



REPORT

**New International Airport of Cabinda (NAIC Project) -
Environmental and Social Impact Assessment - Chapter 8 - Baseline conditions
- Socio Economic**

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8.0 SOCIO-ECONOMIC BASELINE STUDY

8.1 Methodology

8.1.1 Identification of the Area of Influence

As already discussed in Chapter 2, the Project's Area of Influence (AoI) has been defined in consideration of the definition provided by IFC PS. From a socio-economic perspective it considers a radius of 10 kilometres from the Project footprint area. Within the context of the social components, the Project's AoI is defined based on the Administrative divisions of the territory of Angola. The AoI therefore includes the following:

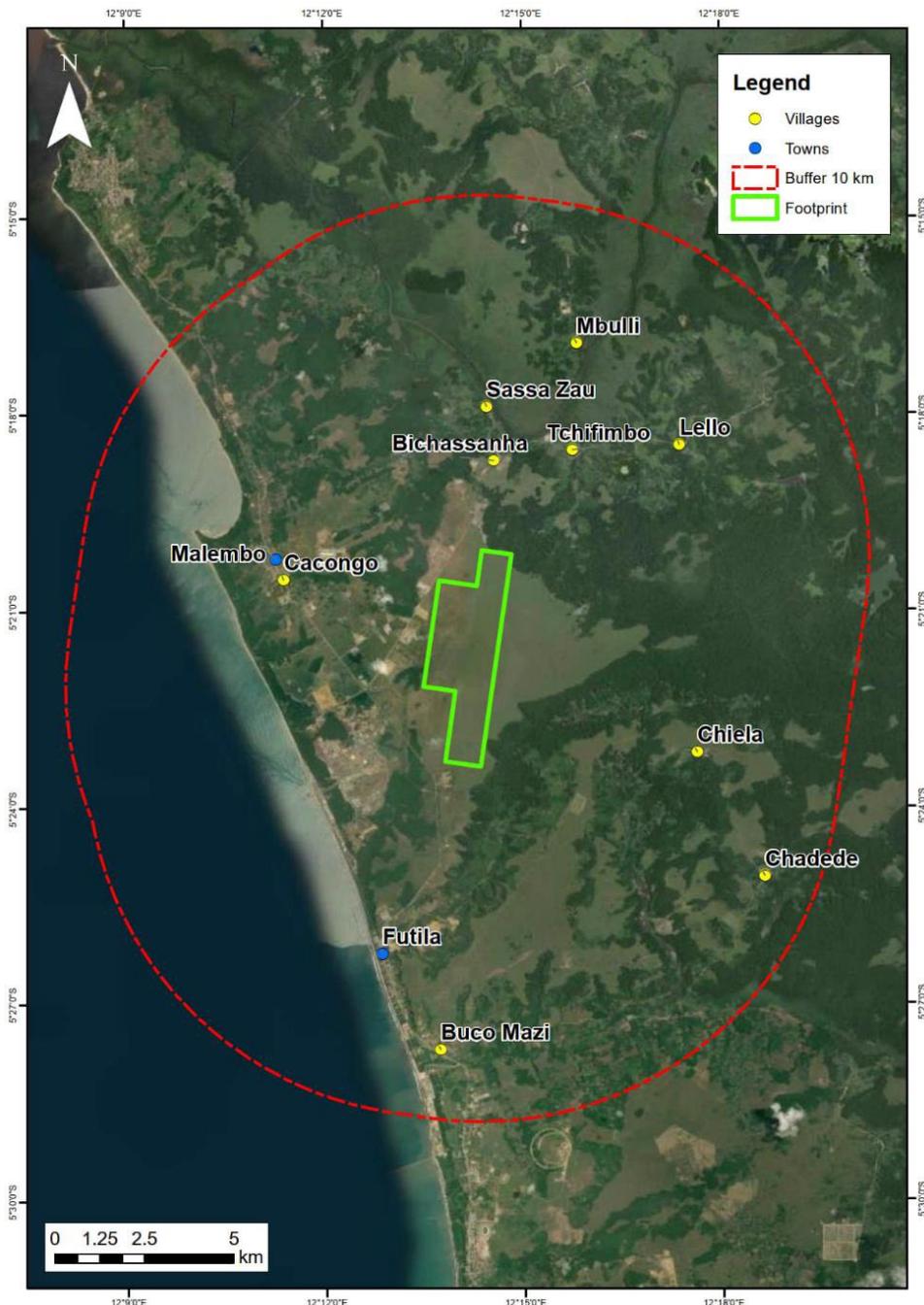


Figure 1: Village and towns within the Area of Influence

- At North the villages of Mbulli, Sassa Zau, Bissassanha, Tchifimbo and Lello;

- At West the village of Cacongo and Malembo town;
- At South East the villages of Chele and Chadede; and
- At South the town of Futila and the village of Buco Mazi on the sea coast.

The Project's AoI and the location of the towns and villages are shown in the figure below.

The description of the baseline status of the component includes existing projects or activities whose impacts could create a cumulative effect with the Project. Future projects that could generate cumulative impacts are not included in this baseline and are described separately in the cumulative impact assessment section (see Chapter 16).

8.1.2 Definition of receptors and identification of sensitivity

Social receptors are defined as individuals and groups that can be potentially impacted by the Project. The following main receptors have been considered in the ESIA:

- **Persons living within the AoI** (communities of the villages listed above);
- **Persons working within the AoI** (people working at the Futila Industrial Development Complex);
- **Persons working within the Airport** identified as:
 - **Flight Passengers:** people that arrive or depart from the airport and will have to spend time outside and inside the airport facilities,
 - **Flight Crews:** people part of the airline crews that arrive and depart from the airport,
 - **Public and private drivers:** people that will provide private or public pick up/ drop up services to the airport (drivers of buses, minivan, private cars, fuel trucks, etc).

The description of baseline status of the receptors is organised according to components, which are the main socio-economic characteristics that allow defining the profile of the receptors within the AoI. The following chapters describe each component based on the secondary and primary information that has been specifically collected for this Project, as further indicated in the next sections.

The sensitivity is typically evaluated on the basis of the presence/absence of some features which define the current degree of susceptibility to changes of the component.

8.1.3 Identification of the Survey Area

Field activities were performed in a selection of villages and towns within the Project's AoI, identified as the survey area: in the municipality of Cabinda, commune of Malembo, the neighborhoods of Bissassanha, Lelo, Sassa Zau, Tchifimbo, Chele, Malembo and Futila.

The villages and towns included in the survey area are shown in the figure below.



Figure 2: Location of the communities considered for the field survey.

8.1.4 Secondary sources of information

Secondary sources of information have been used for the description of the baseline conditions; sources include statistics from the Angolan National Institute for Statistics, the results of the population census of 2014 and the Survey of Multiple Health Indicators (IIMS) in Angola 2015-2016.

Based on availability, the most up to date and detailed secondary information has been retrieved and used throughout the document.

8.1.5 Primary Sources of information

The socio-economic field survey was carried out in the survey area between March 24th and April 10th, 2023. The work of data collection and consultation with project stakeholders consisted of the following activities:

- Consultation and involvement of interested parties;
- Interviews with key informants;
- Discussions in focus-group;
- Surveys of households and community leaders;
- Collection of socio-economic data;
- Contributions and suggestions.

Consultation and Involvement Stakeholders

The activities of consultation and involvement of stakeholders began on March 24th, where several public entities and private companies, defined in the engagement plan, were contacted through the delivery of official letters and brief meetings to publicize the Project.

Government entities and private companies consulted were the following:

- Provincial Secretariat for Education, Science and Technology;

- Provincial Secretariat for Agriculture and Fisheries;
- Provincial Secretariat of Migration and Foreigners Services;
- Provincial Secretariat for Industry, Mineral Resources and Petroleum;
- Provincial Secretariat of Commerce, Hospitality and Tourism;
- Provincial Secretariat for Transport, Traffic and Urban Mobility;
- Provincial Secretariat of Public Works Urbanism and Construction;
- Provincial Secretariat for the Environment, Solid Resources Management and Community Services;
- Provincial Secretariat for Public Works, Urbanism and Construction;
- Provincial Secretariat of Health;
- Provincial Secretariat for Energy and Water;
- Provincial Secretariat for Culture;
- Institute of Artisanal Fisheries;
- Cabinda Provincial Command of Police;
- Company PETROMAR (private);
- Company CHAMPION X (private);
- Company MALONGO Base (private).

In the framework of the consultation, the following local entities were also included in the list of consultation:

- Administration of the Communes of Futila, Malembo, Bissassanha, Sassazau, Tchifimbo, Lelo and Chele (Xchele);
- Community (families) in Bissassanha, Tchifimbo, Lelo, Sassa Zau, Tchele, Malembo and Futila.

Contributions were collected in specific questionnaires and information was used, whenever applicable, in the current baseline.

A central meeting was also developed with the following focus groups, to present the Project, to get information regarding concerns, expectations and also to allow an exchange of ideas. The different groups were categorized in:

- *Sobas*¹ and other traditional leaders;
- Women's Representatives;
- Farmers' representatives;
- Fishermen's representatives.

¹ In all of Angola's provinces, the title "Soba" is given to the traditional community leaders to provide local guidance and leadership in solving social and physical community matters

Meetings to present the Project and collect the outcomes from the local people were organised and conducted in each community considered in the survey area.

After the presentation in each community, it was selected a group of local leaders and households, that were interviewed using the established questionnaires, to gather information from the community.

20 inquiries in each of the 7 communities surveyed (Malembo, Chele, Bissassanha, Tchifimbo, Futila, Sassa Zau and Lelo) were completed, namely 10 inquiries focused on households and 10 inquiries focused at local leaders (sobas, elderly, regents, assistants, etc.). In Chapter 5 (Stakeholder engagement) are presented the meeting minutes for this surveys and photographic records.

Original data from the surveys, official letters, photographs of the facilities and meetings are available in ANNEX A- Baseline Supporting Data, Part 3 – Folder “First surveys and consultation Saioz”.

8.1.6 Cultural heritage data collection

The cultural heritage baseline has been developed through an analysis of both primary and secondary data.

Secondary data collection

Secondary data was reviewed for information relating to cultural heritage resources in the Project AoI. This includes analysis of cultural heritage laws and decrees, the list of national historical and cultural heritage by the National Institute of Cultural Heritage (INPC) and the Information System for the Portuguese Architectural Heritage (SIPA).

Primary data collection

Field questionnaires and field visits concerning cultural heritage were conducted during the field survey as part of the socio-economic data collection.

The key objectives of the field studies were to:

- Undertake questionnaires with authorities and local communities to identify tangible and intangible cultural heritage elements;
- Take photographs of cultural heritage sites.

8.2 Population and demography

8.2.1 Administration and governance

The city of Cabinda was formed as a settlement in 1883. Its location near the bay of the Atlantic Ocean, and later, the creation of the port in the area, were essential factors for the area's growth and development. Cabinda became a city in 1956 and had a great urban development in the 60s and first half of the 70s. Between 1975 and 1985, there was a significant growth of the population in the headquarters, leading to growth of an urban zone and the emergence of a peri-urban zone.

The Cabinda Province is separated from the rest of Angola by a narrow strip of territory belonging to the Democratic Republic of Congo, which bounds the province on the south and the east. The Cabinda Province covers an area of 7,283 km², it is bordered to the North and Northeast by the Republic of the Congo, to the East

and the South by the Democratic Republic of the Congo and to the west by the Atlantic Ocean (200 km of coastline). The province is administered in four municipalities: Cabinda, Landana or Cacongo, Bucu-Zau and Belize, as observed in the following figure:

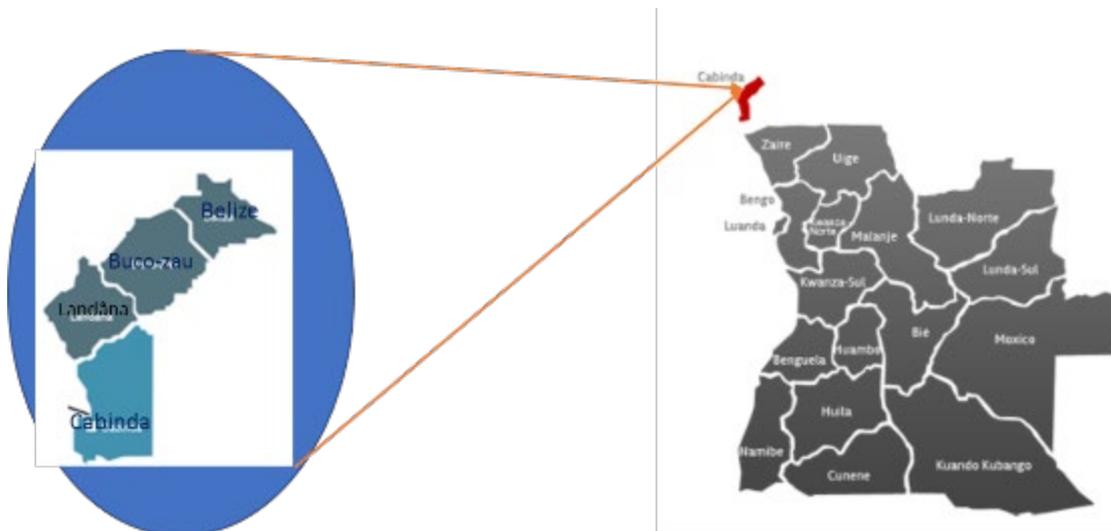


Figure 3: Location of the province of Cabinda and municipalities.

The province of Cabinda consists of four (4) municipalities, 12 communes and 45 neighborhoods in urban areas and 381 villages in rural areas. The municipality of Cabinda consists of the communes of Cabinda, Malembo, and Tando Zinze.

Table 1 – Administrative division of the municipalities.

Province of Cabinda	
Municipalities	Communes
<i>Cabinda</i>	<i>Cabinda Malembo Tando Zinze</i>
<i>Cacongo</i>	<i>Cacocongo Dinge Massabi</i>
<i>Buco-Zau</i>	<i>Buco Zau Necuto Inhuca.</i>
<i>Belize</i>	<i>Miconje Belize Luali</i>

8.2.1.1 Cabinda Municipality

The Municipality of Cabinda is administratively divided into three communes, Cabinda Sede, Tando Zinze and Malembo, and its administrative hub is in Cabinda city itself.

The administrative apparatus consists of a Provincial Governor, a Deputy Governor and Provincial Secretaries.

The municipality of Cabinda has a significant number of institutions and social groups, mainly religious institutions and youth organizations, and several NGOs. They collaborate with the government on social services and public health. At the community level, there are general residents' organizations, fishermen's associations and informal groups. Collaboration between the private sector and the government is also present and focused on social issues.



Figure 4: Administrative map of the municipality of Cabinda (Municipal profile of Cabinda, 2007).

8.2.1.2 *Malembo's Political and institutional framework*

The commune of Malembo is divided into the following neighborhoods: Sassa Zau, Tchifimbo, Malembo headquarters, Malongo, Lello, Buli, Bissassanha, Tando Cungo, Chumuanda, Cinto Butianga, Panis and Roca Mavinha. It is organized administratively into a communal administration, a “Regedoria”, a “Sobados”, villages and zones.

The commune of Malembo is composed of a communal administration that works in collaboration with the provincial administration of the municipality of Cabinda.

The traditional authority is the ultimate authority at the level of the “Regedoria”. On one hand, the authority has played an important role in leading the community in traditional forum, solving issues and petty disputes that do not involve violent crime; these claims are indeed referred either to the communal administration or to the police. On the other hand, it serves as a link between the villages and the state administration at the commune level.

A “Regedoria” is subdivided into “Sobados”. Each “sobado” has under its jurisdiction a group of villages. Each village has a chief/coordinator. To support decisions that affect the community and that go beyond the current activities of the sobas, the regent has an advisory board constituted of administrative staff, the sobas, elders / counselors and traditional lawyers.



Figure 5: Administration of the commune of Malembo at the time of the project disclosure meeting, 2023.

8.2.1.2.1 *Sassa Zau*

The village of Sassa Zau, founded in 1945, is experiencing a growing population with an estimated 159 residents. Its name is rooted in a historical event, specifically colonial-era elephant hunting. Christianity is the predominant religion, and the chief is democratically elected through a formal voting process, maintaining a positive relationship with the community. The village grapples with social issues, including a shortage of sanitary personnel, ambulance services, grid electricity, and connectivity to telephone networks. The police station is located within Sassa Zau. The village's infrastructures encompass a health center, named Sassa Zau, and a school. Identified challenges include a lack of equipment and personnel in these facilities. The community manages water access from the Chinhago River. Solar panels are employed for electricity, and transportation relies mainly on cars and motorcycles due to a scarcity of public transport. Residents use herbal plants like

"Nvanzi, Nkanzo, and Mkumbi" for consumption. No local folklore related to primates or great apes was identified. Hunting, particularly with dogs, is common, targeting animals such as deer and woodpecker rats. The village leader anticipates the project will bring employment opportunities for the youth, foster the development of hotels and tourism, and lead to the creation of additional social infrastructures.

8.2.1.2.2 Bissassanha

The name of the village "Bissassanha" derives from a tree called "sanha," which is useful for charcoal and firewood. The village has no specific boundaries identified, and it was founded on August 14, 1930, by Carlos Franque, who passed away in 1978.

Bissassanha has an estimated population of 135, with the main ethnic groups being Bawoio and Bassunai. The predominant religion in the village is Christianity. The population has experienced an increase in the last five years, primarily through natural growth. The chief or local leader is chosen through formal voting in the village, and Nsimba Sérgio has been in office for four years. Decision-making involves the participation of elders, and mutual aid and harmony exist between leaders of neighboring villages. The village faces no concerns regarding access to land, and there is no identified police station within the village. However, there is a police station near the Malembo administration. The health infrastructure includes a nearby health center, and residents use various local plants for medical purposes, several leaves and roots for various cures such as headache, fever and others.



Figure 6: Bissassanha Primary School.

Water sources are managed by the community. The educational infrastructure consists of a public primary school with 350 students, and the main issues are staff shortages and lack of equipment. Bissassanha is connected to the electricity grid, and households are linked to networks provided by the government. The village experiences a low level of traffic on the road leading to the project site. There have been no reported criminal problems on the road related to theft, assault, or rape. The villagers engage in horticultural practices, cultivating crops such as cassava, peanuts, mangoes, beans, and sweet potatoes. The main agricultural tools used are the hoe, machete, and axe. Farmers face challenges related to equipment and product marketing. Livestock farming involves raising chickens, goats, pigs, sheep, and others, with vaccination services provided. Additionally, there is the sale of agricultural products, and the community engages in the production of wood for charcoal. Development projects in the area focus on energy and potable water, and the village engages in wood processing for the production of charcoal. Hunting activities involve animals such as wild boars, deer, gazelles, and monkeys, using tools like machetes, shotguns, and traps.

8.2.1.2.3 Tchifimbo

The village of Tchifimbo, founded seven years ago, has a predominantly Christian population with an unspecified number of residents. The chief is elected through a formal voting process and holds the position for a seven-year term. The village maintains positive relations with neighboring communities but faces concerns related to crime, relying on police coordination in Malembo. Social issues include assaults on farmlands. The nearest health post is the Tchifimbo Health Center. Primary-level education is provided in education facilities in neighbouring villaved, as there is no educational center in the village; the closest one is the Sassa Zau Educational Center. The village lacks connections to the electricity grid and telephone network, and residents use public transport despite road challenges like the absence of asphalt.

The community relies on various roots and plants for medicinal purposes. Traditional ceremonies such as Alambamento (a cultural tradition involving the request for a bride's hand in marriage) and Chicumbe are significant events in the village, complemented by the presence of a Catholic Church. Economic activities encompass horticulture (Cassava, Ginguba, mango tree, beans, and sweet potatoes), animal husbandry (Chicken, Goats, Pigs, Sheep, etc.), and artisanal fishing. Challenges for breeders and farmers include a lack of equipment and the need for increased animal vaccination. Local processing activities, such as charcoal and firewood production, occur in the village.

The essential investments identified by the local leader involve connecting to the grid and improving water management infrastructure. The village leader anticipates positive impacts from the project, including employment opportunities for youth, tourism development, and the creation of additional social infrastructure.

8.2.1.2.4 Lelo

The village of Lelo, formed through the amalgamation of residents from Tchifimbo and Buculelelo, has an estimated population of around 150 residents. The chief is elected through a formal voting process and has held the position for 34 years. Decision-making involves the participation of elders, fostering mutual assistance and harmony among village leaders, who follow Christian practices. Lelo lacks a police station, but the nearby Malembo Police Station serves the community. Social issues include limited access to public transport, making cars the primary means of transportation. Water management is community-based, and while households lack grid and telephone network connections, they access electricity through solar panels. The village has one primary school accommodating 350 students across two classrooms.

Residents in Lelo utilize various plants and roots for medicinal purposes, addressing ailments such as headaches and fevers. Cultural events like Chicumbe (puberty) and Alambamento (marriage proposals) hold significance. Economic activities involve horticulture (Cassava, Ginguba, mango tree, beans, and sweet potatoes), animal husbandry (Chicken, Goats, Pigs), and artisanal fishing. Challenges in these endeavors include issues related to equipment and product distribution. Ongoing development projects near the village include a refinery and a new airport. Essential local investments are identified in grid connection and water management. The community engages in hunting activities, targeting animals like gazelles and monkeys, using shotguns and traps. The anticipated positive impacts from the project encompass employment opportunities for youth, tourism development, and the creation of additional social infrastructure.

8.2.1.2.5 Chele

The village of Chele (or Txele) was founded in 1920 and has approximately 256 residents. The village predominantly follows the Christian faith, and its population has been on the rise. The chief is chosen through a formal voting process, and decision-making involves the lawyer and the population to address concerns. Chele enjoys a positive relationship with neighboring villages. However, the village lacks a police station, relying on coordination with Sassazau for law enforcement. Social issues include challenges in public transport access, with cars being the primary mode of transportation. Regarding health infrastructure, Chele has a health center named Chele Health Centre, however specific details about its facilities and personnel are not provided. The

residents rely on various local plants for medicinal purposes such as Nvanzi, Nkanzo and Mkumbi plants. Education primarily operates at the primary level, with no educational center within the village. The nearest educational center is Sassazau. The village lacks electricity grid and telephone network connections, utilizing solar panels for electricity. Water comes from the Chinhago River and it is managed by the community.

Economic activities in Chele include horticulture, animal husbandry, and artisanal fishing. Challenges in these activities include equipment shortages and vaccination needs for animals. The village identifies essential local investments in grid connection and water management to improve the quality of life. The community engages in hunting activities, targeting animals like deer and rodents, using dogs and other tools.

Anticipated positive impacts from the development projects include employment opportunities for youth, tourism development, and the creation of additional social infrastructure. However, concerns include potential challenges in employment for local youth and uncertainties about the reality of the airport's existence.

8.2.1.3 Fútila

Fútila has an approximate population of 4,000 and is marked by its diverse ethnic makeup, primarily comprising Muolo, Miombes, and Mukuankongo groups. The main religious practices in the village are Catholicism and Pentecostalism. Over the past five years, there has been a significant population increase, primarily attributed to individuals migrating from the Democratic Republic of the Congo.

Governance in Fútila follows a participatory model, where the chief or local leader is elected through formal voting, and decision-making involves the active participation of elders. The current chief has been in office for two years, contributing to the village's stability. Access to land is freely available, and the village is situated in a high-traffic area, exposing it to the notable social issue of robberies.

Health infrastructure in Fútila is provided by the "Posto de saúde de Fútila," offering essential first aid services through three healthcare technicians. Water needs are met through tap stands managed by the government. The educational context includes a public primary school, but specific details about enrollment and infrastructure are yet to be disclosed. Challenges such as staff shortages, poor building conditions, and lack of equipment are recognized as primary issues in the local infrastructure. The village is connected to the electricity grid, with households linked to networks provided by Unitel and Movitel.

Transportation predominantly relies on private means due to the absence of public transport, with the main road connecting the village being National Road 100. Fútila's cultural and religious aspects are highlighted through events like Chicuimbi and the celebration of the village's foundation. Questionnaires revealed no local folklore concerning primates and great apes.

The economic profile of the community revolves around agriculture, with horticultural practices including the cultivation of Cassava, Corn, Ginguba, and Beans. Farmers face challenges such as pest infestations and seed shortages. Livestock farming, featuring ducks, chickens, goats, and pigs, is prevalent, but breeders report a shortage of veterinary services. Carpentry activities are present, and hunting is not reported.

The project is anticipated to spur local economic development, promote tourism, and create opportunities for youth employability in Fútila.

8.2.2 Population and demographics

In 2014 a national population census was conducted, with disaggregated data by municipality, residence, gender and other social aspects.

The data collected in the General Census of Population and Housing (2014) has been used in the calculation of the projections of the population for the period from 2015 to 2050. Data have been complemented with

information collected by the Multiple Indicators and Health Survey, IIMS 2015/2016 and from administrative data from 2013 by the Migration and Foreigners Services.

The information obtained is structured in two parts. The first contains a summary of the methodology used, and the second the projected population, including some demographic indicators, such as:

- Life expectancy at birth;
- Global fertility rate;
- Infant mortality rate;
- Crude birth and mortality rates;
- Dependency rates;
- Population growth rate.

The population projection was elaborated, by the National Statistics Institute (INE) using the method of demographic components (Birth, Mortality and Migration) from the data of the 2014 Population Census. The projections were made for the period 2014 – 2050 and, in addition to the national, urban and rural projections, projections were also prepared for each province disaggregated by area of residence. For the national and provincial projections, the software Rural-Urban Projections (RUP) and RUPAGG (program that allows grouping projections of different geographical units) were used by INE, both developed by the Census Bureau of the United States of America.

The aging index represents the quotient between the population aged 65 years or more and the population aged 0-14 years. In 2014, the aging index in Angola was 5 which means that for every 100 people aged 0-14 years (younger population) there were only 5 aged 65 or over (elderly population). All provinces have an index of less than 10, which means that in all provinces the population aged 0-14 years is higher than the population aged 65 or over.

The province of Cabinda as well as Luanda and Bié, have lower rates of aging with values below 4%, Zaire has values above 4% and below 8% compared to the provinces of Cunene and Bengo.

In Cabinda the population aged 0-14 years is 311,895 people, representing 44% of the total resident population. The age groups of 0-14 years of age and 15-24 years of age, represents about 62% of the resident population. The gap between young and old is huge, where only 11,774 people are 65 or older (about 2% of the province's population). The working-age population, in the range of 15-64 years, is 392,407 people, representing 55% of the population of Cabinda.

In the following Figure it is possible to observe the distribution of the population by the various municipalities of the province, with a higher concentration in the municipality of Cabinda.

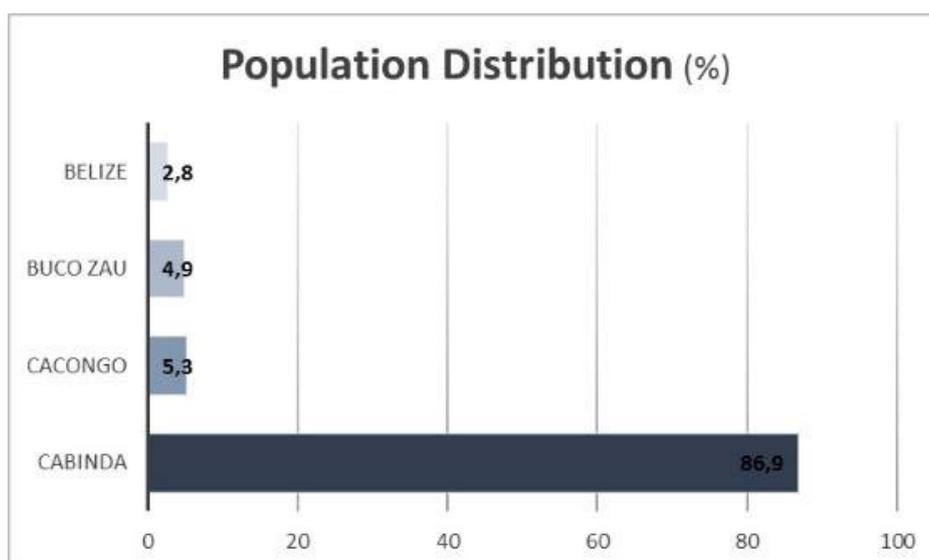


Figure 7: Distribution of the resident population by municipality in the province of Cabinda (INE, 2016 adapted).

According to the population projection data, by gender, in 2021, 2022 and 2023 Cabinda presents a trend of population growth as illustrated in the following table.

Table 2 – Projected population according to gender, Cabinda (2021,2022, 2023), source: INE-Edition 2016, population projection 2014-2050.

Province	Urban		Rural		Total	Year
	Men	Women	Men	Women		
Cabinda	358 154	363 768	74674	74 161	870 757	2021
	367 757	373 489	76 772	76 258	894 276	2022
	377 366	383 223	78 919	78 408	917 916	2023

In 2021, the population of the commune of Malembo was 7,231 inhabitants, in 2022 the population was constituted of 9,334 inhabitants, with 4,844 men and 4,490 women.

8.2.3 Vulnerable groups

The Ministry of Social Action, Family and Promotion of Women (MASFAMU) was created by the Diploma - Presidential Legislative Decree No. 3/17 of 3 October. The Ministry originated from the merge of two Ministries, the Ministry of Social Assistance and Reintegration (MINARS), and the Ministry of Family and Women's Promotion (MINFAMU). The scope of the Ministerial Department is the development of national and local statistics, an important tool in policy formulations. The technicians of the Provincial Offices of Social Action, Family and Gender Equality and the National Institute of Statistics (INE, 2020), develop statistical data, create indicators, and monitor the main projects and programs of the Sector².

In the different activities or components of projects, there is a high incidence of inclusion of former military personnel. A total of 1,457 individuals between men and women were integrated in all the provinces of the country, with great coverage to those of Benguela (193 people), Bié (120 people), Cabinda (227) and Cuanza

² https://www.ine.gov.ao/Arquivos/arquivosCarregados//Carregados/Publicacao_638028972857719746.pdf.

Sul (148), for a total of 688 people only in these provinces. 1,186 individuals, 81% of which were former military personnel, were integrated in these following activities: in Agriculture (393), Commerce (299), Moto-Taxi (267), Grinding (117) and tailoring (110). 450 people were also integrated into the community in the different activities, through the Offices of Social Action, Family and Gender Equity (INE, 2020). In the province of Cabinda (Belize and Cabinda) two social action and integration centers have been set up in 2020 (INE, 2020).

Angola has registered rapid economic growth that has been slowing down in specific periods of crisis. However, millions of people have not been able to benefit from this growth, and it is estimated that more than 30% of the population lives below the national poverty line. Without adequate social investments and addressing poverty, the social and economic impacts can be challenging in the long term.

About 40% of Angolan children under the age of 15 live in poverty, and although the reinforcement of social support may change very soon with new policies and strategies under Social Assistance (SA), in the next 10 years the population of children in poverty may increase by 30%.

A sound social protection system is key to reducing the vulnerability of families and communities. It is necessary to provide adequate human and financial resources and operational guidance for the implementation of essential policies and programmes in order to reduce poverty and building a more cohesive society.

UNICEF's Social Policy Programme (2016) was designed based on the National Development Plan and supports the efforts and goals of the Angolan government to strengthen and expand social assistance for the poorest and most vulnerable sections of the population.

It aims to improve children's social protection, policies and systems present in the country, increase the efficiency of public finances 'allocation to key sectors for children, and the production of data and evidence to support social policy advocacy work. The Programme has three main areas of action:

- Strengthening social protection;
- Data production; and
- Public finance.

Basic Social Protection is intended for the population that is in a situation of social vulnerability resulting from poverty, deprivation and weakening of relational bonds of social belonging, as well as to all those who suffer from gender, ethnic, age or disability discrimination. It aims to prevent risk situations through the development of potentialities and acquisitions, also intending to strengthen family and community ties.

Despite efforts and progress, social assistance in Angola remains fragile for millions of children. Social services are still small-scale, underfunded and have limited links with other sectors. Developed mainly in Luanda, and some provincial capitals, this type of services is almost non-existent in rural areas.

The lack of a system of integrated social services at local level is a major challenge to the protection of children, and it is necessary for the provincial governments and municipal administrations of the country to give them greater priority and more resources.

UNICEF Angola's Social Protection System Strengthening sub-program aims to support the creation of a solid social action system that allows the most vulnerable to emerge from the cycle of poverty, by strengthening the capacities of key Ministries in social action, such as the Ministry of Social Action, Family and Women's Promotion (MASFAMU), improving the design and operation of its programs, communication flows and coordination with other partners, through the following lines of work:

Municipalisation of Social Action (MAS)

The APROSOC (Support for Social Protection) program, funded by the European Union and led by UNICEF, support the Ministry of Social Action, Family and Women's Promotion (MASFAMU), for the design and testing of a new model of municipal social action focused on supporting the most vulnerable. The program includes the identification of the most vulnerable people, the referral to appropriate social services such as health, birth registration, justice and education, and the mobilisation of new actors and community projects. This is the first phase of the Municipalisation of Social Action (MAS), which will bring the necessary information to expand this new paradigm for the Social Action of the Angolan State³.

8.3 Land use

8.3.1 Land use in the Area of Influence

The land use in the province of Cabinda is divided into:

- Urban areas, with housing, commerce and services;
- Industrial plots;
- Agricultural areas;
- Forested areas that cover the largest extent of the province, with the following uses:
 - Use of the forest for commercial purposes;
 - Use of the forest for family consumption;
 - Logging and forestry treatments;
 - Forest harvesting.

Commercial logging in Cabinda is strictly limited to logging. The enclave of Cabinda is the largest supplier of timber in Angola, and the 85% of the wood is exported. In the period 1996-2000, 91 licenses have been issued by the IDF/Cabinda. Only one license has been issued for the extraction of firewood, demonstrating that the commercial use of the forest is based on wood extraction. Non-timber forest products are of less importance.

The communities of Mayombe have always used the forest as a livelihood resource. The population enjoy the law of customary use (extractive activity), which allows them to extract forest resources without commercial purposes, aiming to satisfy their basic food needs such as hunting, gathering of wild fruits, wood for construction and energy and agriculture in the areas where logging has already been carried out. As FAO underlines, in the Global South, the importance of the forest and its goods and services is connected to three aspects: the use of trees for fuel and other essential products; the provision of food; the provision of income that is obtained from the sale of these products and/or the generation of jobs (DENDE, 1999).

There is no defined forestry system. There is a period of forest closure (October – March) when, due to difficulties in accessing the exploration areas, extraction licenses are not granted. Access to the forest resources and the authorization for exploitation, is granted by national or provincial government(s), who are also responsible for supervision and reforestation programs. Forestry policies are established and enforced by the Ministry of Agriculture and Rural Development, the National Directorate of Agriculture and Forestry, which is the normative body, and the Forest Development Institute (IDF), which is the executive body. The IDF is responsible for licensing and supervising forestry activity in Angola at the national level and through its local offices at the provincial level.

³ <https://www.unicef.org/angola/fortalecimento-da-proteccao-social>.

In the commune of Malembo the land uses do not differ from the other municipalities and communes of the province, and include mainly forest areas, agricultural land, sacred sites (such as churches, cemeteries, places of public meetings), land for housing of the population. However, specifically in the commune of Malembo there is an industrial pole of national reference where there are companies linked to the oil sector such as the future refinery of Cabinda, Malongo base, Petromar, Champion X and others (Jornal de Angola, online 2011)⁴.

8.3.2 Land use in the Project site area

In the project site area, there are no land uses identified during the field work. The area is a grassland, with a few herbaceous plants and no traces of land use by the local community. The interviews conducted confirmed the field assessment, which means that no land use was reported.

8.4 Economy and employment

8.4.1 Angolan Economy

Angola has a scarcely diversified economy, mostly geared towards oil activities (capital intensive and, therefore, with no significant impacts on job creation) and export of oil products. An inclusive growth strategy should be based on activities geared towards the production of goods that meet basic needs of the population, activities that are labor-intensive and that would create jobs. Furthermore the state should focus on the use of endogenous natural resources and enhance the quality of the national supply chain (National Development Plan, 2018-2022⁵).

The growth of the Angolan economy accelerated in 2022. The national accounts published by the National Institute of Statistics reveal that until the second quarter of this year, the economy accumulated a real GDP growth of 3.2%. Already from 2021 there have been signs of economic recovery in the country, after the long recession that started in 2016.

In the General State Budget of the year 2022 (OGE 2022), the Executive predicted a real growth rate of global GDP of 2.4%, as a result of the 1.6% growth of oil GDP, and non-oil GDP of 3.2%. The National Accounts published by the National Institute indicate a stronger growth trend of 0.7% for 2021 rather than the 0.2% initially forecasted. Therefore the Executive updated the economic projections for the year 2022, indicating a growth of 2.7% in its Executive Macroeconomic Programming (SMEs). This slightly different global GDP growth of 2.7% is justified by a positive forecasts of increase of 2% in oil production, including gas production, as well as the growth of 3.2% of the non-oil sector, driven by the fisheries and derivatives sector (10%), the extraction of diamonds, the metallic minerals and other minerals sector (10%), the energy sector (8.3%), the transport and storage sector (8%), the manufacturing industry sector (5%), the agricultural sector (4.9%), and positive growth rates are also forecasted for "Market Services" (2.2%), "Others (Public Administrative Sector)" (1.5%) and "Construction" (0.4%).

Food and non-alcoholic beverages' prices are the ones that most contributed to the increase in inflation with 0.38 percentage points during October, followed by the classes of "Miscellaneous Goods and Services", "Education" with 0.08 percentage points each, "Clothing and Footwear" and "Health" with 0.06 percentage points, "Furniture, Household Equipment and Maintenance" with 0.05 percentage points each.

⁴ <https://www.jornaldeangola.ao/ao/noticias/detalhes.php>

⁵ file:///C:/Users/frrossi/Downloads/Angola_2018_Planning_External_NationalPlan_MinFin_ECCASSADC_Portuguese%20(1).pdf

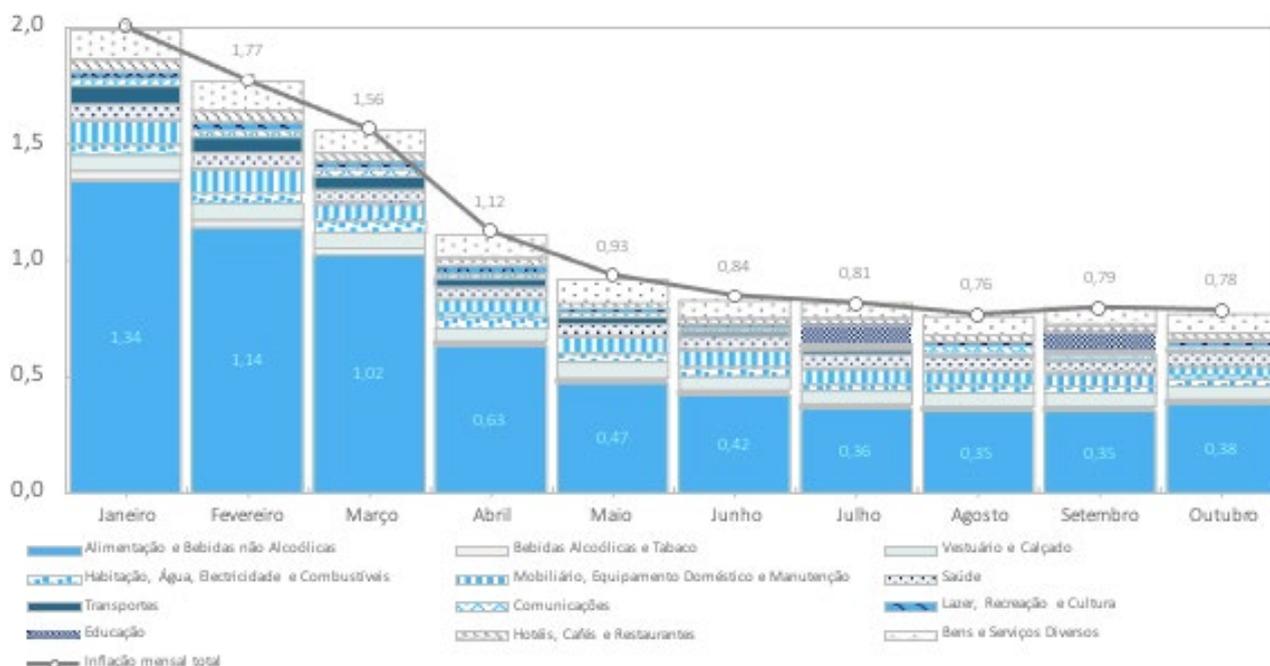


Figure 8: Monthly Inflation and Contribution by expense class, 2022.

8.4.1.1 National consumer price index (IPCN)

The National Consumer Price Index recorded a change of 0.92% from March to April 2023. Comparing the monthly changes (March to April 2023) there is an acceleration of 0.02 percentage points, while in year-on-year terms (April 2022 to April 2023) there is a deceleration in the current variation of 0.20 percentage points.

The following graph shows the change in prices during the month of April 2023, by province, in descending order, that is, from the largest to the smallest variation:

- The provinces that recorded the lowest variation in prices were: Bengo with 0.70%, Cabinda with 0.73% and Cuando Cubango with 0.74%;
- The provinces that recorded the highest variation in prices were: Namibe with 1.12%, Cunene and Zaire with 1.08% each and Uíge with 1.04%.

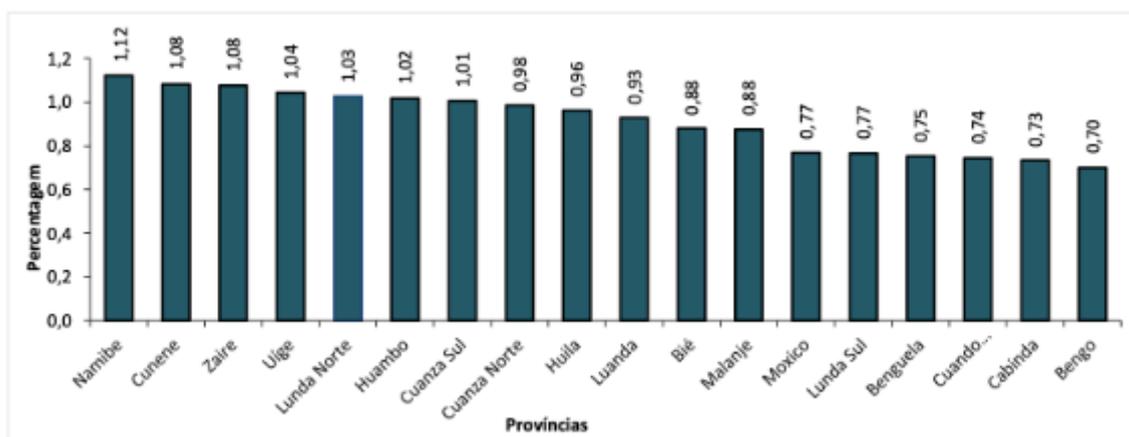


Figure 9: Monthly Inflation and Contribution by expense class, 2022.

The Figure 10 presents the rate of change of the IPCN by consumption classes. Four out of ten classes have rates higher than 1%. The "Health" class recorded the largest price increase, with a change of 1.91%. Noteworthy are also the price increases observed in the classes "Clothing and Footwear" with 1.55%, "Miscellaneous goods and services" with 1.45% and "Hotels, Cafes and Restaurants" with 1.22%. The Construction Materials Price Index (IPMC) showed a change of 0.9% in March 2023 compared to February 2023, so there was an increase of 0.2 percentage points compared to the previous month. The annual rate of change of the IPMC, from March 2023 compared to March 2022, stood at 8.0%. In the year-on-year variations, among the groups of Construction Materials, "Wood and Plywood" was the one that registered the largest increase in prices with 14.6%, followed by "Crushed Stone and Marble" with 12.5%, "Sand" with 11.6%, "Pipes and Plastic Accessories" with 11.5%, "Glass and Glass Articles" with 10.9%, "Blocks" with 10.1%, "Synthetic Products" with 10.0%, "Ready-mix concrete" with 9.8%, "Beams, Beams and Slats" with 9.2%, "Bricks" and "Steel" with 8.9% each, "Aluminum" with 7.2%, "Other Synthetic Products" with 6.7% and "Cement and Binders" with 3.6% (2022).

The groups of materials that contributed the most in the variation of the IPMC of the month of March are: "Steel" with 0.4 percentage points followed by "Ready Concrete" and "Cements and Binders" with 0.2 percentage points each, and "Blocks" with 0.1 percentage points.

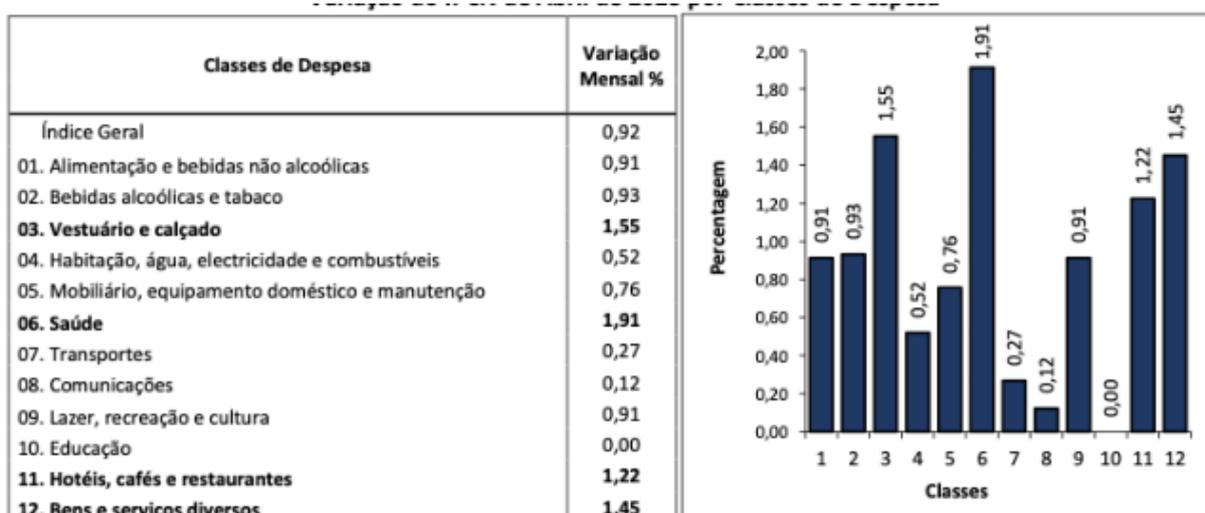


Figure 10: Variation of expenses by classes, 2022.

8.4.1.2 Labor market

According to the Employment Surveys in Angola, Angola have been experiencing a dynamic recovery of its economy since 2019, the labor market reinforced from the second quarter of 2021 (INE, 2023). The unemployment rate showed a downward trajectory, settling at 30% in the third quarter. The number of unemployed people was below 5 million from the first quarter of the year.

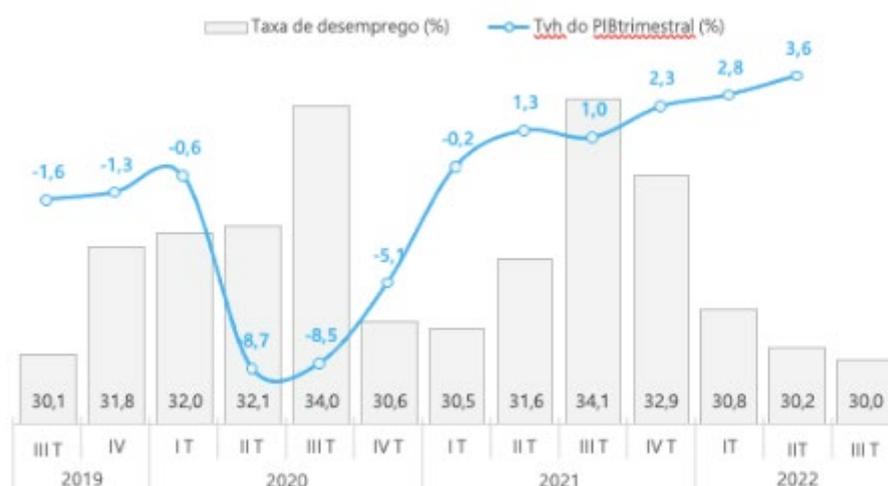


Figure 11: Unemployment rate and GDP variation

8.4.1.3 Gross Domestic Product (GDP)

For 2023, a strengthening in the recovery process of the Angolan economy is expected, with a real GDP growth of 3.30%, compared to the predicted 2022 growth of 2.7%. This forecast for 2023 is justified by an expected increase in oil and gas production of 2.98% (without gas, 2.8%) and the non-oil sector products at a rate of 3.42%.

These economic projections for 2023 were forecasted on the basis of the average price of USD 75.00 per barrel of oil, the average daily oil production of 1.1 million bbls, with inflation fixed at 11.1%, forecasted by the Executive.

Table 3 – Macroeconomic reference framework for 2023.

Variables. Macroeconomic	2020	2021	2022		OGE 2023
			OGE	SME2	
National Inflation (%)	25,1	27,0	18,0	14,4	11,1
Oil Production (thousand Bbl)/day	1,271.0	1,124.5	1,147.9	1,147.9	1,180.0
Oil Production (MBbl)	463,9	410,4	419,0	419,0	430,7
Average Oil Price (USD/Bbl)	41,3	71,2	59,0	100,0	75,00
Annual Gas Production (Thousand BOEPD)	116,0	128,9	134,2	116,3	137,0
Average LNG Price (US\$/BOE)	29,2	38,0	33,0	57,0	39,0

Source: Ministries of Economy and Planning, Finance and Mining Resources, Oil and Gas.

Table 4 – Table of GDP growth rate (2020-2022).

Real GDP Growth Rates (%)	2020	2021	2022		OGE 2023
			OGE	SME2	
GDP	-5,57	0,70	2,4	2,70	3,30

Real GDP Growth Rates (%)	2020	2021	2022		OGE 2023
			OGE	SME2	
GDP Oil and Gas	-8,30	-11,02	1,6	2,10	2,98
Oil GDP	-8,10	-11,53	1,5	2,08	2,80
Gas	-12,77	11,09	4,2	-9,73	17,75
Non-oil GDP	-4,70	6,40	3,1	3,20	3,42
Nominal GDP (billion Kwanzas) of which: Nominal Oil and Gas	34,158.32 8,733.49	47,045.00 14,130.22	54,578.2 13,825.4	55,759.07 14,695.42	61 012.40 13,477.03

Oil Sector GDP

For the year 2023, oil production is expected to continue to grow, with average daily production estimated at 1,180,000 barrels/day. Compared to the 2022 forecast (1,147.9 thousand barrels / day), this production represents an increase of 32.8 thousand barrels / day, due to the increase in production levels in Block 15/06 (8.59%), Block 14 (8.26%), Block 15 (8.24%), Block 31 (4.13%) and Block 17 (7.45%).

Non-Oil GDP

As a result of the implementation of the National Development Plan for the Production of Grains (PLANAGRÃO), approved by the Executive in July of 2023, agriculture's growth is expected to be around 8%. The objective of the National Development Plan is increasing the country's capacity to produce grains (wheat, rice, soybeans and corn), with a focus on the eastern part of the country, thus increasing the current production levels from 613,180 tonnes, observed in 2021, to 6,104,282 tonnes of grain in 2027. This Program covers the period from 2023 to 2027 and it is valued at Kz 2,852.75 billion, of which Kz 1,674.6 billion is for funding.

The forecasts for the Fishery sector point to an expansion of production of 10% in the year 2023, justified by the expected increase in industrial and semi-industrial fishing (10.3%) and in artisanal maritime (4.4%); the sector already grew by 46.4% in 2021. The Executive reaffirms its commitment to foster the production and transformation capacity of the Fishery sector within the scope of this new governmental cycle 2023-2027. The Executive has approved the National Plan for the Promotion of Fisheries (PLANAPESCAS), with the purpose of promoting entrepreneurial fishing activity and increase the production and processing of fish and salt, contributing to the development of trade and increase in tax revenues. PLANAPESCAS has a financial package of 135 billion Kwanzas, spread over five (5) years.

The Industrial Sector is expected to grow in 2023 by 2.9%, because of the increase in the production of electrical equipment (36.3%), plastic materials (27.9%), clothing (21.5%), food (18.1%), metallurgy (10.7%), and beverages (6.7%).

As for the construction sector, there are several large-scale projects currently ongoing within the framework of Public-Private Partnerships (PPPs). The projects identified to have potential to boost the economy are:

- Completion of the Construction and Management of the Centrality of Saurimo in Lunda Sul;
- Completion of the Construction and Management of the Tucuve Centrality in Cuando Cubango;
- Construction of the New Bridge over the Kwanza River;
- Construction of a motorway in the North-South Corridor with priority for the North/South axes (Soyo/Santa Clara-1,400 km);

- Rehabilitation, Operation and Maintenance of National Road 160;
- Rehabilitation, Operation and Maintenance of National Highway 250;
- Reactivation of the Benguela Bituminous Emulsion Plant;
- Reactivation of the Luanda Bituminous Emulsion Plant;
- Reactivation of the Namib Bituminous Emulsion Plant.

8.4.2 Economy in the Area of Influence

In the province of Cabinda, many agro-industrial plants are present, for processing food, meat and milk, in addition to the production of derivatives. Another important industrial category is logging, concentrated in the northern province of Cabinda.

In the past, the economy of Cabinda depended mostly on forests' products, such as coffee, coco and oilseeds. However, more recently, the economy has shifted towards oil production after the discovery of oil wells and now Angola is the third African oil producers, after Libya and Algeria. These wells have been found in a continental shelf off Malembo, in shallow waters ranging from 10 to 20 meters, 25 km north of the city of Cabinda, and at short distance from the coast. The Cabinda Gulf Oil Corporation's started operations on 27 November 1968, and since then oil extraction and treatment are the most important industrial activities in the province. In 2010, crude oil extracted in Cabinda represented about 70% of all oil exported by Angola.

Provincial agriculture tends to be subsistence-based, i.e. without exporting the surplus of products, concentrated mainly in the crops of coffee, cocoa, peanuts, bananas, cassava, potatoes, beans and corn. Other important activities are cattle herds (for milk and beef), chicken breeding (meat and eggs) and sea fishing.

The commune of Malembo is considered an industrial zone of national reference, where many companies linked to the oil sector are concentrated, such as the base of Malongo, Petromar, Champion X, and the Development Center (CDM). Several companies providing services linked to the oil sector are still installed in the commune of Malembo (Jornal de Angola online⁶).

The new Cabinda refinery, currently under construction, located in Malembo, 30 km north of the city of Cabinda, will have a refining capacity of 60 thousand barrels of oil per day. The first phase of the implementation of the same refinery began in 2021 scheduled to implement a capacity of 30 thousand barrels per day⁷.



Figure 12: Companies located in the commune of Malembo.

⁶ <https://www.jornaldeangola.ao/ao/noticias/detalhes.php?id=205892>

⁷ <https://www.voaportugues.com/a/5666148.html>

8.4.2.1 *Agriculture*

According to the 2014 census, the number of households in the province of Cabinda that practiced agricultural activities, was about 22%. Only 6% of households in the province carry out fishing activities, a percentage close to the national average. Cereals are the main type of crop grown, with about 31% of households planting it.

According to the information gathered during the stakeholder consultation activities (with the provincial secretariats), since 2018 the government invested in the Agricultural Promotion Program. In 2022, the Government prepared 57,000 hectares of land, it made available about 400 tons of seeds (corn and soybeans) and fertilizers to people living in the four municipalities of Cabinda. There is an agricultural production plan for crops such as cassava, corn, butter beans, soybeans, peanuts, sweet potatoes and bananas (Journal online,2022⁸). Furthermore the Provincial Government will make available to families, 33,000 chickens, 110 pigs, an equal number of goats, 1,500 moto cultivators, 80 pulsators, 34 machetes and an equal number of hoes.

According to the head of the Department of Agriculture, in the 2021/22 agricultural season in the province of Cabinda, the production of vegetables resulted in a harvest of about 3.500 tons, with the involvement of more than 100 farmers, families and entrepreneurs.

In the commune of Malembo 1875 families, 7 cooperatives and 5 associations are involved in agricultural activities. Crops such as bananas, cassava, potatoes, and beans are the most cultivated throughout the year. The most productive time of the year goes from May to November and the least productive from June to October.

60% of families' production involved in agricultural activities is used for personal consumption and 40% is sold. On average, workers engaged in agricultural work earn between 20,000 and 25,000 kuanzas per month (Provincial Secretariat of Agriculture, Fisheries and Livestock, 2023).



Figure 13: Types of agricultural plots in Malembo.

8.4.2.2 *Breeding*

According to the information obtained during the Stakeholders consultations, namely with the Provincial Secretariat of Agriculture, Fisheries and Livestock, the province of Cabinda has experienced remarkable growth in livestock in recent years, with a record of more than 95 pigsties, 70 goat sties, 110 chicken coops, bringing the current capacity to 20,000 chicks per month, 650 goats and an equal number of pigs, which are being distributed to the communities. The production of feedstock and a logistics center for the conservation of this production (with silos, dryers and a feed factory) is increasingly urgent and in demand.

⁸ <https://www.jornaldeangola.ao/ao/noticias/cabinda-espera-colheita-anual-de-1-600-toneladas/>

Cattle ranching in the commune of Malembo has been leveraged through government programs, in which the breeding of animals in family agriculture has been encouraged. Animal feed is purchased mostly in Luanda or Congo Brazzaville, at a price that fluctuates depending on the international market. The main challenges in the livestock sector have been the guarantee of technical assistance and the promotion of organization and associations among the communities (Provincial Secretariat of Agriculture, Fisheries and Hunting).



Figure 14: Breeding of animals in the community.

8.4.2.3 Other economic sectors

Besides the industrial areas associated with the oil sector and the agriculture and fishing, which are the predominant economic activities in Malembo, the commune has several commercial smaller scale establishments such as canteens, mechanical workshops and various services to support oil activities, that serve as means of income for several families.

8.4.3 Employment, income and expenditure

8.4.3.1 National Data

According to the 2014 Census Data, the economically active population in Angola represents 87% of the total population aged 15-64 years. The employment rate of the population over 15 is 40%, being higher among men (47%) than among women (34%). As shown in the following figure, the rural area has a higher employment rate than the urban area (50% versus 34%).

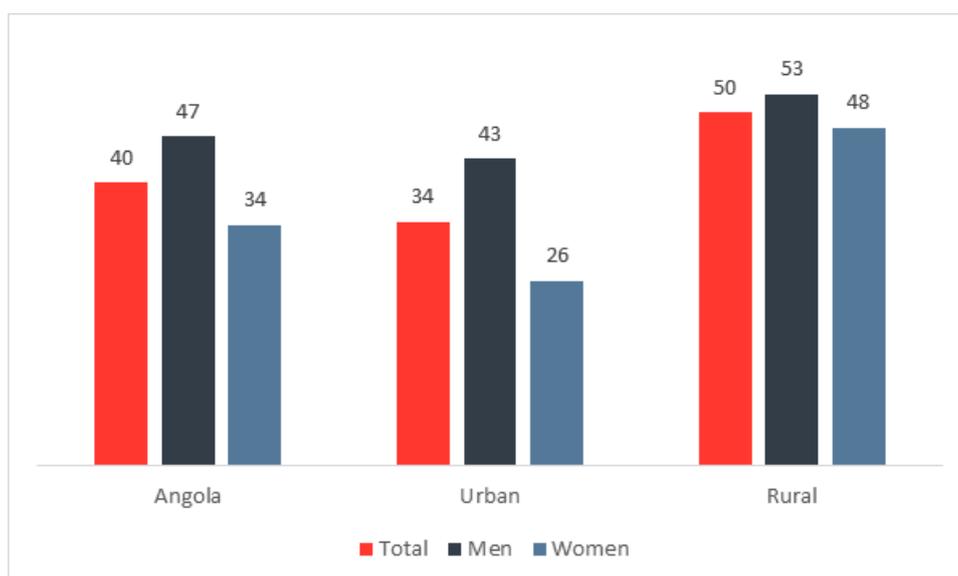


Figure 15: Employment rate by gender (INE, 2017).

According to the 2015-16 Survey of Multiple Indicators and Health in Angola (IIMS) , the sectors of economic activity that generated the most jobs were agriculture (34%), wholesale and retail trade (20%), domestic staff (12%) and public administration, defense and mandatory social security (9%). The education sector is the one that employed the least, with about 2%

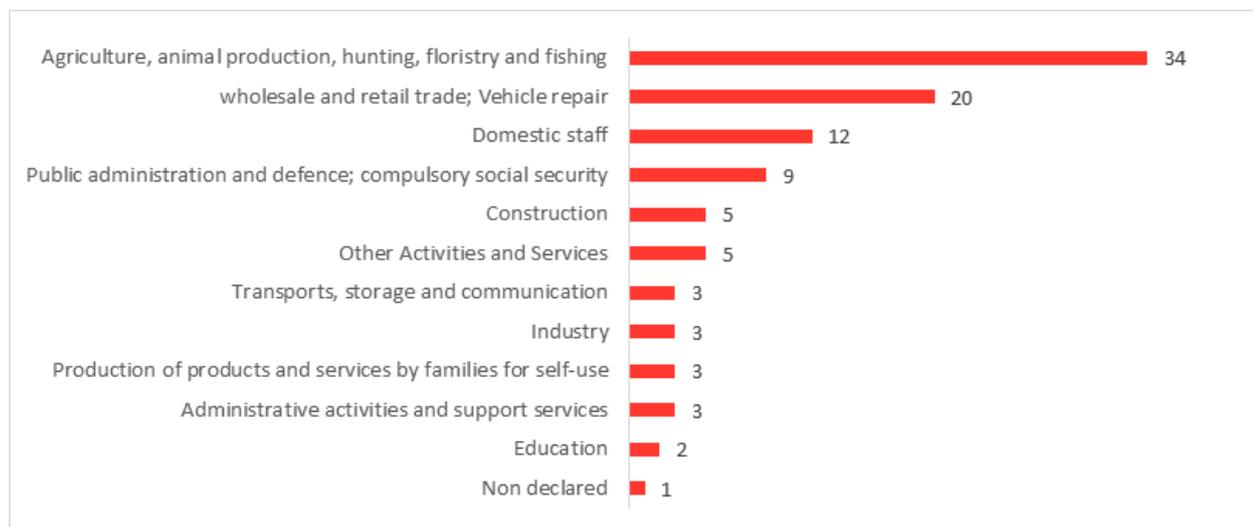


Figure 16: Employed population by main activity (INE, 2017).

The country's unemployment rate stands at 13%, with the rate in the urban area (15%) almost double the rate in the rural area (8%). The level of education is fundamental to the levels of employability in the country, especially among women. The unemployment rate ranges from 11% among the uneducated to 27% among those with secondary education or more. Among men and women with the same level of education, women are more likely to be unemployed. This gap grows with the increase in the level of education.

All persons aged 15 years or over who, in the reference period, were simultaneously in the following situation shall be considered unemployed:

- Not working and not having a job;
- Available to work;
- Looking for work;

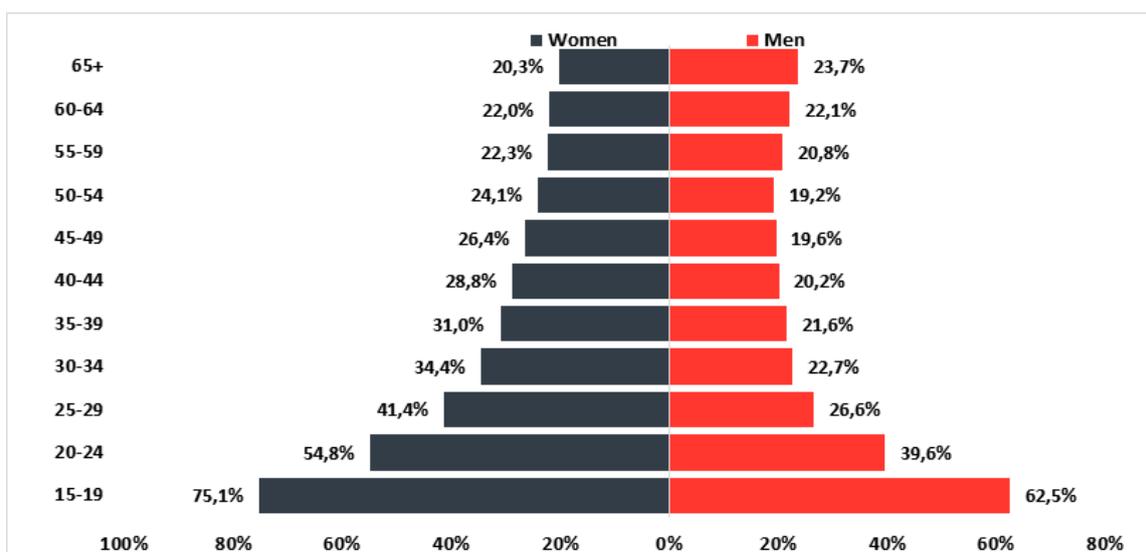


Figure 17: Employment rate by gender and area of residence (INE, 2017).

8.4.3.2 Cabinda Province

According to the data collected at the provincial secretary of Public Administration and Social Security, 2023, the employment rate in the province of Cabinda in 2021 was 44.5%. In the context of employability and combating poverty, Presidential Decree No. 113/19 of April 16, which promotes the following measures to improve youth employability:

- Promotion of professional traineeships for young people trained in the vocational training, education and higher education system;
- Assignment of professional kits (work tools), for the promotion of self-employment;
- Process of revalidation of professional competences for attributions of professional portfolios to young people trained in informal contexts;
- Support of various youth initiatives in different sectors in training activities and obtaining incentives;
- Training in entrepreneurship and basic management of small businesses;
- Assignment of professional portfolios through the process of validation of professional competences.

The province has professional training centers such as:

- Caio Vocational Training Center;
- Integrated Centre for Vocational Employment and Training of Buco-Zau;
- Dingé Rural Training and Crafts School;
- Arts and Crafts Training Pavilions in Massabi, Necuto and Belize;
- Mobile units for mechanical training and sewing.

The data obtained during the consultations with the stakeholders report that there is a great expectation of young people to obtain the first job within the industrial zone of Malembo.

It is estimated that the Cabinda refinery project will employ during construction about 2000 people at peak, of which 400 people have been already working since the first phase.

In terms of employment, the population of the commune of Malembo is mostly engaged in agriculture and fishing. Young people are engaged in support services for construction, administration, workshops, merchandise sales and other tertiary activities.

8.5 Education

8.5.1 Education in Angola

UNESCO 2012 (Education for All table) rates Angola as a country with a low educational development index, occupying the 111th place among 120 countries with a value of 0.685. In the Gender Parity Index (2010) Angola rated 0.734, due to low transition rates and high dropout rates of girls and adolescents in secondary education, particularly in rural areas (gender parity level of 0.54 compared to 0.932 in rural areas).

Between 2008 and 2013, several international organizations such as the ESCR Committee, the Committee on the Rights of the Child and the CEDAW Committee expressed their concern about the current situation of the right to education for all Angolans. The National Education for All Plan included important objectives such as increasing current literacy rates (65.6%-2011) by 50% by 2020, in particular for women, as well as achieving gender parity in primary and secondary education by 2015.

In recent years, the education sector has made considerable progress, including the substantial increase in school enrolment at all levels (more than 2.5 million children in primary education since 2003) and the increase in school attendance rates (more than 3.5 million children have attended schools since 2003). On the other hand, enrollment in adult education and literacy programs has nearly doubled in the last decade, from about 320,000 in 2012 to more than 578,000 in 2022, according to data from the Ministry of Education.

However, relevant and complex challenges persist in the education system at various levels such as management, access, equity and quality of education. The country shows a weak capacity for school preparation through Early Childhood Education, with only 9.3% of children aged 3-5 years attending pre-school ECD programs. Despite large investments in the construction of schools, the availability of classrooms has not remained proportional to the rapid increase in the number of students.

Regarding the level of education, and according to the Survey of Multiple Indicators and Health (IIMS) in Angola 2015-2016, there is a gender gap, with men at the highest levels of education and women at the lowest levels of education:

- 22% of women and 8% of men aged between 15 and 49 have never attended school;
- 35% of women and 30% of men attended primary education (of which 6% of women and 8% men completed primary education but never attended secondary education);
- 38% of women and 55% of men attended upper secondary education (of which 7% of women and 13% of men completed upper secondary education but did not attend tertiary education);
- Only 5% of women and 8% of men have attended or completed higher education;
- The percentage of women who can read is clearly lower (58%) than men (84%).

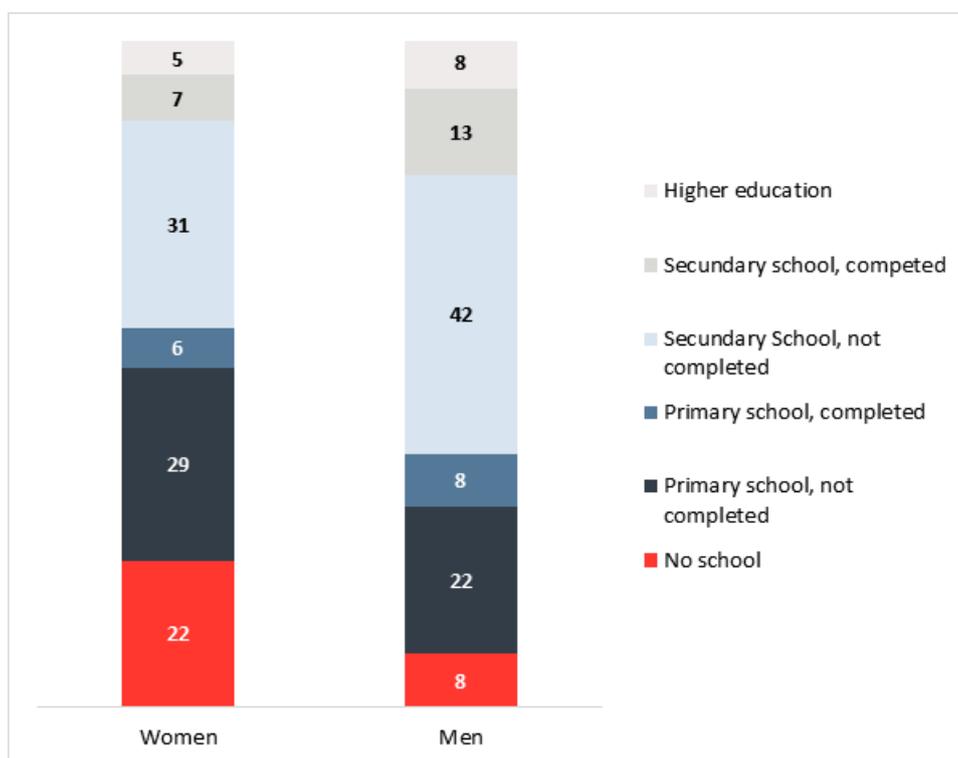


Figure 18: Percentages of schooling by gender (INE – IIMS – 2017).

The level of education is higher in the younger generations, in both genders. More than half of women aged 15-24 (53%) have attended secondary or higher education, a percentage that drops to 22% in the 45-49 age group (the difference is of 31 percentage points). The same applies to men: this percentage varies between 64% in the 15-24 age group and 53% in the 45-49 age group (difference of 11 percentage points). The level of education is higher in the urban area. Some 51% of women and 66% of men aged 15-49 living in urban areas have reached secondary level, compared with only 10% of women and 28% of men in rural areas.

The level of education increases as the socio-economic level of the household increases. Thus, 65% of women and 68% of men in the fifth socioeconomic quintile attended secondary education against only 7% of women and 18% of men in the first quintile. In urban areas, 72% of women and 92% of men aged 15 to 49 are literate, compared with 25% and 63% in rural areas, respectively.

Most men and women (84% and 58%, respectively) are literate. Among women, the lowest literacy rate in the country is found in the province of Bié (25%) and, among men, in the province of Cunene (64%).

In Cabinda, only 21% of the population aged 18 or over has completed secondary education (12th or 13th grade).

Table 5 – Education level of the population over 18 years of age (INE, 2014).

Province	Never attended	No level	Primary education	I cycle of education secondary	II cycle of education secondary	Higher education
Cabinda	17,8	14,4	22,0	21,7	21,2	3,0

According to the African Union's Agenda 2063, Education and Higher Education are also a priority area of intervention to fulfil the aspiration for prosperity based on inclusive growth and sustainable development. To this end, this continental agenda refers to the need to carry out a "Revolution in Qualifications led by Education, Science, Technology and Innovation", identifying strategies that should be followed by countries, such as:

expanding the school network of Pre-school, Primary and Secondary; increase the number of qualified teachers at all levels of education; make Technical-Vocational Education more accessible to women, ensuring more qualified technicians for the labor market; promote high-quality postgraduate courses in order to increase the research and development (R&D) capacity of African universities.

Education and Higher Education are also part of the United Nations 2030 Agenda, seeking to "ensure access to inclusive, quality and equitable education and to promote lifelong learning opportunities for all" (SDG 4). Within the framework of the PDN 2018-2022, the following intervention priorities for Education and Higher Education policy are defined in Angola:

- Adapt the network of initial teacher training to the current and future needs of duly qualified teachers in pre-school education, in Primary Education and in each subject of the I and II cycles of Secondary Education (general, technical-professional and pedagogical);
- Improve and expand the pre-school network of kindergartens and ensure the compulsory schooling of children aged 5 years in the initiation class;
- Increase the schooling rate of Primary and Secondary Education, improve the quality of education provided in the network of schools, combat school failure and ensure the inclusion and pedagogical support to students with special needs;
- Promote the improvement of Technical and Vocational Education and Training, ensuring greater participation of students in curricular internships in companies, with an increase in technical-professional courses according to the needs of the labor market;
- Intensify literacy and education of young people and adults;
- Improve the physical and health conditions of students and make the school an inclusive and well-being space;
- Improve the network of Higher Education Institutions (HEIs), increase courses and graduates, increase the supply of postgraduate courses and improve the quality of teaching provided with the reinforcement of the qualification of masters and doctors;
- Develop the system of evaluation and certification of Higher Education;
- Promote R&D in universities and research centers in the country, with career researchers, equipped laboratories and connection with international research networks and dissemination, sharing and access to data, national and international.

The Education Policy is the responsibility of the Ministry of Education (MED), and aims to provide students with general and technical knowledge for the different branches of economic and social activity of the country, preparing them, simultaneously, for integration into working life and access to Higher Education.

The National Education Development Plan "Educar Angola 2030", in execution since 2017, is the guiding instrument of this sectoral policy, which is also part of the PNFQ, with the MED being responsible for the implementation of "PA 2 - Training of Middle Managers" and "PA 4 - Training of Teaching Staff, Specialists and Researchers in Education" (under the PNFQ 2013-2020).

The Ministry of Higher Education, Science, Technology and Innovation (MESCTI) is the competent body for the formulation and implementation of the Policy for Higher Education, aiming at the training of senior staff and ensuring them a solid scientific, technical, cultural and human preparation. It is also responsible for the functioning of the system, which presupposes the harmonious coordination of all HEIs (respecting, of course, the different autonomy regimes, conferred by law). It is also up to this Ministry, under the PNFQ 2013-2020, the

implementation of "PA1 - Training of Senior Staff" and "PA 3 - Training of Teachers and Researchers for Higher Education and National System of Science, Technology and Innovation".

8.5.2 Education facilities in Cabinda

The teaching and learning system of Cabinda's entire province comprises 286 public and 53 private schools, making a total of 340 schools, which corresponds to 2,102 classrooms. The teaching staff is composed of 3.895 people, a number that grew with the admission of 791 more teachers, in 2019 (Angop, 2019). About 200,000 students were enrolled in 2019 in the municipalities of Cabinda, Cacongo, Belize and Buco Zau, against the 180,000 enrolled in 2018 (PDN 2018-2022).

8.5.3 Education facilities in the Commune of Malembo

The education system in the commune of Malembo consists of 5 primary schools. The number of enrolled students corresponds to 125 students of the primary, 73 of the I cycle and 40 students of the II cycle. There are no private high schools or universities in the commune of Malembo. It is estimated that the literacy rate of in the province of Cabinda is 87% and in the commune of Malembo 32%. For young people, between 15 and 24 years, the literacy rate is 58% in the commune of Malembo and 79% in the province of Cabinda.

The enrolment rate, in the commune of Malembo, for the year 2021/2022 was 86% in primary schools and 14% in secondary schools. The student-teacher ratio in the commune of Malembo is 29 students per teacher, against 37 students per teacher in the province of Cabinda.

It is estimated that, in Cabinda, 65,028 children are outside the school system due to the distance they must travel daily, lack of public transport, lack of school meals and financial conditions.



Figure 19: Example of school infrastructure in Malembo commune - Tchifimbo Primary School.

8.6 Community health, safety and security

8.6.1 Overview of the healthcare system of Angola

In Angola, the current context of the health sector is characterized by the existence of a regulatory framework in line with the National Health Plan (PNS) and the National Health Development Plan (PNDS) 2012-2025.

The 2012 PNDS identified some of the main weaknesses of the Health Sector, namely: scarcity and asymmetric distribution of qualified human resources at all levels; insufficient health coverage and difficulty in maintaining existing health units; high rates of maternal and infant mortality; high level of malnutrition in children under 5 years of age; high incidence of chronic non-communicable, infectious and parasitic diseases, especially major endemic diseases, respiratory and diarrheal diseases as well as the persistence of outbreaks of cholera, rabies and measles; marked difficulties in the Health Management System and an inadequate funding model.

33.1 % of Angola's population is made up of young people (between 10 and 20 years of age). The high total fertility rate of 6.4 children and the low modern contraceptive prevalence of 12.8 % (2010) contributes to an annual population growth rate of 3.2 %. As a result of unprotected sex, limited availability, and poor access to pro-youth sexual and reproductive health services, the fertility rate of young people is 152.1 per 1,000 women aged 15 to 19. This leads to high maternal mortality and morbidity (450/100,000), obstetric fistula, stillbirths, and unsafe abortions. (UNPAF, 2015-2019⁹).

Public health in Angola is not limited just to low number of doctors: there are problems of distribution and retention of professionals, infrastructure, and financing. The number of doctors and infrastructure is still not sufficient to meet the needs of the population. It was found that the public health network at the national level consisted of 111 health structures (provincial hospital and municipal hospitals, clinics, centers and health posts). Of the total, 47.7% were in good physical condition, 22.5% reasonable and 29.7% poor, most of which were closed. The elements considered in this classification were the condition of the physical structure, namely, the state of conservation of walls, roof, doors and windows, electrical network, sanitary facilities, sewage network, and the operability of its equipment. The health sector at the national level points to serious weaknesses both in terms of infrastructure and human resources. The National Health Policy points out that the weakness associated with human resources is mainly due to their scarcity, often compensated hiring foreign professionals through international cooperation; moreover the distribution of resources is unbalanced in the country and there is reduced specialized workforce.

According to UNDP data (2018 Statistical Update) there are 1.4 doctors (data from 2007-2017) every 10,000 inhabitants and only 8 beds (data from 2007 – 2014) for the same number of inhabitants, which position Angola as a country of “average human development”.

Although the state of health of the Angolan population is considered to be of “average human development”, the sector has been improving, with average life expectancy increasing from 51.9 years in 2013 to 55.8 years in 2016. Mortality rates have also been declining however continue to be considered high. According to 2016 data, the mortality rate is 54.6 children per 1000 live births and 203 women and 277 men per 1,000 people. The maternal mortality rate (2015 data) is 477 per 100,000 live births (UNDP, 2019).

The health network in Cabinda consists of about 370 beds (for all services), 255 in the municipality of Cabinda, 40 in Cacongo, 40 in Buco-Zau and 35 in Belize. The provincial average is 1.6 beds per thousand inhabitants, a figure below the needs, considering that in some hospital services including the HCC (in pediatrics and gynecology), hospitalization is requested for more than one patient per bed.

The provincial network includes:

- 1 municipal hospital of secondary level located in the capital Cabinda;
- 10 health centers and 10 medical posts;
- 16 doctors (of which 12 expatriates and 4 nationals); and
- 349 technicians from various specialties;

The health of the majority of the population of Cabinda has been improving in recent years, mainly due to the extension and improvement of the services of the health network, with great support from the Cuban medical brigade. In addition, efforts are being made to improve the structures that contribute to the fight against major diseases, such as basic sanitation, waste collection and treatment, and increased distribution of drinking water, whose degree of coverage is little more than 25%.

⁹ https://www.afro.who.int/sites/default/files/2017-06/angola_unpaf-angola--8-july-2014-port-final.pdf

8.6.2 Healthcare facilities and epidemiological data in the survey area

The health network in the commune of Malembo is formed by two health centers located in the Sassa-Zau neighborhood and 5 medical posts located in the neighborhoods Tchifimbo, Fulita, Buco Mazi, Tchele. These units provide the services of general consultation, laboratory analysis (HIV tests, Hepatitis A, B, Malaria), maternity and hospitalizations. The staff consists of 1 registered doctor, 43 nurses and 22 traditional doctors. The main pathologies recorded, and the major causes of mortality are malaria and diseases of arterial hypertension in older people.

The following table presents the number of the population assisted by the reproductive health department in the year 2021-2022 (provincial health secretariat).

Table 6 – Assisted population, reproductive health (2021/2022).

Description	Percentage	Assisted population	
		2021	2022
Pregnant women who received assistance and follow-ups	87,3/80%	476/	535
Births attended by specialized health professionals	11,6/12%	40	43

The adult mortality rate in 2021 was 1% and 1.2% in 2022

In 2022 the most recorded diseases were: malaria, high blood pressure, typhoid, blood diarrhea and intestinal parasites. The percentage of incidence of these diseases in relation to the total cases treated was 40% in 2022.

Table 7 – Assisted population, 2021/2022.

Description	Number of patients assisted	
	2021	2022
Ambulatory	4.159	5.644
Motherhood	40	43
Family planning	410	749
Paediatrics	1.228	455

The health system in the commune of Malembo presents difficulties and lacks technical staff for the daily demand, drugs and support services, such as public transport and ambulances for transfers in more severe cases. The units are not properly equipped to handle cases of specialties such as COVID19. In 2021, in all the provincial hospital of Cabinda, 26 severe cases were referred, compared to the year 2022 with 24 cases (*survey of the provincial secretary of health*).



Figure 20: Example of medical units in Malembo - Medical post.

8.6.3 Safety and security

Data on the proportion of the population aged 15 years and over report that the 36.4% nationally consider their residence to be unsafe, 48.9% in the urban areas and 14.4% in the rural areas (IDREA, 2018-2019¹⁰).

In the province of Cabinda, a survey on the perception of insecurity in the area of residence in the year 2018-2019 has reported that 33.0% of the population with 15 years of age or more considers its zone of residence as unsafe or dangerous. Most respondents who feel more insecure in their homes are women with the 52.9%, compared to the 47.1% of men. The period of greatest insecurity was considered the night with 60.3%, followed by day and night with 18.3% and daytime with 1.6%.

The commune of Malembo, according to the reports of families and local authorities, is considered safe; the most common crimes reported to happen in the commune are theft of chickens, goats and agricultural products (*Family Inquiries data*).

8.7 Mobility and infrastructures

8.7.1 Housing

Most households (69.7% of the total population) in the municipality of Cabinda live in their own housing, that they built themselves (adobe houses) or hiring a local contractor. The 8.5% live in houses rented by privates and 4.3% in houses given by the state. Each dwelling has on average 3 rooms, with the average number of sleep-only rooms of 1.6 and the average number of people per room of 2.9.

Table 8 – Population with housing (INE, 2016).

Average of Divisions		Average rooms only for sleeping per dwelling	Average number of people per Sleep-only room
Angola	2,7	1,6	2,9
Urban	2,9	1,8	2,7
Rural	2,4	1,4	3,1

¹⁰ <https://www.ine.gov.ao/Arquivos/arquivosCarregados>

The commune of Malembo has adobe, sheet metal and masonry houses. Usually these dwellings are built by members of the community. The land for construction is obtained through authorizations by the local authorities in order to avoid possible occupations in places considered sacred, or reserves of the state (data from the leaders' field survey, 2023).

In Malembo the majority of households live in their own housing (70%), 19% live in rented houses and only 6% live in houses purchased or in the process of being purchased. Each dwelling has, on average, 3 divisions, including living room, bedroom and kitchen. Often the toilet in the form of latrine is outside in a compartment behind the house. A house corresponds to a capacity of 5 to 7 people on average (*data from field household surveys, 2023*).



Figure 21: Types of adobe houses in the commune

8.7.2 Water Supply Network

In Angola, just over half of the households (53%) have access to safe drinking water sources, 67% of which are in urban areas and 32% in rural areas. In urban areas, 22% of households have piped water inside the house or inside the yard (safe drinking water) and 21% get water to drink from a tanker, small tank wagon or three-wheeled motorcycle (unsafe water sources). In rural areas, 39% of households get drinking water from lakes, ponds, creeks or irrigation canals (unsafe water sources). Between 2008-2009 and 2015-2016, household's access to drinking water sources increased by 12 percentage points (from 42% to 54%). However, this improvement was mainly in urban areas.

According to the national action plan for energy and water, the current urban water supply coverage rate (data from 2020) was 60%, and it has increased to 85% in 2022. Despite important progress made in some provincial systems, the largest share of the investment is directed to strengthening the water supply capacity of Luanda city through the "Bita" and "Quilonga" systems.

In Cabinda, according to the 2014 census data, 73% of households have access to safe drinking water sources. According to statistics, 111.456 households (79.9%) in the urban area and 10.571 households (38.1%) in the rural area have access to safe drinking water sources.

There are significant differences in access to safe drinking water among municipalities. Belize has the lowest figure (about 7 times lower than the provincial average). In this municipality, only about 10% of the population has access to drinking water, as illustrated below.

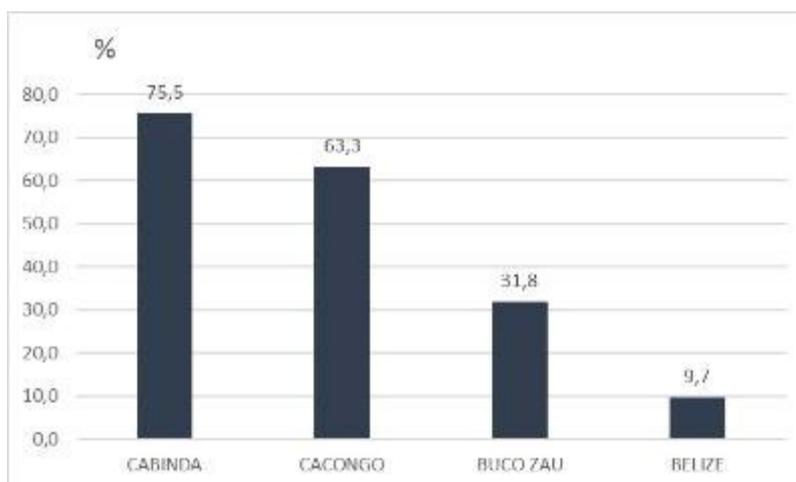


Figure 22: Households with safe water sources in Cabinda (INE, 2016).

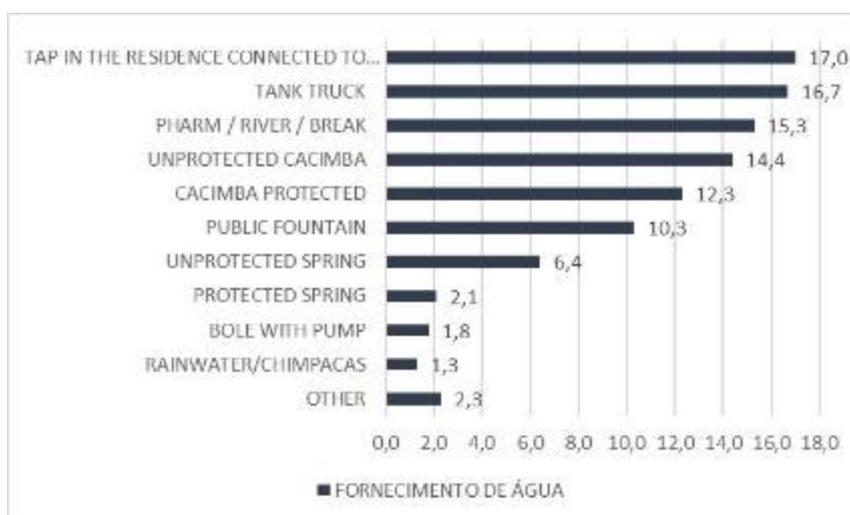


Figure 23: Sources of water supply for drinking from households in Angola (INE, 2016, adapted).

Figure 23 shows the different sources of drinking water supply in Angola. In the center of Cabinda 37.6% of the population has connection to the public network, while in the peripheral areas 29.9% of the population is provided by protected cacimba (water springs) and another 12.6% by tanker.

The government of Cabinda is arranging the construction of a water collection and treatment system, the “Cabinda Water Supply” project in Angola, built by China Railway 20 Bureau Group Corporation (CR20). The project would successfully achieve the goal of household connections with DN90 pipeline for water supply in the province. This Chinese loan project is the largest water supply project under construction in Angola. The construction period is projected to be around 23 months and the contract value is of \$120 million. The project includes the construction of major water supply pipelines, water collection and purification facilities, storage tanks, water analysis laboratories, and supply networks. The project would cover 92% of the population living in the province of Cabinda, and 600,000 people in the area will benefit directly upon completion.

So far, household connections with DN400 pipeline for 16.6 kilometers and a water inlet with DN300 pipeline for 18 kilometers have been completed. Almost 5,000 residents have now access to drinking water in seven water collection points..

Regarding water supply in the Malembo Commune, water is obtained mainly through fountains, buckets and wells of natural water.



Figure 24: Sources of water supply in the commune of Malembo.

8.7.3 Energy Supply Network

The electricity sector in Angola consists of 5 independent main systems, based on hydroelectric plants, namely, the North, Center and South Systems and the Isolated Systems.

The energy sector does not cover the entire Angolan population. Access to electricity is discontinuous, leading people and companies to resort to other sources of energy supply such as independent generators or only to lighting sources. Only 32% of households in Angola have access to electricity from the public grid. Moreover, the supply is also not evenly distributed across all provinces, with some provinces able to provide electricity to just 5% of households, as can be seen in the following figure.

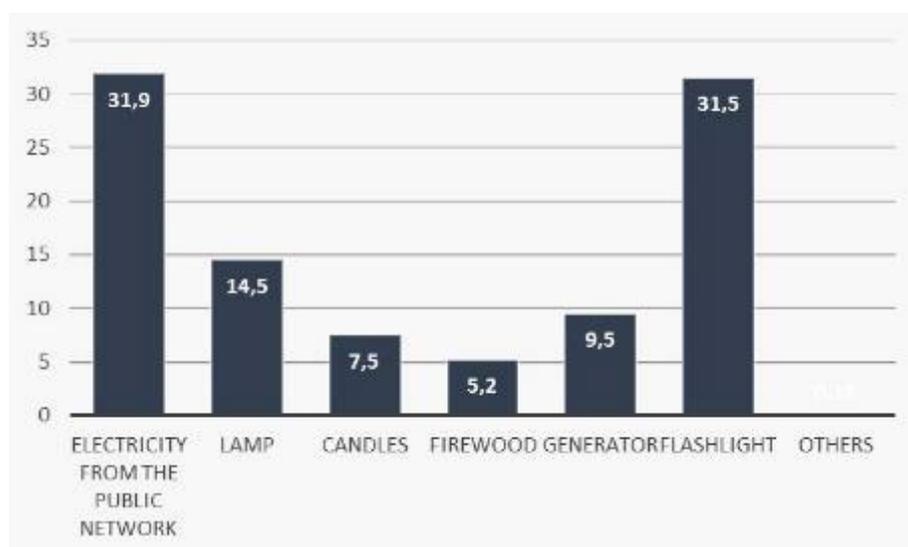


Figure 25: Distribution of the electrification network at national level.

The power supply in the commune of Malembo is considered scarce. Most of the neighborhoods, apart from Malembo village, do not have electrical power from the grid, and the use of lanterns and candles for lighting the houses is very common. The new power plant at Futila has a capacity of production higher than the effective demand and reportedly will be available to supply all the economic development of the Malongo complex area as well as the surrounding communities, once grid connection is completed.

8.7.4 Basic Sanitation

The conditions of sanitary facilities can contribute to the transmission of diseases such as cholera, typhoid and others, so it is important to use clean and non-shared sanitation facilities. This also includes a poor and undeveloped system of waste management (no structured landfill are present in Cabinda).

In Angola, about one-third of the households (32%) have some type of safe and clean, non-shared sanitary facilities and the proportion is higher in urban areas (46%) than in rural areas (11%). On the other hand, more than half of households have unsafe facilities (53%) and this percentage is almost three times higher in rural areas than in urban areas (86% and 32%, respectively (IMMS, 2016).

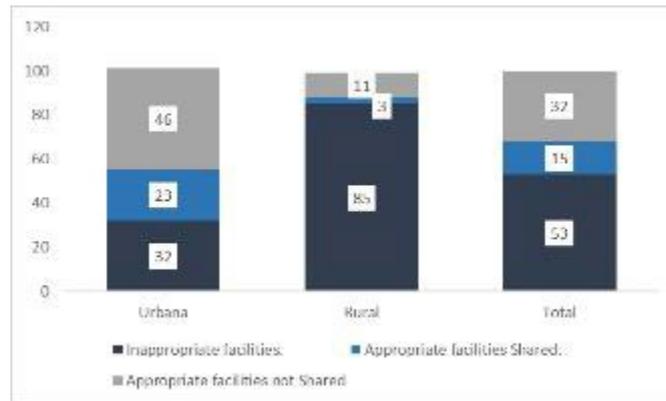


Figure 26: Appropriate and Inappropriate sanitary facilities at national level (IMMS, 2016, adapted).

At the national level, it is verified that the vast majority (71.13%) of the households in the urban area use toilet connected to a septic tank, while in the rural area this number corresponds to only 25.94% of the population. The use of latrines (not water connected) connected to septic tanks, in the rural areas is 67.07% while in the urban area corresponds to only 19.54%.

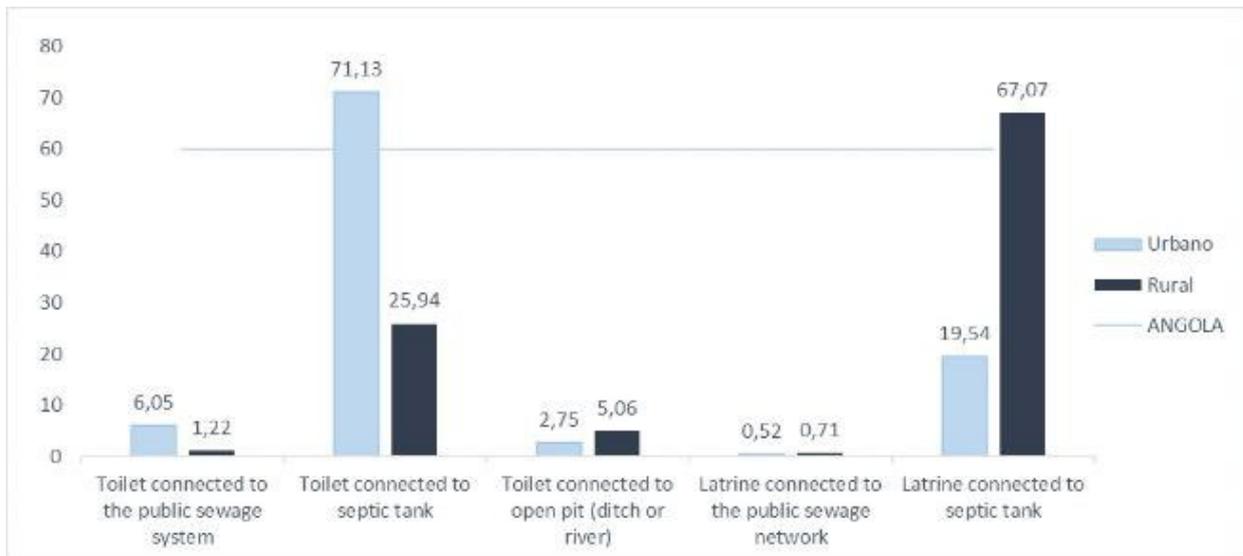


Figure 27: Basic sanitation at national level (adapted, INE, 2016).

At the provincial level of Cabinda, about 76% of the households use sanitation system, connected to sewerage. However, the figure shows that it is only for the 63% of people in rural areas against 79% of people in urban areas. Additionally discharge of septic tanks is uncontrolled especially considering the lack of a structured landfill.

Only 20% of households deposit garbage or solid waste in proper facilities. Garbage is deposited outdoors by 76% of households in the province of Cabinda, with 74% among residents in urban areas and 87% among residents in rural areas. Only 21% of households living in urban areas deposit garbage in containers (INE, 2016).

In the commune of Malembo there is no functioning basic sanitation network. Most of the waste is burned and buried. Families do not have sanitary facilities connected to septic tanks and the most common facilities are of the type *retrete*/latrine, where families prepare an excavation of more than 3 meters deep (*data from field household surveys, 2023*).



Figure 28: Type of sanitary facilities in the commune of Malembo.

8.7.5 Mobility

8.7.5.1 Terrestrial mobility

The road network of Cabinda corresponds to a total of 1,210 km, of which about a third is paved. The remaining two-thirds are unpaved and constitute the secondary and tertiary network of the province. The main road (national road) connecting the City of Cabinda to Belize crosses both the municipalities of Cacongo and Buco-Zau. In Cacongo, secondary and tertiary roads on the outskirts of Vila Lândana and in rural areas are in poor condition. In Buco-Zau, construction works and repair of roads have been made, facilitating the movement of people and goods (*Municipal Administration of Cacongo and Buco-Zau, June 2012*).

The lack of public transport between the municipalities hinders greatly the development of the municipalities and communes more distant from the city.

The province of Cabinda has the following mobility road network referring to the EN-100 main road:

- Cabinda/Yema: 24 km;
- Cabinda/Lândana: 49 km;
- Landana/ Bichequete: 11 km;
- Bichequete/ Massabi: 41 km.

The following table represents the extension of the existing network in the province.

Table 9 - Road network, traffic and mobility.

National Road (surfaced)	Secondary roads (surfaced)	Tertiary roads (unsurfaced)
EM-100 (24, 49, 11 and 41) km	28, 10, 16, 32 km	17, 21, 40, 10, 22, 74 km

National Road (surfaced)	Secondary roads (surfaced)	Tertiary roads (unsurfaced)
EM- 101 (52,56,29,30, 41) Km	44, 24, 25, 30, 28, 36, 42km	32, 26, 21, 10, 31, 15km
EM- 200 (33, 41, 36,18) Km	-----	-----
PEN-201 (11,26,25) Km	-----	-----



Figure 29: Access road to the commune of Malembo.

Public transport services in Cabinda include 18 authorized companies that extend the services to the entire province. Most of the movement of people and goods in the province are carried out by private taxi services, using vehicles such as Hiace type vans, Toyota vans, motorcycles and various light cars.

Private transport is mostly registered, and there is an association of taxi drivers, motorcycle taxis and truckers who work in coordination with the Provincial Secretary of Transport. It is estimated that 60% of young people are self-employed in taxi services.

The ANAC is the body that has the responsibility of maintenance and control of civil roads.

8.7.5.1.1 Road Traffic Monitoring Survey

Since there is no publicly available information regarding traffic flow on the roads nearby the Project area, a road traffic monitoring survey has been carried out by Saioz Engenharia, from the 23rd to the 29th of October 2023, aiming at improving the overall knowledge of the local road traffic nearby the Project area. The survey consisted of a traffic count.

The main road that serves the region is the EN100, that extends along the coast and connects the Democratic Republic of Congo (Congo-Kinshasa), to the South, with the Republic of Congo (Congo-Brazzaville), to the North. The EN100 is the main road, the major transport infrastructure of the Province of Cabinda connecting the most populated areas on the coast. From this road, other main roads of the Province start, such as:

- The EN200, that connects to Bucu Zau, Belize and the Northeaster border, with Congo-Brazzaville;
- The EN201, that connects to Zenza do Lucula, near the Eastern border, with Congo-Kinshasa; and
- The EN202, that connects the Malembo region to the East part of the province, connecting to the EN101 and EN201.

The EN202 will be the main connection point to the Project site. A roundabout will be built for allowing and facilitating the traffic flow to the airport.

The following Figure 30 shows the routes of the main roads in the Province of Cabinda and the Project location.

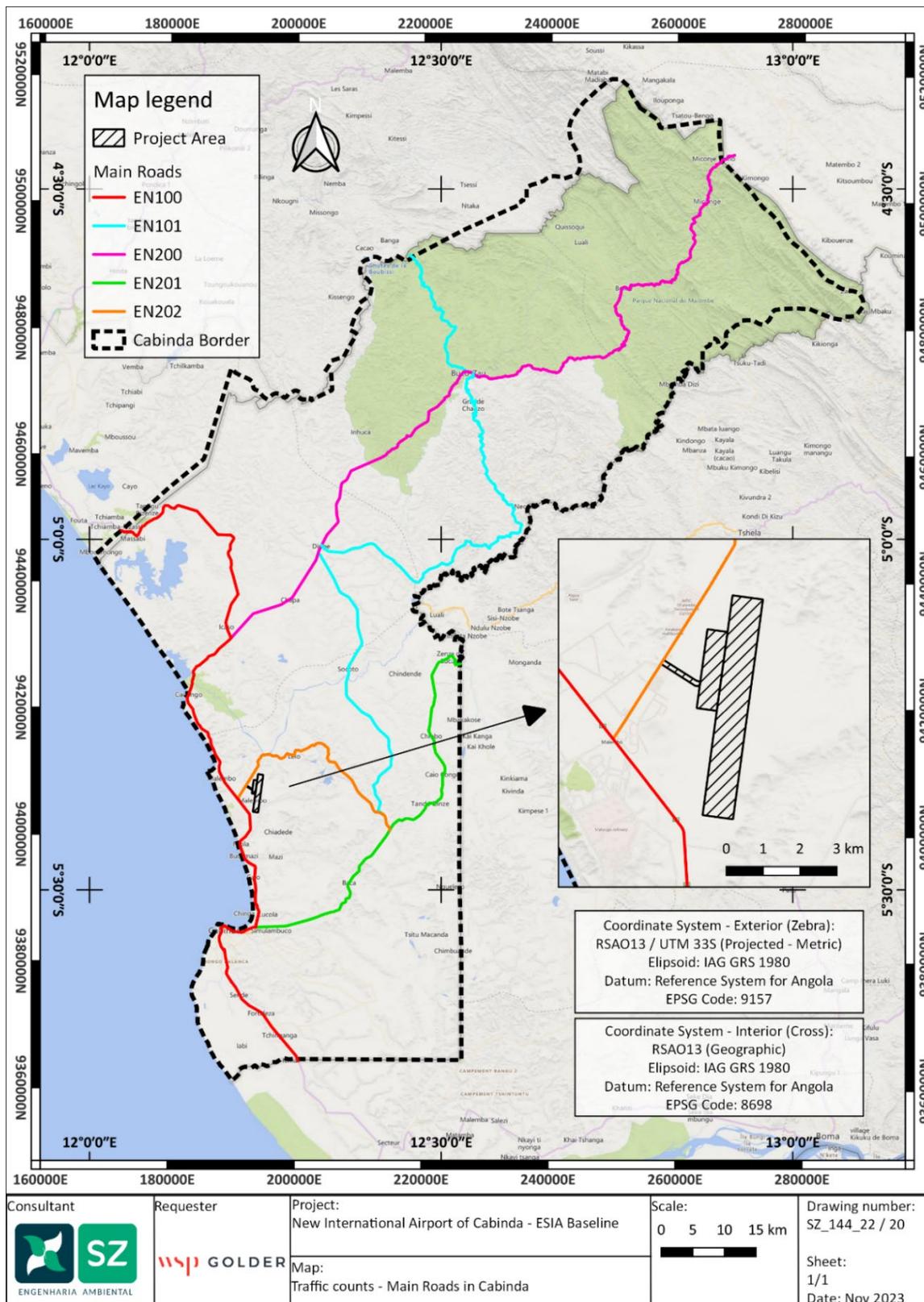


Figure 30: Main roads in the province of Cabinda and Project location.

Road Traffic Monitoring Survey Methodology

As mentioned above, the EN202 will be the road used for reaching and leaving NAIC. The EN202 connects to the EN100, which allows traffic distribution towards the North, to Malembo, Landana, Buco Zau, Belize and Congo-Brazzaville, and towards the South, to Futila, Porto Caio, Cabinda city and Congo-Kinshasa.

As such, it was considered that these two roads would be the most important to consider in the baseline assessment.

During the traffic survey, Saioz selected four (4) traffic count points of which two (2) on the EN202 and two (2) on the EN100. The survey points' coordinates are detailed in the following Table 10, referenced by the geographic system RSAO13, defined in the Presidential Legislative Decree n. 9/18, of 18th of June, and by the projected metric system RSAO13 – UTM33S, which are the official coordinate systems for Angola. The survey points' locations are shown in Figure 31.

Table 10 : Traffic Count Points Coordinates.

Point	RSAO13		RSAO13/ UTM 33S	
	Latitude (GMS)	Longitude (GMS)	P (m)	M (m)
Point 1: EN100 – Near Malembo	5°20'20,22" S	12°11'18,24" E	9.409.157 N	188.364 E
Point 2: EN100 – Near the Crossing with EN202	5°22'11,67" S	12°12'37,40" E	9.405.741 N	190.819 E
Point 3: EN202 – Near the Crossing with EN100	5°18'44,75" S	12°14'33,10" E	9.412.119 N	194.355 E
Point 4: EN202 – Near Bissassanha	5°22'10,79" S	12°12'38,45" E	9.405.769 N	190.851 E

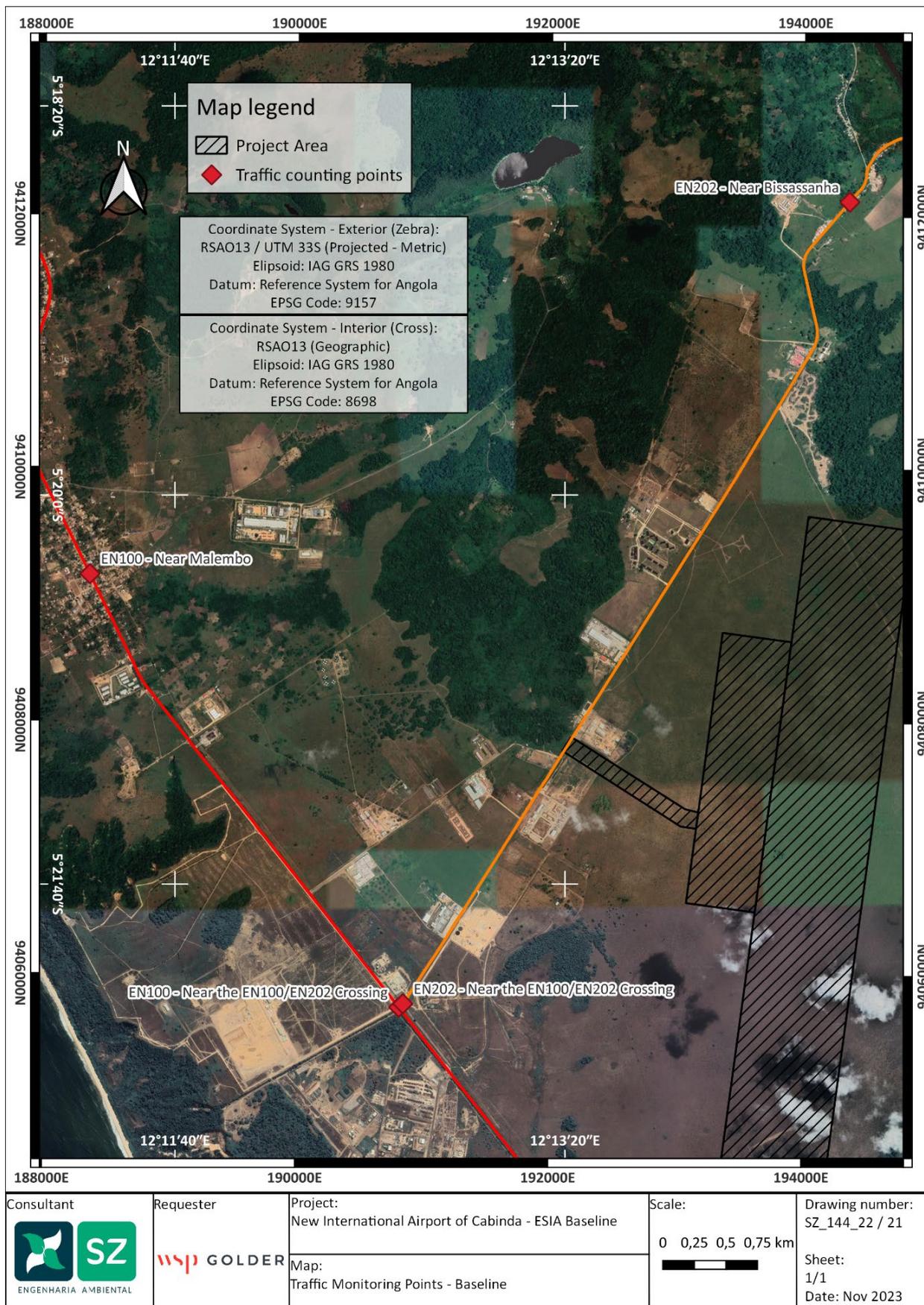


Figure 31 : Traffic Count Points.

The traffic count has been conducted by using the following methodology:

- Saioz completed seven (7) consecutive days of traffic counting, from Monday to Sunday, between the 23rd and 29th of October 2023;
- the traffic counting was carried out between h 06:00 and h 20:00, therefore, it covered both daylight and dusk periods. The only exception was the Bissassanha survey point that, due to safety issues, was surveyed only until h 17:00;
- due to safety issues, no counting was completed during the nighttime;
- each day was divided into 8 counting periods of 30 minutes each, distributed along the day;
- the traffic counting was divided by:
 - travel directions (both ways);
 - three (3) vehicle classes which are Motorcycles, Light Vehicles (i.e., cars) and Heavy Vehicles.

In summary, the survey consisted of 53 to 56 counts per each point, with 30 minutes of counting time, covering 7 days (Monday to Sunday) for a total counting time between 26,5 and 28,0 hours per each point. The following Table 11 shows a summary of the methodology applied.

Table 11 : Summary of the survey effort developed.

Roads Surveyed	EN100 and EN202	
Survey Points	4 points (2 per road)	
Survey days	23/10/2023 (Monday) 24/10/2023 (Tuesday) 25/10/2023 (Wednesday) 26/10/2023 (Thursday) 27/10/2023 (Friday) 28/10/2023 (Saturday) 29/10/2023 (Sunday)	
Counting Periods	EN100 (both Points) and EN202 (Near the crossing with EN100)	EN202 – in Bissassanha
	06:00	06:00
	08:00	08:00
	10:00	10:00
	12:30	12:30
	14:30	14:30
	16:30	15:00
	18:00	16:00
Counting time	30 Minutes in each count	
Data collected	Traffic divided in both ways. 3 Counting Classes: Motorcycles (M), Light Vehicles (LV), Heavy Vehicles (HV)	

The following Figure 32 is a photograph of a surveyor during the traffic counts.



Figure 32: Surveyor during the traffic counts.

Road Traffic Monitoring Survey Results

The results of the counting conducted at each survey point are provided in the folder ANNEX A – Baseline Supporting Data, under PART 3 – Results of Social Baseline, by the excel file named “Traffic_Hourly_Raw_Data”.

The results have been summarized in the following figures (Figure 33 to Figure 36) presenting the hourly values obtained at each counting point.

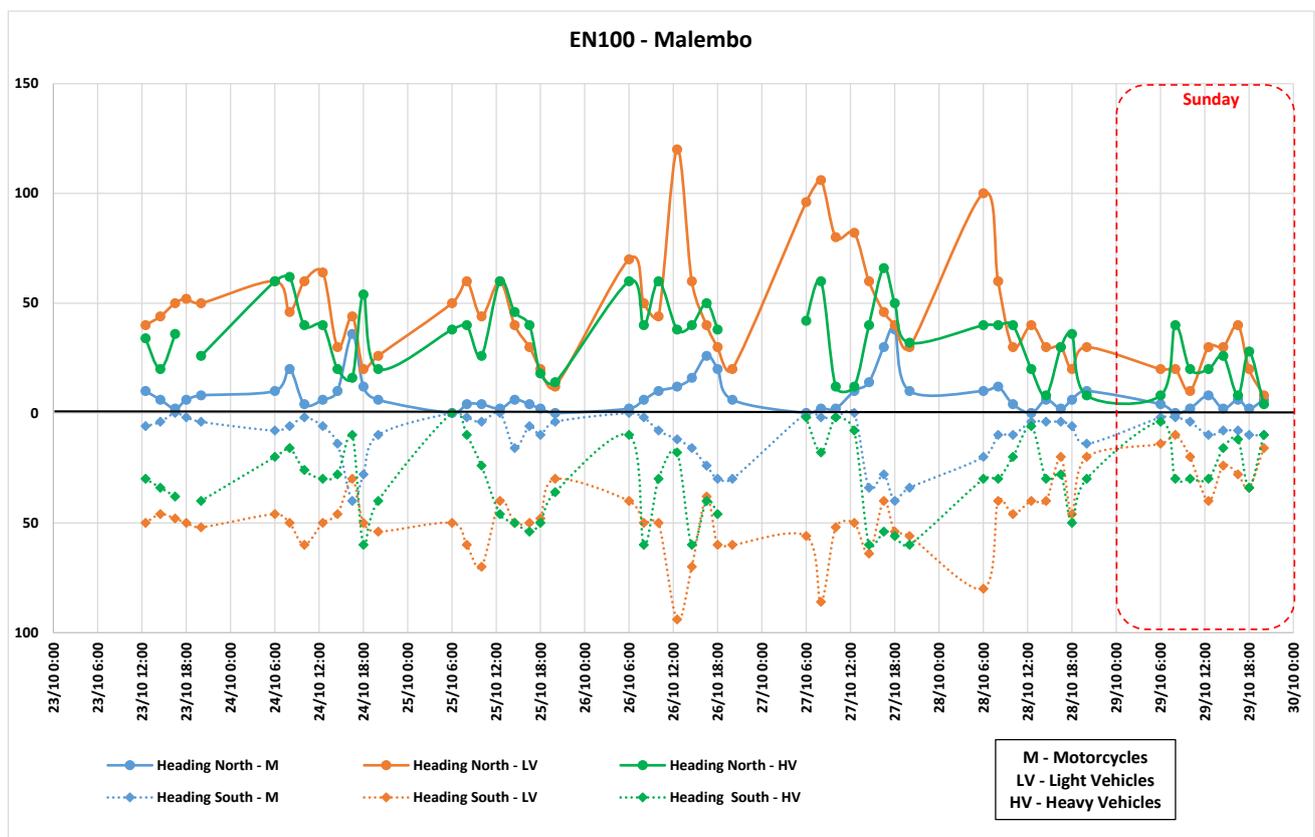


Figure 33 : Field results - Point 1 - EN100 in Malembo.

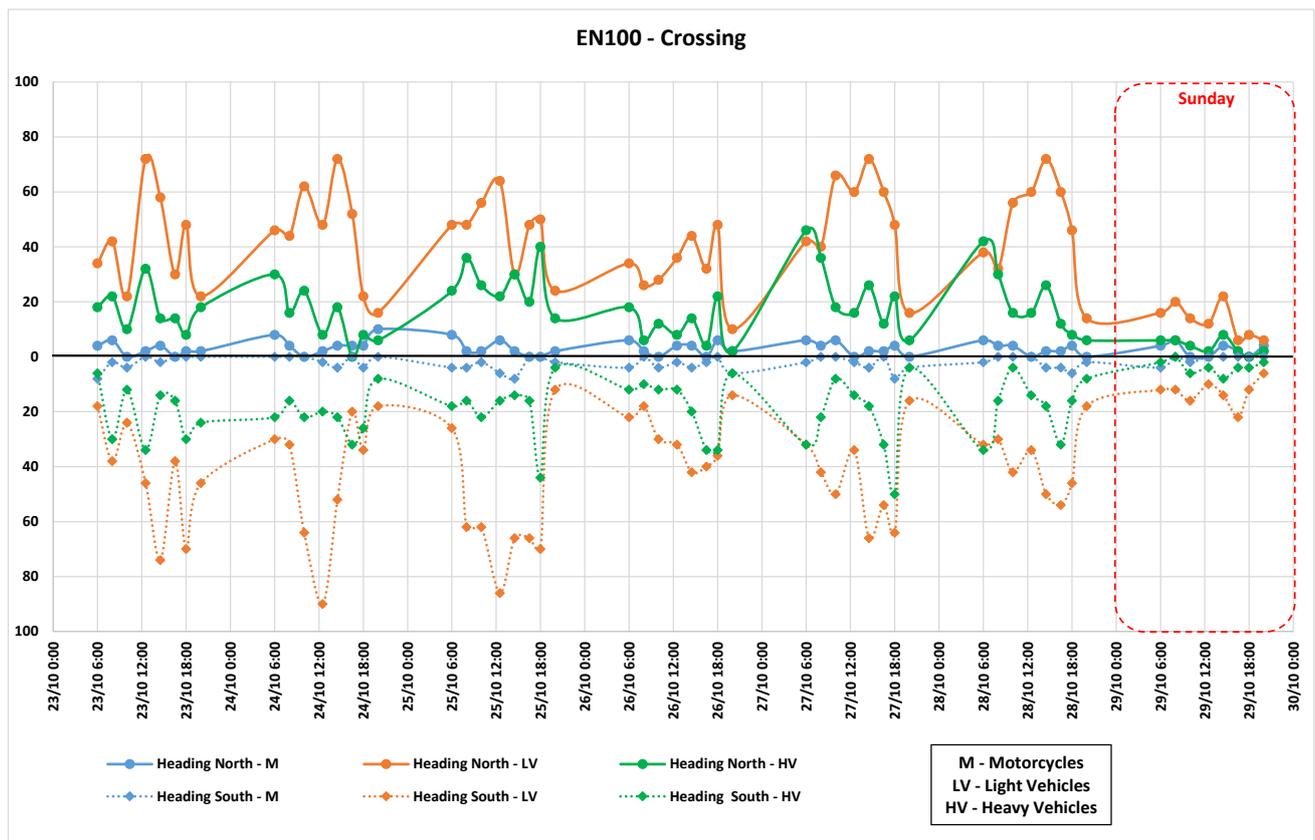


Figure 34 : Field results - Point 2 - EN100 in the crossing with EN202.

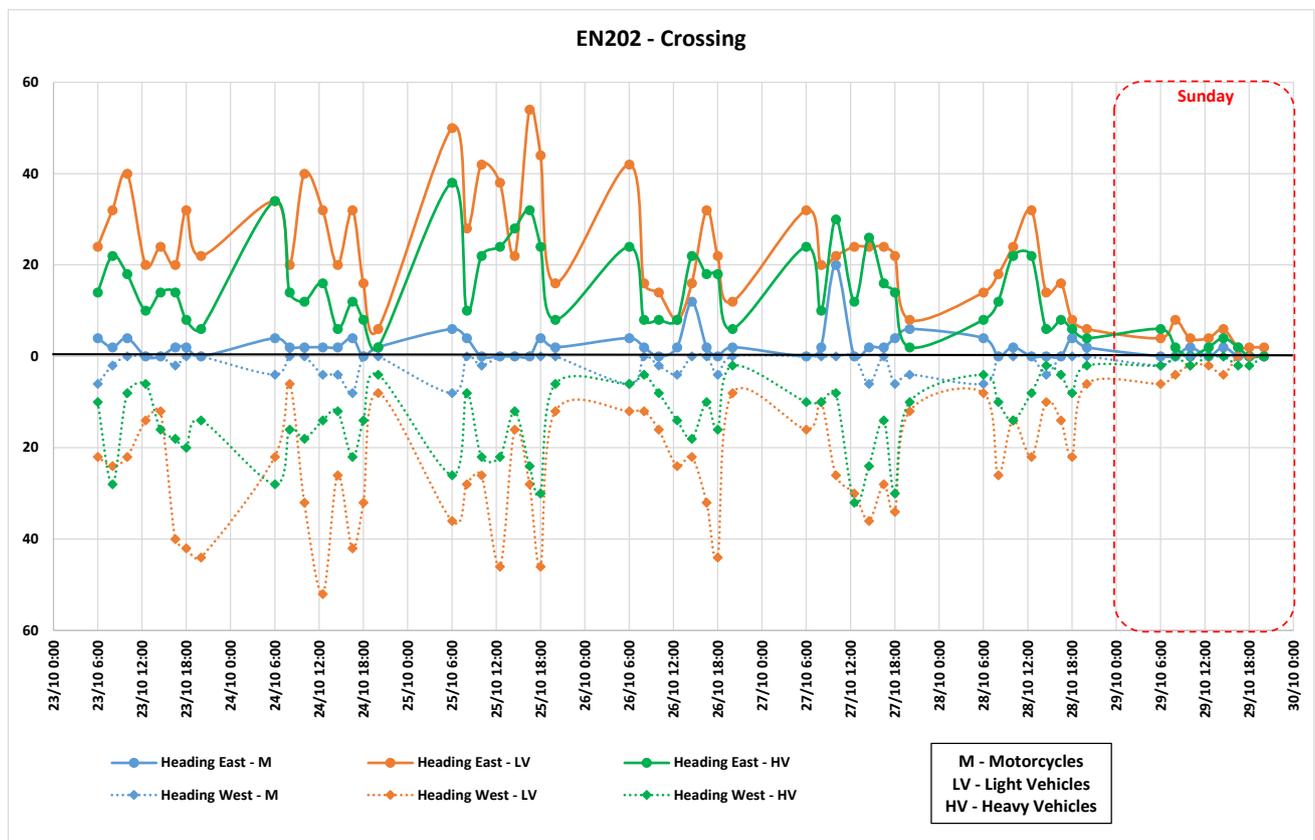


Figure 35 : Field results – Point 3 – EN202 In the Crossing with EN100.

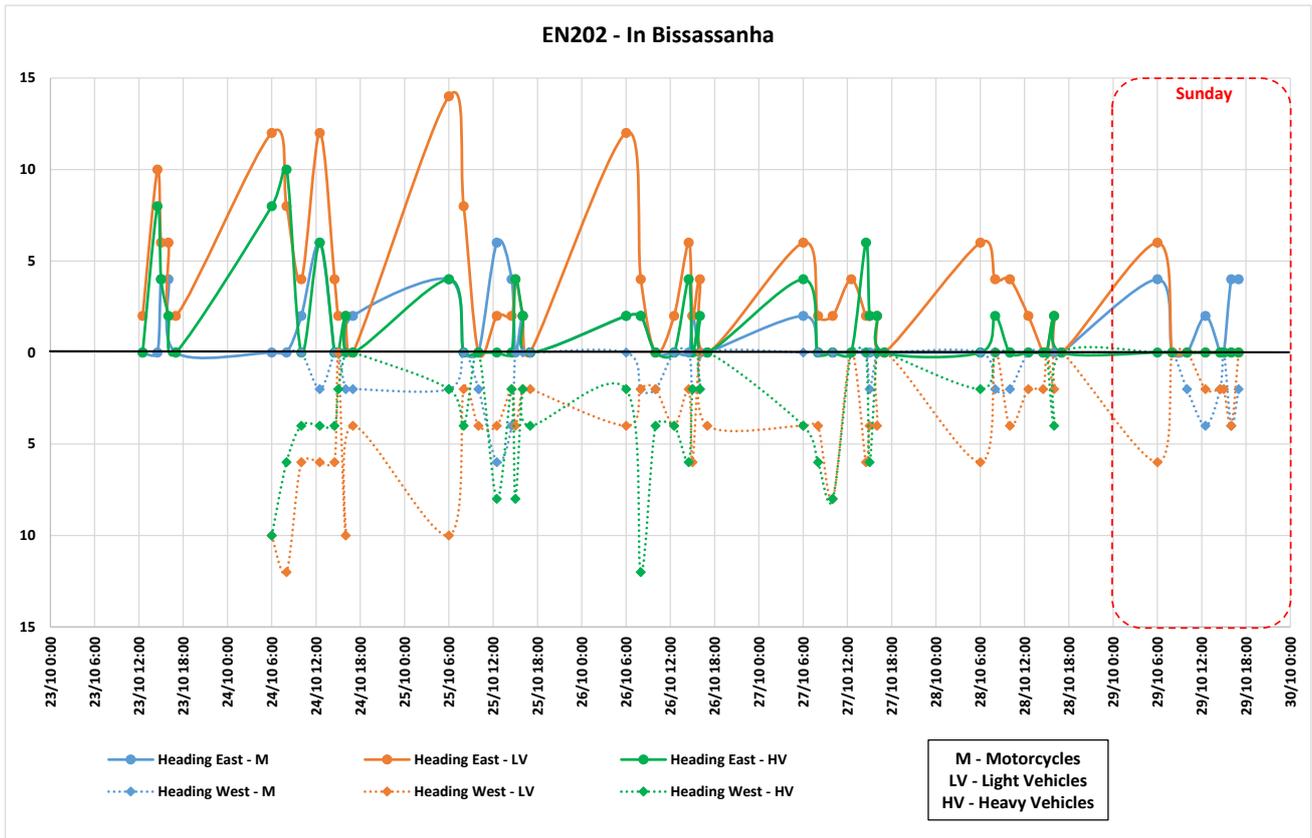


Figure 36 : Field results – Point 4 – EN202 In Bissassanha.

Based on this field data, the average hourly traffic values at each point were then estimated, thus allowing to evaluate variations throughout the day, as shown in Figure 37. The traffic counts developed represent the period from h 06:00 to h 21:00 (15-hour period – Day and Dusk), and from h 06:00 to h 18:00 in Bissassanha.

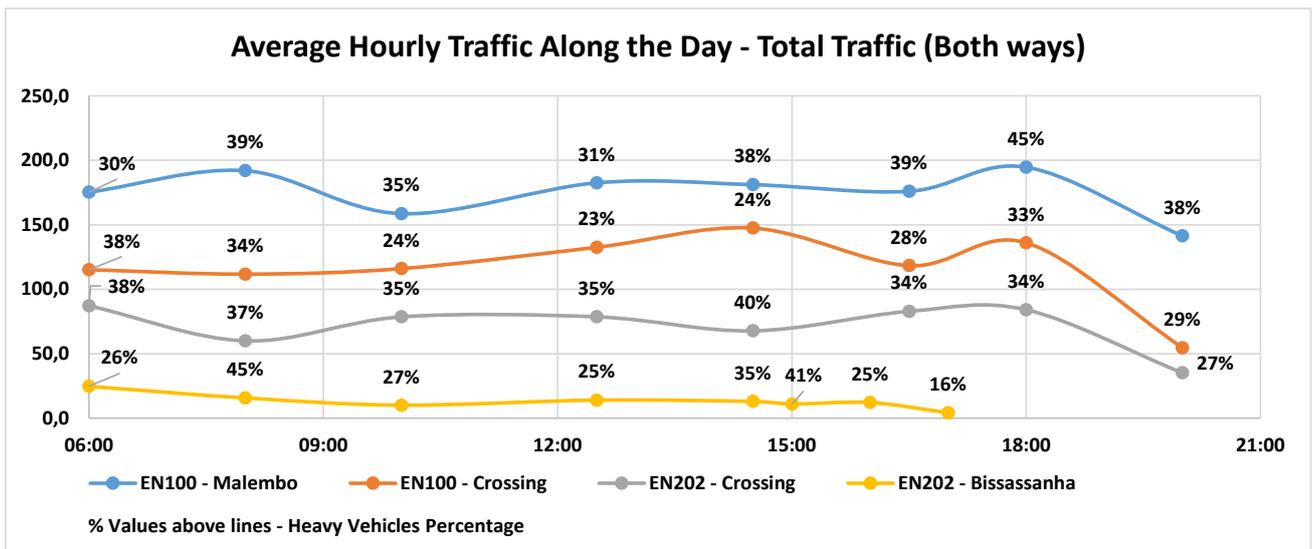


Figure 37 : Average hourly road traffic along the day.

As explained in the methodology, due to safety concerns, the traffic counts during the night period were not performed. Therefore, to complement the data obtained, it was then considered that the night period (from h 21:00 to h 06:00) would have an hourly average traffic of 25% of the minimum hourly values obtained during the day-dusk periods. This way, the counting data was then extrapolated to cover the full 24-hour daily period,

in order to calculate Average Daily Traffic (ADT) values for each survey point, as presented in the following figure.

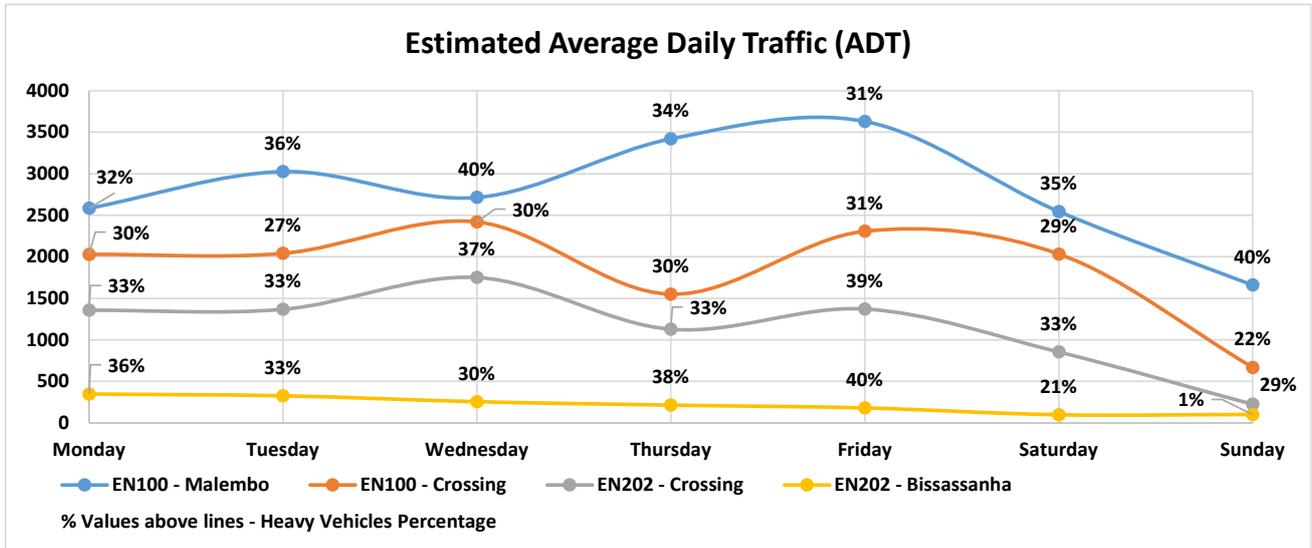


Figure 38 : Estimated Average Daily Traffic throughout the week.

Considering the same approach described above, the Global Traffic Values for each survey point were obtained, presented in the following table.

Table 12: Results summary - Global Traffic Values for the survey points.

Parameters	EN100		EN202	
	In Malembo	Near the crossing EN100/EN202	Near the crossing EN100/EN202	In Bissassanha
Average Hourly Traffic (AHT)	173	116	72	13
Estimated Average Daily Traffic (ADT)	2797	1864	1151	217
Heavy Vehicle (HV) Percentage	36%	29%	35%	31%
Peak Hour Traffic (PHT)	195	147	87	25

Road Traffic Monitoring Survey Results Discussion

Results showed that the road EN100 has a significant higher traffic volume than the road EN202, with relevant differences along the road. The area of Malembo shows a higher traffic volume, possibly associated with commuting traffic between the Malembo and northern communities near Landana, and also with the traffic flow inside the urban area itself. Near the Malongo base, in the crossing with the EN202, despite the existence of several heavy industries, the traffic volume on the EN100 is lower than in Malembo.

Regarding the EN202, the traffic is mainly associated with the industries located in its initial section (i.e., western), since the traffic volume in Bissassanha is much lower than near the crossing with the EN100. As such, it is expected that the main traffic volume on this road will be located between the crossing with the EN100 and the future airport entrance.

The heavy vehicle percentage is similar for all roads, ranging from 29% to 36%. These data indicate the influence of the industrial sector on the roads serving the region.

While assessing the hourly variations along the day, the traffic flow does not present significant peaks, it only registers a slight increase at the beginning (h 06:00 to h 08:00) and at the end (h 18:00) of the workday. The dusk counts (h 20:00) register a relevant decrease in traffic at all four points.

On Sunday, all four points registered a significant decrease in traffic flow, confirming that the traffic flow on these roads is mainly associated with work commuting and industrial activity.

To conclude, the traffic component is highly sensitive as it directly reflects the region's economic and industrial activities, commuting patterns and infrastructure demand. Changes in industrial operations, work schedule or introduction of new infrastructures as in this case the introduction of a new international airport may significantly impact traffic patterns. Assessing these patterns is fundamental in order to assess the long-term sustainability of transportation infrastructure in the area. The observed variations in traffic provide insights on the necessary future planning of transportation networks in the area that will shape the mitigation measures that will be implemented. Robust mitigation measures will be deployed and they will strategically minimize adverse impacts mostly on the crossing between the EN100 and the future airport entrance, in order to effectively accommodate expected changes in the traffic patterns and minimize disruption.

8.7.5.2 Maritime mobility

Regarding maritime and fluvial transport, the National Maritime Agency is in charge of the coordination, supervision and maritime and fluvial licensing. The agency's mission is to regulate and supervise, license and support in coordination and planning in the maritime transport sector. It does also ensure maritime safety and navigation, hydrographic activities, cartography, dredging, nautical signaling and it checks maritime pollution and boosts national cabotage and maritime trade.

The province has a pier bridge, and the construction of the Caio deep-water maritime terminal is underway, which is part of the Cabinda economic growth.

8.7.5.3 Existing "Aeroporto de Cabinda"

Cabinda existing Airport runway is 2,600 meters long and 30 meters wide, with the terminal having an area of 19 thousand square meters, being able to accommodate up to 900 passengers at peak hours. The reason why the current airport needs to be renewed are detailly presented in Chapter 2 – Project Description.

Built in 1951, it initially operated on a precarious runway until it was transformed into Maneuver Aerodrome No. 95, still serving as a satellite airfield of Air Base No. 9, of the Portuguese Air Force. In the text published in the Official Gazette, it is stated that "*the current airport of the province of Cabinda, located in the southern part of the city and in the face of traffic and commerce requirements, operates at the limit of its capacity, negatively affecting commercial connections and transactions, as well as people and goods, being located in a dense urban area that prevents mobility*".

The presidential order No. 38/22, of 21 February, also indicates that there is a "*need to ensure the implementation of a faster public procurement procedure for the concession, construction, supply, installation of equipment and equipment*" of the new airport¹¹.

8.8 Human Rights

The 2021 Human Development Index, which assess three basic dimensions of human development namely a long and healthy life, access to knowledge and a decent standard of living, shows a score of 0.586 placing

¹¹ <https://www.jornaldeangola.ao/ao/noticias/cabinda>

Angola in the medium human development category; the country is therefore considered to be at medium risk in this human rights screening. Angola ranks 148 out of 191 countries, with an annual HDI growth of 1.1 % over the past ten years. Between 1999 and 2021, Angola's life expectancy at birth has increased of 16.3 years, mean years of schooling has increased of 2.0 years and expected years of schooling changed by 8.0 years, showing a trend of human development improvements in the country.

The national report of the Universal Periodic Review for Angola (2019)¹² claims that since 2017, the government of President João Lourenço has given human rights a new importance in the country and improvements have taken place from 2014 to 2019. The president was elected for a second term in 2022 and voting was peaceful, however with some severe restriction on freedom of expression and assembly during the elections. Regarding the Stability of the Country from the Fragile States Index (FSI) Angola has a Score in 2022 of 88.1 (max. 120) and ranks 35 (out of 179 countries) in the FSI Rank. This places Angola in the high-risk category. Over the past five years the points change has been -3.00 indicating a positive change.

Even though the attention of the presidency seems to focus on the creation of jobs for the youth and respect for human rights, some violations connected to arbitrary detention of protesters and use of force by security forces are still happening (HRW, 2022). However, in 2019 a National Human Rights Strategy (2019-2022) has been approved in participation of civil society and its aim is to defend and monitor human rights inside the country and punish any violation. The creation of a culture of human rights is on the way with the introduction of trainings and in-service training for judges, law enforcement officials and higher education institutions (UPR, 2019). Progresses have been happening also on gender inequality in the country with registered progress in the number of women holding relevant positions in parliament and ministerial portfolios (HRW, 2022¹³).

Angola is rated as a country with high Systematic Violations of Rights by the ITUC Global Rights Index. This rating means that workers in Angola have reported systematic violations. While Angola has ratified all eight ILO core conventions, the International Trade Union Confederation registered flaws in Angola's legislation on the rights of freedom of association, the rights of collective bargaining, and the rights of strikes concerning the international standards. The government has in place several labour laws protecting human rights; however they are often ineffective. The government and/or companies are engaged in serious efforts to crush the collective voice of workers putting fundamental rights under threat.

Based on ILO statistics, Wage indicators and Global Living wage, Angola has a minimum wage, which was latest updated in 2022. According to the above, there is a disconnect in value of minimum wage from the data that was reported in the World Bank Doing Business 2016 to the last updated by ILO and Wage Indicator Foundation in 2022. Acknowledging that there is a time gap of six years showing a decrease in minimum wage, the risk of the minimum wage not constituting a living wage is high.

In 2020, 5,704 violations of child rights were registered in the country. The highest numbers of children victims of violence, corresponding to a total of 4,516 violations of child rights, 79% of the records have happened in Benguela (377 violations), Bié (885 violations), Huíla (589 violations), Luanda (1,602 violations) (44 from the Provincial Directorate and 1,558 from the central INAC), Lunda Norte (672 violations) and Zaire (391 violations).

In the third trimester the highest number of cases has been found, corresponding to 2,229 violations, about 39% of the total. Records of paternal fight (2,373), exploitation of child labor (1,288) and neglect (614) were the three major causes registered.

¹² <https://documents-dds-ny.un.org/doc/UNDOC/GEN/G19/252/51/PDF/G1925251.pdf?OpenElement>

¹³ <https://www.hrw.org/world-report/2023/country-chapters/angola>

Violations of human rights and need of social assistance

In Cabinda the number of reported violations of child rights in 2020, was 42, of which 19 were male victims and 23 female victims according to the following table. 37 cases out of the total have been criminally solved.

Table 13 – Number of children victims of violence in the province of Cabinda (INE, 2020 adapted).

Province	Total	By Gender	
Cabinda	42	M	F
		19	23

In Angola, 7,796 children were staying in Reception Centers and Substitute Families, specifically 7,252 children in centers (3,938 males and 3,314 females) and 544 in host families (249 males and 295 females). By the fourth quarter of the year, there was a sharp reduction of about 34%, in reception of male children in these centers, from 6,018 to 3,938 (national data). The province of Cabinda recorded 344 cases annually, with 292 male children and 104 female cases brought to Reception centers and 17 male children and 25 female children moved to host families.

In the second and third Quarters of 2020, 97,404 people were involved in awareness actions about the rights of children (49,069 male and 48,335 female), in 16 provinces of the country, mostly in Benguela 11,206, Bié 24,730, Huambo 28,270 and Luanda 9,549 (INAC Provincial and Central). In Cabinda, there was a total of 2,427 people (male and female) involved in awareness campaigns.

In the Cabinda community, there were 38 cases of elders in need of special assistance, of which 9 males and 29 females. In 2020, 115 cases of people with disabilities in need of special assistance have been reported, of which 70 were males and 45 were females. 22 cases were referred to the specialized services (7 were males and 15 females).

Concerning gender-based violence, 307 are the cases found in Cabinda in 2020, 49 male and 258 female, with the largest of the cases being physical assault (INE 2020).

According to national data, the proportion of seats held by women in the national parliament of Angola in 2022 is equal to 33,64%. The highest presence of women in political representation is found in the positions of Communal Administrator (23%), and Communal Deputy (34%). Cabinda registered, in 2020, a total of 7 women in political/state positions (INE, 2020).

8.9 Cultural heritage

8.9.1 Tangible cultural heritage

Cultural heritage is defined, by the Law on Cultural Heritage, as all material and intangible goods which, for their recognized value, must be the object of the protection of the law. Furthermore, in accordance with the Law, any other property that is considered as such, by the uses and customs and by the international conventions, which bind the Angolan State, constitute Angolan Cultural Heritage.

National languages, historical, paleontological, archaeological, architectural, artistic, ethnographic, biological, industrial, technical and all graphic documents reflecting values of memory, antiquity, authenticity, originality and other cultural assets are thus recognized as assets of relevant cultural interest. Paragraph 1 of article 13 defines that buildings classified or in the process of classification may not be demolished, in whole or in part, nor be the subject of restoration works, without prior opinion of the competent bodies of the Ministry of Culture.

Presidential Decree No. 53/13 approves the Regulation of Immovable Cultural Heritage and applies to all assets classified or in the process of classification such as monuments, architectural sites, public or private, located in the national territory, whose interest and cultural relevance determines their legal protection.

Regarding national references in cultural heritage, a special focus is given to the historic center of Mbanza Congo, in the province of Zaire, in northern Angola. This site has been classified as a national cultural heritage since June 10, 2013, an indispensable prerequisite for its inscription on the world heritage list. Angola's candidacy highlighted that the Kingdom of Congo was perfectly organized when the Portuguese arrived in the fifteenth century, one of the most advanced in Africa at the time.

The classified area involves a set whose boundaries cover a hill at 570 meters of altitude and which extends over six corridors. The archaeological work carried out at the site involved measuring the foundation of stones discovered at the site called "Tadi dia Bukukua", supposedly the ancient royal palace. Furthermore, there is the house of the king's secretary, the tomb of Dona Mpolo (mother of King Dom Afonso I, buried alive for disobedience to the laws of the court) and the cemetery of the kings of the former Kingdom of Congo. Seven monuments and historical sites located in the municipalities of Zaire province have been proposed by the authorities for a national cultural heritage list. These are the caves of the Nzau-Évua and the Rock Engravings of the village of Lombo, in the municipality of Mbanza Kongo, the Falls of the Mbridje River and its caves, the stone on stone in the commune of Musserra (Nzeto), the colonial palace of the administrator (Nóqui) and Puerto Rico, municipality of Soyo.

These monuments and historical sites, whose process to be appointed as cultural heritage is under consideration, may join those of Ponta do Padrão and Missão do Mpinda (Soyo), already classified as national cultural heritage.

According to the authorities, this process is one of the country's responses to one of UNESCO's complementary requirements, with regard to sustaining the exceptional value of the historic center of Mbanza Kongo, elevated to a world heritage site on July 8, 2017.



Figure 39: Mbanza Congo cultural site.

Cabinda Province comprises a small portion of the old kingdom of Luango and almost all of the old kingdoms of Ngoio and Cacongo.

Of all kingdoms, the most important was Luango, which stretched from the village of Macanda to the Luísa-Luango river. It had its capital at Buáli, which the French named Luango. To the south of this kingdom was that of Cacongo, also called Malemba and that of Ngoio or Cabinda, separated from each other by the river Bele. To the northeast of this existed the kingdom of Lomba or Lombe, which was improperly called Maiomba or Maiombe. Maiombe means King of Lomb, just like Ma-Luângu, King of Luango. Apart from the Teques, coming from another family, the peoples of these kingdoms belonged to the Quicongo group: the Bavilis predominated in the region of the former kingdom of Luango, the Cacongos in the kingdom of Cacongo, the Maiombes in the kingdom of lombe, the cabindas and bauóios in Ngoio. Until the middle of the 17th century, all these kingdoms came under the sovereignty of the Kingdom of Congo. Most scholars in the Region agree that the Kingdom of

Ngoio (Cabinda) came to an end long before the reoccupation of the territory by the Portuguese. As early as 1606, Cacongo, Luango and Cabinda appear linked to S. Tomé in the leasing of the respective trade to Jorge Rodrigues da Costa. In 1607, Duarte Dias Marques, lessee of the Angolan trade, asked for the inclusion of Luango and its south coast in the scope of his contract. The Royal Decree of January 11, 1758 declares the Portuguese free and prohibits foreigners from trading in Luango. The notables of Cabinda, on January 22, 1885, met in Simulambuco (on the outskirts of the current city of Cabinda) to draw up a petition that was delivered to the commander of the corvette Rainha de Portugal in which protection was requested from Portugal. The signing of the Treaty, on 1 February of that year, placed the territory of the then Kingdom of Ngoio under the custody and sovereignty of Portugal. Meanwhile, the King of Congo, D. Pedro V, had asked for his territory to be incorporated into what was left to Portugal, since he considered himself a vassal of the Portuguese empire. Portugal was thus left with the territories of Cabinda, Malembo and Massabi, to the north of Zaire. The Treaty that integrated Cabinda into the Portuguese Empire and which took its name from the place where it was signed, Simulambuco, was signed by the commander of the corvette Queen of Portugal, Guilherme Augusto de Brito Capelo and other princes of the land. After its signature, the village of Cabinda was established, where the Portuguese authorities settled. The first governor João António de Brissac das Neves Ferreira arrived there on July 14, 1887. On the 5th of July 1913 in Brussels, Portugal signed a protocol approving the new demarcation of the Luso-Belgian border of Cabinda. As for the border between Cabinda and Congo (Brazzaville), a protocol had been signed in Paris on January 12, 1901, relating to the drawing of the Franco-Portuguese border line in the Congo region. The division of Congo into three parts was carried out (Belgian, French and Portuguese parts). In 1956, Cabinda was included by the Portuguese colonial government in the territory of the Province of Angola. Cabinda thus came to be directly directed by the governor-general of Angola. Several liberation movements began to appear in Angola, some with the support of Congo and Zaire. With the “Carnation Revolution” in Portugal in 1974, a rapid process of independence began for the various Portuguese colonies. However, the MPLA conquered supremacy in the enclave. In the Accords, Cabinda was not recognized as a separate state, and the separatist movements were left out of the negotiations that led to the independence of Angola Territory.

The territory, once baptized by the Portuguese as Puerto Rico, it is rich in natural resources: oil, wood, gold, diamonds, uranium and phosphates. From 1915, several oil companies began to explore the region. In 1954 Cabinda Gulf (Chevron group) obtained the oil exploration concession in Cabinda. In 1962 large amounts of oil were located, and in 1968 Cabinda supplied oil to Chevron, Portugal and, from 1975 it supplied Angola.

As for tangible heritage in Cabinda, it should be noted that, at national level, the heritage elements considered most relevant are classified at the legal level, by ordinances, dispatches and various decrees, integrating the list of national historical and cultural heritage compiled by the National Institute of Cultural Heritage (INPC).

When consulting the list of classified heritage, it appears that, to date, for the province of Cabinda, only 3 elements/sites have been classified:

- São Tiago de Lândana Church;
- Place of Concentration of Slaves, Located 2,500 meters from the Commercial Headquarters of Malembo, in Chinfuca;
- Historic Site of Slave Ship boarding, Located 2,500 meters from the Commercial Headquarters of Malembo, in Malembo.

The last 2 elements are located in the Malembo area, namely in the Malembo Bay, being the classified areas closest to the project, although without any direct influence from the project in these sites. Another source of data that can be consulted is the SIPA – Information System for the Portuguese Architectural Heritage. This is an information and documentation system on Portuguese architectural, urban and landscape heritage and with

Portuguese origin or matrix, managed by the DGPC of Portugal. This database catalogs 242 heritage elements existing in Angola, covering different types of buildings, with a majority of buildings from the 20th century, from the colonial period. In Cabinda, this database classifies 5 buildings with relevant heritage value. However, they are all located in the city of Cabinda, and there are no heritage sites proposed in SIPA for the project area.

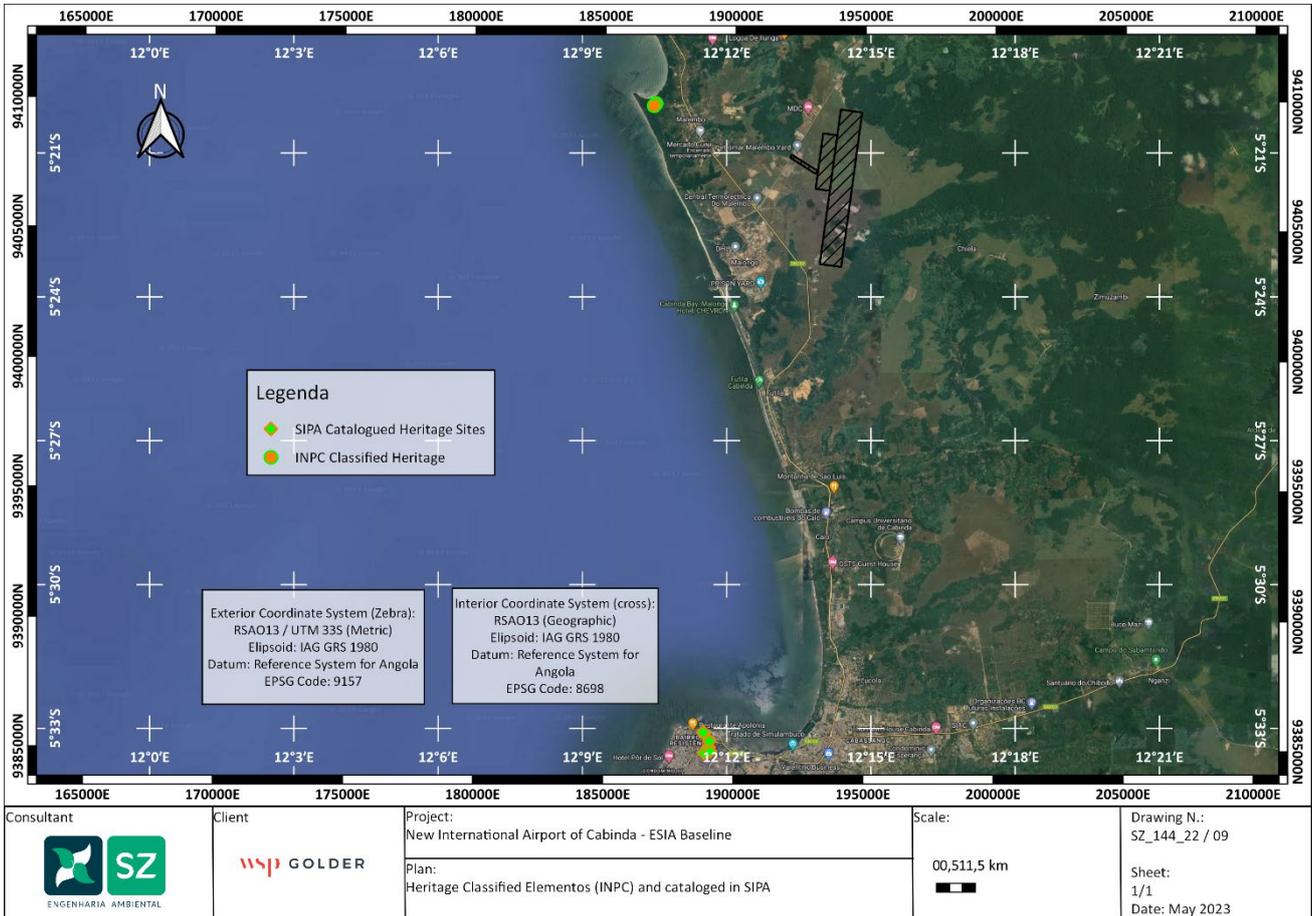


Figure 40: Classified of Cataloged Heritage sites in the project region

Field surveys with leaders of the villages in the survey area have been conducted to identify the presence of important sacred or historical places that should be preserved. It should be noted that several places were mentioned during the interviews with local leaders, but it was not possible to access those locations or even get details regarding their position. The places considered sacred, where local leaders perform rituals and judgements, are interdicted to outsiders, and the leaders were not available to mark their locations, to keep the place secret to anyone outside the community.

The leader of Futila underlined the presence of a cemetery and a church in the village. Photos of the places are available in **Figure 41** and **Figure 42**, and an approximate location of the two sites is shown in **Figure 43** and indicated by two yellow arrows.

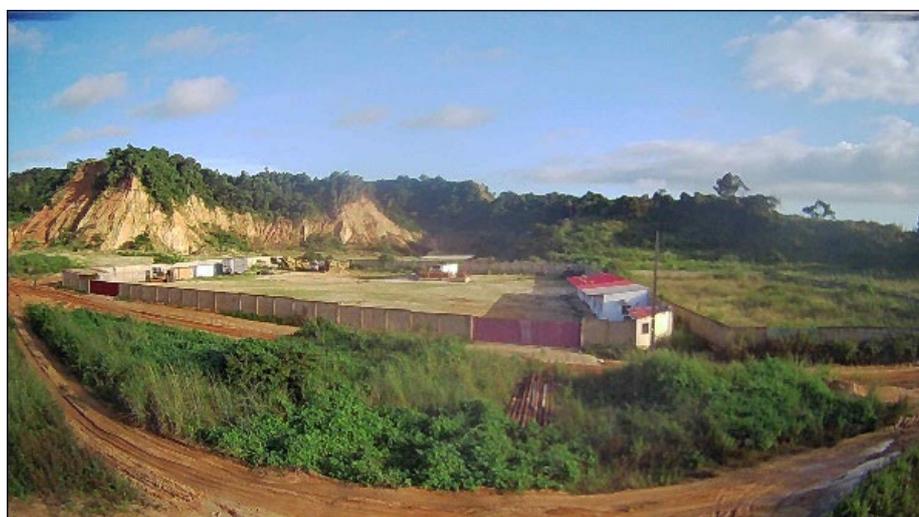


Figure 41: Futila's cemetery. Source: Saioz Ltd



Figure 42: Futila's church. Source: Saioz Ltd

During the interviews with the local leader, it has been reported a place nearby the Project site where residents perform rituals when a serious issue is happening in the village. Due to the secrecy of the rituals site, coordinates of this sacred place or photos have not been accessed and therefore are not available. However, the leader did not refer any direct interference between this place and the project's implementation site/area, therefore it is inferred that there are no direct conflicts with the project's site. The rituals site is called "Savulu Bukissi", which translates roughly to "Small Mermaid Village". In local tradition, children or adults with congenital malformation were considered "special" and were called mermaids (Nkissi (singular) or Bu kissi (plural)), therefore the place probably was originally considered sacred due to some rituals associated with these people. The external consultant Saioz was not allowed to visit or know the exact location and coordinates of the place, being the site a sacred place, with very restricted access. However, during the interviews with the local leader from Futila, it was mentioned that this sacred place was in a plain next to the military base, and to enter it was required someone to open it. The location is thus probably inside the Military Base or immediately next to it. In the following figure an approximate point of the location of the sacred site has been provided, indicated by a red arrow.



Figure 43: Approximate location of the sacred rituals site called Savulu Bukissi, next to the Military Base is indicated by a red arrow. Approximate locations of Futila's Cemetery and Futila's Catholic Church are indicated by two yellow arrows. Source: Saioz Ltd



Figure 44: Zoom in on Savulu Bissiki sacred rituals area. Source: Saioz

The leader of Malembo indicated the presence of a cemetery nearby the project area of influence and two churches. Photos of the places are available in Figure 45 and Figure 46, and an approximate location of the three sites is shown in Figure 47 and it is indicated by three yellow arrows.

All the other village leaders did not identify important cultural heritage.



Figure 45: Malembo’s Evangelic Church and Malembo’s Cemetery. Source: Saioz Ltd



Figure 46: Malembo's Catholic Church. Source: Saioz Ltd

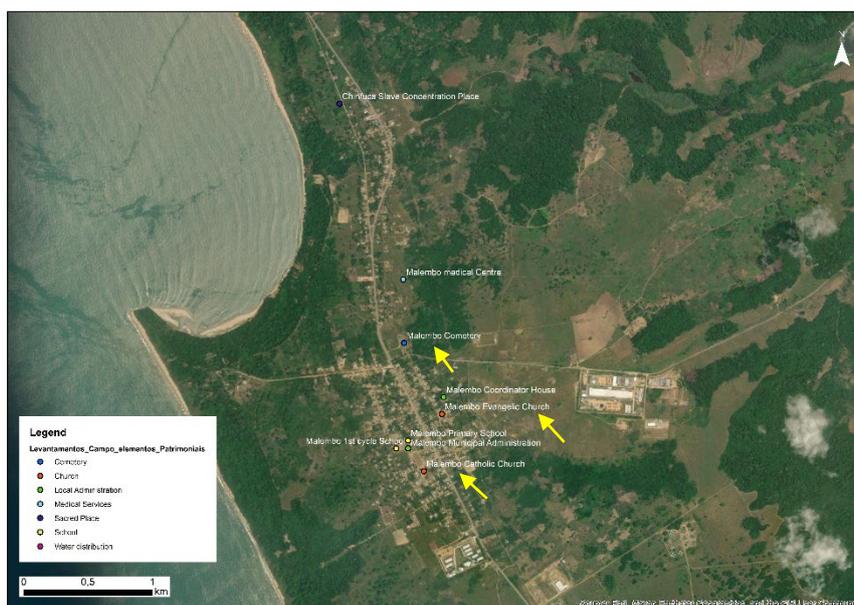


Figure 47: Approximate location of the Malembo's Cemetery and Malembo's Catholic Church and Evangelic church, which are indicated by three yellow arrows. Source: Saioz Ltd

8.9.2 Intangible cultural heritage

The name Cabinda has its origin in the junction of two names "Mbinda" and "Nfuka", becoming "Mafukambinda". These were the first individuals with whom European navigators established contacts when they arrived in the kingdom of Ngoio. Mafukabinda, who was a dignitary of the King of Ngoio, was general intendant of commerce and a trusted man of the King, and dealt with all commercial transactions with the Europeans. Cabinda, throughout history, has had other denominations, such as: i. Puerto Rico, in the nineteenth century; Vila Amélia in 1896; Ngoio, which has the origin in "ngó" = tiger, due to the presence of many tigers (yó lo ngó - herd of tigers); Tchowa Tchimuisi, is a designation given by the ancestors; tchimuisi was the name of the Mermaid who lived on the outskirts of the city of Tchowa.

The Bantu linguistic matrix is predominant in Angola. General statistics reveal that in Africa there are more than 600 Bantu spoken languages. In Angola, they are distributed in three zones (Nzau, 2011). In the north and northeast of the country, the Kimbundu (Mbundu) and Kikongo (Bacongo) languages are spoken as well. In historical terms, "Kicongo" was the language of the ancient kingdom of Congo and "Kimbundu" was the language of the kingdom of Ndongo. In the east of the country, the Cokwe language is spoken by the Lunda-Cokwe, and the Ngangela language is spoken by the Ovingangela.

In the center-south are located a number of ethnolinguistic groups, among which: ovimbundu, "ocindonga", owambo, nyaneka-humbe, ovingangela and herero. In the southern part Umbundu is the most widely spoken language, followed by the Nhaneca, Herero, Kwanyama and Cindonga languages.

The geographical and ethnic distribution of languages, however, should be viewed in a more complex and less static way. For example, some of these languages have undergone a process of dialectization, such as Kikongo that originated the Fyote/lbinda linguistic varieties, spoken in Cabinda (Nzau, 2011).

Among the African languages spoken in the country, some have the status of national language. These, as well as other African languages, are spoken by the respective ethnicities and have dialects corresponding to the ethnic subgroups. Umbundu is spoken by 23% of the population and is the most widely spoken African language in Angola, as shown in the following figure .

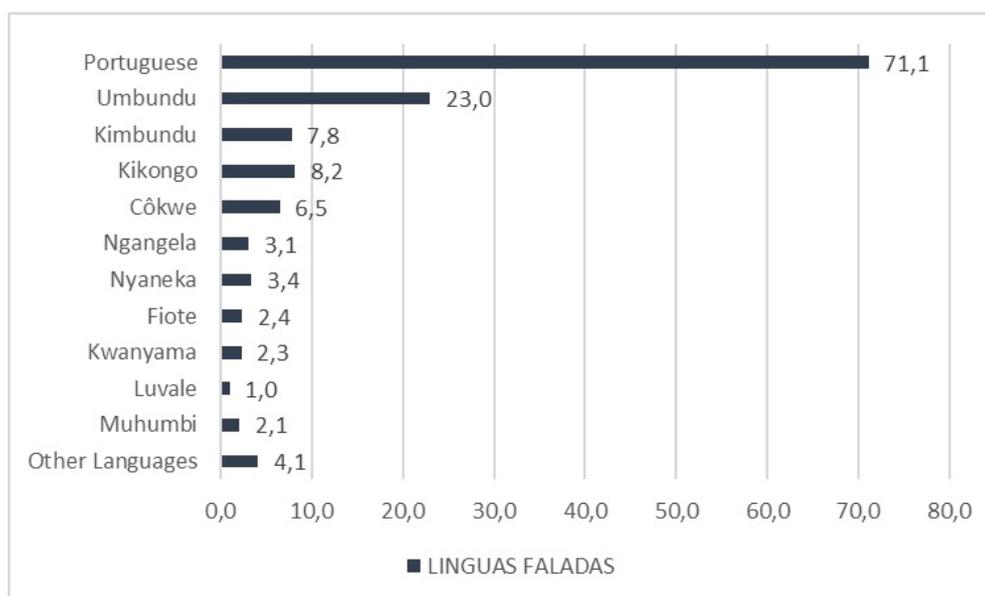


Figure 48: Types of languages spoken at national level (INE, 2016).

In the province of Cabinda, Portuguese is spoken by more than half of the population (82%), with greater predominance in urban areas, where 85% of the population speaks Portuguese, while only 68% in the rural area. Fiote is the second most spoken language in the province, spoken by 44% of the province's residents. Consultations in the Area of Influence have been conducted in both languages (Portuguese and Fiote), especially when are present elderly people.

The population of the city of Cabinda has a peculiar culture, with special uses and customs, from their way of dressing and eating to the traditional rituals, especially the chicumbe and the famous ceremonies of the "Bacamas do Chizo", a traditional ritual group that enables the interaction between the living people and the hidden spirits of the gods and ancestors, thus ensuring reconciliation between the dead and the living.

One of the most relevant traditions in Cabinda is related to the "Bakama-Zindunga", which are classified as intangible national cultural heritage according to Executive-Decree n.º 269/22, of 29th of July. The Bakama-Zindunga are cultural groups, located in the province of Cabinda, which represent one of the richest cultural manifestations of the Angolan culture, precisely because this groups carry endogenous elements of material and spiritual culture, including rituals, parties and symbols full of meanings and with very ancient origins.

The Museum of Cabinda is one of the largest centers of research and collection of the Cabindan oral tradition. The museum exhibits handmade pieces, traditions, uses and customs of the province.

The city also has a cultural center that develops various activities in the areas of music, dance, performing and visual arts. Music, singing and dancing are very important components of cultural manifestation of the Cabinda population. There are also other manifestations such as wood art, such as by the artists of Tchizo.

In the province of Cabinda in 2014, the Catholic religion is the main religion practiced, with 48% of the population, followed by the Protestant religion with 32%, the Baptist Church and the New Apostolic. The Cabindans believe in the existence of a Supreme, invisible being, creator of the universe and of all the beings that populate it, the "Nzambi-Pungu" but in the meantime, they give belief in invisible protective beings, that intermediate between God and the living, the "bakisi-ba-si". In society there is the "ndotche", the sorcerer, with evil powers to make life difficult for others or even to take the lives of others.

8.10 Landscape and visual quality

8.10.1 Landscape Units

In Cabinda province, forest areas occupy a significant part of Cabinda and are the most relevant landscape feature in the region.

Until recently, the only official conservation area in Cabinda was the Kakongo Forest Reserve, consisting of 650 km² of the Maiombe forest region near the border with the Republic of the Congo, between the villages of Inhuca and Buco-Zau. However, this reserve was established in the 1930s for reasons of forest exploitation and not nature conservation.

The Maiombe Transboundary Forest Initiative aims to protect the Maiombe forest region shared by Gabon, the Republic of Congo, Angola (Cabinda) and the DRC. Angola recently has established the Maiombe National Park to protect approximately 2,000 km² of Maiombe forest within the borders of Cabinda.

The vegetation, in the Province of Cabinda, belongs to two eco-regions, namely: vegetation of the forest-savanna mosaic (including mangroves and swamps) in the coastal lowlands, and the tropical forests of Maiombe, in the mountainous areas of the interior. The municipality of Cabinda is located in the transition zone between these two eco-regions so it overlaps both.

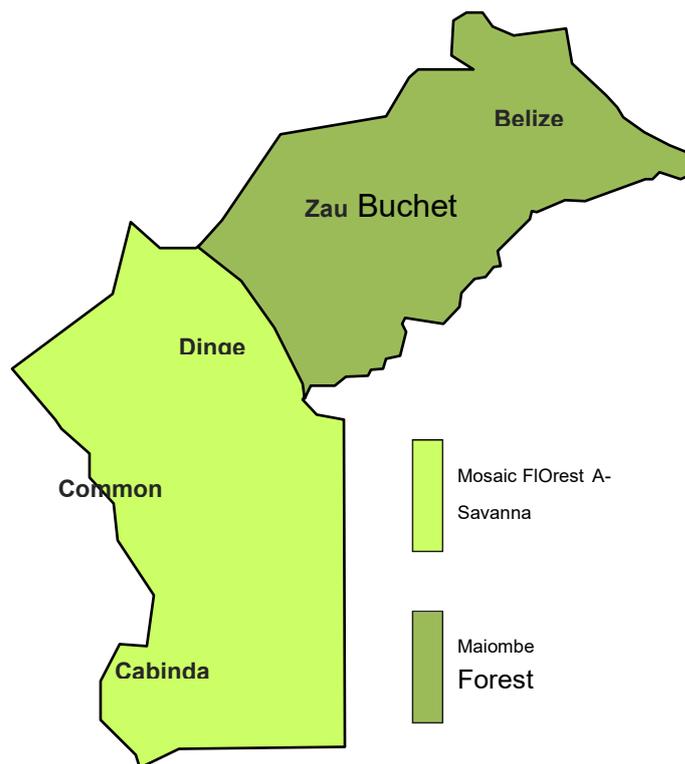


Figure 49: Ecoregions in the Province of Cabinda (Source: adapted from MINUA, 2006).

Other important landscape features in Cabinda are related to water features, namely rivers, marshes and lagoons. The Chiloango River is the most important river system in the Province of Cabinda. The upstream sections form the western border between the DRC and the Republic of the Congo, as well as part of the border between Cabinda and the DRC, so it bisects the province, flowing into the Atlantic Ocean immediately north of Lândana. The Chiloango River Watershed has an area of approximately 5,170 km², and it drains into most of the Cabinda Province through several permanent and seasonal tributaries.

The coastal lowlands of Cabinda are characterized by the occurrence of numerous lakes and extensive areas of marshes and wetlands. The largest of these bodies of water is the Massabi Lagoon near the border with the Republic of Congo and the Lândana Swamp at the mouth of the Chiloango River.

At approximately 7 km from the Base of Malembo is the lagoon of Lunga, which ends up flowing into the Chiloango River which is approximately 3 km from the lagoon. The prevalence of wetlands and swamps in the coastal region of Cabinda indicates the presence of abundant subterranean aquatic resources (MINUA, 2016).

The coastal line is another major feature in the provincial landscape, mostly dominant in the western side, due to its extension comparing to the territory size.

As such, in general terms, it can be considered that the main landscape units in Cabinda include:

- Forests and natural habitats;
- Greenfields and agricultural areas, with low to medium height vegetation (herbaceous and bushes);
- Rivers, swamps, marches, lagoons and other water features;
- Coast line, with beaches and cliffs;
- Urban areas, divided into:

- Dense urban (Cabinda city and major settlements);
- Low density areas, in rural villages and settlements;
- Industrial areas, with major industries, manly associated with the oil sector.

In the project surroundings, it can be considered applicable the existence of 5 of these landscape units, namely:

- Forests, to the east and north of the airport;
- Water features, alongside the Chiloango river to the north of the site;
- Low density urban areas, in the different communities/settlements;
- Greenfield areas, including the area where the airport will be built;
- Industrial plots, associated with the Malongo base;

Although close to the coastline, in the project area there is no relevant visual accessibility to beaches and the coastline, so it is not considered a landscape unit present in the area of influence.

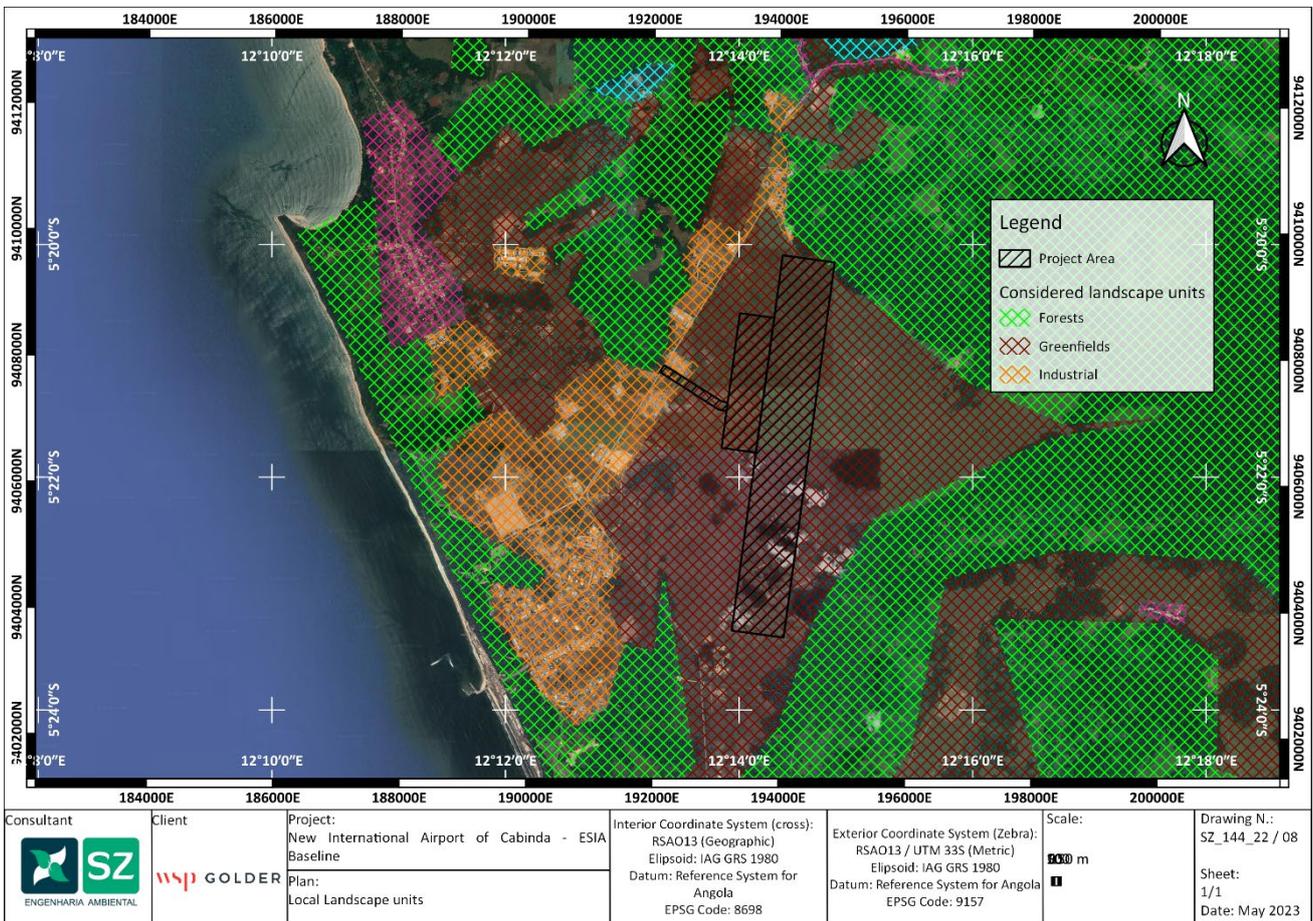


Figure 50: Local homogeneous landscape units considered



Figure 51: Unit 1 - forest



Figure 52: Unit 2 – Water Features-Chiloango River



Figure 53: Unit 3 - Low density urban areas



Figure 54: Unit 5 - Greenfield areas



Figure 55: Unit 6 – Industrial plots

8.10.2 Quality and Fragility of the Landscape

The methodology described by the Bureau of Land Management (1980) was used to systematize the information and characterize the landscape quality of the area. The morphology, vegetation, scenic background, rarity and human interventions are evaluated, according to the criteria described in the table below.

The result of this assessment makes it possible to insert each of the landscape units into one of three classes of visual quality:

- High: 19 or more;
- Moderate: 12 to 18 points;
- Low: 0 to 11 points.

It should be noted that, although the application of a predetermined evaluation scale provides greater objectivity, the evaluation is not inherently free from subjectivity.

Table 14 - Modified BLM (1980) Criteria for evaluating the scenic quality

Parameters	Rating Criteria and Score		
Landform	High vertical relief as expressed in prominent cliffs, spires, or massive rock outcrops, or severe surface variation or highly eroded formations including major badlands or dune systems; or detail features dominant and exceptionally striking and intriguing, such as glaciers.	Steep canyons, mesas, buttes, cinder cones, and drumlins; or interesting erosional patterns or variety in size and shape of landforms; or detail features which are interesting though not dominant or exceptional.	Low rolling hills, foothills, or flat valley bottom, or few or no interesting landscape features.
Score	5	3	1
Vegetation	A variety of vegetative types as expressed in interesting forms, textures, and patterns.	Some variety of vegetation, but only one or two major types.	Little or no variety or contrast in vegetation.
Score	5	3	1
Water	Clear and clean appearing, still, or cascading white water, any of which are a dominant factor in the landscape.	Flowing, or still, but not dominant in the landscape.	Absent, or present, but not noticeable.

Parameters		Rating Criteria and Score		
Score	5	3	0	
Colour	Rich colour combinations, variety or vivid colour; or pleasing contrasts in the soil, rock, vegetation, water or snowfields.	Some intensity or variety in colours and contrast of the soil, rock and vegetation, but not a dominant scenic element	Subtle colour variations, contrast, or interest; generally mute tones.	
Score	5	3	1	
Influence of adjacent scenery	Adjacent scenery greatly enhances visual quality.	Adjacent scenery moderately enhances overall visual quality.	Adjacent scenery has little or no influence on overall visual quality.	
Score	5	3	0	
Scarcity	One of a kind; or unusually memorable, or very rare within region. Consistent chance for exceptional wildlife or wildflower viewing, etc.	Distinctive though somewhat similar to others within the region.	Interesting within its setting, but fairly common within the region.	
Score	5	3	1	
Cultural modifications	Modifications add favourably to visual variety while promoting visual harmony	Modifications add little or no visual variety to the area, and introduce no discordant elements.	Modifications add variety, but are very discordant and promote strong disharmony.	
Score	2	0	-4	

Regarding the “Sensitivity assessment”, it is taken into consideration the approach proposed in BML Visual resources Guide. This methodology considers five factors to assess the sensitivity of landscape units:

- Type of Users. Visual sensitivity will vary with the type of users. Recreational sightseers may be highly sensitive to any changes in visual quality, whereas workers who pass through the area on a regular basis may not be as sensitive to change.
- Amount of Use. Areas seen and used by large numbers of people are potentially more sensitive. Protection of visual values usually becomes more important as the number of viewers increase.
- Public Interest. The visual quality of an area may be of concern to local, state, or National groups.
- Adjacent Land Uses. The interrelationship with land uses in adjacent lands can affect the visual sensitivity of an area. For example, an area within the view shed of a residential area may be very sensitive, whereas an area surrounded by commercially developed lands may not be visually sensitive.
- Special Areas. Management objectives for special areas, such as Natural Areas, Wilderness Areas or Wilderness Study Areas, Wild and Scenic Rivers, Scenic Areas, Scenic Roads or Trails, and Areas of Critical Environmental Concern (ACEC), frequently require special consideration for the protection of the visual values. This does not necessarily mean that these areas are scenic, but rather that one of the management objectives may be to preserve the natural landscape setting.

Table 15 - Modified BLM (1980) Criteria for evaluating the Sensitivity Level Analysis

Parameters	Sensitivity		
	High	Moderate	Low
Concerns in Maintaining visual quality by Type of Users	Major Concern for most users	Moderate concern for most users	Low Concern for Most users
Amount of use	High Level of use	Moderate Level of use	Low Level of use
Public Interest in Maintaining Visual Quality	Major Public issue	Moderate Public Issue	Minor Public issue
Needed to Sustain Adjacent Land Uses	Very important.	Moderately important	Slightly important
Visual Quality Needed to sustain objective of special areas	Very Important	Moderately important	Slightly important

Based on the previously defined criteria, the following tables present the assessment of scenic quality and sensitivity of the landscape units proposed.

Table 16 - Scenic quality Assessment

Parameters	Scenic quality Assessment				
	Forests	Water features	Low density urban areas	Greenfield areas	Industrial plots
Landform	3	3	1	1	
Vegetation	5	5	3	3	1
Water	0	5	0	0	0
Colour	3	3	3	1	1
Influence of adjacent scenery	3	3	3	3	3
Scarcity	3	3	1	1	1
Cultural modifications	0	0	0	0	0
Total	17 (Moderate)	22 (High)	11 (Low)	9 (Low)	8 (Low)

Table 17 - Scenic sensitivity Assessment

Parameters	Sensitivity				
	Forests	Water features	Low density urban areas	Greenfield areas	Industrial plots
Concerns in Maintaining visual quality by type of Users	Moderate	Moderate	Low	Low	Low
Amount of use	Low	Moderate	High	Low	High

Parameters	Sensitivity				
	Forests	Water features	Low density urban areas	Greenfield areas	Industrial plots
Public Interest in Maintaining Visual Quality	Moderate	Moderate	Moderate	Low	Low
Needed to Sustain Adjacent Land Uses	Moderate	Moderate	Moderate	Moderate	Low
Visual Quality Needed to sustain objective of special areas	Moderate	Moderate	Low	Low	Low
General Sensitivity Assessment	Moderate	Moderate	Moderate	Low	Low

The interaction between visual quality and sensitivity makes it possible to establish criteria for determining the landscape development capacity of the territory.

Comparing the previous tables, it can be concluded that the forests and water features are both the landscape units with higher quality and also moderate sensitivity, being the local areas that require most care. The other units are considered of low landscape quality, with moderate sensitivity in the low-density urban areas and low sensitivity in the other two units.

8.11 Ecosystem services

8.11.1 Fishing

According to the 2014 census, in the province of Cabinda, only 6% of households practice fishing as an important source of income. Both the communities of Futila and Maiombo have a tradition as fisheries.

The municipality of Cabinda has a lot of potential in terms of fishing activities. Despite the spills caused by offshore oil exploration, it is still considered that there are abundant marine fishing resources. The potential of the municipality in relation to fishing is not limited to sea fishing, but it also offers a great water potential with inland waters such as those of the rivers Fubu, N'hama, Lucola, Mbua Nkisi, Lulondo and Zenze and the lagoons Mola Matsinu, Makuvu and Vuma, Bumelambutu, Nkukulo, Nlele Tando.

The data from the Institute of Artisanal Fisheries has recorded about 198 fishermen divided into two communities: Mbamba, with 78 fishermen, and Vamba with 120 fishermen. Fishing is mostly practised around Malambo and Cacongo, one mile away from the coast, as defined by the Institute. The boats used are canoe types with the capacity for two people.

Larger vessels can carry from 2 to 5 fishermen, with an estimated 80 kilos of catch per trip in authorized fishing areas. All the fish caught is divided equally by the number of fishermen assigned to the vessel. Most of the catch is sold (90%), and the other is used for personal consumption (10%). Women play a fundamental role in the fishing process, as they process and sell the catch in the squares or markets.

There has been a decrease in the catch in the last five years. The main causes indicated are the disorderly fishing organization and disregard of the spawning season. The months with the lowest catch of fish is recorded from May to July, and August is considered the spawning season. It is estimated that, in 2021 there has been 75,000 kg of catch, and that there has been an increase to 80,000 kg in 2022. The price varies between 18.000 kz and 35.000 kz, depending on the species.

The development of a program to incentivize fishing in the province is on the way, and it includes the construction of a building to support the sale of fish catch, trainings for improving fish farming activities and the provision of financial credits to small businesses (IPA inquiry, 2023).

8.11.2 Hunting

Poaching is considered illegal in the province of Cabinda, and the practice has been discouraged over the years, but due to the lack of control in some areas, hunting is done clandestinely. In the village of Lelo, it is reported the practice of hunting on a small scale of monkeys, boas, gazelles and wild boars (*data from the field community inquiries*).



Figure 56: Gazelles for sale in the local informal market.

8.11.3 Use of natural resources

According to the information gathered from local communities, the local population use resources from the natural environment around the villages, such as water from natural water collection bores, ponds and existing rivers, and also collection of wood. In the questionnaires communities were questioned about their use of medicinal plants. The findings reveal that community members utilize a variety of local plants, including leaves and roots, for various medical purposes such as treating headaches, fever and other ailments. Specifically mentioned are plants like “Nvanzi, Nkanzo, and Mkumbi”, that residents consume for medicinal benefits, showcasing the community’s reliance on herbal remedies. Original questionnaires can be found in the document “Lançamentos dos inqueritos” available in the folder “Exel data and kmz” in Part 3 of Annex A- Baseline Supporting Data.

8.12 Facilities in the survey area

Facilities and public services in the Cabinda Region relevant to the project and study area are listed in this chapter.

8.12.1 Civil protection responsible for firefighters.

The facility is located in the municipality of Cabinda, on Chiaze Street (geographical coordinates 5°33′43″S 12°11′10″E)



Figure 57: Protection service and firefighter.

8.12.2 Provincial Secretary responsible for Education

The facility is located in the municipality of Cabinda, in the street of the station, (geographical coordinates 5°33'23''S 12°11'11''E)



Figure 58: Delegation of Education.

8.12.3 Emigration and foreign service

The facility is located in the municipality of Cabinda, on Bucugoi Street, (geographical coordinates 5°33'36''S 12°11'40''E).



Figure 59: Emigration and foreign service.

8.12.4 Provincial Secretariat for Culture

The facility is located in the municipality of Cabinda, on the street behind the market of the big square (geographical coordinates 5°33'26''S 12°11'40''E).



Figure 60: Provincial Secretariat for Culture.

8.12.5 Provincial Secretariat for Health

The facility is located in the municipality of Cabinda, on Bucugoi Street (geographical coordinates 5°33'26''S 12°11'40''E).



Figure 61: Secretariat of Health.

8.12.6 Provincial Secretariat for the Environment

The facility is located in the municipality of Cabinda, on Rua do Macau (geographical coordinates 5°33'34''S 12°11'38''E).



Figure 62: Provincial of the Environment.

8.12.7 Provincial Secretariat for Foreign Trade

The facility is located in the municipality of Cabinda, in the street of commerce (geographical coordinates 5°33'23''S 12°11'11''E).



Figure 63: Secretariat of Commerce.

8.12.8 Provincial Secretariat for Public Works

The facility is located in the municipality of Cabinda, on the street of Macau; it is in the same backyard as the Provincial Secretariat for the Environment (geographical coordinates 5°33'34''S 12°11'36''E).



Figure 64: Provincial Secretariat of Public Works.

8.12.9 Provincial Secretariat for Transport

The facility is located in the municipality of Cabinda, in the street of the lumbo-lombo trade (geographical coordinates 5°33'30''S 12°11'11''E).



Figure 65: Secretariat of Transport.

8.12.10 Provincial Directorate of Artisanal Fishing

The facility is located in the municipality of Cabinda, on the street António Agostinho Neto (geographical coordinates 5°33'2''S 12°11'30''E).



Figure 66: Direction of artisanal fishing.

8.12.11 Provincial Directorate of Industry

The facility is located in the municipality of Cabinda, on the street of the big square (geographical coordinates 5°33'28''S 12°11'39''E).



Figure 67: Directorate of Industry.

8.12.12 Provincial police command

The facility is located in the municipality of Cabinda, on Chaze Street (geographical coordinates 5°30'19''S 12°14'34''E).



Figure 68: Command the police.

8.12.13 Communal administration of Malembo

The facility is located in the municipality of Cabinda, in the commune of Malembo (geographical coordinates 5°20'22''S 12°11'13''E).



Figure 69: Commune of Malembo.

8.12.14 Petromar (private)

Petromar is an Angolan company operating in the Oil & Gas sector, created in 1984, as a joint venture between Sonangol EP and French service provider Bouygues Offshore.

In 2001, Petromar UEM was transformed into Petromar Lda (through Diário da República), structured as one of the Oil companies, however in 2002, the Italian company Saipem, acquired Bouygues Offshore and with it the company's Angolan assets, including the Ambriz manufacturing yard. Currently, Petromar shares are divided 70% – 30% between Saipem and Sonangol Holdings.

Their operation in Malembo includes operational manufacturing, modification and maintenance activities, in installations, structures and equipment, oil and gas, for offshore and onshore (Block 0 and Block 14).

The facility is located in the municipality of Cabinda, in the commune of Malembo, Bissassanha neighborhood, (geographical coordinates 5°21'00''S 12°11'25''E).



Figure 70: Petromar.

8.12.15 ChampionX (private)

ChampionX is a global leader in chemistry solutions, artificial lift systems, and highly engineered equipment and technologies that help companies drill for and produce oil and gas safely, efficiently, and sustainably around the world. ChampionX's expertise, innovative products, and digital technologies provide enhanced oil and gas production, transportation, and real-time emissions monitoring throughout the lifecycle of a well. Their activities in Angola are complementary to the Oil&Gas sector to support with their chemical technologies to the extractive activities.

The facility is located in the municipality of Cabinda, in the commune of Malembo, Bissassanha neighborhood, (geographical coordinates 5°21'00''S 12°11'25''E).



Figure 71: Championx.

8.12.16 ES&S Industrial Village (private)

ES&S Industrial Village is a multifunctional village to accommodate people with rooms, yards and office space to provide a full solution to stay or work in Cabinda. Services include catering, laundry rooms, cleaning services, safety courses, medical (first aid), water filtration system, security h24.

The facility is located in the municipality of Cabinda, in the commune of Malembo, Bissassanha neighborhood, (geographical coordinates 5°21'00''S 12°11'25''E).



Figure 72: ES&S

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