21
Block walls	0	3	8
Zinc roof	15	42	28
Plastic roof	4	7	1
Cement floor	9	30	23
Ground floor	10	17	6

Source: INGEX, 2015.

Illustration 4.3-24. Composite dwelling roof waste material, AIDL.
Source INGEX, 2015

Illustration 4.3-25. Composite housing roof material zinc roof tile and wooden walls, AIDL.
Source INGEX, 2015

Illustration 4.3-26. Housing with cement floors.
Source INGEX, 2015

Illustration 4.3-27. Dwelling with dirt floors.
Source INGEX, 2015

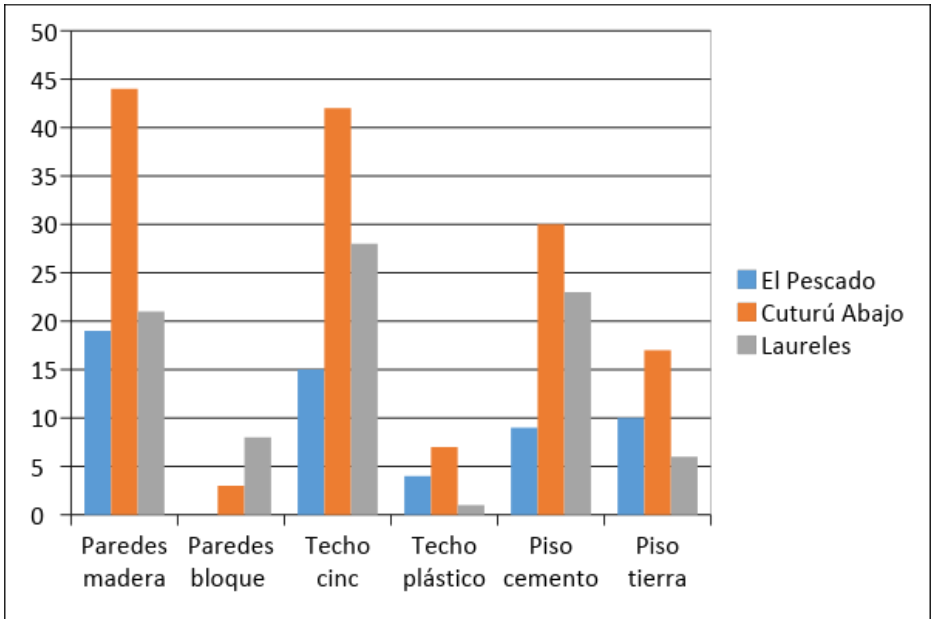

Illustration 4.3-28. Predominant material in DAI dwellings.
Source: INGEX; 2015

Energy and fuel

Electricity coverage is universal in the DAI (Illustration 4.3-29), according to data collected in the field and the implementation of the Illuminated Antioquia program. On the other hand, the data collected in the field allow us to evaluate the type of energy used to process food in the AID, since it defines the use of resources as wood, not only as construction materials, but also as fuel for the preparation of food in homes.

Illustration 4.3-29. Dwelling with AIDL AIDP household electricity connection.
Source INGEX, 2015

According to Table 4.3-40 Illustration 4.3-30 and Illustration 4.3-32, the predominant energy source for household food preparation is propane gas. Among other reasons, because it offers greater comfort and reduces cooking times. Second in use is firewood (Illustration 4.3-31).

Table 4.3-40. Energy sources for food preparation in the DAI.

Cooking fuel	El Pescado	Cuturú Abajo	Laureles
Firewood	8	42	10
Gas	10	118	85
Electrical energy	13	0	0

Source: Ingex, 2015.

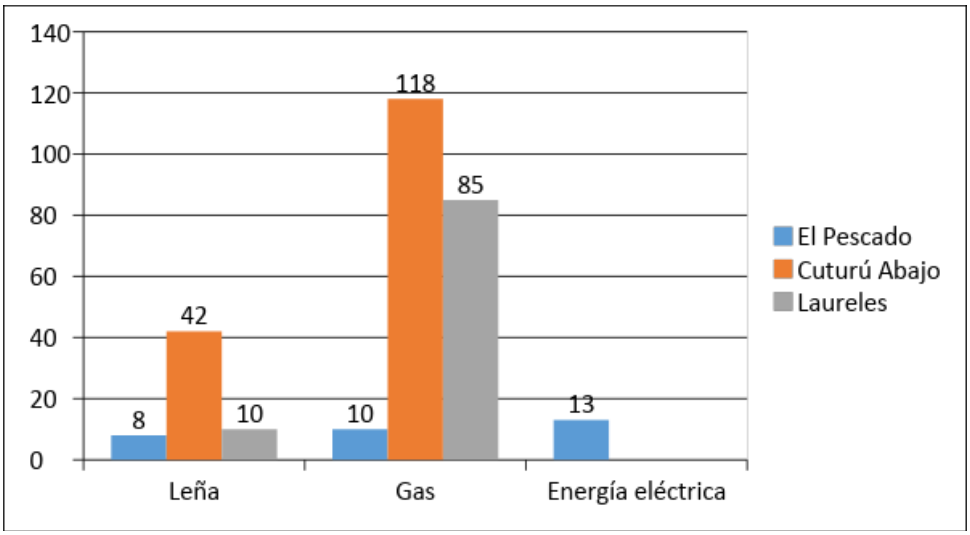

Illustration 4.3-30. Energy sources for food preparation.
Source: INGEX, 2015

Illustration 4.3-31. Fuel wood in the preparation of food. AIDL AIDP.
Source INGEX, 2015

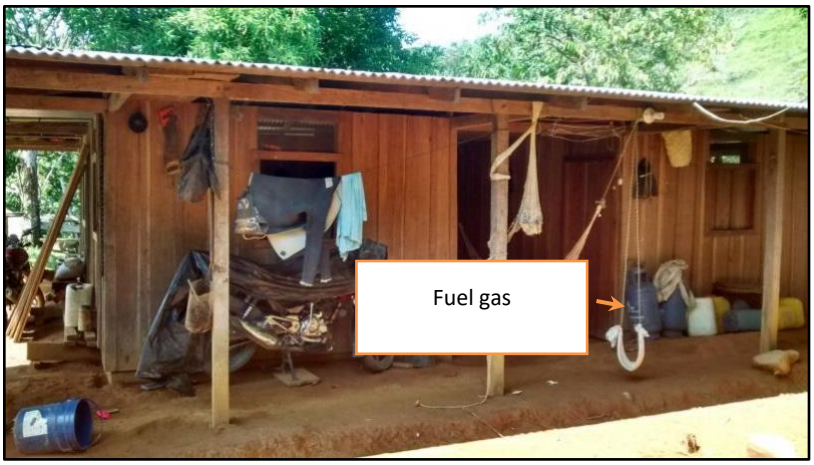

Illustration 4.3-32. Fuel gas in food preparation. AIDL AIDP.
Source INGEX, 2016

It should be noted that the use of energy and combustion sources other than firewood contributes to greater conservation of forests and less pressure on resources. In addition, the health effects of wood combustion residues are known, and the reduced use of this material is considered a positive aspect.

Drinking water and aqueduct

As already noted, no one in Segovia has access to drinking water consumption by the State's water supply services, which means that it is necessary to boil the water for food preparation or the purchase of treated water in bags or bottles at the market. This represents increased energy consumption and additional resources for DAI citizens.

As can be seen in Table 4.3-41, the largest number of dwellings are supplied with water for the consumption of water for births on the premises themselves and constitute one of the greatest advantages for the inhabitants, given that they do not represent costs for the service, except for the maintenance carried out on the private distribution networks.

Table 4.3-41. Place of collection of water for consumption in DAI households.

Place of collection of water for consumption	El Pescado	Cuturú Abajo	Laureles
Birth	10	37	13
Pipe	6	0	4
River	2	0	0
Ravine	1	3	4

Source: Ingex, 2015.

Illustration 4.3-33. Ways of capturing water for housing in the AIDL AIDP.
Source INGEX, 2015

As noted in Illustration 4.3-34, for the three sidewalks of the IDA, the sources of water origin in all cases correspond to water that is born or circulates on the same land where people live. With regard to births, it is understood that there is no possibility of local sources of pollution and for dwellings supplied with pipes, streams and rivers, it is necessary to consider possible sources of pollution. It remains to be defined alternatives for water purification because of the impact it has on human health and because it saves resources and time for people.

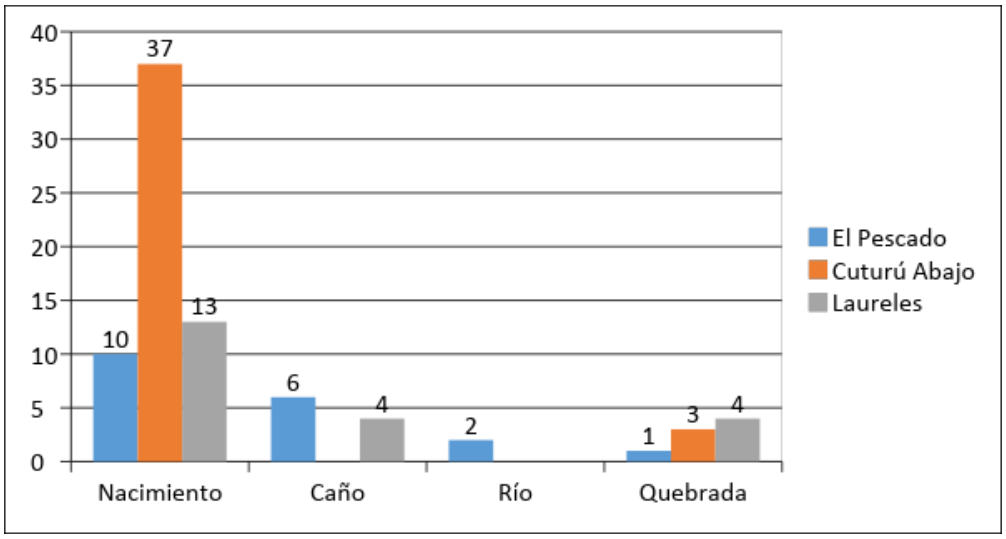

Illustration 4.3-34. Place of collection of water for consumption in the AID.
Source: INGEX, 2015

Health services

The disposal of excrement is a recent issue for health and environmental authorities, as the indiscriminate disposal of this waste generates harmful effects not only locally but also downstream. The DAI region is home to a large number of people who engage in barge activities submerged in the waters of the ravines and exposed to pollution.

Table 4.3-42. Type of sanitary service, waste and sewage disposal of the AID.

Type of health service	El Pescado	Cuturú Abajo	Laureles
Peasant rate without septic tank	6	38	19
Latrine	0	2	5
In the open field	12	9	6
Sewage or wastewater	El Pescado	Cuturú Abajo	Laureles
Direct dumping into the river	5	1	6
Direct dumping into streams	9	24	11
Direct dumping to lagoon	1	4	7
Direct pouring to pipe	4	9	0

Source: Ingex, 2015.

Additionally, it is known that many people consume untreated water. It should also be taken into account that livestock farms are supplied with drinking water for animals from these sources, hence the importance of analyzing this area.

Illustration 4.3-35. External part of the sanitary units in the AIDL AIDP.
Source INGEX, 2015

Illustration 4.3-36. Internal part of the sanitary units of the dwellings, in the AIDL AIDP**.**
Source INGEX, 2015

Illustration 4.3-37. Dumping of wastewater from homes in AIDL AIDP.
Source INGEX, 2015

Solid waste

The largest proportion of solid waste is burned or disposed of in open fields (Table 4.3 43, Illustration 4.3 38). The direct consequences are increased air pollution, risk of burns and contamination of the soil with waste. There is also a risk of forest fires.

The soil resource represents the scenario most affected by the inadequate management of the solid waste generated. Its contamination occurs through different elements such as leachate, which filters through the soil, affecting its productivity and deteriorating the micro fauna that inhabits it (worms, bacteria, fungi, mosses, among others.), which leads to the loss of soil productivity, thus contributing to increase the process of sterilization and erosion. The constant presence of rubbish in the soil prevents the recovery of the flora of the affected area and increases the presence of pests and animals that cause diseases such as rats, cockroaches, flies and mosquitoes.

Table 4.3-43. Solid waste disposal at the AID.

Garbage disposal	El Pescado	Cuturú Abajo	Laureles
In the open field	2	4	14
It burns	17	45	22

Source: INGEX, 2015.

Illustration 4.3-38. Final disposal of solid waste AIDL AIDP.
Source INGEX.2015

Access to media, recreation and mobility

This is followed by an account of the access of DAI inhabitants to telecommunications, means of transport, public infrastructure and services. It should be noted that the low population density of the villages of El Pescado, Cuturú Abajo and Laureles makes it less viable for the State to provide services, and there are also transport and connectivity facilities between these and the urban capital. However, the available offer is presented below.

Telecommunications

As noted for IIAs, in the case of DIAs, the population generally has partial mobile phone coverage from recognized operators, which has contributed to improved communications. There is no record of any fixed telephony service installed in the AID or Internet (Table 4.3 44). Access to the media is presented below as a way of defining through which media the people of DAI connect with the outside world and report on events.

Table 4.3-44. Media with access in DAI.

Access Media	El Pescado	Cuturú Abajo	Laureles
Radio and TV	12	10	11
Radio	5	3	3
Cellular	2	2	7

Access Media	El Pescado	Cuturú Abajo	Laureles
Written press	0	0	0
No access any media	0	1	0
Others	0	0	0

Source: INGEX, 2015.

The largest number of people reported having access to the media, such as radio and television. In fact, due to the predominant activities in housing at the service of production and daily occupations, one of the media with the greatest preference and accessibility is radio. Recently, and with electrification coverage in rural areas, there has been a significant increase in access to television. The cellular signal in the area is efficient, except for some sectors that present service deficiencies in some specific operators.

Means of transport

The most commonly used means of transport in IDAs are horses and mules (Illustration 4.3-39), motorcycles and, to a lesser extent, motor vehicles. The journey time between the operating sites varies according to the state of the access road and the means of transport used.

Illustration 4.3-39. Means of transport by mule in the AIDL AIDP.
Source INGEX, 2015

Community infrastructure and public space

The only places where sports activities can take place are the rudimentary football pitches, where people from the surrounding areas can be found. For the other sidewalks of the AID there is no space for the practice of sports. There is no Rural Education Centre (CER) in the village of El Pescado. On the other hand, in the Cuturú Abajo and Laureles sidewalks if they exist (Illustration 4.3-40). For community meetings, the RECs' headquarters are used, and it is the only community infrastructure available.

Health infrastructure

In the town of Fraguas there is a health center that offers basic services to the surrounding population. For the AID trails, access to these services is provided in the urban capital of Segovia, where there are two first-rate hospitals that cover the demand for the services. The population also goes to the municipality of Remedios in search of health services**.**

Educational infrastructure

Attendance at schools is very limited, as the child population is small. The nearest ones are the schools of Cuturú Abajo and Cuturú Medio (Illustration 4.3-41). For El Pescado, according to local data, the community is in the process of managing a lot for the construction of a school. In the village of Laureles there is a school called Fray Martín de Porras. However, the educational models offer little variety of opportunities to students, they do not guarantee total coverage, being subject to government hiring policies, putting at risk the permanence of students in the educational system, and it is necessary to think about strategies to merge educational centers and improve their infrastructure to guarantee the increase of educational coverage.

Illustration 4.3-40. CER. Rural educational center Cuturú Medio
Source INGEX, 2015

Illustration 4.3-41 Classroom in the village of Cuturú Medio.
Source INGEX, 2015

Illustration 4.3-42. School restaurant in the village of Laureles.
Source INGEX, 2015.

4.3.2.3 ECONOMIC DIMENSION

The northeast is the second largest gold-producing sub-region in Antioquia (after the Lower Cauca); however, this activity is characterized by its low value added due to its high level of extraction and informality. In the agricultural sector, livestock and cocoa production stand out, which to date has been booming in the region due to the impetus and promotion it has received from State entities and processing companies seeking to expand the national supply.

Among the temporary settlers are the peasants and occasional miners, dedicated to agriculture and to the exploitation of gold as barge-makers in times of mining boom, they come from the same areas as the traditional peasants and the gold prospectors arrive season after season with this sole objective. Within this group there are differences between alluvial and vein miners. The former are semi-nomadic settlers, with no roots and little sense of belonging, the latter have formed established settlements. Both come mainly from the Lower Cauca sub region and the departments of Córdoba Sucre and Bolívar.

The industrial sector is very incipient and almost non-existent in the region. The tertiary sector is dominated by trade followed by the provision of services in restaurants, bars, discotheques and hotels, activities that take place in the municipal capitals. Commercial activity stands out for its dynamism in the municipalities of Segovia, Anorí and Amalfi.

4.3.2.3.1 Area of indirect influence IIA

The historian Ann Twinam[20], defines the way in which during the first decades of the XIX century, they were characterized by the scarce arrival of foreign investment to Antioquia, which provoked a certain conservation of investments in the hands of Antioquia businessmen. It was at this time that the technological advances that marked the modernization of mining in the region were introduced.

The North American historian Roger Brew[21], in exposing and analyzing the factors that promoted and made the industrialization of Medellín viable, affirms that this tendency or the so-called entrepreneurial spirit, arose from the mining activity and the conditions in which this activity evolved during the 19th century. It is not possible to ignore, according to the author, the strength and dynamics that gold mining gave to this process of growth and consolidation of the economy.

[20] Twinam, Ann. Miners, Traders and Labradors: The Roots of Entrepreneurship in Antioquia. 1763 – 1810. Antioquia Foundation for Social Studies. Medellin. 1982.
[21] BREW, Roger. The Economic Development of Antioquia from independence to 1920. Bogotá. Bank of the Republic. 1977.

Gabriel Poveda Ramos[22] in Minas and miners of Antioquia, indicates that by the end of the 19th century, most of the mines were of Antioquia's; but the main mines in the Northeast were of foreigners, such as the Frontino and Bolivia Company, in Remedios; the Colombian Corporation, in Anorí; the French Company of Segovia; and the French Company of Nechí and its tributaries, in the town of Zaragoza.

For much of the twentieth century, mining operations continued to be an important factor in business growth and their contribution to the economy was constant, without the sub region having undergone a process of economic consolidation and industrialization. As INER states, "The economy of Northeastern Antioquia depends on the behavior of its primary sector. This is dominated by subsistence farming and sugarcane cultivation; livestock activities characterized by traditional, extensive livestock farming, low levels of technological incorporation and inadequate soil exploitation; mining activity historically recognized for its gold production, in addition to forestry activities. The secondary sector is almost non-existent, and the tertiary sector has in trade the most representative item, although it is subordinated to the dynamics of primary activities[23].

The following are the results of the secondary and primary data collection that show the main features of the regional and local economy for the IAs of the El Pescado project.

Ownership structure

Land is a fundamental input for income generation and the development of the life project for farmers. The Gini coefficient[24], which defines the concentration of land in the rural area of Segovia is 0.81, which indicates a high level of concentration, as can be corroborated if land tenure is associated with the predominance of livestock and forestry activities, where timber exploitation is highlighted. It is common for small rural landowners to have no title deeds or their land is too small to generate a steady income, in addition to the restrictions generated by the Forest Reserve Zone[25]. In relation to the Gini index, the INER is proposed[26].

Antioquia has an unequal distribution of land (0.8330) very close to the region's 0.8297 index. This situation of inequity is expressed in distribution data such as the following: the plots of land between 0-3 ha represent 1.77% of the total regional area, a total of 15,072 ha (out of 851,520 ha that make up the rural area) and 47.16% of the population live in them. The plots of land between 3-30 ha total

[22] POVEDA Ramos, Gabriel. Mines and Miners of Antioquia. Medellin. Bank of the Republic. 1981
[23] INER. Northeast. Regional development: a common university-region task. Medellin. University of Antioquia. 2007. p. 63.
[24] It measures inequality in the distribution of the population's income; it assumes that if the income were distributed in a completely equal manner, each person in the population would have the same share of the income, the index varies between 0 and 1, the greater the value, the greater the inequality. The Coefficient of land concentration in the rural area of Segovia according to departmental planning is 0.81.
[25] Forest Reserve Zone of the Magdalena River, established by Law 2 or "On Forest Economics of the Nation and Conservation of Renewable Natural Resources" (National Congress of the Republic of Colombia, 1959).
[26] Ibid. Pages 75 y 76.

105,418 ha, occupy 12.38% of the territory and belong to 35.36% of the population. The plots of land between 30-100 ha represent 12.38% of the area and are home to 12.8% of the population. Most of the territory, 43.38% (about 369,563 ha), is occupied by land between 100-500 ha owned by 4.14% of the regional population. Farms larger than 500 ha occupy 16.9% of the territory and are owned by 0.53% of the population.

In addition to distribution, land tenure is another significant problem, especially in the municipalities of Segovia and Remedios, since 80% of Segovia's territory and 60% of Remedios are forest reserves, a condition that has prevented the titling of land and has encouraged the division of property and encouraged the invasion of prohibited areas. In order to overcome this situation, combined efforts have been made (local authorities, social organizations and some entities with a presence in the region) to try to resolve a situation of illegality and invasion of reserve and protection zones with the proposal to establish peasant reserves, recognizing that it makes no sense to preserve the name of forest reserve when a large part of it is completely intervened in.

This condition of restriction arising from the declaration of the Forest Reserve Areas (ARF) implies that a large part of the territory is in a situation of conflict because any procedure, support, pledge or transfer of ownership does not have supports that give legal validity to the traditional properties. Another situation that merits attention is the high concentration of ownership, as described by the fact that 47 per cent of the population resides in 1.7 per cent of the territory of the sub region and that 60 percent of the territory is made up of plots of land larger than 100 hectares.

The above data are intended to be a reference for the behavior of the rural property structure. For IIAs, the difficulty is likely to lie more in ownership than in concentration or access to ownership. As already noted, in the urban capital of Segovia a significant portion of the properties are located in areas of high avoidable and unavoidable risk. This condition also defines a restriction for the processes of titling the land.

Technological processes

The main economic sectors in the municipalities that make up the project's IIA are mining and agriculture. Next, the different variables required are analyzed in order to establish the performance of the economy in relation to the production processes in the cases it applies.

Agricultural and livestock activities

The IIAs defined for this EIA correspond to urban areas, so that agricultural and livestock activities have an indirect influence and relationship with these areas. In the case of Fraguas and the urban capital of Segovia, its inhabitants include an undetermined number of inhabitants dedicated to agricultural and livestock activities who only use the populated centers as places of residence and

probably own land in the rural areas near the headwaters. The reason for its location is access to the services and conditions offered by the urban area.

In the case of the Northeast in general, agriculture is characterized by "an activity characteristic of the peasant economy in which the subsistence character of small farmers prevails. In addition to the fact that peasants carry out agricultural activities in small extensions of land, they must also offer their labor force to supplement family income, a strategy that does not really improve their income level since they remain in the range of people living in poverty and are also part of the low education levels. This subsistence character is related to an underdeveloped activity with low yields, judging by characteristics such as: 1) little incorporation of adequate techniques for production in poor soils that require constant investment for acceptable levels of productivity, 2) high utilization of labor with simple work that ensures the subsistence of farmers but does not generate surpluses to improve production and 3) deficient marketing of agricultural products by a precarious regional road network at secondary and tertiary levels[27].

The features and characteristics of this activity are generally repeated in rural areas, while in urban areas some surpluses are sold. Other products, such as cheese, are transported to be sold in the capital city and other neighboring municipalities, such as Remedios.

In conclusion, the activities described have an indirect relationship and impact with urban headwaters. In addition, there is a high level of imports of mass consumer products from Medellín as a result of the influence of mining activity, which is predominant as an income-generator in the IIA.

Small and medium mining

As already noted, Segovia depends directly and indirectly on mining for its economic activity. According to data from the Local Development Plan, "Auri-argentiferous mining is the main economic activity of which 95% is vein mining and 5% alluvial, 90% of the exploitation is carried out near and around the urban area"[28]. According to the aforementioned document, there are two types of mining companies. In the first place, there are those formed by small miners or informal miners. And secondly, large companies such as Zandor Capital (formerly Frontino Gold Mines Ltd.). Zandor is the owner with a private property registry on the subsoil of titles with an extension of 2,871 hectares, on which exploitations are carried out under different modalities.

Organized small-scale mining companies began in the 1990s (except for the 30-year-old, 134-member Association of miners el Cogote de Segovia). The reasons for this were the need and

[27] Northeast. Regional development: a common task University-Region Colombia, 2008. ISBN: 978-958-714-084-084-2. University of Antioquia. Authors: CLARA INES ARAMBURO SIEGERT, ANDREA CONTRERAS, CARLOS AUGUSTO GIRALDO.

[28] Development Plan 2004-2007. The Community is our reason for being. Municipality of Segovia.

interest in becoming legal to access the legal market for explosive material to operate mines and improve productivity.

ASOMINA (Association of Miners of the Northeast) is a second level organization that brings together several small mining organizations in Segovia and Remedios. In total, it has managed to gather up to 80 small mines in Segovia alone and its objective is to mediate in the internal conflicts between the miners and the Zandor Capital and to support the acquisition of explosives. Some of the most important associations of Segovia are ASOMARMAJITO, in a mine granted in concession by Zandor, the Association Mutual Miners el Cogote, APLABA (Miners Association), all of them located in Segovia[29]. It is estimated that in Segovia there are 27 small mines guaranteed by Zandor Capital and in the process of guaranteeing 17, in order to facilitate the purchase of explosives. It is estimated that mining in Segovia generates 6,500 direct jobs, 95% of which are located near the city center. This activity is carried out in the midst of a high degree of informality and generates the greatest impacts, such as the noise of the mills used for the benefit of the mineral, 24 hours a day, the burning of amalgams within the process of gold-mercury separation, which causes the volatilization of the last element, which is highly polluting and harmful to human health, among other effects and consequences such as those being analyzed.

Additionally, as defined by the Departmental Planning, the characteristics of mining exploitation in Segovia are[30]: 1) Poor quality, unstable and unsafe jobs for the personal integrity of workers. 2) Imbalance in the minerals market. 3) Environmental deterioration of the areas where the activity is carried out. 4) Distance between the mining community and the state. 4) Ignorance of existing legislation by miners. 5) The itinerant and the lack of identity of the mining community. 6) Abnormal situations, such as mining peaks and invasions and overlaps of small mining or subsistence areas and exploitations over areas already granted. 7) Short-term remuneration for other activities. 8) Diversity of actors associated with the different stages of mining activity (extraction, profit and commercialization) 9) Social and public order conflicts. 10) Ignorance of non-renewable natural resources by the state. 11. The location of the holdings themselves, among others.

Mining activity in IIAs is characterized by difficulties and contrasts with backwardness and poverty at all levels. However, the problem goes beyond the lack of resources and leads us to think of problems originated in the attitude and culture of people or leaders. As an example, Table 4.3.45 shows a record of the royalties paid to the municipality between 2004 and 2014. In 10 years, the municipality received resources in the order of $29 billion pesos for royalties, according to data from the UPME, which places it among the municipalities that receive more resources in the department and the country for this concept.

[29] INER. Northeast. Regional development: a common university-region task. Medellin. University of Antioquia. 2007. p. 70.

[30] Government of Antioquia. Management of Integral Strategic Planning. Profile Northeast Subregion of Antioquia. Medellin. 2002. Page. 24.

Table 4.3-45. Gold royalties (pesos) 2004 - 2014.

Years	Turned value (in pesos)
2004	744.621.749
2005	659.568.837
2006	1.398.229.226
2007	3.727.031.857
2008	5.922.811.107
2009	4.123.432.895
2010	3.295.733.655
2011	713.646.891
2012	8.445.491.257
2013	Without dates
2014	593.480.971
Total turns	29.624.048.445

Source: UPME website. http://www.anm.gov.co/regalias-contraprestaciones-economicas

For the town of Fraguas, it was identified that the majority of the population is engaged in barricade work and goes to informal farms (Illustration 4.3 43, Illustration 4.3 44 and Illustration 4.3 45), which are carried out mainly in the alluvial valleys of the Pocuné River. There is no record of how many people are engaged in this activity or whether there are any small miners' organizations.

This shows the influence of mining activity in both Segovia and Fraguas, territories crossed by tradition and culture derived from the history of settlement, exploitation and territorial conflicts, where alternatives to difficulties present challenges for the State and the competent bodies that must guarantee the rights of people, companies and the environment, taking into account their complexity and criticality.

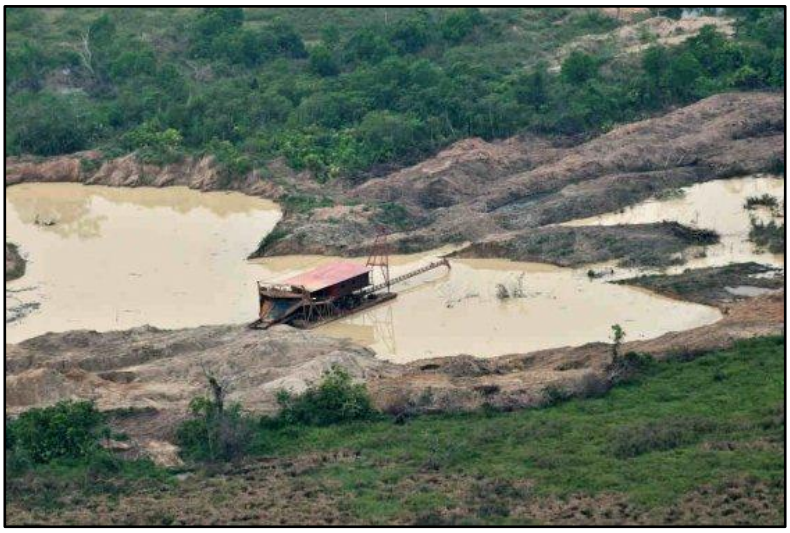

Illustration 4.3-43. Image of alluvial mining in the area

Source:https://www.google.com.co/search?q=Imagenes+de+actividades+agropecuarias+en+machuca+Segovia+Antioquia&safe

Illustration 4.3-44. Image of barricade activities
Source:https://www.google.com.co/search?q=imagenes+de+actividades+de+mineria+en+Segovia+Antioquia&safe=active&rlz

Illustration 4.3-45. Image of tunnel or sinkhole mining
Source:https://www.google.com.co/search?q=imagenes+de+actividades+de+mineria+en+Segovia+Antioquia&safe

Trade and services

The trade depends on the mining activity and all products from food to household appliances are imported from Medellín, characterized by high prices due to the distance and cost of freight, in addition to the intermediation that makes the products more expensive. In the urban area, there are all kinds of products for consumption on offer. Associated with the mining tradition, there are plenty of canteens, brothels, lottery, chance and raffle sales, mini markets, hardware stores, hotels and typical establishments of a mining production center like Segovia. This sector represents the second largest source of employment after the primary sector.

The tertiary sector is less important given that the industrial sector is very incipient and almost non-existent in the region. According to Departmental Planning, 4.5% of the working-age population is employed in this sector, mainly in the manufacturing and construction industries. In most municipalities, processing activities are limited to bakeries, locksmiths and jewelers. "There are small garment companies like the two in Segovia that group together fourteen women without adequate training to face the competition, without credit to finance production, with low income and low community support to buy locally produced products because they opt for brands from the capital[31].

In the light of the above, it is again concluded that the primary sector is the most important sector in the IIA and the other sectors are reduced to meeting local demands, in the best cases, while no

[31] Basic plan of territorial planning of Segovia Municipality 2003, p.163

processing and value-added initiatives are observed for locally produced products or for the processing of imported raw materials.

Timber marketing

The Northeast contains large reserves of natural forest that is being exploited indiscriminately for local consumption in mining, construction and marketing to urban centers (Illustration 4.3-46). For the Northeast, forests occupy 33.48% (286,053 hectares) of its 854,400 hectares. The municipalities with the largest forest areas are Remedios (84,958 hectares) and Segovia (61,673 hectares), which are also the places with the greatest forest exploitation. It is claimed that logging is impossible to quantify because of its predominantly illegal nature. In this regard, it is stated that controls on entities such as CORANTIOQUIA are generally circumvented and illegal timber leaving the sub-region is frequent and difficult to control. Exploitation without logging licenses is predominant and the formalities for legalizing logging are cumbersome for a farmer[32].

There are two models of timber exploitation: forest rental, which consists of buying the forest standing by selecting the trees to be harvested from the forest owner and the sawmill. The other model is the direct exploitation that is carried out by the owners or owners of the areas for local commercialization or use.

Some of the roads that are being improved and the planned construction of major road infrastructure[33] projects could exacerbate the pressure on forests, since the greatest difficulty to date has been the lack and precarious nature of roads for transporting material to commercial routes and capital cities. Species such as cumin, mahogany and abarco, snail, cagui, cativo, among others, are decreasing as a result of irrational exploitation.

[32] Government of Antioquia. Management of Integral Strategic Planning. Profile Northeast Subregion of Antioquia. Medellin. 2002. Page. 29.

[33] Autopistas del Nordeste SPV - Fourth Generation Highway Concession, 4G, North Connection

Illustration 4.3-46. Transport of timber in the IIA.
Source:https://www.google.com.co/search?q=imagenes+de+las+vias+de+machuca+segovia+antioquia&espv=2&biw=1366&bih=667&tbm

Fish farming

The most widely consumed species in IIAs are Cachama and Red and Black Tilapia. Local producers are not identified and there is no data on local production or consumption, nor on the quantity of fish entering the local market from other areas. However, there has been a notable increase in fishing activity due to the decrease in the number of species used for fishing in the natural sources of the region, which have been devastated until they are almost extinct due to the contamination of rivers and tributaries by informal mining and dumping, which was mentioned above and which are supplied by the water sources around the urban areas of Segovia and Fraguas.

Tourism

Local tourism is practically non-existent due to lack of supply. There are identified people who are dedicated to offering tourist packages that include trips to the sea, coffee plantations, among others. The recreational sites frequented in the area are located in the town of Otú, in Remedios and the offer is spas, restaurants and musical entertainment.

Labor market

Table 4.3 46 shows two of the labor indicators for the municipality. It is noteworthy that for every 100 inhabitants, approximately 56 are dependent, either because they are not of working age or because they have not managed to enter the labor market.

Table 4.3-46. Labor Indicators in the municipality of Segovia.

Dependency ratio [34]	Working age population (%)[35]
0,56	74,96

Source: Government of Antioquia. Administrative Planning Department. Anuario Estadístico de Antioquia, 2014 [Electronic Resource] Medellín: Departamento Administrativo de Planeación, 2014

The working-age population is 75% (Table 4.3.46). Most likely, there will be no record of the jobs generated by mining activity because, as noted above, there is a high degree of informality. No employment data are available for the town of Fraguas.

The activities associated with trade, services and mining in the region are characterized by the large number of people employed under informal conditions. It is also the case with the jobs generated in the vicinity of Fraguas, where people are mainly employed in mining activities and associated with agriculture and livestock.

Development poles and/or enclaves

Mining and quarrying

This is probably the only activity that is of a permanent nature and counts for the regional and national figures in the IIA. Mining continues to contribute to regional GDP and at the local level is the activity with the greatest weight in economic and social variables. The following areas (roads and oil), hardly stand out for taking the municipality as a place of passage, without underestimating that the road that will cross the jurisdiction of Segovia can generate some levels of local dynamism.

[34] The dependency ratio is defined as the ratio of the number of persons under 15 plus those over 65 years of age to the number of persons between 15 and 65 years of age. It is a potential ratio because not all those who are of potential working age (between 15 and 65 years of age) do so and not all those who are under 15 and over 65 are dependents.

[35] Municipality representation of working age population: Population >=12 years / Total municipality population * 100

Road infrastructures

Road Infrastructures[36] Northeast Highways SPV - Fourth Generation Road Concession, 4G, North Connection. It will have an investment of $980 billion and a length of 145 kilometers. It includes the construction of a 490-metre-long tunnel and 96 bridges. The municipalities of Antioquia that will be affected are: Remedios, Segovia, Amalfi, Anorí, Zaragoza, Cáceres, Caucasia, El Bagre and Nechí. It also plans the construction, operation and maintenance of a new 57.8-kilometre-long road from Remedios to Zaragoza (via Segovia), the improvement, operation and maintenance of the 82.8-kilometre-long road between Zaragoza and Caucasia, and the construction, operation and maintenance of the 5.4-kilometre-long Caucasia bypass.

Oil pipelines

In relation to oil transport, Segovia and in particular Fraguas are located in the area of influence of the Oleoducto Central S.A. (Ocensa) pipeline, which manages a 790km pipeline and transports crude oil from the foothills of the plains (Cusiana-Cupiagua) to the Coveñas maritime terminal. They are also under the influence of the Oleoducto Colombia pipeline, which runs for 481 km and connects the Vasconia station with the port of Coveñas.

Commercial structure, marketing networks, production chains and their relationship in economic dynamics

Given the incipient development and prominence of non-mining productive activities in IIAs, the weight of the secondary and tertiary sectors in the local economy is considered to be lower, and virtually the entire function of meeting the demand for mining sector products, inputs and services has been configured. The commercial activities are focused on product commercialization centers such as supermarkets, stores and differential product sales. The services, on the other hand, are provided locally or, when the magnitude so warrants, are contracted outside the municipality.

There are companies that provide public services, as already mentioned, that have a presence because they legally have competition, such as Internet, telephone or electricity service providers. The other public services are mostly provided by the municipal administration directly or indirectly.

There is also a branch office of Bancolombia and Banco Agrario, but the financial services offered are abundant in local establishments.

[36] http://www.vicepresidencia.gov.co/prensa/2014/Paginas/Adjudicada-concesion-vial-de-Cuarta-Generacion-4G-que-unira-a-los-municipios-del-Norte-de-Antioquia-141017.aspx. Electronic resource. Date of consultation, February 22, 2016.

Productive enterprises in the primary, secondary and tertiary sectors.

As already mentioned, the vocation of the municipality of Segovia is oriented towards the primary sector. The characteristics of this sector at the level of the IIA are the low level of technification and the low level of incorporation of value into the productive processes and the precariousness of the labor force's skills, which are different from those of the mining sector. The only company in the primary sector that has a significant weight in the local and regional GDP is Zandor Capital, dedicated to mining exploitation. The other business initiatives do not have significant weight and, in most cases, are directly related to the agricultural sector, on a small scale and with incipient levels of investment and development.

4.3.2.3.2 Area of direct influence DAI

The DIA for the present EIA presents a subsistence economy, with high levels of precariousness, NBI and poverty, scarcity of infrastructure and in general low productivity for reasons that will be analyzed below. The term 'land' used below refers to plots or lots cultivated or owned by persons with the intention of lord and owner.

Ownership structure

For the defined trails, the structure of the property is given by the possession of small extensions of land, productive processes with low incorporation of technologies and investment in knowledge and the productive processes lack activities of transformation of products or offer of services.

Land tenure

The form of tenure of housing for DAI had already been described. It should be noted that according to the information gathered in the field, all dwellings are associated with a plot of land. In accordance with the previous consideration, the table again presents the forms of tenure, for this case, of the properties and the legal status in which they are located (Table 4.3-37 and Illustration 4.3 47).

Table 4.3-47. Form of tenancy of the AID dwelling.

Tenure	El Pescado	Cuturú Abajo	Laureles
In the process of certification	11	29	14
With title	1	8	4
Possession	6	12	0

Tenure	El Pescado	Cuturú Abajo	Laureles
Others[37]	1	29	11

Source: INGEX, 2015.

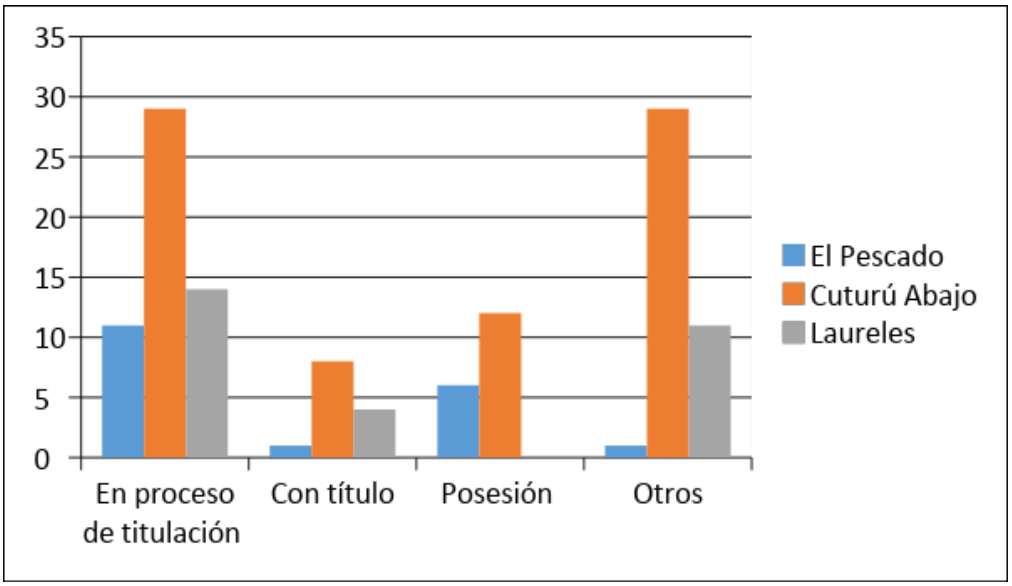

Illustration 4.3-47. Ownership of land in the DIA.

Production and technological processes

Table 4.3.48 shows the productive activities identified on the DAI premises.

Table 4.3-48. Productive activities identified on the DAI premises.

Agricultural activity	El Pescado	Cuturú Abajo	Laureles
Agricultural	17	40	6
Livestock	14	10	7
Poultry	0	0	1
Fish farming	1	0	1
Extractive activities			
Occasional artisanal mining	2	4	3
Timber extraction	2	3	0
None	15	11	12
Marketing of foodstuffs			

[37] One form of tenancy is that the person inhabits the property because he or she is a worker of the owner or possessor of the property, or because he or she is on loan.

Agricultural activity	El Pescado	Cuturú Abajo	Laureles
Yes	1	0	2
No	18	14	13
Predominant crops			
Yucca	17	16	10
Banana	16	9	15
Maize	9	4	12
Rice	10	0	10
Pineapple	5	0	0
Cocoa	1	0	3
Cider	1	0	0
No crops	2	0	0
Animal species			
Goats	0	0	0
Sheep	0	1	0
Pigs	2	39	5
Equines	17	47	11
Bovine animals	14	47	6
No animals	2	0	0
Number of vehicles			
Goats	0	0	0
Sheep	0	4	0
Pigs	33	65	32
Equines	177	215	47
Bovine animals	1.708	1.711	844
Grasses for fattening or cutting			
Panamanian	7	19	7
Brachiaria	16	26	7
King Grass (cut)	1	0	0
Fodder crop (cut)	1	0	0
Pesticides used			
Tordon	10	3	0
Panzer	4	6	1
Metsulfuron	6	2	1
Encourages	6	13	1
Thunderer	2	2	3
Losrban	1	2	3

Source: INGEX, 2015

Labor market

The conditions of employment of DAI are informal and unstable. Labor contracts for farm activities are verbal and generally include a daily payment of no more than $30,000/day, which may be less, depending on the season and labor supply.

In general, the activities for which the population is employed on the farms are for cleaning up pastures, maintaining and constructing fences and pens, repairing roads, housing and infrastructure, clearing or felling forests and for support in planting crops, muleteer, milking, handling livestock and construction.

Table 4.3.49 shows the occupation data for the IDA population, according to the socioeconomic characterization data.

Table 4.3-49. Occupations in the DAI.

Occupation	El Pescado	Cuturú Abajo	Laureles
Employee	8	10	9
Homemaker/Children at Home	16	56	37
Farmer	6	4	3
Day laborer	0	3	3
Student	5	32	24
Stockbreeder	0	1	0
Independent	9	53	15
Other	0	0	6

The above table refers to the current occupation that the DAI people reported having at the time of the survey. It does not apply to all people on the sidewalks, but to those who responded to the survey and for whom information was provided.
Source: INGEX, 2015.

Commercial structure, marketing networks, production chains and their relationship in economic dynamics

The commercial structure refers to the ways in which a community can be organized, and the conditions of the community itself, the marketing of primary and secondary sector products. Some of the products referred to for DIA are marketed and others are for consumption. However, no infrastructure exists to generate economies of scale for producers.

The productive activities of the DAI premises are basic in nature, without any degree of specialization. No production of processed or processed goods or products for marketing was recorded.

The main productive activities carried out on the plots of land are described and analyzed below, highlighting those of greater recurrence and significance for the livelihood of the inhabitants and which sometimes generate marketable surpluses.

Productive enterprises in the primary, secondary and tertiary sectors.

Primary sector

For the AIDP and AIDL, the Laureles Rice Growers Association is registered, which groups 25 families from the Laureles and Cuturú Bajo villages, including the area known as Cuturú Medio and El Pescado, which operates with a small threshing plant and a rental space since 2012 project led by the town Laureles and has had the accompaniment of institutions such as the Municipal Mayor's Office and the Oil Pipelines Foundation of Colombia. The production is intended for the local consumption of the farms. They are characterized by the fact that they are productive units of the primary sector without any technical processes, without including processing activities (the only one recorded was the transformation of milk into cheese on a consumption scale or for marketing small quantities). Sporadic labor is required for maintenance of the pipeline, roads or for temporary services with mining exploration companies.

Secondary sector

It is made up of companies, industries, and entities that are in charge of transforming the raw materials of the primary sector to turn them into elaborated products, in this one are related all those activities that are related to the industry. No such companies are registered for DIA.

Tertiary sector

This sector includes economic activities that do not produce material goods directly, but offer services associated with the needs and preferences of the population. Among others, they are activities such as commerce, transport, communications, hospitality, finance. No such companies are registered for DIA. The services provided are muleteer for the transport of sawn wood and the sale of some utensils and soft drinks in sidewalk shops.

Census and characterization of the population whose economic base depends on the project's area of influence

The population that depends economically on the area of influence was characterized in Table 4.3 49, where emphasis was placed on the different activities in which the inhabitants of the AID are engaged. The proportion in which people engage in the recorded activities is shown in Illustration

4.3-48 below. Illustration 4.3-49 to Illustration 4.3-54 show the economic activities developed in the area.

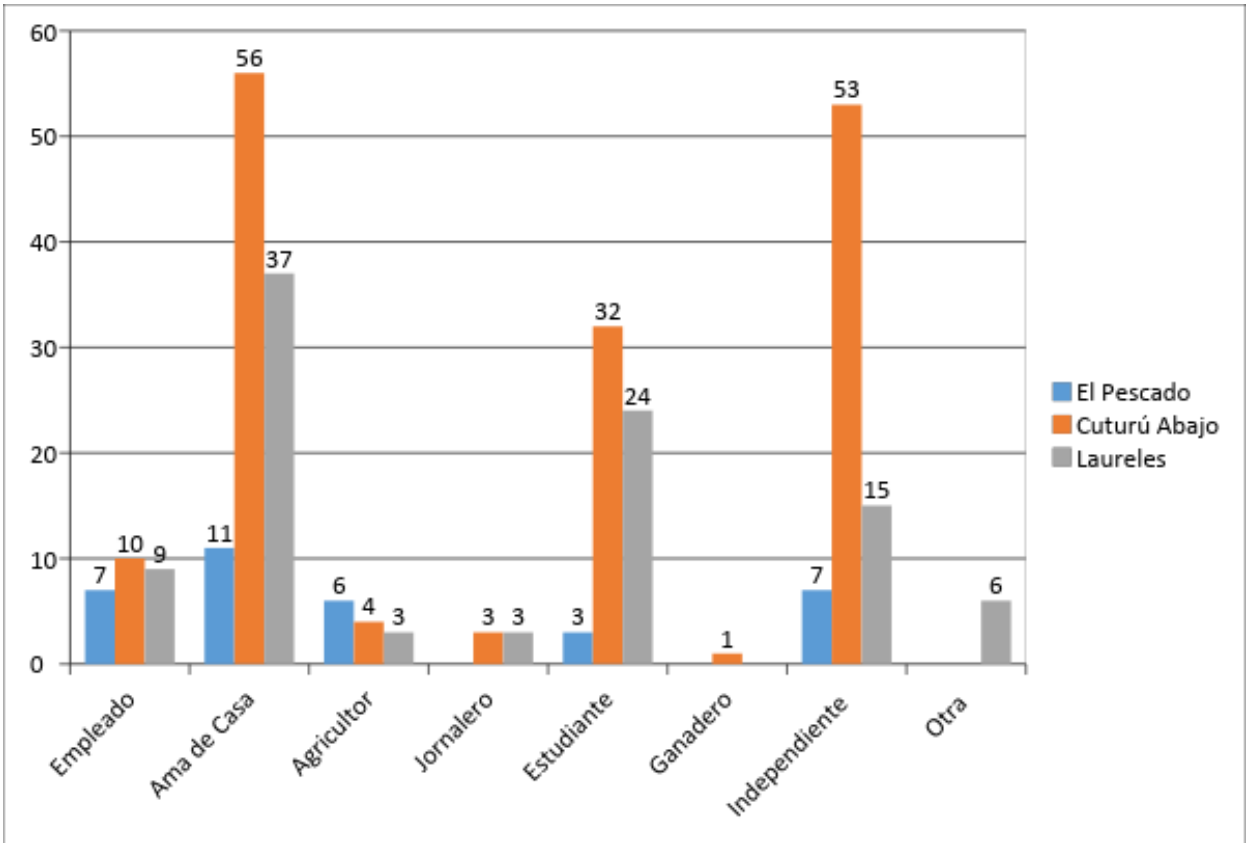

Illustration 4.3-48. Number of people per occupation in DAI.

Characterization of the population that depends on small and medium mining, which is in the area of direct influence of the project.

The DAI does not locate mining activities on which the population depends. Sporadic artisanal mining activities are carried out without the use of machinery. It is therefore considered that small and medium mining activities do not exist in the IDA.

Illustration 4.3-49. Mining activity (rock milling) AIDL AIDP.
Source INGEX, 2015

Illustration 4.3-50. Storage of AIDL AIDP milk.
Source INGEX, 2015

Illustration 4.3-51. Artisanal process of the transformation of milk into dairy products AIDL AIDP.
Source: INGEX Mining group. S.A.S.

Illustration 4.3-52. Cultivation of yucca, a product of the region.
Source: Ingex mining group S.A.S.

Illustration 4.3-53. Stable for livestock activities AIDP AIDL.
Source INGEX mining group S.A.S.

Illustration 4.3-54. Rice threshing machine AIDP AIDL.
Source INGEX, 2015

4.3.2.4 CULTURAL DIMENSION

The foundations of the socio-cultural system and the dynamics of the use and appropriation of natural resources are the subject matter and object of this document. The presentation criteria are economic, social, cultural, religious, political and territorial phenomena. This synthesis is carried out from a historical perspective, highlighting the main phenomena that define the personality and fingerprint of the populations of the IA for the present EIA; with this, it is hoped to associate the current reality with the historical construction of the main symbols, ways of being and thinking, behaviors, uses and customs.

4.3.2.4.1 Area of indirect influence IIA

The dynamics of occupation and the current distribution of the population in the Northeastern Antioquia sub region is determined mainly by three aspects: gold mining as the determining factor, the phenomenon of violence and armed conflict since the mid-twentieth century, and the new economic processes associated with agribusiness activities and infrastructure works, as will be analyzed later.

Non-ethnic communities

Below is presented a review of the main cultural and historical characteristics of the communities and peoples of the Northeastern Antioquia, seen in the light of the indissoluble relationships of the current configuration, behavior and traditions with the mining industry. Mining was, is and will be a dominant factor in the configuration of territory and socio-cultural dynamics.

Main historical facts

The Colony during the 16th and 17th centuries

At the beginning of the 16th century, the news of the gold wealth in Antioquia stimulated the arrival of Spaniards interested in the exploitation of the mineral. This is evidenced by the dates of the foundation of towns around rich gold deposits such as Santa Fe de Antioquia in 1541, Remedios in 1560, Yolombó in 1560, Cáceres in 1576, Zaragoza in 1581 and Guamocó in 1611.

The population of Santa Fe de Antioquia was one of the largest gold producers until 1580, when the population moved to Cáceres, Remedios and Zaragoza, a situation that favored a significant growth in gold production in Antioquia. The period between 1580 and 1630 was called the initial cycle of gold mining, in which slave labor was implemented.

Basis of the socio-cultural system and relevant cultural practices

The main behavioral traits of the population in the IIA can be seen in the manifestations and rituals practiced on an ongoing basis. The Catholic religion, for example, has played a major role in the customs and worldview of Segovians, which contrasts with the rise and proliferation of Protestant and Evangelical churches today.

Cultural organizations represent forms of association with common goals associated with the promotion, promotion and dissemination of collective practices that seek identity and cohesion. Some, such as women's associations, ethnic groups or the Community Action Boards themselves, also have a political sense and impact on other groups and state policies.

Table 4.3-50. Houses of culture, museums, libraries and churches in Segovia. 2014

Houses of culture	Museums (2)	Municipal libraries	Private libraries	Temples, churches	Broadcasters	TV Channels	Theaters
1	0	1	0	17	2	2	1

Source: Government of Antioquia. Administrative Planning Department. Statistical Yearbook of Antioquia, 2014 [Electronic Resource] Medellín: Administrative Department of Planning, 2014.

As can be seen from Table 4.3-50, the greatest proliferation of nucleation and population gathering scenarios are religious temples, of which there are 17 registered, among which are the different churches or temples of the sects that are present in the municipality. The communities of Protestant, Pentecostal, Evangelical and Catholic churches stand out.

There is a public library and a house of culture. With regard to the media, there are records of the existence of two radio stations (Colombia Stereo and Segovia Stereo) and local television channels. There is a theatre in the municipality where cultural and recreational events are held.

Architectural heritage

According to data from the Basic Territorial Planning Plan of the municipality (PBOT), the following is the municipal architectural heritage and therefore, its conservation is ordered. The PBOT, "identifies and declares as architectural, cultural and historical heritage, the following municipal goods and infrastructures, due to their great historical, cultural and architectural value, which form part of the collective memory of the citizen and the rich landscape and environment of the city: The municipality of Segovia will ensure the constant care and maintenance of these buildings, so that they can be recovered and subsequently used for collective use". The same document then states: "Due to the great deterioration of these infrastructures, a budget line item should be available in the short term exclusively for the application of drastic measures for the recovery and rehabilitation of these buildings, to be incorporated into the collective municipal equipment for their cultural and

educational use". The patrimonial elements identified and declared are: Monument to the miner (Illustration 4.3-55), the Catholic temple, the Monument to the Mother, the Cemetery of Los Gringos.

Illustration 4.3-55. Monument to the miner, located in the main park of Segovia Antioquia.
Source:https://www.google.com.co/search?q=IMAGEN+DEL+CEMENTERIO+DE+LOS+GRINGOS+EN+SEGOVIA+ANTIOQUIA&espv=2&biw=1366&bih=667&source

Traditional use of renewable natural resources and the environment

Adaptation strategies and territory

The characteristics of the AID territory are mountainous slopes and inter-Andean valleys with low hill systems (Illustration 4.3-56) and some valleys that correspond to the main rivers and streams. In the case of the IIA, the main collectors are the La Cianurada stream or river for Segovia and the Pocuné river for the case of Fraguas. The peasant communities that migrated to the region gradually adapted to the process of consolidation and the generation of distribution of land ownership.

Illustration 4.3-56. Predominant relief in the area composed of loins, anthropogenic slopes and alluvial terraces. *Source INGEX, 2015.*

Currently, these groups live in small valleys and hillsides where houses are established, whose location must guarantee the availability of water by gravity and equidistance to the different lots that make up the estates. There is a high demand for the environment and the use of resources is generally made without compensation or mitigation for the extraction of resources. Urban headwaters are used as temporary or permanent living quarters and for access to commercial or government services.

The sense of belonging to the land in general is more likely to be due to the possibility of extractive activities or intensive farming, for example with livestock farming. However, the sense of roots and belonging is relative, and the spaces are not felt as their own by the populations. The territory then continues to be under permanent construction and, as it is an area of recent colonization, the processes of generating territorial and material culture continue in process.

Another aspect that defines the provisional nature of the stay and the irrational use of resources is informality at all levels. For example, the population is dominated by the nuclear-type family, which does not necessarily originate in a conventional civil or religious marriage, but rather by the cohabitation of couples formed by men's access to the labor market and the need to leave their father's home, a phenomenon that can be observed from an early age in both men and women.

Under this form of household formation, a type of relationship with the environment is practiced that generally seeks the satisfaction of needs and, as far as possible, the commercialization of surpluses, where men are in charge of agricultural and livestock or mining activities and women cover the needs of housing in terms of food preparation and other domestic tasks.

Ownership and use of resources

One of the main features in the use and appropriation of natural resources is precariousness and irrationality. The Northeast has been considered as a scenario for the search for material wealth and from historical records, it is known that the investments of the resources generated in this territory are not invested at the local level.

Another evidence of the scarce sense of belonging and the scarce use of sustainable practices is the scarce investment in ornamentation, collective infrastructures and public space. The construction patterns reflect the individualistic character of the inhabitants of the territory, who interrupt the continuity of platforms and streets and invade the scarce public spaces available.

Other cultural references and expressions

Among the events of a nucleating nature and due to the adventurous personality of the Segovian, the fairs and festivals that are carried out due to the influence and manifestation of customs associated with the mining activity and religious influence, without corresponding properly with the promotion of sustainable or healthy practices associated with these two cultural influences, stand out. Except for Easter, the festivities and events that are organized have a festive and fun character, promoted and sponsored by the liquor companies and by local merchants and entertainment entrepreneurs.

It is common to see liquor dispensing sites or crowded miners' canteens any day of the week. The consumption of liquor corresponds to the success of the mines and one way to celebrate this is by consuming liquor. It is also common to see these people consuming, even though they keep their work clothes completely impregnated with mud and sweat.

Some events are related to the cycle of rites periodically celebrated by the Catholic Church, among which are the Holy Week, the Feast of the Virgin of Carmen (July 16), the day of San Isidro and the celebration of Christmas, all with a good load of popular manifestations of celebration that contrast with the sacred character of the festival.

The traditional festival celebrated in the municipality is associated with gold, as is hardly normal. It is called the Fiesta del Oro (Miner's Carnival) and is held at the end of July. It is characterized by a celebration with high levels of alcohol consumption and different acts of exposure of the population in the public space with extravagant costumes and the use of paint to stain the bodies of others (Illustration 4.3-57).

Illustration 4.3-57. Cultural celebration in Segovia Antioquia.
Source:https://www.google.com.co/search?q=imagenes+de+Segovia+Antioquia&biw=1366&bih=667&tbm=isch&tbo=u&source=univ&sa=X&ved

Ethnic communities

According to the application for a certificate of existence of ethnic territories in the project's area of direct influence, the Colombian Institute for Rural Development (INCODER), with file number 20151148323 citation (20152146027), 20151148324 citations (20152146025), dated June 26, 2015 and 20151178067 citations (20152179590), dated September 23, 2015. It states that: 'the polygon delimited by the coordinates corresponding to the area of direct influence of the project does not cross with territories legally titled as indigenous reservations or belonging to black communities'.

For its part, the Ministry of the Interior in its resolution certifies that in its databases "there is no register of constituted reserves, nor ethnic communities in the polygon delimited by the coordinates that correspond to the area of direct influence of the project". Under these conditions, to date no process of participation and rapprochement with this type of community has been developed or is planned within this study, in compliance with Article 330 of the Constitution, Article 7 of Law 21 of 1991, Article 76 of Law 99 of 1993, Decree 1320 of 1998, through official letter number OFI11-2840-GFP-0201.

4.3.2.4.2 Area of direct influence DAI

The basic cultural elements are presented and analyzed below in accordance with the information gathered in the field and also as a result of the interaction exercises carried out by the members of the social team in charge of this characterization. Emphasis will be placed on the elements that

constitute the cultural and behavioral profile, the levels of roots, identity, sense of belonging and the elements that also define the active traditions in the territory.

In the area studied there are two outstanding population groups that collect and group together central aspects of the idiosyncrasies of the local population. The different cultural practices, adaptive strategies, uses and appropriation of the environment and behavioral patterns are determined and defined by these two groups. These are: first, peasant farmers and ranchers and second, traditional miners.

Peasant farmers and ranchers

Among their main characteristics derived from their status as settlers and from processes of crossbreeding, families are identified from the regions from which the migratory waves originated, such as the savannas of Cordoba and Sucre and the northern and eastern regions of Antioquia and the Magdalena Valley.

The time spent and the average state of development of the territorial consolidation processes, together with the recent land occupation processes based on the slash and burn of the natural forest, have generated a diverse cultural pattern that is under construction.

The practice of mining as well as agriculture is subsistence and is practiced by peasants as a complement to their daily activities. It is also common to observe phenomena such as the lease of land or the collection of commissions or posts to allow the development of activities that generally for the AID is the exploitation of small alluvial valleys with mini dredges or hand tools and barricaded.

In view of the above, it is possible to affirm that there are marked features of identity associated with the lifestyle of the mountain farmer, inherited from the ancient settlers who occupied this territory in the early times of occupation. The prevailing values and customs define a common trait among the traditional inhabitants of DAI: simplicity, hospitality, hard work, and dedication to the family.

It was also found that among the characteristics of the inhabitants of the villages of El Pescado, Cuturú Abajo and Laureles, the valuation and appreciation of land ownership, a business mentality, are outstanding, paisa accent, religious practices associated with the Protestant, evangelical and catholic churches that have presence in the municipality, paisa diet also (rice, corn arepa, beans, mazamorra, panela, etc.), gender division of labor and organization and planning of work, among others.

Traditional miners

Mining is an activity that has defined particular features and forms of representation in the region, a situation that is projected to the AID, when small, medium and large-scale mining activities have been carried out in the vicinity (Illustration 4.3 58). The mining activity in the alluvial valleys of the Pocuné River, where people from the area's villages come together in search of employment opportunities, is particularly noteworthy. There, barreling work is integrated with open-pit mining work carried out in the alluvial plain with heavy machinery such as backhoe loaders and dredgers.

Illustration 4.3-58. Traditional miners of Segovia
Source:https://www.google.com.co/search?q=IMAGEN+DEL+CEMENTERIO+DE+LOS+GRINGOS+EN+SEGOVIA+ANTIOQUIA&espv=2&biw=1366&bih=667&source

A characteristic of the miners that determines their lifestyle, as also noted, is the improvisation, the short term and the interest to solve the day to day with what is produced in the mine. The behavior and idiosyncrasy of the traditional miner is characterized by being adventurous and daring. The risks to which they are exposed due to the lack of use of protection elements and the insecure way in which farms are organized, keep their integrity and health at constant risk.

Another element in the analysis of the behaviors and ways of being and thinking of traditional miners is the tendency to prey on the environment without seeking sustainability or mitigation of the impacts generated. The waters are contaminated with mercury and the sediments are deposited in the waters without restriction or care to prevent contamination and affluent.

Finally, the adventurous behavior of the traditional miner is synthesized in the consumption of liquor after the mining operations, activity that is determined by the product of the day. Usually when a miner sits down to drink, it's because he's pulled gold out of the ground.

Some of the surplus from mining activities has been invested in the land for the improvement of agricultural production. Generally, when resources are generated directly or indirectly from mining and surpluses remain, they are invested in the opening of new pastures, fence maintenance and infrastructure construction or housing improvements. Livestock purchases are also made to increase the estate's assets.

Tangible and intangible living cultural heritage

As stated and analyzed in this document, the DIA of the El Pescado project is located in three areas characterized by low population density, stability in land tenure conditions, and relative homogeneity of population groups, which in principle leads to the conclusion that there are few references with the characteristic of being considered important heritage assets.

Among the customs of the peasant population are certain traditions and customs that are associated with people's special abilities or abilities. For example, some farmers are known for healing animals and people with "secrecy", a kind of prayer ritual that, according to accounts by local people, has the power to heal pain, fractures, dislocations, parasites and even snake bites.

By contrast, there is no record of any place considered tangible heritage, such as sites of tourist or sporting interest. It is true that there are improvised football fields in pasture areas for recreation by the local inhabitants, but they do not represent sites of heritage value.

Architectural heritage

There are no records of assets of heritage importance in the Project's DIA in the databases on tangible cultural heritage of the Ministry of Culture, the Government of Antioquia or the Municipal Administration of Segovia.

Cultural modifications

Among the recent transformations that have meant variations in behavior patterns and a new element of influence in the forms of communication, are the technologies and the incursion of modern elements that have modified the uses and customs in a partial but significant way. We also looked into relevant facts and elements that have left their mark or positive and negative consequences for the DAI population. Table 4.3.51 below presents the results of the surveys applied

in the DIA in relation to relevant historical elements and technological changes, considered to be of greater relevance to the community.

Table 4.3-51. Characteristic elements of the inhabitants of the AIDPs and AIDLs

Relevant historical elements on the sidewalk	El Pescado	Cuturú Abajo	Laureles
Electrification	8	10	2
Road construction	4	9	1
Arrival of companies	1	0	0
Armed conflict	3	6	4
Artisanal Mining	0	0	0
The formation of the rice farmers' association and the arrival of the rice threshing machine in the village of Laureles	0	0	1
Myths and legends? Which ones? Explain the Tiger and the Mother Mount	1	0	0
Relevant technological changes on the sidewalk			
Electrification	9	13	4
Communications	4	23	17
None of them	2	4	7
NS/NR	4	7	0
People in the community considered cultural speakers			
Child population	1	8	0
Athletes	1	0	0
Mining culture	1	0	0
Community members (see description in the next paragraph)	0	8	4
Don't know/ No answer or none	16	20	25
Popular beliefs of people			
Track Arrangements	0	0	1
Myths and legends (the leg alone, the mother mount, the river fisherman, white houses)	5	0	3
Religious Cults (Catholic, Evangelical Trinitarian and Protestant)	12	34	7
Don't know/ No answer or none	2	14	19

Source: INGEX, 2015

23% of those surveyed said that the arrival of electrical energy was a relevant event. This generated a significant change in the population as it allowed access to various services such as: television, home lighting, the purchase of household appliances and various types of machinery depending on the improvement in agricultural activities.

A total of 13% of those surveyed supported the experiences of armed conflict and illegal groups as a relevant event.

4% of the inhabitants support a development process based on the construction of the roads, allowing a territorial inclusion of the region with the urban zone and the displacement towards other municipalities such as Remedios, Zaragoza and Medellín.

33% of the inhabitant's state that the arrival of the cell phone signal is a technological advance. 13% of the population does not know that these are technological advances, 6% say that no technological advances have taken place in the region.

Cultural speakers and popular beliefs

Forty percent of the residents surveyed said they did not respond to or meet cultural speakers at the AIDP and AIDL sidewalks. 30% identify the persons named in the following table with this type of skills, 10% relate to sportsmen and women and children (Table 4.3.52).

Table 4.3-52. People considered cultural speakers.

Town	Name	Abilities
Laureles	Hermis Salazar	Preach and recite
Laureles	Edilson Salazar	Preach and recite
Cuturú medio	Fabián de Jesús Espinosa	Singing capabilities
Cuturú bajo	Anderson Villa	Ability to play guitar and piano

Source: INGEX, 2015

Among the most important popular beliefs expressed by the inhabitants of the AIDP and AIDL sidewalks, 42% of them are religious cults (religions, Catholicism, Evangelical Trinitarian and Protestant). 35% do not know, do not answer the question or consider that there is no popular belief of their own in the area with which they identify. 21% associate it with Myths and legends (the leg alone, the mother mount, the river fisherman, white houses).

Basis of the socio-cultural system and relevant cultural practices

The parties or celebrations held at AID are aimed at integrating the community and are generally promoted by the leaders or, in their absence, the teachers of the schools who, through the children, group the educational community together to carry out certain events, such as the feast of Antioquia or the celebrations of the day of the child or mother. Another type of celebration with a religious connotation is the one that takes place at the level of the urban capital and which some inhabitants attend. Among the main ones are: The Carmen Virgin festivities, the Holy Week and the day of San Isidro.

Ethnic communities

According to the application for a certificate of existence of ethnic territories in the project's area of direct influence, the Colombian Institute for Rural Development (INCODER), with file number 20151148323 citation (20152146027), 20151148324 citations (20152146025), dated June 26, 2015 and 20151178067 citations (20152179590), dated September 23, 2015. It states that: 'the polygon delimited by the coordinates corresponding to the area of direct influence of the project does not cross with territories legally titled as indigenous reservations or belonging to black communities'.

For its part, the Ministry of the Interior in its resolution certifies that in its databases "there is no register of constituted reserves, nor ethnic communities in the polygon delimited by the coordinates that correspond to the area of direct influence of the project". Under these conditions, to date no process of participation and rapprochement with this type of community has been developed or is planned within this study, in compliance with Article 330 of the Constitution, Article 7 of Law 21 of 1991, Article 76 of Law 99 of 1993, Decree 1320 of 1998, through official letter number OFI11-2840-GFP-0201.

4.3.2.5 POLITICAL ORGANISATIONAL DIMENSION

4.3.2.5.1 Area of indirect influence IIA

The main features of local politics are presented below, which for the case of the IIA defined for the present EIA, will include the analysis of aspects related to politics at the municipal level and institutional presence as an expression of the recognition of citizens' rights and as a measure of the meaning and depth of local democracy. For the IYD, aspects related to the same dynamics are presented for the paths that are the subject of the study.

Political aspects

Political culture[38], in its most common sense, "is the set of shared beliefs and values concerning life in society and the role of political activities in the preservation and orientation of social cohesion; it is the set of fundamental attitudes that allow for the mutual adjustment of behavior or the acceptance of acts of authority that tend to impose this adjustment".

Political power, according to the same glossary, is defined as "From a political philosophical point of view, as the ability of an individual or group to modify the behavior of other individuals or groups. In Political Science, although it is no longer accepted as the only central concept, there is agreement that it is of fundamental importance. Burdeau defines it as "a social energy, an emanation of a mental, collective and dominant representation of the desirable social order", in the name of which

[38] Arnoletto, E.J. Glossary of Common Political Concepts, EUMEDNET 2007, full text at http://www.eumed.net/dices/listado.php?dic=3

the political leadership lends itself to compliance. It is always manifested in the human relationship and in its genesis is obedience: one has power to the extent that one is obeyed.
In this sense, we will take as a reference point to facilitate the approach that allows us to establish the general patterns of behavior with regard to politics and politics, with which the citizens of the I.A. of the El Pescado project express their tendencies, interests and needs, through which they can gain access to political power. In general terms, this is what we are referring to when we talk about political culture: the power relationship in the citizen-state interaction.

Political culture, citizen participation and scenarios of political, civic or community participation

As noted above, the relationship between the citizenry and the political and administrative power defines the facts and makes the decisions that affect the way resources are organized and distributed. One of the actions that shape the organization of local political power is the exercise of the right to vote and the demands that emanate from the forms of organization of society. The following are some of the elements necessary for the analysis of the scenarios in which the local political culture is manifested.

In the case of the IIA, according to the findings and data collected, the organizations with the greatest influence on State decisions and actions at the local level are related to what is known as small-scale mining, CABs, local entrepreneurs and traders, trade unions and, ultimately, civil society associations or organizations such as victims, women, indigenous peoples, Afro-descendants and some NGOs.

Table 4.3 shows the figures related to the potential number of voters and the total number of those who used this right for the local elections for 2011 and 2015. As can be seen, abstinence figures are around 50% for both elections, which indicates a high tendency for the population not to participate in the exercise of this right. A possible cause may be the loss of credibility of citizens in the institutions or that the consequences of electing mayors and councilors are not very relevant for the future of the territories.

Table 4.3-53. Figures on voter abstinence in local elections 2011 and 2015

Year	Potential voters	Total voters	% voters
2011	22.445	10.665	47.51
2015	25.580	12.327	48.18

Source. National Registry of Civil Status.

The results of the 2015 mayoral elections (Table 4.3.54) show a certain continuity with those of 2011. On that occasion, the candidate who was elected for the period 2016 - 2020 (Gustavo Tobón), was second in the elections and since then he has emerged as a figure of high preference in the electorate. Also notable is the influence of the traditional parties (including the results for the Municipal Council in Table 4.3.55) as those of preference among the citizens, namely, Parties of the

U, Conservative, Democratic Centre, Radical and Liberal Change, and movements such as the ASI and Green Alliance.

Table 4.3-54. Election results for Mayor of Segovia 2015

Gustavo Alonso Tobón Vélez Colombian Conservative Party	7.210	61,67%
Carlos Franqui Arango U Party	3.782	32,35%
Julio Cesar Rúa Indigenous Authorities Movement of Colombia	443	3,78%
Luis Alfonso Ochoa Democratic Centre Party	23	0,19%

Source. National Registry of Civil Status.

Table 4.3-55. First ten election results for Municipal Council by movement or political party for the 2015 elections.

Colombian Liberal Party	1.803	17,04%
Colombian Conservative Party	1.608	15,19%
Green Alliance Party	1.514	14,31%
Radical Change Party	1.251	11,82%
Independent Social Alliance Party	1.143	10,80%
Alternative Democratic Pole Party	890	8,41%
Citizen Option Party	833	7,87%
Party of La U	783	7,40%
Democratic Centre Party	159	1,50%
(Indigenous and Social Alternative Movement "MAIS")	142	1,34%

Source: National Registry of Civil Status.

As already mentioned in Table 4.3-55, it shows the electoral results that defined the composition of the Municipal Council, by majority vote. Unlike the conservative party for which the mayor was elected, the liberal party obtained the highest number of votes for this corporation, which indicates in principle some level of party affiliation and preference per vote rather than per person; or council candidates with a high level of recognition that did not coincide with the mayor-elect's endorsement.

Another particular fact is the vote obtained by Cambio Radical (11.82% of the votes) which did not coincide with the votes for mayor. The U Party with 7.40% of the vote did not get the expected level compared to the results for mayor 32.35%. As can be seen, not necessarily the electoral preferences of the population, since the outcome of the elections, shows a party vote. This seems to be configured in the figures of particular leaders who vote by sectors of the population and receive guarantees according to convenience, but not to the political inclination or ideological character of the candidates or the parties.

A prevailing condition at the local level is the so-called "tied vote", which consists of negotiating with groups of electors or their leaders to vote for particular parties or candidates in exchange for job opportunities or access to contracts. Vote buying is known by comments and rumors, but it has not been documented and does not appear in official sources, which if it does occur would be another form of deviation from the decisions of the electorate.

One fact is evident when dealing with local people: there is a high degree of legitimization of the State and low credibility in the institutions and people who govern the fate of the locality. This also determines and defines a kind of vicious circle which, for the political exercise, has implanted in political culture the motto that "the end justifies the means" and the end is not necessarily the common good. It is also commonly said that without clientelism, political exercise is not viable.

Armed conflict

The conditions that marked the occupation, tenure and use of territory and land in IIAs have been marked by the dynamics of the armed conflict that has been raging in Colombia since the 1950s. These processes have marked and defined in the collective consciousness particular features associated with informality, victim mentality and opportunism as a rule of behavior.

There is a relationship that has recently become indissoluble between mining, drug trafficking and the armed conflict. On the one hand, there is evidence of the relationship between criminality and these phenomena through investment and money laundering. On the other hand, the volleying and extortion links criminal enterprises with mining and drug trafficking.

By the 2000s, the presence of paramilitary groups associated with the extortion of gold production in the sub-region was consolidated and has been mutating into what are now known as BACRIM. For its part, the guerrillas continue to be present in rural areas and their activity is also associated with the income generated by mining activity due to the extortion of the miners and also with drug trafficking.

Two events, which will not be detailed, marked milestones in the history of the IIA armed conflict. One of the most significant was the massacre of Segovia in 1988, justified in the fight against the insurgency; by then, the northeast was an electoral stronghold of the Unión Patriótica movement, the political arm of the FARC and it was in this sub-region where the annihilation campaigns of the activists of this political-electoral force by the so-called paramilitary groups, mainly organized by the Castaño brothers, intensified. In Fraguas or Machuca, 69 people were killed on October 18, 1998, as a result of a fire caused by the Pocuné River oil spill, following a blast by the ELN (Illustration 4.3-59).

Illustration 4.3-59. Massacre of Machuca in Fraguas Segovia Antioquia.
Source:https://www.google.com.co/search?q=imagenes+de+la+tragedia+en+machuca+segovia+antioquia&espv=2&biw=1366&bih=667&source=

The border between legality and illegality is blurred in the mining region. Some mines have legal documents and permits for the purchase of explosives and have Environmental Management Plans, in addition to compliance with labor and contractual requirements. In other cases, as stated in various media reports and reports, "the violent have no titles, but they derive millions from extortion. In Segovia, several of the 200 miners operating in the territory of the Gran Colombia Gold concession pay vaccines to criminal gangs formerly associated with alias Macaco[39].

The phenomenon of informality - illegality that has permeated all areas of local society - has dimensions that have not been dimensioned and that are currently the subject of academic and judicial research. For the project IM, the conditions are reproduced at all levels of social organization and their reflection is evident in the language and daily decisions of the population, which, for the most part, has taken on an attitude for an initial survival issue and may have become a rule of social conduct.

[39] http://www.semana.com/nacion/articulo/oro-crimen-mineria-ilegal/338107-3

Business-community conflict

No potential conflicts between the company and the IIA population have been identified, for two main reasons: Isolation of the project from the IIA population and its size and influence that does not represent a significant level of influence outside its IIA. Finally, it is possible to add as an element of analysis the fact that no population resettlement is required. The DAI analysis will highlight some factors that can lead to differences and conflicts with the community.

The fiscal performance indicator, as described and for the purposes of this document, is a model for evaluating the performance of municipal administration in the management and execution of public resources. It was mentioned that there is a deteriorated image in the opinion about the performance of the administration and the capacity or will to guarantee the rights of the population. The figures to be highlighted are those that reflect the positions in the department in terms of performance and percentages. Both give the municipality, as a general rule, the last positions and the lowest performance indices. Table 4.3 illustrates the performance indicator, the position at the national level and the position in the department in the fiscal performance item for the years 2006 to 2013.

Institutional presence and community organization

Table 4.3-56. Fiscal performance indicator[40] in Segovia, 2006 - 2013.

Years	2006	Fiscal Performance Indicator	46,56
		National Positioning	1.075
		Position in the Department	124
	2007	Fiscal Performance Indicator	40,35
		National Positioning	1.058
		Position in the Department	119
	2008	Fiscal Performance Indicator	39,03
		National Positioning	1.039
		Position in the Department	111

[40] Indicator that summarizes 6 components (variables) in a single measurement, with a scale from 0 to 100. The higher the value, the better the fiscal performance, the components of this indicator are:
Self-financing of the operation = Operating expenditure / current revenues free use * 100.
Debt size = Debt balance/total income * 100.
Transfer dependency = Transfers / total income *100.
Own resources dependence = Tax revenue / total revenue * 100.
Size of the investment = Investment / total expenditure * 100.
Savings capacity = Current savings / current income * 100.
SOURCE: Calculations, Directorate Group Analysis and Financing of Territorial Development - GAFDT, Directorate of Sustainable Territorial Development - DLDD, National Planning Department - DNP - based on information reported by departments to DLDD-NPD and DAF-MINHACIENDA.

	2009	Fiscal Performance Indicator	56,01
		National Positioning	850
		Position in the Department	87
	2010	Fiscal Performance Indicator	54,06
		National Positioning	1048
		Position in the Department	116
	2011	Fiscal Performance Indicator	62,39
		National Positioning	796
		Position in the Department	95
	2012	Fiscal Performance Indicator	63,91
		National Positioning	664
		Position in the Department	83
	2013	Fiscal Performance Indicator	49,37
		National Positioning	1085
		Position in the Department	122

Source: Government of Antioquia. Administrative Planning Department. Statistical Yearbook of Antioquia, 2013 [Electronic Resource] Medellín: Administrative Department of Planning, 2014

According to figures from the same Development Plan, the aqueduct coverage of the urban headwaters of Segovia has the following characteristics: "13% of the rural population consumes treated water but does not meet all the requirements to be consumed without restriction. A total of 179 houses have poorly maintained treatment plants, 11% of the rural population have access to potable water but do not yet have it. 76% of the rural population does not yet have a treatment plant.

Despite the service's coverage, the drinking water availability remains unresolved, due to the fact that, as can be seen in the table above, 98% of the inhabitants of the municipality do not have drinking water for consumption.

Sewerage services exist in all urban areas of the sub region and in some townships. These are usually combined systems, which limits the development of an appropriate treatment system for some municipalities. Sewerage service coverage ranges from 47 to 95%, and discharges are made to pipes, streams and rivers, without any prior treatment.

In the urban headwaters, the toilet service has a coverage of 78% and according to unconfirmed data, it is reported that a considerable number of dwellings dump their waste into water sources. According to data from the statistical yearbook of Antioquia, in Segovia, including some rural

subscribers, 10,048 subscribers to the toilet service are registered. For the town of Fraguas, it is only known that it has a collection service. According to EPM data, energy coverage is 91.5% for urban areas in the Northeast and 83% for the total.

As can be seen in Table 4.3.57 and Table 4.3.58, there are different infrastructures that account for the institutional presence in DAI and IIA and facilitate different forms of community association and organization. There is no inventory of community centers or rural concentration sites, and educational scenarios are generally used for this purpose.

Table 4.3-57. Infrastructure and institutional presence in the Fraguas town center.

Infrastructure		
Type	**Quantity**	**Observations**
Primary and secondary school	1	Attends both cycles
Health Center	1	ESE La Salada Segovia
Centre of religious worship	2	Catholic and Pentecostal Religion
Police Station and Inspection	1	
Communications antenna	1	Claro
Cemetery	1	
Community radio station	1	Machuca's radio
Power plant sub-station	1	

Source: municipality of Segovia website[41].

Table 4.3-58. Infrastructure and institutional presence of the urban capital of Segovia.

Infrastructure	**Quantity**
Primary schools, university secondary schools	4
Hospital	2
Police station	1
Army Battalion	1
Cemetery	1
Broadcaster	2
Power plant sub-station	1
House of culture "Inland"	1
Municipal fire brigade	1
Neighborhoods	11

Source: website of the municipality of Segovia.

The municipality of Segovia has two top-level hospitals, one of which is the ESE municipal and the other the company Zandor Capital, called La Salada.

[41] http://www.segovia-antioquia.gov.co/indicadores_anuales.shtml?apc=bexx-1-&x=1855686#salud

The municipality's education resources allow for a demand-side supply of schools, and the causes of dropout may be different from the lack of resources. According to data from the Secretary of Education of Antioquia, Segovia has 32 Rural Educational Centers and 1 Secondary Educational Institution, in addition to the special ones for higher education.

Public, private and community organizations

Among the main public organizations identified are those attached to the municipal administration and whose function is the administration of local public resources. The corresponding analysis of these organizations was already carried out in the other dimensions. Among the main private organizations, we can mention those belonging to the mining guild (of which mention was made in the cultural dimension), trade unions (those that are attached to SINTRAMIENERGETICA) and the organization that brings together the different JAC of the municipality called ASOCOMUNAL.

As a central aspect to be highlighted in the different forms of organization and their specific expressions, are the following characteristics and features identified: Short-term nature and orientation to private or trade union interests, high dependence on the main leaders, low management capacity, informal internal dynamics, low capacity for policy advocacy, low generation of resources for its members or benefits of general coverage. Among the organizations identified in the Fraguas town center, there is a Corporation for the development of Machuca and the Association of Afro-descendants. For Segovia, in addition to those already mentioned, there is ASOGROPO: Promotion of agriculture and management of clean production in agricultural processes in the municipality of Segovia and JUME. Municipal Board of Education and Sisben overseer

Key actors

The main actors who, because of their capacity to influence or mobilize local communities, can be classified into groups such as:

Community leaders: who mobilize sectors of the population with particular interests or specific problems. Miners' associations: that have the capacity to influence urban dynamics and have been part of the discussion on small mining in the municipality, in addition to the fact that their demands are being considered by the competent authorities.

Mining companies: they have assets and influence in the territory because of the concessions they hold that allow them to be taken into account by regional authorities and policies. To date, the company with the greatest influence in the region due to the volume of resources associated with its operations and the operating contracts in force between it and small mining business organizations (this issue was addressed in the economic dimension) is Zandor Capital, owned by

Grancolombia Gold. Other mining companies are present in the region with projects in exploration stages.

Existing programs and projects

The government of Antioquia and the mayor's office of Segovia carry out activities, programs, plans and projects that benefit the communities with two identified origins: those that are projected in the local development plans (Illustration 4.3 60) and those that have budgetary allocations or resources from state transfers at the departmental or national level. The other origin is cojunctural and is given by the urgency or need to give a punctual response to the situations that arise in the locality. Health, education, water supply, sanitation, sewerage, energy, gas, telephone and Internet services are provided with resources allocated and established by legal and other regulations by the different lines of the development plan, based on the PBOT guidelines. The coverage and main destinations of public investment and the main projects under way with local and regional impact associated with road infrastructure, pipelines and mining have already been described. The Antioquia Iluminada project for rural electrification also has a marked impact on the living conditions of rural communities.

Other initiatives are being implemented to address situations such as emergencies caused by natural disasters and forced displacement. In general, the Community Action Boards are the entities in charge of serving as a link between State and community agencies.

Illustration 4.3-60. Liaison activities of the institutional offer of the state and the community of Segovia Antioquia.
Source:https://www.google.com.co/search?q=imagenes+de+las+actividades+comunitarias+en+segovia+antioquia&espv=2&biw=1366&bih=667&tbm=isch&tbo=u&source=univ&sa

4.3.2.5.2 Area of Direct Influence DAI

Political aspects

The behavior patterns that define the political culture are replicated and reproduced at the micro levels of the project's IAs, since the relationships between the actions requested and those decided and executed in the local administration are generally similar, in terms of the channels through which they are transmitted and the forces that drive their materialization.

Political culture, citizen participation and scenarios of political, civic or community participation

For the practice of the sport there is a rudimentary court where the community of the village of El Pescado and the surrounding area meets. There are inter - verbal sporting events and some events supported by the sports office of the municipality. There are sports venues attached to the educational centers of the Laureles and Cuturú Medio sidewalks.

There are no community associations or organizations established in the village of El Pescado. The closest community organization to the Trail are the Community Action Boards of the Laureles, Cuturú Medio and Cuturú Bajo trails, all with a high degree of informality and multiple weaknesses, reasons that have already been described. The only productive association of DAI is the Laurel rice farmers' association (Illustration 4.3-61).

Illustration 4.3-61. Community activity in the village of Laureles.
Source INGEX, 2015.

Armed conflict

The presence of illegal armed groups in the region is permanent and affects territorial dynamics at the micro, macro and meso regional levels. In the spatial, demographic and IIA dimensions of this chapter, reference has been made to the dynamics and conditions of the historical development of armed conflict. All the dynamics described above have directly or indirectly affected DAI, not because it has been a focus of concentration as such, but because of the collateral effects it generates in the area, given that it is a corridor historically used by the actors in conflict. Conflict company – community

The conflicts that may arise from the mining project's activities with the communities are related to economic, environmental and social factors. The following are those that, according to the communication processes and community interaction activities, have been of greater interest and relevance:

- Effects on ecosystem services.
- Consideration and compensation for the direct and indirect effects on the land.
- The transit and transport of elements and personnel through the area using the access roads to the project.
- Alterations to the environment, property and local safety due to the intensive use of the roads.
- Decrease in the local labor force to work on the farms.
- The presence of armed groups or common criminals due to expectations of the project.

Institutional presence and community organization

The inhabitants use private homes for some of the community activities and meetings, due to the lack of adequate venues or due to the physical proximity of the majority of those called. The institutional presence in the sidewalks of the AID, is given for coverage of the services that are offered in the municipal capital or in the town center Fraguas. Sporadically, it is known that vaccination days for children, health brigades, and care are provided by some government agencies such as UMATA to provide technical advice to farmers.

As already explained in the cultural dimension, the only form of community organization is the CABG, through which mobilizations, convocations and processes with the DAI population are generated. This is considered a factor to be improved, both by the community and by the company that owns the El Pescado project, given that in view of the possible entry into the exploitation phase of the project, it is considered more convenient to have this type of organization to represent the interests and expectations of the community and to formally channel communications, interactions and resources.

Public, private and community organizations

There is no record of public organizations other than CABs in the DAC. Among the private organizations are the different churches and religious services. As an example, of the 19 families surveyed in the IYDP corresponding to the El Pescado trail, 18 participate in local CABs, mainly in the Laureles trail, which has a greater degree of cohesion and coverage. For Cuturú Abajo, of the 14 families surveyed, 12 said they participate in JAC, while Laureles 13 out of 15 participate.

As can be seen from the information gathered in the field, the majority of the DAI population states that they participate in the CABs that are in the area or that, without being formalized, generate some degree of cohesion and participation.

Part of the degree of informality identified in the DAI related to organizational forms is the weak dynamics of decision-making processes, for example through democratic voting exercises or community consultations. It is possible that for some specific and circumstantial issues there may be consultation exercises, but there are also cases in which leaders make decisions and simply inform the community about them.

Finally, as a distinctive feature of community participation and decision-making processes, there is an almost total absence of development planning processes for communities and territories and of formal management processes before the authorities. Instead, it is typical to search for administration officials on established days of care to make requests or requests usually verbally for resource management or troubleshooting.

Key actors

The main key actors for DAI are the landowners, artisanal miners, and community leaders who have the voice and represent the interests of the communities in some way. Community leaders are also mediators in some kind of conflicts that affect the coexistence of communities. However, in Segovia there is a House of Justice that has been designed to establish processes of accompaniment that allow for the peaceful resolution of conflicts.

Existing programs and projects

The current projects registered for DAI are those related to food security (MANA) for children in schools and school restaurants.

4.3.2.6 DEVELOPMENT TRENDS

This section aims to present the development trends at regional level for the El Pescado project IIA. Inputs for this approach are presented in the form of socio-economic reality throughout the corresponding component. It is a question, then, of expressing the elements resulting from the interaction of the different elements exposed and analyzed, to consider the main consequences, characteristics and magnitudes of the changes at the territorial level with the project in operation and the possibilities of territorial development and latent progress for the communities. In this sense, the progress of the region must be understood as the systematic transformation of the regional territory into a collective subject; the "progress" of the community should be understood as the process of strengthening civil society and achieving a perception of regional ownership and the "progress" of each individual should be interpreted as the removal of all kinds of barriers that prevent a given person, member of the community concerned and inhabitant of the region, from achieving his or her full realization as a human person "341.

For the present EIA, an analysis was made not only of the development, land use planning and environmental management plans existing in the municipal administration, but also an interdisciplinary and ethnographic approach to the communities of the area of influence, both direct and indirect, with the purpose of identifying the potentialities and weaknesses focused on aspects such as participation, gender equality, security, sustainability, the safeguarding of human rights and economic projection.

The following criteria were taken into account:

- Economic dependence
- Policies to support the agricultural and industrial sector
- Social inclusion

According to the integral analysis of the socioeconomic reality of the direct area of influence, the development trend can and should be focused on the advancement of agricultural activity, with the insertion of technical processes that correlate adequate land management for greater productivity and also with the establishment of infrastructures for the marketing of agricultural products to consumption centers. The economic model in the territorial units that are part of the IIA of the project is characterized by extractive activity and subsistence agriculture. Among the few economically stable activities are small-scale livestock and livestock farming. Likewise, the community must overcome challenges in order to become part of the commercial relationship that is being formulated by global competition, a situation that has led to a decrease in the prices of its products, due to the high quality standards and high cost of the inputs that are required of them, in addition to the importation of subsidized products on behalf of the FTAs in force.

There are two economic trends:

- A possible deepening of the crisis in the agricultural sector, given the disadvantage faced by producers in the face of global and regional competition.
- The disappearance of artisanal mining (Illustration 4.3-62) due to future large-scale mining activities.

The AID area is dominated by smallholder properties, i.e. small and medium-sized farms. As the pattern of informal employment per day is repeated in the DAI communities, combined with the exploitation of land with family or local labor, the owners of land in the sector are the largest employers in the area. The collective behavior of the DAI population is characterized by people of peasant origin (dedicated to agricultural activity), of traditional families, and in which the traditional forms of work distribution by gender are maintained, typical of the nuclear family type, where women remain in the home and carry out the tasks proper to this area, while men cover the other fronts. Artisanal mining, on the other hand, is a non-formal income-generating activity that is developed independently both by traditional miners who inherited the trade from previous generations and by people who, in the absence of formal employment, became involved in the mining activity.

Illustration 4.3-62. Tampon or Californian mill, used in artisanal mining, in the AIDP AIDL.
Source: INGEX, 2015

Development projects driven by the official or private sector

According to official records, there is currently no trend or projection to finance projects based on agricultural activity. Rural sector statistics show the need to encourage agricultural production, accompanied by training strategies and peasant associations in the undertaking of actions that also include the protection of water and forest wealth and the management of alternative development programs and the generation of productive projects. Some current and projected alternatives for DAI communities are:

- Laurel Rice Growers Association (Illustration 4.3.63).
- Cocoa production project, where the formulation of a project to implement a native species nursery is being carried out to reforest or recover deforested areas in the region, Cuturú Abajo and the Cuturú Medio area.
- Project of the rural house of Laureles as a collection center for the participative center where the villages of El Pescado, Cuturú Bajo, El Paraje de Cuturú medio and Laureles are grouped.

Illustration 4.3-63. Laurel Rice Growers Association.
Source INGEX, 2015

Population to be resettled

The project does not contemplate the involuntary relocation of the population from its area of influence as a result of the works and work planned.

methodological process of construction of the system of planning, monitoring and peasant self-assessment through the talking maps: MARENASS case (Peru)", taken from: Capacidades y experiencias campesinas, respuestas a las motivaciones Proyecto de Manejo de Recursos Naturales en la Sierra Sur, Apurímac, Ayacucho y Cusco, final report 1997-2005.