



Ministry for Higher Education,
Science and Culture
(MESCC)

FDCH



Human Capital Development Fund
(FDCH)

RESULT OF THE DATA SURVEY OF THE EXISTING **HUMAN RESOURCES** AND MAIN KEY AREAS OF TRAINING

**BAUCAU
MUNICIPALITY**

LD**R**HE

DATA COLLECTION OF EXISTING
HUMAN RESOURCES

LD**R**HE REPORT 2018



Result of Data Collection of Existing Human Resources and The Main Key Areas of Training

Municipality of Baucau

Fundo do Desenvolvimento do Capital Humano (FDCH)

(Human Capital Development Fund – HCDF)

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Through this opportunity we would like to extend our gratitude to:

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Thank you.

MESSAGE FROM THE MINISTER



I am grateful for the honor bestowed on me in this report entitled "Data Collection of Existing Human Resources in Timor-Leste". It is a fundamental work where it provides information pertinent to the formulation of the National Strategic Plan for the Development of Human Resources of the Country. It will contribute to know, understand and strengthen the capacity of the Human Capital Development Fund (FDCH) in terms of identifying the existing human resources and try to bridge the gaps through greater awareness of budgeting based on the country's real needs.

Achieving the goals and targets outlined in the Strategic Plan for National Development 2011-2030 requires a commitment from all. It requires forming partnerships, focusing on areas of greatest need, improving the effectiveness of actions. I am convinced that this report will make a significant contribution to our effort to mobilize resources and engage in partnerships and collaboration with all segments of society in order to achieve the objectives set out efficiently and effectively.

The current social and economic environment characterized by increasing globalization and technological advances requires a society composed of competent and qualified individuals capable of responding to the unpredictability of the market, characteristics of changing contexts and innovation.

The pertinence of this report emerges from the relevance attributed to ongoing training and development in the current context of individual institutions or organizations, societies and individuals. It is in this context that FDCH plays a pivotal role in the development of human resources through training and capacity building to help people to acquire and systematically improve the skills and knowledge needed to carry out their professional functions and, consequently, and institutions or organizations to make the most of their human capital.

In this systematic search to optimize human capacity, training and continuous training of human capital emerge as strategies directly related to the construction of techniques and skilled labor, continuously adjusted to the demands of the surrounding contexts. Human resource development (HRD) is an intentional process necessary for people who are professionally active or who wish to enter the labor market to add value in an increasingly sustainable way to the social fabric of work, contributing to the economic, social and institutional or organizational prosperity of the Parents.

In this sense, it is fundamental that public and private institutions, labor market institutions, and the municipal economic and social system, develop strategies for human resource development so that they can manage their workforce in an organized way and in line with their missions and goals.

The data presented in the report indicate that some specialized training areas of existing human resources remain limited, such as agriculture, construction, hospitality and tourism, the private sector, technical and vocational education and training (TVET) and adult education, especially for women, and workplace training.

The integration of these priority areas into a National Human Development Strategy for Timor-Leste will ensure the development of appropriate government policy responses, civil society desires, educational institution programs, and the needs of business and industry work will be well aligned and work together in a coordinated way to increase the capabilities of all human resources.

It is hoped that this report will become an instrument that should be part of everyone's daily life for those who seek to contribute to the training, education and improvement of the different categories of personnel required, by optimizing opportunities within or outside the country and promoting planning of human resources, namely in relation to the needs of the Municipalities and the Country as a whole.

Finally, to promote equity in attention to human resources training, reduce training inequalities, increase the availability of training actions, guaranteeing universal access to the most affected of social inequalities, gender, race, ethnicity, generation, vulnerable are the challenges posed so that the right ceases to be more declarations and becomes part of the daily life of the Timorese.

Dili, December 2018

A handwritten signature in blue ink, consisting of stylized initials and a surname.

Longuinhos dos Santos, M.M.

Minister of Higher Education, Science and Culture (MESCC)

MESSAGE FROM THE EXECUTIVE SECRETARY OF FDCH

In order to assist the Government in implementing the Policy Based Evidence, the Council of Administration of Human Capital Development Fund (CA-FDCH: acronym in Portuguese language) directed to the Technical Secretariat of Human Capital Development Fund (ST-FDCH: acronym in Portuguese language) in May 2016 to conduct a study throughout the country to identify the number of human resources existence in Timor-Leste.

After sufficient preparation with adequate budget and trained staff, ST-FDCH immediately coordinated with the General Directorate of Statistics of the Ministry of Finance and with the joint work team of the Ministry of State Administration (MAE - acronym in Portuguese language) and the National Program for Village Development team (PNDS-acronym in Portuguese language) in the training of the team of enumerators for each village with a minimum of 5 people out of 452 Village (Suco) in Timor-Leste.

The process of data collection has undergone several challenges due to the geographical area that must be overcome to remote areas throughout Timor-Leste. Residences distanced from each other crossing mountains, rivers and streams from one village to another. As well as the difficulty the team has faced in collecting data, especially in rainy weather and other challenges. Due to the challenges mentioned, the team took a few months to complete and was finally completed in February to March 2017.

In April 2017, the team began the data cleaning process that took 3 to 4 months and ended in the month of August until September 2017, then the data reconciliation was done by the team together with the General Directorate of Statistics of the Ministry of Finance.

Later ST-FDCH Office began to analyze the data and to prepare the report, as a result of this survey, the office saw that it still needed more information, consulting the Municipalities to know better which potentials exist in each Municipality including RAEOA-Oecusse. And what are the aspirations, ideas or suggestions

coming from Youth, Women, Disabled People and all stakeholders presented through discussions in groups running throught the country. The Program was held from March to April 2018, due to the budget constratints that was only available at the beginning of the fiscal year of 2018, as well as after coordination between the ST-FDCH and PNDS team and the Municipal Authorities and RAEOA-Oecusse.

In the end, the report was prepared in Tetum as the official language, and translated into Portuguese as well as English.

Finally, let us hope that the data, information and the analysis developed in this report will be useful in common, as this information will be useful to assist the government, the private sector and all parties such as public, private, civil, police and military organizations. The international development partners they can use for appropriate planning and better implementation in Timor-Leste in achieving the National Strategic Development Plan 2011-2030.

My deep appreciation for the attention, collaboration and teamwork with the goal of developing and strengthening human resources in Timor-Leste for the well being of the people and for the contribution of the stability and prosperity of this noble nation.

Dili, December 2018

A handwritten signature in blue ink, appearing to read "Isménio Martins da Silva".

Isménio Martins da Silva

Secretary of HCDF/ FDCH-MESCC

EXECUTIVE SUMMARY

Justification of the importance of the subject

This report has two complementary lines of work, the first one based on the data collection of human resources existing in each municipality carried out by the Human Capital Development Fund (FDCH) and the second, the identification of the natural resources and the economic potential of the Municipality, the priority programs related to their potential based on the four pillars of the Municipal Strategic Plan (MSP/PEM) and key human resources that need training in the development of priority programs.

The key to the effective development of the Municipality's human resources is not only to identify the natural and economic potential for development and priority areas of training, but also to have prior knowledge of existing human resources and to segment appropriate funds for the needs of human resources development (HRD), ensuring different phases of MSP/PEM to be successfully implemented.

The formulation of a human resources development strategy requires an integrated and multifaceted understanding of a complexity of subjects such as population demographics, especially the current human resources of the Municipality, development of the workforce in the public and private sector, vocational education and training system as well as capacity development, current and future labor market issues including the employer and market needs and the tertiary education system (higher education) and their ability to produce skilled human resources at all levels.

The lack of information on policies, plans, information systems and vocational training, availability, composition, distribution, density, sources of funding, labor market forces and many other aspects related to the development of human resources linked to the economic potential and natural resources available to the municipality are scarce and are often dispersed through many sources. The integration of these issues into a human resources development strategy for the municipality will ensure the development of appropriate local government (municipal) policy responses, civil society desires, educational institution

programs, and the needs of business and industry will be well aligned and work together in a coordinated way to increase the capacities of all human resources.

The fact that the aforementioned subjects are not sufficiently integrated into a set of human resources development work programs and there is no comprehensive study on the subject is one of the reasons for this work.

Thus, this work was carried out with the aim of 1) identifying and analyzing the current human resources situation and its distribution in Sub District Administrates, 2) identifying the natural resources and economic potential and priority programs of the Municipality based on the 4 pillars of the Municipality Strategic Plan (PEM), 3) identify key key human resources that training need in the development of priority programs, and 4) also try to analyze and compare the existence of current human resources and the need for training / training required by the municipality based in their priority programs to allocate funding efficiently and effectively.

Methodology

The methodology is used and applied with the following phases : **in the first phase**, the data were collected from individuals aged 17 years or more by means of a population census in the Municipality of Baucau, with the completion of a questionnaire, carried out from September 5 to 5 of November 2016 and in the second phase, was done through the "**Focus Group Discussion**" (FGD) held on March 20, 2018 to the Municipal Administrators, Administrative Officers, Directors and also with the participation of other entities, in order to assess the accuracy of the information given, but also the pertinence of the programs identified as necessary for the development of the human resources of the Municipality.

Summary of Results

The data presented here show that the majority of the respondent population in the Municipality of Baucau are young people aged between 17 and 44 years. At the level of knowledge, there is a large number of people with no education level

(illiterate), followed by those with pre-secondary education and basic and secondary education.

This dispersion of education, together with the rapid growth of the population in the relevant age groups, shows the essence of the challenge faced by the Municipality of Baucau. One aspect of this challenge is the balance between those who have completed general secondary education and academic education are predominant compared to those who have completed vocational technical courses, either at the secondary technical school level or at the higher technical level such as polytechnics. The ideal balance between academic and technical education is a key issue in the development process. In addition, the data also indicate a very small number of people who participated in one of the vocational training courses with skilled labor prepared for self-employment or institutional strengthening.

Those who have already taken part in one of the short-term professional courses are mostly generic professional courses geared more towards administrative work and the public servant such as courses in leadership, administration, finance, planning, management and languages, which in practical technical terms do not support the creation of their own jobs (self-employment).

It is further aggravated by a large number of job seekers, including those who have completed their degree program in the areas of Law, Civil Engineering-Civil Construction and Computer Engineering, and more graduated in other areas (see table 15), without being exploited in the labor market. The work preference of the licensees is in the public sector while the non-licensed have a preference in the non-public sector such as agriculture, domestic work, industrial activity and civil construction.

Analyzing the training preference based on the priority programs (Table 25) with the current human resources (Table 5), the data show that the Baucau Municipality has a high number of graduates in several areas, however, it is verified that there are still needs in some specialized areas. In relation to the current human resources, the question is how to take advantage of and employ them. However, it

is important to stress that there are still serious concerns about quality not only in technical knowledge but also in language skills and this can become a challenge.

Language training activities are intended to provide the beneficiaries with fluency in reference languages and to enable them to be more effective in carrying out their tasks in particular when traveling to work overseas. In this sense, it is important to unite language training with the additional training at postgraduate level directed at the priority technical areas and professional internship programs.

Another challenge demonstrated in the work presented was the existence of a large number of public and private employees including entrepreneurs with very low levels of education. This may possibly imply a lack of productivity and competitiveness in companies or organizations. It is evident that with this very low level of education, the Municipality of Baucau will not be able to overcome the serious problems that it faces nor the future challenges.

Private sector growth is constrained by skill gaps in the workforce of both employers and workers. The private sector contributes to economic development by generating jobs and income, as well as through investment, new technologies, knowledge transfer and increased productivity. This has been observed in some countries in Asia, where much of the recent success in poverty reduction is due to robust economic growth stimulated by the private sector. In this sense, it is crucial to strengthen the private sector by promoting the development and the adequacy of the qualification of workers and employers, with a view to improving their employability and increasing the productivity and competitiveness of the business.

Equipping workers with certain skills will enable them to continue to take advantage of opportunities for growth expansion in a non agriculture in the private sector. A high school diploma or higher is increasingly an indicator of employment opportunities in the urban private sector.

The Municipality of Baucau has identified skills shortages in the following sectors: electronics engineering, health, tourism, aviation, manufacturing, waste treatment and financial services (banks, insurance and securities). It also identified a lack of skills in the following areas: english, nursing, pharmacy, hospitality, pilot training,

accounting and auditing, machine operation, component manufacturing and assembly, engineering (design and development), literacy and software programming and management (decision making, leadership, delegation, motivation). Thus, it is considered that academic skill and professional technical training should be provided for the most crucial areas in the implementation of its priority program as shown in table 25.

Based on the data presented above it becomes evident the need for training and the development of people's skills as a means to provide qualitative and quantitative benefits. It is important to emphasize that skills development can not be seen only as formal technical and vocational education and training, which encompasses skills acquired through all levels of education and training, taking place in formal, non-formal and vocational training contexts. enables individuals in all sectors of the economy to engage fully and productively in livelihoods and to be able to further enhance and adapt their skills to meet new demands and opportunities in the economy and the labor market. Skills development should not be characterized by the source of education or training itself, but by the skills that are acquired through this process.

With regard to people with disabilities, data show that there are quite a large number of people with disabilities and many of them have stopped in primary and secondary education due to various difficulties, and this makes it difficult to get a job and to earn a higher salary than the benefit from the government. Employers have some concerns about hiring people with disabilities because they feel they may not have adequate professional qualifications. This issue can be minimized if there are some inclusive policies, such as developing initial and continuing vocational training for people with disabilities and disabled people to enabling them to acquire the knowledge and skills necessary to obtain a vocational qualification that helps to overcome the concerns of employers so that they can have more opportunities and their entry into the labor market is easier.

The data also point out the need to reduce or combat illiteracy by creating opportunities and mobilizing municipal managers to increase literacy provision for all young people, adults and older people who did not have access or stay in basic

education, especially the small business people and medium-sized enterprises and farmers. Education and training for entrepreneurship is also key to encouraging creativity and the realization of new local economic initiatives.

Intensive training, in service and or postgraduate (specialization), should be intensified as key elements for the quality of the human resources currently possessing the Secondary and Bachelor's level of education.

It also reveals the need for a demand-driven secondary-vocational education and demand-driven post-secondary technical education area of secondary and post-secondary education.

And finally, in the scope of preparation of Human Resources for the creation of Municipalities, it is important to strengthen the training in the areas of Urbanization and Regional Planning, Planning and Territorial Planning.

Conclusion and Recommendations

Based on the data presented and discussed above, it is concluded that, in developing human capital resources and achieving sustainable development in the future, the Baucau Municipality needs to pay more attention to the development opportunities identified in the Municipality Development Plan (MDP) and to the following five dimensions : 1) economic (increase efficiency of the production system), 2) social (improvement of the levels of income distribution of the population), 3) ecological (preservation of the environment), 4) spatial (balance in distribution and occupation of population rural and urban) and 5) cultural (respect to the ways of thinking and acting of society, focusing on the construction of an environmental consciousness linked to consumption).

According to the results obtained, it is considered pertinent to conclude and recommend the following:

- The commitment to education should give priority to technical and professional training on academic, focusing more on the opening of

vocational training centers (or Polytechnic institutes) to the detriment of the opening of more universities.

- b) Complementary to academic training, the creation of specialization courses can increase the employability and professional capacity of those who finish the formal education.

Based on the data analyzed, we reinforce the need to train other areas where there are notable shortages of qualified human resources and areas of greater importance according to the priority programs found in table 25.

Most respondents wish to work in the non-public (private) sector than in the public sector. The desire for the private sector was slightly higher among young people aged 17-36 and the preference for work is mainly in the area of agriculture, household chores, industry and construction.

The most unemployed graduates and post-graduates are in the areas of Law, Civil Engineering-Civil Construction and Computer Engineering and more in other areas (table 15).

Intensive training, in service and postgraduate (specialization), should be intensified as key elements for the quality of the human resources currently possessing the Secondary and Bachelor's level of education.

There are quite a large number of people with disabilities of productive age who are looking for work and have inadequate professional qualifications, or very limited practical professional knowledge. It is recommended the need to develop initial and continuing vocational training for people with disabilities and incapacity, especially gestural training for those with visual and hearing disabilities, so that they can have more opportunities in the labor market.

To complete this general conclusion, we highlight five main points:

- 1) Education and training opportunities remain limited in some of the major areas highlighted by Sustainable Development Plan (SDP) such as agriculture, construction and hospitality and tourism. The following areas should be more focused on the human capital development:

- **Agriculture** is the heart of the municipality's economy and critical to the well-being of its people. A sustainable agricultural development path will require greater investment in building innovation and skills on small-scale farms through many routes: training and technology transfer; a strong expansion of the number and skills of extension workers; through better education and training for members of rural families, including women; and increased investment in vocational and tertiary education programs and Research and Development (R & D) centers, closely related to the needs of agriculture in the Baucau Municipality.
 - **The construction** with a limited infrastructure inherited from the Indonesian government period and the continuous needs to consolidate the infrastructures namely the roads thus offering the population of the benefited region, better conditions of transport, easy access and allows local farmers to transport their products to the market quickly and effectively.
 - **Tourism** in Baucau Municipality remains a future opportunity, but taking advantage of this opportunity will require the development of a trained workforce, from the entry-level team to senior managers, as well as investment in R & D, development and policy planning and capacity planning.
- 2) **Private Sector** - Survey data show that private sector growth is constrained by skill gaps in the workforce of both employers and workers. In this regard, it is crucial to strengthen the private sector by promoting the development and adequacy of the qualification of workers and employers with a view to improving their employability and increasing the productivity and competitiveness of the business.
- 3) **Technical and vocational education and training (TVET).** FDCH's study shows a lower level of TVET qualifications than university qualifications in the municipality, and increased investment in the expansion of TVET should

be a high priority. This expansion should cover technical secondary schools, the polytechnic system, and the community-based non-formal vocational training system. In doing so, it is important that the boundary between academic and technical education remains fluid, with easy articulation between the two areas.

- 4) **Adult education** (literacy for all young people, adults and the elderly), especially for women, and on-the-job training. In our view, these three areas are of considerable importance for the future. In particular, the increasing role of women, especially in agriculture, and with a higher skill level due to improved training, may contribute to household and national income growth, and to more jobs in general.
- 5) In the preparation of Human Resources for the creation of the municipality (decentralization process) it is important to strengthen the training in the areas of Urbanization and Regional Planning, Planning and Territorial Planning.
- 6) It also reveals the need for a demand-driven secondary-vocational education and demand-driven post secondary technical education area-level provision of secondary and post-secondary education.

PART A: INTRODUCTION, OBJECTIVES AND METHODOLOGY

1. Introduction, Objectives and Methodology

1.1. General Introduction

The Municipality of Baucau is located on the north coast of the eastern part of the country. It shares borders with the Municipality of Manatuto in the West, in the East with the Municipality of Lautém, in the South with Viqueque, in the North with the Strait of Wetar and has a total surface area of 1,507.95 km². Astronomically the municipality of Baucau is located at 8o.25 - 8o.46 latitude and at 120o25 - 126o.46 longitude.

In 2017, the population was estimated at 123,203 inhabitants, 61,830 men and 61,373 women, according to the household census of 22,976 families.

The dominant religion in the territory of the municipality of Baucau is the Catholic religion, followed by 98% of the population, being the most spoken languages in several languages where 60% of the population speaks **makasae**, 17% speak **waima'a**, 13% **Tetum**, 7% speaks **midiki** and 1% **naueti**.

Sub District Administrations (formerly sub-district), Villages and Sub Villages

The Municipality of Baucau is divided into 6 Sub Districts Administrations, 59 Villages and 281 sub villages (hamlets/*Aldeia*) scattered throughout the territory according to the table below:

Sub District Administrations		
Sub District Administrative	Superficie Km ²	Percentage(%)
Baucau Vila	369.53	24.51
Baguia	213.99	14.19
Quilicai	204.46	13.69
Laga	191.99	12.73
Vemassee	374.62	24.84
Venilale	151.37	10.04
Total	1,507.95	100.00

Sub District Administrations, Villages and number of sub Villages

Sub Administrations	District	Number of Villages	Number of Sub Villages (hamlets/ <i>Aldeia</i>)
Baucau		11	65
Baguia		10	47
Quelicai		15	55
Laga		8	57
Vemasse		7	22
Venilale		8	35

Climate, Relief and Hydrography

The Municipality of Baucau is situated in the high plains of the East, directly connected with the **Mundo Perdido** Mountain, from the eastern part if seen from the top of **Matebian** Mountain, dominated by the beautiful landscape where many rivers flow from the mountains and run to the sea of **Wetar**.

The description of the climatic and environmental situation presented here is based on the Schmidt and Ferguson classification, with the following climatic areas:

Thus, in the Municipality of Baucau we can distinguish 4 types of climate:

- Type C climate (including the mountainous area of **Matebian**, **Laissorolai** village), climate with very high rainfall intensity reaching 400 ml per month in December and February \pm 60 ml. Between July and September the average temperature is low between 19 and 21°C;
- Climate type D (comprising the southern area of the municipality, namely in the Sub District of Venilale), humid climate with rain intensity per month \pm 260 ml, in the period between December and March. During 5 months, during the dry season with only \pm 100 ml, from June to November, with temperatures varying between 22° - 26°C from July to August.

(c) Type E climate (covering the Baucau highlands, including the villages **Ossoala, Gariwai, Uma Ana Iku**, and occurs in the western part of the Sub District of Quilicai and southern part of the Sub District of Laga); It has a long dry season, with monthly volume less than 200 ml, occurring in 5 months a volume of 100 ml. Temperatures range between 23 ° - 26 ° C.

d) Climate F (occurs in the western municipalities of the north and north coast to the Sub District of Laga, through the summit of the river Seical). Long dry climate, volume not exceeding 150 ml. This usually happens in August. High temperatures during the year with a variation of 27°C in June and temperatures up to 30°C in November.

(e) Type G climates (occur on the coast of the Sub District of Laga including the villages of **Soba, Nunira and Samalári**). Long dry season occurring in Baucau and the coastal areas of Baucau, the volume of precipitation in October is not more than 100 ml and in some areas is less than 60 ml. The long period of the dry season occurs in October, the average temperature does not change much, each year ranges from 27°-28° C.

Economic Potentials and Natural Resources for the Development of the Municipality of Baucau

a) Trade

Commercial activities occupy the majority of the population of Baucau, mainly in the Sub District of Baucau Vila where they realize sales in the roads and commercialization of products. Agriculture and fishing as well as local handicrafts are attractive local products with greater economic value from the sale and purchase activities.

The lack of transport and the weak availability of electricity have prevented the development of small businesses that begin to emerge.

The Municipality of Baucau also has a vast coastal area, with attractive beaches, ideal for swimming and other water activities.

In addition to the official languages of the country, Tetum and Portuguese, in the municipality of Baucau a large part of the population is also expressed in **Makasae**.

b) Agriculture

The Municipality of Baucau has agricultural raw materials that can contribute to the entrance of foreign currency in the municipality and in the country. The higher agricultural production can be seen in the table below.

Production	Municipality of Baucau	National
Rice	34.024	112.925
Corn	23.036	148.323
Cassava	10.893	94.834
Vegetables	8.539	78.605

Source: Baucau Municipal Strategic Plan (PEM)

Other agricultural products which constitute potential to be exploited are:

Yam, sweet potatoes, peanuts, green beans, long beans, soy, brave beans, potatoes, pineapples, jackfruit, yams, coffee, white and red *kontas*. Also has the production of vegetables and fruits such as tomato, eggplant, green beans, shallots, garlic, mutino, black mustard, lettuce, cabbage, paprika, mango, papaya, guava, pumpkin, chayote, orange, cucumbers, grapefruit, peas, spinach and other varieties.

In the field of plantations, the Municipality of Baucau has important resources, particularly Breadfruit, jackfruit, candlenut, coconut, areca, orange / mandarin, banana, teak, mulberry, grapefruit, mango etc.

Agriculture is still, in fact, the economic base of the Baucau Municipality, but industry must be the lung of Baucau's development and economic turnaround, whose potential in natural resources is not yet fully undiscovered.

The feasibility and identification study carried out during the Portuguese occupation shows that the soil found in the municipality of Baucau has potential for agricultural development, resulting in increased production at the national level.

However, production capacity is still limited depending on the weather condition and so we need to explore better in the future.

c) Forests

The forest area occupies a total of 132,380 hectares, where most of the territory of the Municipality of Baucau consists of mangrove forest, a dry and humid forest that is found in the mountains, with great diversity. With the degradation of forests in recent years it becomes necessary to take preventive measures.

The forests of commercial value and of economic interest that are in the Municipality of Baucau are Teak wood, "Ai-Naa", Sandalo, "Ai-Saria" and Rota. The forest potential can be found in two locations, one of which is the mountainous area where it occupies a total of 5,229 hectares and another in the plain with 111,238 hectares.

d) Livestock

Livestock farming is a complementary activity of agriculture and constitutes an important resource for the populations and source of animal protein, with Baucau being one of the municipalities that occupies the first position at the national level in raising horses, goats, sheep and the creation of buffalo occupies the third place among other municipalities.

e) Fishing

Baucau is located in the part of "north sea", strait to Wetar of Indoensian island, where fishing activity is of particular importance, Baucau having a favorable position for the development of this sector. Nowadays, fishing is still artisanal. This economic activity has special importance in the Sub District Administrations with maritime coast, (Vemassee, Baucau Vila and Laga). Production in aquaculture is an

important activity for the subsistence of the populations, with special incidence in the region of Quelicai and Venilale.

f) Tourism

The city of Baucau is surrounded by green nature, showing on the one hand the blue color of the Wetar Sea, varzias, coconut trees, banana trees accompany with the sound of the running water of several streams attracted visitors in the municipality of Baucau.

Baucau also has several hotels and restaurants set up by the initiative of Baucau originals, to promote cooperation and attract the largest number of visitors to Baucau at leisure or weekend as the second city of the country. The pool, the Watabo beach in the recent years has been visited by many local and foreign visitors during the holidays. Infrastructure, hotels and restaurants namely *Pousada de Baucau* has been renovated to offer the quality of service according to the international standard and as a meeting place for tourists who visit the eastern center of the country.

The municipality will establish ecological tourism as one of the potential, improve the quality of service, provide the accommodation in a traditional way prepared by small business owners.

The old market left by the Portuguese was renovated / rebuilt to preserve the Portuguese colonial architecture and will be used as a cultural center, convention center and tourist information center.

The city of Baucau is one of the favorite municipalities for travelers / tourists and cultural visits to Quelicai and to visit the sacred Mountain Matebian. At the foot of the Matebian Mountain, visitors can enjoy the panorama of the villages that are in the vicinity of Matebian Mountain. They can acquire accommodation, traditional foods and realize the activities of the local culture as patrimony and the history of the fight of armed resistance in the region. In order for the tourism sector to develop, conditions are being created through the rehabilitation and extension of the Baucau roads to attract more tourists or visitors to Baucau.

g) Infrastructures and transport

The infrastructures that exist in the Municipality of Baucau are still few, limiting the mobility and circulation of the population. However, with the current situation, although it is limited the local population is using it

Sub District	Natural Resources	Location	Potential	Observation
LAGA	Salt	Lagoa Nunira	Medida Lagoa 10.250 m ² Grau água salgada: Ph 6-7 Cl: 10,830 Mg/Ltr	DETL (1991)
	Sands and Stones	Mota Laga	375.000 m ²	DRNTL (1996)
	Sands and Stones	Mota Uaimui	3.500.000 m ²	DRNTL (1996)
	Cement and white soil	Laga		
QUELICAI	<i>Chromite</i>	Quelicaí	Grau%36,4-5,3 Cr ₂ O ₃	DRN Indonesia (1996)
	Limestone	Foho Liatoe e Samafano Suco Maluro	65.625.000 m ³	DRN Indonesia (1996)
	Petroleum	Lelelai Quelicaí		
	Mármore	Monte-Makaloso Maluro	4.500.000 m ³	DRNTL (1996)
	Phospore	Suco Abo	Grau P ₂ O ₅ , %1,89-5,85	DRNTL (1996)
	<i>Basalto</i>	Mokububu,lacoliu	RN hipotético	Inventário TL (1996)
VEMASSE	Stone, <i>rai mutin</i>	Quelicaí		
	Gold	Boha Terido - Ossouala	Ouro 2,85-3 Grama/Tonelada.	DRN Sulawesi Norte Indonesia (1997)

Sub District	Natural Resources	Location	Potential	Observation
	Silver	Hanesan	Prata: 490-560 Grama/Tonelada.	<i>Idem</i>
	Copper	Hanesan	Riti: 0,70-11,4	DRN Indo (1994)
	Gold and copper	Na monte - Ossouala	Recurso Natural Mineral hipotético	PT.Dwi.(1994) PT Aneka (1991)
	Copper	Ribeira Passa,Suco Ossouala Antigo	Recurso Natural hipotético Devide % 25-75%	DNRM.Indo.(1996)
	Manganés (Mangan)	Monte Ossouala	MnO ₂ , reserve na medida tonelada 10.000	<i>Idem</i>
	(Classificação Tipo C) 1. Pedrinhas	Ribeira Vemassee e Ribeira Manuleden	Recurso natural Mineral hipotético	Peskizador DMI Bandung (1991)
	2. Sands and Stones	Ribeira Uaikua	4.275.000 m ³ 1.293.750 m ³	<i>Idem</i>
	3. Magnesium	Vemassee	Grau Mg % 5-9	<i>Idem</i>
	4. Sands and Soils	Ossouala	Recurso natural hipotético	<i>Idem</i>
VENILALE	Bentomite	Venilale	Reservada com a medida de 408.985.920 m ³ volume encontrado no local - 716.717 m ³ SiO ₂ (65,73-67,77) Al ₂ O ₃ (15,07-15,87) Fe ₂ O ₃ (2,02-2,07)	PPTM Bandung (1996)

Sub District	Natural Resources	Location	Potential	Observation
			CaO (2,03-2,36)	
	<i>Serpih ho fatuk sabak</i>	Venilale	Recurso Natural e Mineral hipotético	DNE
	River Stone, mount stone, <i>raimutin</i> and etc.			
BAUCAU VILA	Marble	Rahamate Baucau		
	Sands and Stones	Ribeira de Kalauai e Mata	3.750.000 m ³	DRN Ind.1996
	Sands and Stones	Ribeira Seisal	5.175.000 m ³	
	Limestone	Suco Bucoli	18.000.000 m ³	
		Suco Buruma	11.812.000 m ³	
	Phosfor	Costa de norte de Baucau Vila	Ton. 1.969 Grau PeO5 % 2.200 Ton.	
	Travertine	Suco Buruma Baucau	RN, Mineral Hiptetik	Esplora PTAT (1991)
BAGUIA	<i>Rai mutin nst.</i>			Precisa do investimento para a exploração dos recursos naturais
	Sands and Stones	Ribeira de Mau-Uai	2.500.000 m ³	D.R.N Indonesia (1996)
	Sands and Stones	Monte de Buluro, Suco Defa-Uassi	1.410.000 m ³	<i>Idem</i>
	Marble	Monte Matebian feto,	1.575.000 m ³	<i>Idem</i>

Sub District	Natural Resources	Location	Potential	Observation
		Suco Osso-Huna		
	Diabase rock	Ribeira de Mausokoa, Suco, Larisula	9.575.000 m ³	<i>Idem</i>

Source: Baucau Municipal Strategic Plan (PEM)

Anticipating the implementation of the decentralization process and the creation of the municipality, the main challenge of the economy was identified as: increasing the competitiveness of the economy through the diversification of economic activity; bets on the poles of development; investment in human capital, in infrastructure and in research and innovation. The challenge is also the need to develop 4 fundamental pillars, namely:

- 1) Human capital development (market-oriented training, institution and expansion of vocational education and improvement of health and social protection standards).
- 2) Development of production-based infrastructures (infrastructure investment and planning: industrial parks, economic exclusive zones (EEZs), aquaparks, thermal power stations, roads, ports, definition of housing areas and State reserves).
- 3) Research, innovation and technological development (creation of specialized R & D centers in the following areas: agriculture, livestock and fisheries, energy, mineral resources, water resources management and information and communication technology (ICT).
- 4) Articulation, and institutional coordination (improvement of public institutions, improvement of coordination and intersectoral coordination, reform of legislation and creation of institutions that serve the industrialization strategy - eg Development Bank).

In order to materialize the challenges inherent in the priority areas of economic development, we identified two main instruments: (1) private sector development,

with an emphasis on mobilizing resources for investment in the development of small and medium-sized enterprises; and (2) mechanisms for financing public investment. For the development of the Private Sector are considered crucial factors to create a business environment favorable to the municipal private sector and the mobilization of resources for private investment. Developing financial instruments that improve funding conditions and facilitate access to municipal private sector financing is essential.

In this context, the development of human resources in public and private sector institutions is indispensable in increasingly knowledge-based and globalized economies of the world (Analoui, 2007).

It is imperative to build local capacities of Sub District Administrations as the vanguard of the municipal strategic development agenda. The lack of necessary skills and well-run public and private institutions for long-term sustainable growth is a priority to be included in all Baucau development activities because of their implications for improving governance and development management.

Given the importance of human resources as an engine of economic development, it is fundamental and strategic to identify priority areas for training and the number of people in the public and private sector. In this sense it is necessary to make a survey of existing human resources data at the municipal level.

The key to the effective development of human resources should not only identify priority training areas but also prior knowledge of existing human resources and segmentation of adequate funds for the Human Resources Development (HRD) needs identified, ensuring different development plan to be successfully implemented in the future.

The fact that there is not yet a human resources census in the city of Baucau is one of the reasons for this work.

1.2. Goals

The overall objective of this study is to identify and analyze the current human resources situation and its distribution throughout the territory. Some specific objectives were stipulated in order to achieve this.

1. describe the current situation of the municipality's human resources and each Sub District Administration ;
2. inform the number of graduates seeking work or unemployed;
3. promote the planning of human resources, particularly with regard to the needs of the Municipality;
4. contribute to the training and improvement of different categories of personnel, through the optimization of opportunities inside and outside the country; and
5. strengthen cooperation between the public and private sectors and professional associations.
6. promote an efficient allocation of FDCH funding for human resources development programs in priority areas in the coming years;
7. Identify strategic occupations and strategic areas for training; and
8. identify economic potential, natural resources and related priority programs.

Thus, through the achievement of the objectives, it is intended to obtain relevant results that will strengthen and clarify the issue under study.

1.3. Methodology

The research methodology that supports the theme developed basically from a comprehensive analysis of primary data, and was essentially focused on two vectors of the quantitative and qualitative methodological approach. The first, the data were collected from individuals aged 17 years or over by means of a census of the population living in the Municipality of Baucau, with a questionnaire completed between September 5 and November 5, 2016, and the second was made through the Focus Group Discussion (FGD) held on March 20, 2018.

The population census is the only source of information on the life situation of the population in Sub District administrations and villages. The census produces information essential for the definition of public policies of the state at the level of Sub District administrations and for decision-making in relation to the investment, whether they come from private initiative or any level of government.

The data in the questionnaires collected were complemented with the FGD method with discussion questions (Annex 1) based on the 4 development pillars according to the National Development Strategic Plan (PEDN 2011-2030) to the Municipal Administrators, Administrative Officers, Directors (list of participants in Annex 2), in order to assess the accuracy of the information given, but also the relevance of the programs identified as necessary for the development of the municipality's human resources.

To simplify the analysis, we also collected additional secondary data for the study. The documentary source was made through the review of several documents related to the development of human resources and decentralization. The primary data collected based on the instruments answered by the respondents were tabulated and analyzed statistically, as well as the secondary data collected from the documentation analysis. The data were treated with specialized CS-Pro software for this area.

PART B: ANALYSIS AND RESULTS FOUND

This part of the report intends to analyze the results of the FDCH survey and other relevant data and elaborate its implications for the development of the Baucau Municipal Human Resources Strategy, continues in four sections.

Section 1 is mainly based on the FDCH survey to analyze the current human capital situation of Baucau Municipality, in several dimensions, as the basis for the development of a human resources strategy.

Section 2 starts from the four pillars of the Municipality's Strategic Development Plan, describing the priority programs and the main training areas.

Section 3 briefly discusses and analyzes the data presented here.

Section 4 provides conclusions and recommendations.

2. Understand the Human Resources of the Municipality of Baucau

2.1. Presentation and Analysis of data

This section briefly reviews data on the level of existing human resources in Baucau Municipality and its distribution to Sub District Administrations, as well as providing a basis for human resource strategy decisions. The main source of information presented here is the result of the FDCH survey and statistical data from the General Directorate of Statistics (DGE-official acronym in portuguese).

2.2. Profile of Respondents

The first part of the collection tool outlined the profile of the respondents and as shown below, the results were represented in percentage graphs.

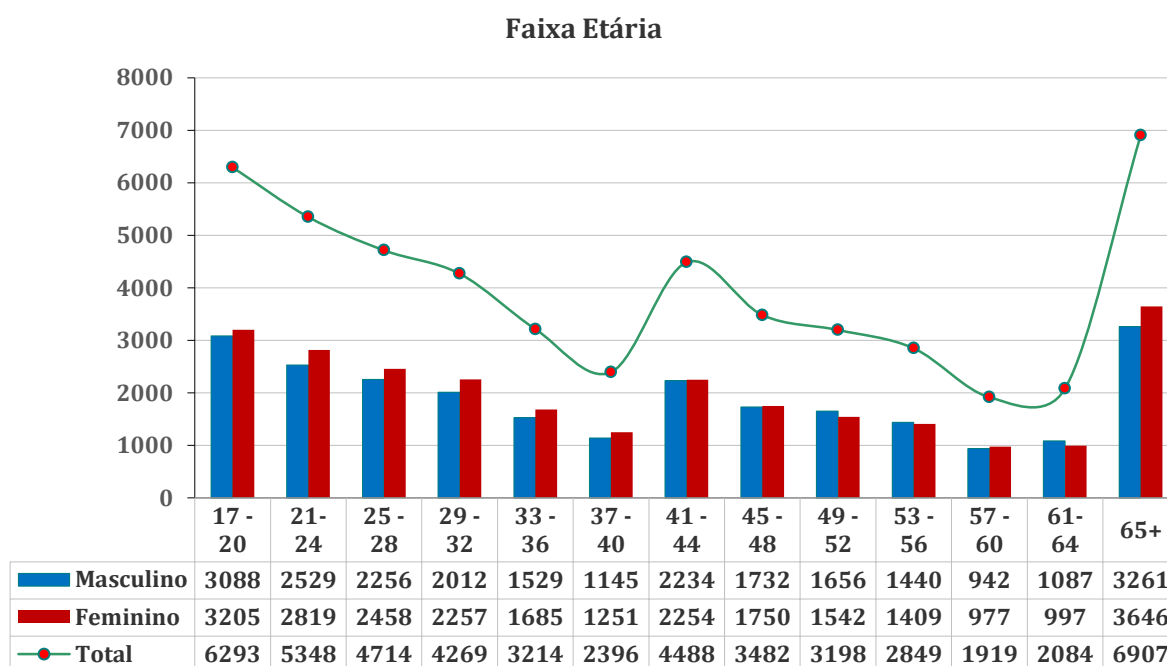
Parallel to the graphical presentation of these results an analysis of the obtained data is made, aiming to reach the objectives already listed initially.

The survey involved 51,161 respondents, of whom 48.7% were male and 51.3% were female. The other aspects of the profile are arranged in the graphs below.

Most of them are aged between 17 and 44 years old, accounting for 60%, followed by the age group from 45 to 64 years old, with 26.4% of those surveyed and 13.5%

older than 65 years. The female sex is the largest number in individuals aged between 17 - 40 years and over 40 years the difference is not significant between both sexes (Figure 1).

Figure 1. Distribution of respondents by age group and by sex



2.3. People With Disability

Table 1 presents the evaluation distribution of the existence of people with disabilities in the Municipality of Baucau. In the evaluation of the existence of people with disabilities, a total of 2018 respondents corresponded to 3.9% of the total number of respondents distributed by 6 Sub District Administration (Table 1).

Table 1. Distribution of the existence of people with disabilities by Sub District Administration

Sub District Administrations	Have Deficiency?		TOTAL
	YES	NO	
Baguia	82	4690	4772
Baucau	331	18031	18362
Laga	156	7720	7876
Quelicai	659	7588	8247
Vemassee	497	4001	4498
Venilale	293	7,113	7,406
BAUCAU	2,018	49,143	51,161
Percentage (%)	3,9	96,1	100,0

The highest number of people with disabilities was registered in the Sub District of Quelicai with 33%, Vemassee (25%). The Sub District Administrations with the numbers of people with similar disabilities are Venilale, Baucau and Vemassee. The Sub District of Baguia and Laga has a number of people with disabilities less than 10% (Table 2).

Table 2. Distribution of people with disabilities by Sub District Administration

Sub District Administrations	Frequency	Percentage (%)
Baguia	82	4
Baucau	331	16
Laga	156	8
Quelicai	659	33
Vemassee	497	25
Venilale	293	15
Total	2,018	100

The main difficulties are related to physical mobility and vision / eyes with 40.3% and 38.8%, respectively. Auditory and cognitive impairments have a percentage lower than 10% (Table 3).

Table 3. Distribution of the disabled by type of disability and by Sub District Administration

Sub District	Type of deficiency					Total
	Física / Mobilidade	Vista	Surdo/ Mudo	Psicossocial /Mental	Cognitiva / intelectual	
Baguia	41	16	12	14	-	83
Baucau	162	79	28	55	3	327
Laga	84	34	17	20	1	156
Quelicai	340	160	95	59	14	668
Vemassee	40	417	16	27	-	500
Venilale	152	82	26	33	3	296
Total BAUCAU	819	788	194	208	21	2030
Percentage (%)	40,3	38,8	9,6	10,2	1,0	100,0

2.4. Education Level

As for the level of education of illiterate respondents, adult literacy and incomplete primary education occupy 48.9% of all respondents. Basic (primary) and pre-secondary education represents 23.1% and secondary education occupies 22.2%. Vocational education and other levels of courses occupy 0.8% and 1.7%, respectively. At the tertiary / higher level, 3.5% of the respondents have the level of higher education (Table 4).

Among of 1,794 (3.5%) of the respondents, 60.3% had a bachelor's degree followed by Diploma III (29.3%), Diploma II (4.4%) and Diploma I. Other academic levels have a percentage lower than 2% (Table 4).

Table 4. Distribution by level of education and by Sub District Administration

Grau de Instrução/Nível de Educação	BAUCAU	Baguia	Baucau	Laga	Quelicai	Vemasse	Venilale
Can not read / write	19,360	2,159	4,397	3,670	4,298	1,641	3,195
Do not read / write (did not finish primary)	5,542	539	1,668	1,180	864	485	806
Sub Total	24,902	2,698	6,065	4,850	5,162	2,126	4,001
Primary	5,141	568	1,738	684	633	528	990
Pre-secondary	6,678	558	3,103	680	830	536	971
Secondary	11,370	816	5,687	1,329	1,411	796	1,331
Professional Technical High School	422	27	232	36	30	29	68
Others	346	21	186	16	44	27	52
Sub Total	23,957	1,990	10,946	2,745	2,948	1,916	3,412
1th. Ciclo (1ª classe – 4th classe)	437	28	203	25	25	86	70
2º. Ciclo (1º Ano, 2º Ano)	28	2	11	2	8	2	3
3º. Ciclo (3º Ano - 9º ano/3º ano para cima)	43	7	11	7	8	7	3
Sub Total	508	37	225	34	41	95	76
1 Year Diploma (DI)	56	0	30	5	8	7	6
2 years Diploma (DII)	79	7	39	5	8	3	17

Grau de Instrução/Nível de Educação	BAUCAU	Baguia	Baucau	Laga	Quelical	Vemasse	Venilale
3 years Diploma	526	20	263	60	73	53	57
4years Diploms (DIV)	12	1	3	2	5	1	0
Graduates (S1)	1082	66	556	113	167	61	119
Master (S2)	37	1	24	2	6	3	1
Doctorate (S3)	2	-	2	-	-	-	-
Sub Total	1794	95	917	187	267	128	200
Total	51161	4820	18153	7816	8418	4265	7689

As for the distribution of the knowledge of the respondents by study area (study program) and by Sub District of the 1794 who hold the higher degree only 813 (45.3%) who answered this question. Details of the data can be seen in table 5, below.

Table 5. Distribution of education level of respondents by study program and by Sub Dstric Administration

Study Program	Education Level							Total	Sex	
	1 Year Diploma	2 Years Diploma	3 Years Diploma	4 Years Diploma	Bachelor's Degree (S1)	Master's Degree (S2)	Doctor (S3)		Male	Female
Total	35	33	220	6	488	29	2	813	480	333
Law	-	-	-	-	50	-	-	50	32	18
Mathematics	-	1	19	-	23	1	-	44	32	12
Medicine - Medical Practice (General Practitioner)	1	3	5	-	35	-	-	44	21	23
Education	-	3	13	-	18	3	-	37	20	17
Civil Engineering - Civil Construction	2	3	3	-	22	3	-	33	27	6
Accounting	1	1	3	-	26	-	-	31	12	19
Management	1	1	-	1	21	4	1	29	18	11
Portuguese language	-	2	22	-	3	-	-	27	13	14
Education Biology	-	1	10	-	16	-	-	27	17	10
Mathematics of Teaching	-	-	11	1	14	-	-	26	19	7
Computer Technology Engineering (Computer)	4	-	5	-	15	-	-	24	13	11
Public health	-	1	11	-	9	2	-	23	13	10
Nursing	-	-	15	-	6	-	-	21	6	15
Physics of Teaching	-	-	14	-	7	-	-	21	14	7
Production of livestock	-	-	2	-	15	-	-	17	12	5
English language	-	3	5	-	7	-	-	15	6	9
Economy	-	-	1	1	12	-	-	14	10	4

Study Program	Education Level							Total	Sex	
	1 Year Diploma	2 Years Diploma	3 Years Diploma	4 Years Diploma	Bachelor's Degree (S1)	Master's Degree (S2)	Doctor (S3)		Male	Female
Engineering Architecture	-	-	-	-	10	2	-	12	8	4
Midwife	5	-	3	-	4	-	-	12	1	11
Teacher training	1	-	5	-	3	2	1	12	4	8
Mining engineering	-	-	-	-	11	-	-	11	8	3
Agronomy	-	-	1	1	8	-	-	10	6	4
Theology	-	1	2	-	6	1	-	10	8	2
Teaching chemistry	-	-	3	-	7	-	-	10	6	4
Catechism	-	3	4	-	3	-	-	10	6	4
Philosophy	-	-	2	-	7	-	-	9	8	1
Pharmacy	5	-	2	-	2	-	-	9	5	4
Human resource Management	1	-	-	-	6	2	-	9	4	5
Economics of Finance / Financial Management - Banking Economics	-	1	3	-	5	-	-	9	6	3
Physics	-	1	4	1	2	-	-	8	4	4
International, bilateral and multilateral relations	-	-	-	-	8	-	-	8	5	3
Aquaculture	-	-	-	-	7	-	-	7	7	-
Public law	-	-	-	-	7	-	-	7	4	3
Public administration	-	-	1	-	4	2	-	7	4	3
Tourism and Hospitality	2	-	-	-	5	-	-	7	1	6
Sociology	1	-	2	-	3	-	-	6	3	3

Study Program	Education Level							Total	Sex	
	1 Year Diploma	2 Years Diploma	3 Years Diploma	4 Years Diploma	Bachelor's Degree (S1)	Master's Degree (S2)	Doctor (S3)		Male	Female
Zoology	-	-	-	-	5	-	-	5	2	3
Electrical engineering	-	-	3	-	2	-	-	5	5	-
Management	-	-	2	-	2	1	-	5	2	3
Religious career	-	-	1	-	4	-	-	5	1	4
Geology	-	-	1	-	3	1	-	5	4	1
Mechanical Engineer	1	-	-	-	4	-	-	5	4	1
Moral Theology	-	2	-	-	3	-	-	5	5	-
Pastoral theology	-	-	5	-	-	-	-	5	4	1
General / environmental biology	-	1	2	-	1	-	-	4	-	4
Dentist	-	1	1	-	2	-	-	4	2	2
Preventive Veterinary Medicine	-	1	2	-	1	-	-	4	3	1
Public policy	1	-	-	-	2	1	-	4	2	2
Education (education) Pre-primary and primary	-	-	2	-	2	-	-	4	2	2
Primary and pre-secondary teacher training	-	-	3	-	1	-	-	4	2	2
Clinical Analysis	-	-	2	-	1	-	-	3	1	2
Applied Linguistics	-	-	2	-	1	-	-	3	1	2
Statistic	-	-	3	-	-	-	-	3	2	1
Physical Education / Sports	-	-	1	-	2	-	-	3	2	1

Study Program	Education Level							Total	Sex	
	1 Year Diploma	2 Years Diploma	3 Years Diploma	4 Years Diploma	Bachelor's Degree (S1)	Master's Degree (S2)	Doctor (S3)		Male	Female
Education										
Agro-business	-	-	-	-	3	-	-	3	1	2
Communication - Journalism and Publishing	-	-	2	-	1	-	-	3	3	-
Education Sociology	-	-	-	-	3	-	-	3	2	1
Environmental ecology	-	-	-	1	1	-	-	2	2	-
Anesthetist	1	-	1	-	-	-	-	2	1	1
political science	1	-	-	-	1	-	-	2	2	-
Sociolinguistics and Dialectology	-	-	1	-	1	-	-	2	2	-
Mineralogy	-	-	-	-	2	-	-	2	2	-
Petroleum	-	-	-	-	2	-	-	2	1	1
Plant biology	-	-	1	-	1	-	-	2	2	-
Chemical engineer	-	-	1	-	1	-	-	2	1	1
Environmental engineer	-	-	-	-	2	-	-	2	-	2
Forestry management	-	-	-	-	2	-	-	2	2	-
Government Planning and Policy	-	-	-	-	2	-	-	2	2	-
Development Study	-	-	1	-	-	1	-	2	2	-
Business Administration	-	-	1	-	1	-	-	2	2	-
Video arts	-	1	-	-	1	-	-	2	-	2
Geosciences	-	-	1	-	-	-	-	1	-	1

Study Program	Education Level							Total	Sex	
	1 Year Diploma	2 Years Diploma	3 Years Diploma	4 Years Diploma	Bachelor's Degree (S1)	Master's Degree (S2)	Doctor (S3)		Male	Female
Biochemistry	-	-	1	-	-	-	-	1	1	-
Biophysics	-	-	-	-	1	-	-	1	1	-
Hydraulic Engineering	-	-	-	-	1	-	-	1	1	-
Ore Treatment	-	-	-	-	1	-	-	1	1	-
mechanical Engineering	1	-	-	-	-	-	-	1	1	-
Specialist in Orthopedic Surgery	-	-	-	-	1	-	-	1	-	1
Specialist in Plastic and Restorative Surgery	-	-	-	-	1	-	-	1	1	-
Forest Resources and Forestry Engineering	-	-	1	-	-	-	-	1	1	-
Agricultural engineering	-	-	-	-	1	-	-	1	-	1
Food Science and Technology	1	-	-	-	-	-	-	1	1	-
Anthropology	-	-	1	-	-	-	-	1	1	-
Archeology	-	-	-	-	1	-	-	1	-	1
Psychology	-	-	-	-	1	-	-	1	-	1
Psycholinguistics	-	-	-	-	1	-	-	1	1	-
Indonesian language	-	-	1	-	-	-	-	1	-	1
Spanish language	-	-	1	-	-	-	-	1	-	1
Astronomy	-	-	1	-	-	-	-	1	1	-
Marine and oceanic engineering	-	-	1	-	-	-	-	1	1	-

Study Program	Education Level							Total	Sex	
	1 Year Diploma	2 Years Diploma	3 Years Diploma	4 Years Diploma	Bachelor's Degree (S1)	Master's Degree (S2)	Doctor (S3)		Male	Female
Obstetric specialist / gynecologist	1	-	-	-	-	-	-	1	-	1
Dentistry	-	-	-	-	1	-	-	1	-	1
Environmental health	1	-	-	-	-	-	-	1	-	1
Maternal and child health	-	-	-	-	1	-	-	1	-	1
Floriculture, Parks and Gardens and Arborization of Public Roads	-	-	-	-	1	-	-	1	1	-
Inland water resources	1	-	-	-	-	-	-	1	1	-
Food Technology	-	-	-	-	1	-	-	1	1	-
Business Administration	1	-	-	-	-	-	-	1	-	1
Education Economics	-	-	-	-	1	-	-	1	-	1
Market Cooperative Economi	-	-	1	-	-	-	-	1	1	-
Education Economics / Management of Education	-	-	-	-	1	-	-	1	-	1
Governmental Sciences	-	-	-	-	-	1	-	1	-	1
Peace study	-	-	-	-	1	-	-	1	1	-
Music	-	-	-	-	1	-	-	1	1	-
Theater	-	-	-	-	1	-	-	1	1	-
Artistic education	-	-	-	-	1	-	-	1	-	1
Skills Education - Fashion, Cosmetics, Cake / Pastry	-	-	1	-	-	-	-	1	-	1

Study Program	Education Level							Total	Sex	
	1 Year Diploma	2 Years Diploma	3 Years Diploma	4 Years Diploma	Bachelor's Degree (S1)	Master's Degree (S2)	Doctor (S3)		Male	Female
Educational technology	-	-	-	-	-	1	-	1	1	-
Professional qualification	-	-	-	-	-	1	-	1	1	-
Others	1	2	1	-	2	-	-	6	5	1
Baguia										
Total	-	2	8	-	24	1	-	35	26	9
Mathematics	-	-	2	-	1	-	-	3	3	-
Right	-	-	-	-	3	-	-	3	3	-
Medicine - Medical Practice (General Practitioner)	-	1	-	-	2	-	-	3	2	1
Economy	-	-	-	-	2	-	-	2	2	-
Midwife	-	-	-	-	2	-	-	2	1	1
Management	-	-	-	-	2	-	-	2	1	1
Mathematics of Teaching	-	-	1	-	1	-	-	2	2	-
Electrical engineering	-	-	1	-	-	-	-	1	1	-
Management	-	-	-	-	-	1	-	1	1	-
Theology	-	1	-	-	-	-	-	1	1	-
Sociolinguistics and Dialectology	-	-	1	-	-	-	-	1	1	-
Applied Linguistics	-	-	-	-	1	-	-	1	-	1
English language	-	-	1	-	-	-	-	1	-	1
Petroleum	-	-	-	-	1	-	-	1	1	-
Computer Technology	-	-	-	-	1	-	-	1	-	1

Study Program	Education Level							Total	Sex	
	1 Year Diploma	2 Years Diploma	3 Years Diploma	4 Years Diploma	Bachelor's Degree (S1)	Master's Degree (S2)	Doctor (S3)		Male	Female
Engineering (Computer)										
Pharmacy	-	-	-	-	1	-	-	1	1	-
Production of livestock	-	-	1	-	-	-	-	1	1	-
Aquaculture	-	-	-	-	1	-	-	1	1	-
Accounting	-	-	-	-	1	-	-	1	-	1
Tourism and Hospitality	-	-	-	-	1	-	-	1	-	1
Human resource Management	-	-	-	-	1	-	-	1	1	-
Education Economics	-	-	-	-	1	-	-	1	-	1
Education Biology	-	-	1	-	-	-	-	1	1	-
Public policy	-	-	-	-	1	-	-	1	1	-
Theater	-	-	-	-	1	-	-	1	1	-
Baucau										
Total	17	19	118	2	264	21	2	443	250	193
Right	-	-	-	-	27	-	-	27	17	10
Civil Engineering - Civil Construction	1	3	3	-	16	3	-	26	20	6
Management	1	1	-	1	16	3	1	23	14	9
Education	-	2	6	-	11	2	-	21	10	11
Medicine - Medical Practice (General Practitioner)	1	2	4	-	14	-	-	21	9	12
Accounting	1	-	1	-	17	-	-	19	5	14
Computer Technology	-	-	4	-	11	-	-	15	10	5

Study Program	Education Level							Total	Sex	
	1 Year Diploma	2 Years Diploma	3 Years Diploma	4 Years Diploma	Bachelor's Degree (S1)	Master's Degree (S2)	Doctor (S3)		Male	Female
Engineering (Computer)										
Public health	-	1	8	-	5	1	-	15	9	6
Education Biology	-	1	5	-	9	-	-	15	7	8
Mathematics	-	-	6	-	8	-	-	14	7	7
Portuguese language	-	1	10	-	2	-	-	13	4	9
Nursing	-	-	7	-	5	-	-	12	4	8
English language	-	2	4	-	4	-	-	10	4	6
Economics of Finance / Financial Management - Banking Economics	-	1	3	-	5	-	-	9	6	3
Mathematics of Teaching	-	-	7	-	2	-	-	9	5	4
Oil Engineering	-	-	-	-	8	-	-	8	6	2
Physics of Teaching	-	-	7	-	1	-	-	8	5	3
Teacher training	1	-	3	-	1	2	1	8	3	5
Economy	-	-	1	-	6	-	-	7	5	2
Production of livestock	-	-	1	-	6	-	-	7	4	3
Philosophy	-	-	2	-	4	-	-	6	6	-
Theology	-	-	2	-	4	-	-	6	5	1
Zoology	-	-	-	-	5	-	-	5	2	3
Midwife	4	-	1	-	-	-	-	5	-	5
Aquaculture	-	-	-	-	5	-	-	5	5	-
Public law	-	-	-	-	5	-	-	5	2	3

Study Program	Education Level							Total	Sex	
	1 Year Diploma	2 Years Diploma	3 Years Diploma	4 Years Diploma	Bachelor's Degree (S1)	Master's Degree (S2)	Doctor (S3)		Male	Female
Public administration	-	-	1	-	2	2	-	5	4	1
Tourism and Hospitality	2	-	-	-	3	-	-	5	1	4
Human resource Management	1	-	-	-	3	1	-	5	2	3
Engineering Architecture	-	-	-	-	2	2	-	4	3	1
Sociology	1	-	1	-	2	-	-	4	2	2
International, bilateral and multilateral relations	-	-	-	-	4	-	-	4	1	3
Physics	-	-	2	-	1	-	-	3	-	3
Mechanical Engineer	1	-	-	-	2	-	-	3	2	1
Preventive Veterinary Medicine	-	1	2	-	-	-	-	3	3	-
Communication - Journalism and Publishing	-	-	2	-	1	-	-	3	3	-
Moral Theology	-	1	-	-	2	-	-	3	3	-
Primary and pre-secondary teacher training	-	-	2	-	1	-	-	3	2	1
General / environmental biology	-	-	1	-	1	-	-	2	-	2
Environmental ecology	-	-	-	1	1	-	-	2	2	-
Agronomy	-	-	-	-	2	-	-	2	1	1
Applied Linguistics	-	-	2	-	-	-	-	2	1	1
Religious career	-	-	-	-	2	-	-	2	1	1

Study Program	Education Level							Total	Sex	
	1 Year Diploma	2 Years Diploma	3 Years Diploma	4 Years Diploma	Bachelor's Degree (S1)	Master's Degree (S2)	Doctor (S3)		Male	Female
Statistic	-	-	2	-	-	-	-	2	2	-
Geology	-	-	-	-	1	1	-	2	2	-
Mineralogy	-	-	-	-	2	-	-	2	2	-
Chemical engineer	-	-	1	-	1	-	-	2	1	1
Environmental engineer	-	-	-	-	2	-	-	2	-	2
Dentist	-	-	-	-	2	-	-	2	2	-
Physical Education / Sports Education	-	-	1	-	1	-	-	2	2	-
Pharmacy	-	-	1	-	1	-	-	2	1	1
Agro-business	-	-	-	-	2	-	-	2	1	1
Forestry management	-	-	-	-	2	-	-	2	2	-
Development Study	-	-	1	-	-	1	-	2	2	-
Teaching chemistry	-	-	1	-	1	-	-	2	1	1
Education Sociology	-	-	-	-	2	-	-	2	1	1
Public policy	-	-	-	-	1	1	-	2	1	1
Pastoral theology	-	-	2	-	-	-	-	2	1	1
Education (education) Pre-primary and primary	-	-	1	-	1	-	-	2	1	1
Geosciences	-	-	1	-	-	-	-	1	-	1
Ore Treatment	-	-	-	-	1	-	-	1	1	-
Electrical engineering	-	-	1	-	-	-	-	1	1	-
mechanical Engineering	1	-	-	-	-	-	-	1	1	-

Study Program	Education Level							Total	Sex	
	1 Year Diploma	2 Years Diploma	3 Years Diploma	4 Years Diploma	Bachelor's Degree (S1)	Master's Degree (S2)	Doctor (S3)		Male	Female
Clinical Analysis	-	-	1	-	-	-	-	1	-	1
Anesthetist	1	-	-	-	-	-	-	1	1	-
Specialist in Orthopedic Surgery	-	-	-	-	1	-	-	1	-	1
Specialist in Plastic and Restorative Surgery	-	-	-	-	1	-	-	1	1	-
Forest Resources and Forestry Engineering	-	-	1	-	-	-	-	1	1	-
Agricultural engineering	-	-	-	-	1	-	-	1	-	1
Management	-	-	-	-	1	-	-	1	1	-
Anthropology	-	-	1	-	-	-	-	1	1	-
political science	-	-	-	-	1	-	-	1	1	-
Sociolinguistics and Dialectology	-	-	-	-	1	-	-	1	1	-
Psycholinguistics	-	-	-	-	1	-	-	1	1	-
Indonesian language	-	-	1	-	-	-	-	1	-	1
Spanish language	-	-	1	-	-	-	-	1	-	1
Astronomy	-	-	1	-	-	-	-	1	1	-
Marine and oceanic engineering	-	-	1	-	-	-	-	1	1	-
Dentistry	-	-	-	-	1	-	-	1	-	1
Environmental health	1	-	-	-	-	-	-	1	-	1

Study Program	Education Level							Total	Sex	
	1 Year Diploma	2 Years Diploma	3 Years Diploma	4 Years Diploma	Bachelor's Degree (S1)	Master's Degree (S2)	Doctor (S3)		Male	Female
Maternal and child health	-	-	-	-	1	-	-	1	-	1
Floriculture, Parks and Gardens and Arborization of Public Roads	-	-	-	-	1	-	-	1	1	-
Food Technology	-	-	-	-	1	-	-	1	1	-
Government Planning and Policy	-	-	-	-	1	-	-	1	1	-
Business Administration	-	-	-	-	1	-	-	1	1	-
Governmental sciences	-	-	-	-	-	1	-	1	-	1
Peace study	-	-	-	-	1	-	-	1	1	-
Catechism	-	1	-	-	-	-	-	1	1	-
Music	-	-	-	-	1	-	-	1	1	-
Video arts	-	-	-	-	1	-	-	1	-	1
Artistic education	-	-	-	-	1	-	-	1	-	1
Skills Education - Fashion, Cosmetics, Cake / Pastry	-	-	1	-	-	-	-	1	-	1
Educational technology	-	-	-	-	-	1	-	1	1	-
Others	-	2	-	-	1	-	-	3	2	1
Laga										
Total	3	-	27	-	57	1	-	88	50	38
Medicine - Medical Practice (General Practitioner)	-	-	1	-	7	-	-	8	5	3

Study Program	Education Level							Total	Sex	
	1 Year Diploma	2 Years Diploma	3 Years Diploma	4 Years Diploma	Bachelor's Degree (S1)	Master's Degree (S2)	Doctor (S3)		Male	Female
Right	-	-	-	-	7	-	-	7	3	4
Mathematics of Teaching	-	-	1	-	5	-	-	6	4	2
Public health	-	-	3	-	2	-	-	5	1	4
Mathematics	-	-	2	-	2	-	-	4	3	1
Engineering Architecture	-	-	-	-	4	-	-	4	1	3
Portuguese language	-	-	3	-	-	-	-	3	-	3
Nursing	-	-	3	-	-	-	-	3	1	2
Accounting	-	-	1	-	2	-	-	3	3	-
Physics of Teaching	-	-	2	-	1	-	-	3	1	2
Pastoral theology	-	-	3	-	-	-	-	3	3	-
Catechism	-	-	3	-	-	-	-	3	1	2
Agronomy	-	-	-	-	2	-	-	2	1	1
Theology	-	-	-	-	2	-	-	2	1	1
Geology	-	-	1	-	1	-	-	2	1	1
Production of livestock	-	-	-	-	2	-	-	2	1	1
Education Biology	-	-	1	-	1	-	-	2	2	-
Biophysics	-	-	-	-	1	-	-	1	1	-
Civil Engineering - Civil Construction	-	-	-	-	1	-	-	1	1	-
Hydraulic Engineering	-	-	-	-	1	-	-	1	1	-
Food Science and Technology	1	-	-	-	-	-	-	1	1	-
economy	-	-	-	-	1	-	-	1	1	-

Study Program	Education Level							Total	Sex	
	1 Year Diploma	2 Years Diploma	3 Years Diploma	4 Years Diploma	Bachelor's Degree (S1)	Master's Degree (S2)	Doctor (S3)		Male	Female
Philosophy	-	-	-	-	1	-	-	1	-	1
Psychology	-	-	-	-	1	-	-	1	-	1
Education	-	-	-	-	1	-	-	1	-	1
Religious career	-	-	-	-	1	-	-	1	-	1
Computer Technology Engineering (Computer)	-	-	-	-	1	-	-	1	1	-
Mechanical Engineer	-	-	-	-	1	-	-	1	1	-
Midwife	-	-	-	-	1	-	-	1	-	1
Inland water resources	1	-	-	-	-	-	-	1	1	-
Aquaculture	-	-	-	-	1	-	-	1	1	-
Public law	-	-	-	-	1	-	-	1	1	-
Public administration	-	-	-	-	1	-	-	1	-	1
Government Planning and Policy	-	-	-	-	1	-	-	1	1	-
Management	-	-	-	-	1	-	-	1	1	-
Human resource Management	-	-	-	-	-	1	-	1	1	-
Economy - Cooperativa - Mercado	-	-	1	-	-	-	-	1	1	-
Teaching chemistry	-	-	-	-	1	-	-	1	1	-
International, bilateral and multilateral relations	-	-	-	-	1	-	-	1	1	-
Teacher training	-	-	1	-	-	-	-	1	-	1

Study Program	Education Level							Total	Sex	
	1 Year Diploma	2 Years Diploma	3 Years Diploma	4 Years Diploma	Bachelor's Degree (S1)	Master's Degree (S2)	Doctor (S3)		Male	Female
Primary and pre-secondary teacher training	-	-	1	-	-	-	-	1	-	1
Others	1	-	-	-	1	-	-	2	2	-
Quelicai										
Total	6	2	24	3	73	3	-	111	79	32
Mathematics	-	-	6	-	6	1	-	13	11	2
Law	-	-	-	-	8	-	-	8	6	2
Portuguese language	-	-	5	-	1	-	-	6	6	-
Mathematics of Teaching	-	-	-	1	5	-	-	6	5	1
Civil Engineering - Civil Construction	1	-	-	-	4	-	-	5	5	-
Education	-	-	2	-	2	1	-	5	3	2
Engineering Computer Technology (Computer)	4	-	-	-	1	-	-	5	1	4
Medicine - Medical Practice (General Practitioner)	-	-	-	-	5	-	-	5	3	2
Physics	-	1	1	1	1	-	-	4	3	1
Agronomy	-	-	1	-	3	-	-	4	3	1
Production of livestock	-	-	-	-	4	-	-	4	4	-
Accounting	-	-	-	-	4	-	-	4	3	1
Education Biology	-	-	-	-	4	-	-	4	4	-
Physics of Teaching	-	-	-	-	4	-	-	4	4	-

Study Program	Education Level							Total	Sex	
	1 Year Diploma	2 Years Diploma	3 Years Diploma	4 Years Diploma	Bachelor's Degree (S1)	Master's Degree (S2)	Doctor (S3)		Male	Female
economy	-	-	-	1	2	-	-	3	1	2
Teaching chemistry	-	-	-	-	3	-	-	3	2	1
International, bilateral and multilateral relations	-	-	-	-	3	-	-	3	3	-
Catechism	-	-	-	-	3	-	-	3	2	1
Sociology	-	-	1	-	1	-	-	2	1	1
Dentist	-	1	1	-	-	-	-	2	-	2
Nursing	-	-	2	-	-	-	-	2	-	2
Midwife	-	-	1	-	1	-	-	2	-	2
General / environmental biology	-	-	1	-	-	-	-	1	-	1
Biochemistry	-	-	1	-	-	-	-	1	1	-
Engineering Architecture	-	-	-	-	1	-	-	1	1	-
Electrical engineering	-	-	-	-	1	-	-	1	1	-
Clinical Analysis	-	-	1	-	-	-	-	1	-	1
Archeology	-	-	-	-	1	-	-	1	-	1
English language	-	-	-	-	1	-	-	1	1	-
Religious career	-	-	-	-	1	-	-	1	-	1
Geology	-	-	-	-	1	-	-	1	1	-
Plant biology	-	-	-	-	1	-	-	1	1	-
Pharmacy	1	-	-	-	-	-	-	1	-	1
Public health	-	-	-	-	1	-	-	1	1	-

Study Program	Education Level							Total	Sex	
	1 Year Diploma	2 Years Diploma	3 Years Diploma	4 Years Diploma	Bachelor's Degree (S1)	Master's Degree (S2)	Doctor (S3)		Male	Female
Management	-	-	-	-	-	1	-	1	1	-
Others	-	-	1	-	-	-	-	1	1	-
Vemasse										
Total	7	1	24	1	25	3	-	61	28	33
Mathematics	-	-	1	-	1	-	-	2	2	-
Pharmacy	4	-	-	-	-	-	-	4	2	2
Medicine - Medical Practice (General Practitioner)	-	-	-	-	4	-	-	4	1	3
Physics of Teaching	-	-	3	-	1	-	-	4	3	1
Teaching chemistry	-	-	2	-	2	-	-	4	2	2
Portuguese language	-	-	3	-	-	-	-	3	1	2
Law	-	-	-	-	2	-	-	2	1	1
Management	-	-	1	-	1	-	-	2	-	2
Education	-	-	2	-	-	-	-	2	-	2
Nursing	-	-	2	-	-	-	-	2	-	2
Public health	-	-	-	-	1	1	-	2	2	-
Midwife	1	-	1	-	-	-	-	2	-	2
Production of livestock	-	-	-	-	2	-	-	2	1	1
Accounting	-	1	1	-	-	-	-	2	-	2
Education (education) Pre-primary and primary	-	-	1	-	1	-	-	2	1	1
Teacher training	-	-	1	-	1	-	-	2	1	1

Study Program	Education Level							Total	Sex	
	1 Year Diploma	2 Years Diploma	3 Years Diploma	4 Years Diploma	Bachelor's Degree (S1)	Master's Degree (S2)	Doctor (S3)		Male	Female
Civil Engineering - Civil Construction	-	-	-	-	1	-	-	1	1	-
Mining engineering	-	-	-	-	1	-	-	1	1	-
Anesthetist	-	-	1	-	-	-	-	1	-	1
Agronomy	-	-	-	1	-	-	-	1	1	-
Theology	-	-	-	-	-	1	-	1	1	-
Statistic	-	-	1	-	-	-	-	1	-	1
Plant biology	-	-	1	-	-	-	-	1	1	-
Computer Technology Engineering (Computer)	-	-	1	-	-	-	-	1	-	1
Physical Education / Sports Education	-	-	-	-	1	-	-	1	-	1
Obstetric specialist / gynecologist	1	-	-	-	-	-	-	1	-	1
Agro-business	-	-	-	-	1	-	-	1	-	1
Public law	-	-	-	-	1	-	-	1	1	-
Business Administration	1	-	-	-	-	-	-	1	-	1
Tourism and Hospitality	-	-	-	-	1	-	-	1	-	1
Human resource Management	-	-	-	-	1	-	-	1	-	1
Business Administration	-	-	1	-	-	-	-	1	1	-
Education Biology	-	-	1	-	-	-	-	1	1	-
Education Sociology	-	-	-	-	1	-	-	1	1	-

Study Program	Education Level							Total	Sex	
	1 Year Diploma	2 Years Diploma	3 Years Diploma	4 Years Diploma	Bachelor's Degree (S1)	Master's Degree (S2)	Doctor (S3)		Male	Female
Moral Theology	-	-	-	-	1	-	-	1	1	-
Professional qualification	-	-	-	-	-	1	-	1	1	-
Venilale										
Total	2	9	19	-	45	-	-	75	47	28
Mathematics	-	1	2	-	5	-	-	8	6	2
Education	-	1	3	-	4	-	-	8	7	1
Education Biology	-	-	2	-	2	-	-	4	2	2
Engineering Architecture	-	-	-	-	3	-	-	3	3	-
Right	-	-	-	-	3	-	-	3	2	1
English language	-	1	-	-	2	-	-	3	1	2
Medicine - Medical Practice (General Practitioner)	-	-	-	-	3	-	-	3	1	2
Mathematics of Teaching	-	-	2	-	1	-	-	3	3	-
Catechism	-	2	1	-	-	-	-	3	2	1
Oil Engineering	-	-	-	-	2	-	-	2	1	1
Electrical engineering	-	-	1	-	1	-	-	2	2	-
Philosophy	-	-	-	-	2	-	-	2	2	-
Portuguese language	-	1	1	-	-	-	-	2	2	-
Nursing	-	-	1	-	1	-	-	2	1	1
Accounting	-	-	-	-	2	-	-	2	1	1
Management	-	-	-	-	2	-	-	2	1	1
Physics of Teaching	-	-	2	-	-	-	-	2	1	1

Study Program	Education Level							Total	Sex	
	1 Year Diploma	2 Years Diploma	3 Years Diploma	4 Years Diploma	Bachelor's Degree (S1)	Master's Degree (S2)	Doctor (S3)		Male	Female
Physics	-	-	1	-	-	-	-	1	1	-
General / environmental biology	-	1	-	-	-	-	-	1	-	1
Clinical Analysis	-	-	-	-	1	-	-	1	1	-
Agronomy	-	-	-	-	1	-	-	1	-	1
Management	-	-	1	-	-	-	-	1	-	1
economy	-	-	-	-	1	-	-	1	1	-
political science	1	-	-	-	-	-	-	1	1	-
Religious career	-	-	1	-	-	-	-	1	-	1
Petroleum	-	-	-	-	1	-	-	1	-	1
Computer Technology Engineering (Computer)	-	-	-	-	1	-	-	1	1	-
Mechanical Engineer	-	-	-	-	1	-	-	1	1	-
Pharmacy	-	-	1	-	-	-	-	1	1	-
Production of livestock	-	-	-	-	1	-	-	1	1	-
Preventive Veterinary Medicine	-	-	-	-	1	-	-	1	-	1
Public administration	-	-	-	-	1	-	-	1	-	1
Human resource Management	-	-	-	-	1	-	-	1	-	1
Education Economics / Management of Education	-	-	-	-	1	-	-	1	-	1
Public policy	1	-	-	-	-	-	-	1	-	1

Study Program	Education Level							Total	Sex	
	1 Year Diploma	2 Years Diploma	3 Years Diploma	4 Years Diploma	Bachelor's Degree (S1)	Master's Degree (S2)	Doctor (S3)		Male	Female
Moral Theology	-	1	-	-	-	-	-	1	1	-
Video arts	-	1	-	-	-	-	-	1	-	1
Teacher training	-	-	-	-	1	-	-	1	-	1

2.5. Vocational Training Certificate Level I - Certificate IV

Among of the 51,161 respondents who participated in this survey, about 2.8% had already participated in one of the Certificate I - Certificate IV courses. Of those who completed the certificate courses, 53.4% completed the Certificate I course, 18.4% Certificate II, 10.4 Certificate III and 17.8% Certificate IV (Table 6). The predominant areas of Certificate I training - Certificate IV are computer, Portuguese language course, English language and General Office Administration. Other areas of training are very unrepresentative. The data also show the lack of qualifications in some areas, which requires more attention and investment (Table 6). However the investment of training of human resources must be aligned with the local need. The data details of Certificate I training - Certificate IV can be seen in table 6.

Table 6. Number and areas of Certificate I-IV training by Sub District Administration

Municipality/Sub District Administration	Total	Certificate (Cert. I)	Cert. II	Cert. III	Cert. IV	Training area requiring more attention
BAUCAU						
Total	1445	772	266	150	257	Physiotherapy / Massage
Computer	292	174	56	26	36	Rural water supply
Portuguese language course	179	72	37	25	45	Coffee production
English Language Course	153	75	45	12	21	Training for Contractors
Public Administration	54	30	8	6	10	Training and valuation
Technological information	45	36	6	2	1	Management for Police
Agriculture / horticulture course	34	18	4	3	9	Course of aesthetics (Manicure and Pedicure)
Carpentry	31	24	3	2	2	Piano and music

Municipality/Sub District Administration	Total	Certificate (Cert. I)	Cert. II	Cert. III	Cert. IV	Training area requiring more attention
						course
Construction (General)	22	12	6	1	3	
Hospitality Management (General)	20	12	5	3	-	
Automotive and Maintenance.	18	15	2	-	1	
Financial Services (Micro Finance and Banking);	16	9	-	2	5	
Welding / Welding	15	12	-	3	-	
Electricity	15	12	1	1	1	
Public Administration	11	4	3	4	-	
Tailor / Seamstress	11	9	1	1	-	
Bricklayer	10	6	3	1	-	
Hair stylist	10	4	2	1	3	
Improve business	8	6	2	-	-	
Business Construction (General)	8	4	2	1	1	
Plumbing	7	4	1	1	1	
Tourist and Tourist Guide	6	2	-	3	1	
Photographer	6	2	4	-	-	
Hospitality (food production)	5	4	1	-	-	
(Diploma) in Training and Evaluation	5	2	-	1	2	
Agricultural Course	4	3	-	-	1	
Fishing course	4	3	-	1	-	
Public communication to the study of the public	3	2	-	-	1	

Municipality/Sub District Administration	Total	Certificate (Cert. I)	Cert. II	Cert. III	Cert. IV	Training area requiring more attention
sector (SEFTEK);						
Cooker/culinary	3	2	1	-	-	
Painter of arts, paintings, tattoos	2	1	-	1	-	
Solar production	1	1	-	-	-	
Small machine	1	-	-	1	-	
Police investigation.	1	-	-	-	1	
Others	445	212	73	48	112	
Baguia						
Total	43	20	7	10	6	
Portuguese language course	14	5	3	3	3	
English Language Course	10	9	-	-	1	
Computer	6	3	1	1	1	
(Diploma) in Training and Evaluation	3	1	-	1	1	
Public Administration	1	-	-	1	-	
Plumbing	1	1	-	-	-	
Photographer	1	-	1	-	-	
Others	7	1	2	4	-	
Baucau						
Total	843	466	149	91	137	
Computer	185	115	31	19	20	
English Language Course	101	47	32	10	12	
Portuguese language course	88	40	15	15	18	
Public Administration	36	16	6	6	8	
Technological information	36	31	4	1	-	

Municipality/Sub District Administration	Total	Certificate (Cert. I)	Cert. II	Cert. III	Cert. IV	Training area requiring more attention
Agriculture / horticulture course	22	13	3	2	4	
Carpentry	21	18	1	1	1	
Hospitality Management (General)	15	10	3	2	-	
Financial Services (Micro Finance and Banking);	12	8	-	1	3	
Welding / Welding	10	7	-	3	-	
Construction (General)	8	4	4	-	-	
Electricity	8	6	1	-	1	
Tailor / Seamstress	8	6	1	1	-	
Hair stylist	8	3	2	1	2	
Improve business	7	5	2	-	-	
Automotive and Maintenance.	7	6	1	-	-	
Public Administration	7	3	1	3	-	
Business Construction (General)	6	3	1	1	1	
Bricklayer	6	3	3	-	-	
Plumbing	6	3	1	1	1	
Hospitality (food production)	3	2	1	-	-	
Photographer	3	-	3	-	-	
Tourist and Tourist Guide	2	-	-	2	-	
Cooker	2	1	1	-	-	
Painter of arts, paintings, tattoos	2	1	-	1	-	
Agricultural Course	2	1	-	-	1	

Municipality/Sub Distric Administration	Total	Certificate (Cert. I)	Cert. II	Cert. III	Cert. IV	Training area requiring more attention
Public communication to the study of the public sector (SEFTEK);	1	-	-	-	1	
Police investigation.	1	-	-	-	1	
(Diploma) in Training and Evaluation	1	1	-	-	-	
Fishing course	1	1	-	-	-	
Others	228	112	32	21	63	
Laga						
Total	114	81	17	6	10	
Computer	26	20	4	-	2	
Portuguese language course	14	6	3	3	2	
Public Administration	7	7	-	-	-	
Technological information	6	3	2	-	1	
Automotive and Maintenance.	6	6	-	-	-	
English Language Course	4	1	3	-	-	
Electricity	2	2	-	-	-	
Agriculture / horticulture course	2	2	-	-	-	
Business Construction (General)	1	1	-	-	-	
Hospitality (food production)	1	1	-	-	-	
Public Administration	1	1	-	-	-	
Photographer	1	1	-	-	-	
Tailor / Seamstress	1	1	-	-	-	

Municipality/Sub Distric Administration	Total	Certificate (Cert. I)	Cert. II	Cert. III	Cert. IV	Training area requiring more attention
Cooker	1	1	-	-	-	
Fishing course	1	1	-	-	-	
Others	40	27	5	3	5	
Quelicai						
Total	119	60	28	13	18	
Portuguese language course	25	12	8	1	4	
Computer	24	14	6	1	3	
English Language Course	13	6	6	1	-	
Public Administration	5	3	2	-	-	
Construction (General)	4	3	-	-	1	
Technological information	2	2	-	-	-	
Automotive and Maintenance.	2	2	-	-	-	
Hospitality Management (General)	1	1	-	-	-	
Financial Services (Micro Finance and Banking);	1	1	-	-	-	
Carpentry	1	1	-	-	-	
Electricity	1	-	-	1	-	
(Diploma) in Training and Evaluation	1	-	-	-	1	
Tailor / Seamstress	1	1	-	-	-	
Agriculture / horticulture course	1	-	-	-	1	
Fishing course	1	1	-	-	-	
Others	36	13	6	9	8	
Vemassee						

Municipality/Sub District Administration	Total	Certificate (Cert. I)	Cert. II	Cert. III	Cert. IV	Training area requiring more attention
Total	97	47	15	8	27	
Computer	13	5	2	1	5	
Portuguese language course	7	2	2	1	2	
Construction (General)	6	1	2	1	2	
English Language Course	5	-	1	-	4	
Welding / Welding	4	4	-	-	-	
Carpentry	4	3	1	-	-	
Tourist and Tourist Guide	3	2	-	-	1	
Public Administration	2	1	-	-	1	
Bricklayer	2	2	-	-	-	
Electricity	2	2	-	-	-	
Automotive and Maintenance.	2	1	1	-	-	
Hair stylist	2	1	-	-	1	
Agriculture / horticulture course	2	-	-	-	2	
Small machine	1	-	-	1	-	
Public Administration	1	-	1	-	-	
Financial Services (Micro Finance and Banking);	1	-	-	-	1	
Agricultural Course	1	1	-	-	-	
Others	39	22	5	4	8	
Venilale						
Total	229	98	50	22	59	
Computer	38	17	12	4	5	
Portuguese language course	31	7	6	2	16	

Municipality/Sub District Administration	Total	Certificate (Cert. I)	Cert. II	Cert. III	Cert. IV	Training area requiring more attention
Construction (General)	20	12	3	1	4	
English Language Course	7	3	1	1	2	
Welding / Welding	5	2	1	1	1	
Carpentry	4	3	-	-	1	
Tourist and Tourist Guide	4	1	2	1	-	
Public Administration	4	4	-	-	-	
Bricklayer	2	2	-	-	-	
Electricity	2	1	-	1	-	
Automotive and Maintenance.	2	-	-	1	1	
Hair stylist	2	2	-	-	-	
Agriculture / horticulture course	1	1	-	-	-	
Small machine	1	1	-	-	-	
Public Administration	1	-	1	-	-	
Financial Services (Micro Finance and Banking);	1	-	-	1	-	
Agricultural Course	1	1	-	-	-	
Others	1	-	-	1	-	
Computer	1	-	1	-	-	
Portuguese language course	1	1	-	-	-	
Construction (General)	1	1	-	-	-	
English Language Course	1	-	-	-	1	
Welding / Welding	1	1	-	-	-	
Carpentry	1	1	-	-	-	
Tourist and Tourist Guide	1	-	-	1	-	
Public Administration	95	37	23	7	28	

2.6. Professional Occupation in the Public Sector

2.6.1. Permanent Public servants

Table 7 shows that public servants and teachers are the main occupations of the public sector and together account for 86.4% of positions. 42.3% of teachers held their positions for another 15 years, 18.7% between 10 - 15 years, 27% between 6 - 10 years and 10.4% less than 5 years. As for public servant, the data indicate that most maintained their services between 1-5 years and 6-10 years.

Table 7. Distribution of permanent public servants by occupation and years of service

Occupation	<1 Year	1-5 Years	6 - 10 Years	11-15 Years	>15 Years	Total	Percentage (%)
Teachers	15	58	185	128	298	684	49,75
Public Servants	9	175	137	87	96	504	36,65
Medical / Medical Specialist	3	46	4	9	23	85	6,18
Chief Department	-	8	8	10	13	39	2,84
General Director	-	5	2	2	11	20	1,45
National Director	-	2	3	2	7	14	1,02
Public Defender / Judges	-	1	-	1	-	2	0,15
Others	1	10	7	3	6	27	1,96
Total	28	305	346	242	454	1375	100,00
Percentage (%)	2,0	22,2	25,2	17,6	33,0	100,0	

Regarding the grade / level of the respondents, the majority are in the positions between grade F (level 1, & 2) - grade C / level 5, together corresponding to 95%. The servants with level above 6 are very few, registering about 2.2% and those with special regime 2.8% (Table 8).

Table 8. Grade and Level of permanent officials interviewed

Grau / Nível	Frequency	Percentage (%)
Grau A / nível 7	4	0,29
Grau B / nível 6	27	1,95
Grau C / nível 5	116	8,39
Grau D / nível 4	354	25,60
Grau E / nível 3	649	46,93
Grau F / nível 1, 2	195	14,10

Grau / Nível	Frequency	Percentage (%)
Regime Especial	38	2,75
Total	1383	100,00

2.6.2. Temporary Public Servants

Table 9 shows temporary public servants by occupation and years of service. The occupational pattern is similar to the permanent public servants with the mastery of teachers and staff. Teachers and staff are those who have a large number of public servants. Both represent 89.8% of temporary staff while the hiring of specialized technicians is only 2.1%. As for the standard of service duration is similar to permanent public servants, the highest proportion are those who have maintained the public servants between 1-5 years and 6-10 years and together represent 76.9% compared to those who maintained the service more than 10 years (10.7%).

Table 9. Distribution of temporary public servants by occupation and years of service.

Year of service	Public Servants	Specialized Technician	Teachers	Others	Total	Percentage (%)
<1 year	26	2	16	2	46	12,3
1-5 Years	71	4	68	17	160	42,9
6 - 10 Years	43	2	72	10	127	34,0
11-15 Years	6	-	23	1	30	8,0
>15 Years	2	-	8	-	10	2,7
Total	148	8	187	30	373	100,0
Percentage (%)	39,7	2,1	50,1	8,0	100,0	

2.7. Level of Education of Temporary Public Servants

At the level of education, 60.3% of temporary staff have a secondary education level, Bachelor's Degree with 16.7% and a Diploma III (Bachelor Degree) of 9.7%. Those with a secondary preschool level represent 3.4% and the rest have a lower percentage of 3% (Table 10).

Table 10. Distribution of temporary public sector employees by levels of education

Level of Education	Number of Public Servants	Percentage (%)
Primary	12	2,7
Pre-secondary	15	3,4
Secondary	267	60,3
Professional Technical High School	12	2,7
Others	10	2,3
Diploma I	2	0,5
Diploma II	4	0,9
Diploma III	43	9,7
Diploma IV	-	0,0
Bachelors	74	16,7
Master	2	0,5
PhD	2	0,5
Total	443	100,0

2.8. Non-Public Sector (Private sector)

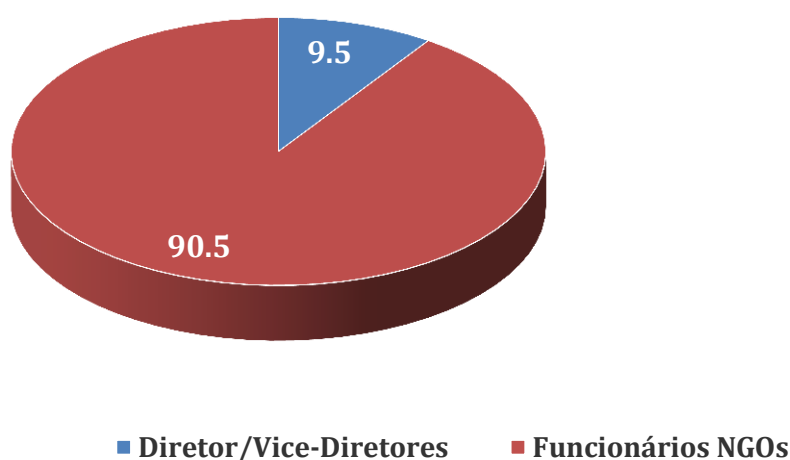
The non-public sector (private sector) in the municipality of Baucau persists small compared to the public sector. This despite the growth of the non-public sector being one of the government's main goals and the majority of those who do not currently work have expressed interest in working in the non-public sector. However, despite the desire to work in the non-public sector, much of this work requires good educational qualifications. The result of this work provides several relevant evidence.

2.8.1. Non-Governmental Organizations (NGOs) and Private Universities.

Figure 2 shows data for staff working in Non-Governmental Organizations (NGOs). Among the 95 respondents, 9.5% hold positions as Directors or Deputy Directors of the organizations and the highest percentage are employees 90.5%.

Figure 2 . Staff of Non-Governmental Organizations (NGOs) by position

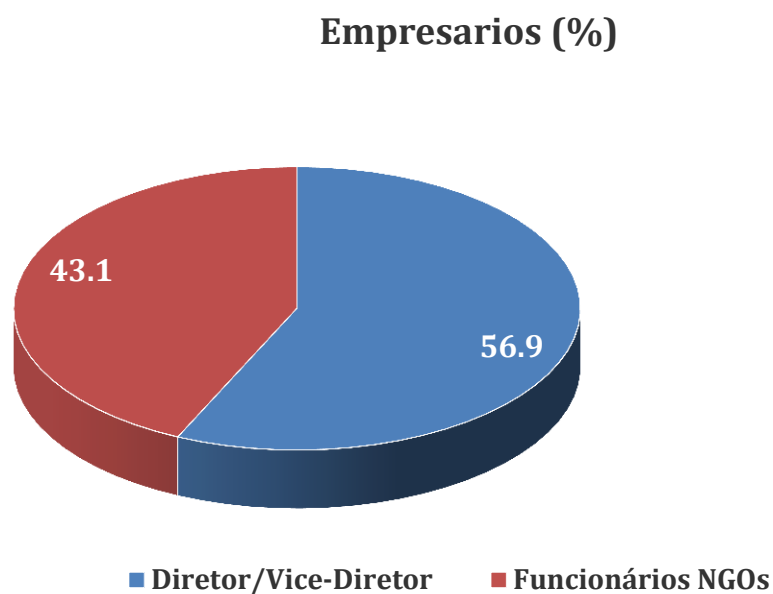
(%) Organização Não Governamental



2.8.2. Entrepreneurs (Businessmen)

Entrepreneurs play an important role through their investments, increasing the prosperity of the population in the municipality. Thus, citizens have the opportunity to take a job through investment, services and increased trade, in addition to the municipality grow economically. In this sense, it is essential to understand the human resources involved in this process and try to empower them efficiently and effectively. Figure 3 shows the distribution of the personnel involved in the company by level of education and by position in which it currently assumes. 56.9% of the respondents are employed as director / vices directors and 43.1% assume the role of director simultaneously as an employee of the same company.

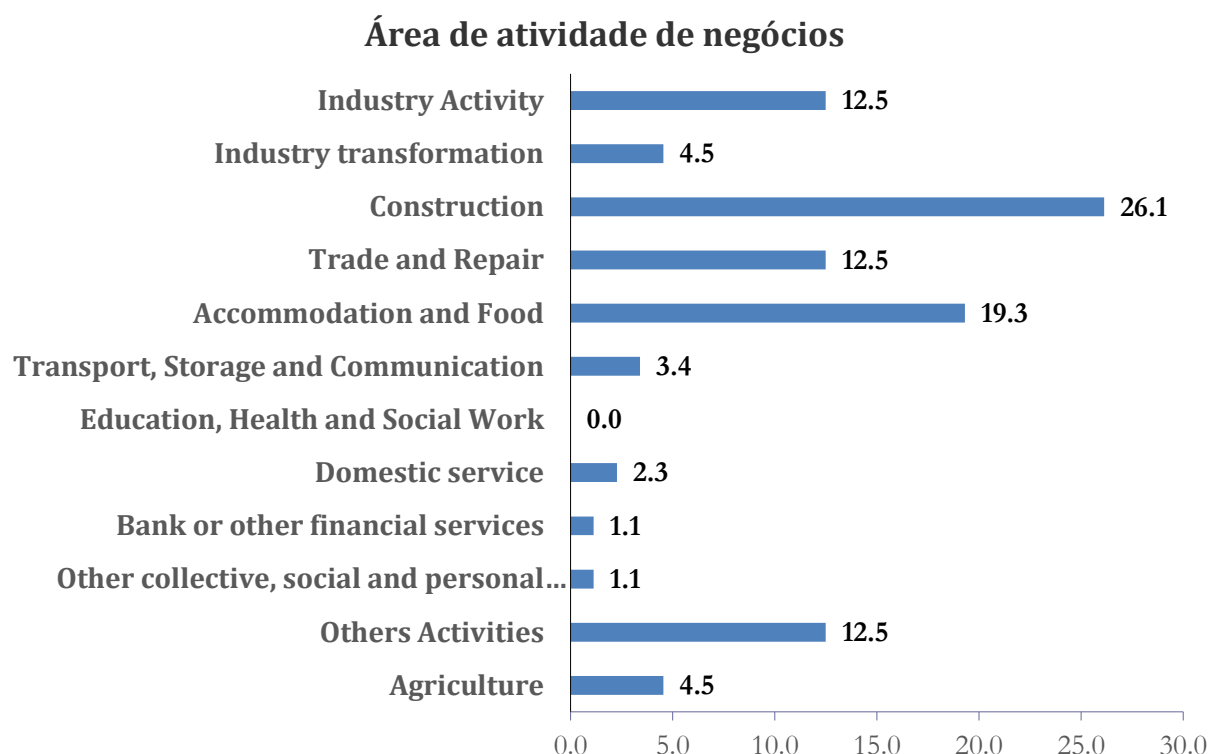
Figure 3. Distribution of entrepreneurs by position



2.8.3. Activity sector

The largest proportion of companies' areas of activity are related to construction, food accommodation, industrial activity, trade - repair and other sectors of activity. Other sectors of activity account for less than 5% even there are some sectors without registration of activities (Figure 4).

Figure 4. Distribution of the areas of entrepreneurs' activities



2.8.4. Education Level of Entrepreneurs

The data also show that most of the people involved have no level of education (39.5%), secondary education (23%), pre-secondary (13.9%) and basic education (10.1%). Other levels of education have a lower percentage of 10% (Table 11).

Analyzing the presence of entrepreneurs and their qualifications is essential for the growth of the Municipality. Raising the level of education, the Municipality of Baucau inserts its citizens into a productive economy, giving them the opportunity to be entrepreneurs or innovators, through a good education. Thus, the presence of entrepreneurs and the formation of qualified personnel, are crucial for the municipality.

Table 11 . Distribution of entrepreneurs and level of education

Level of Education	Number of Entrepreneurs	Percentage (%)
Can not read / write	3776	39,5
Secondary	2202	23,0
Pre-secondary	1327	13,9
Primary	969	10,1
Do not read / write (did not finish primary)	843	8,8
1 st. Cycle (1st class up to 4th class)	158	1,7
Bachelor's Degree (S1)	144	1,5
3 years Diploma	48	0,5
2º. Cycle (1st Year, 2nd Year)	13	0,1
3º. Cycle (3rd year up to 9th year)	13	0,1
Secondary Technical School	13	0,1
Secondary School	13	0,1
Others	9	0,1
Diploma I	6	0,1
Secondary School of Agriculture	5	0,1
Secondary School of Sports	4	0,0
Secondary School of Social Assistance	4	0,0
Secondary School of Nursing	2	0,0
4 years Diploma	2	0,0
Master (S2)	2	0,0
PhD (S3)	2	0,0
Diploma II	0	0,0
Total	9555	100,0

2.9. Areas of work preference

This work also asked people aged 17 or over who had never worked, in which sector they wanted to work and where they would like to work if they could get a job. The responses in table 12 show that the majority opted for the non-public sector (private) with 82.7% compared to the public sector (private) 17.3%.

The Baucau Sub District has a higher percentage of individuals seeking employment in the non-public sector, while in the public sector a higher percentage of demand was registered in the Laga Sub District (Table 12).

Table 12. Total number of respondents in the city of Baucau looking for work and where they intend to work in the public or private sector

Sub District Administrations	Public Sector	Percentage (%)	Private Sector	Percentage (%)	Total	Percentage (%)
Baguia	316	10,8	960	6,9	1276	7,6
Baucau	744	25,4	5,486	39,3	6,230	36,9
Laga	820	28,0	1,413	10,1	2,233	13,2
Quelicalai	283	9,7	3,218	23,1	3,501	20,7
Vemassee	93	3,2	1,540	11,0	1,633	9,7
Venilale	672	23,0	1,335	9,6	2,007	11,9
Total	2,928	100,0	13,952	100,0	1,6880	100,0

2.10. Business Sector Which is Intend to Work In

Table 13 indicates that in the private sector the preference is mainly for agriculture (57.2%), household tasks (18.4%), construction (4.9%), industrial activity (3.8%) and education, health and social work (3.4%). Other sectors of activity have a percentage less than 3%.

Table 13 . Distribution of areas of activity that respondents wish to work

Activity Sector	Sub District						Total	Percentage (%)
	Baguia	Baucau	Laga	Quelicalai	Vemassee	Venilale		
Agriculture	965	4,700	1,071	2,636	1,084	2,493	12,949	57,2
Industry Activity	77	419	119	108	41	86	850	3,8
Transformation industry	40	126	29	100	12	68	375	1,7
Construction	80	468	104	61	124	271	1,108	4,9
Trade and repair	28	140	8	36	58	68	338	1,5
Accommodation and Food	51	226	31	22	21	37	388	1,7
Transport, Storage and Communication	24	149	21	34	16	41	285	1,3
Education, Health and Social Work	97	341	46	105	42	131	762	3,4
Domestic Service	187	1,571	214	528	406	1,253	4,159	18,4
Bank or other financial services	20	112	59	24	21	36	272	1,2

Activity Sector	Sub District						Total	Percentage (%)
	Baguia	Baucau	Laga	Quelical	Vemasse	Venilale		
Other collective, social and personal services	78	294	54	70	54	108	658	2,9
Other activities	24	99	32	19	280	26	480	2,1
Total	1,671	8,645	1,788	3,743	2,159	4,618	22,624	100
Percentage (%)	7,4	38,2	7,9	16,5	9,5	20,4	100,0	

2.11. Age group (age) and job seekers

Regarding to the age group, the largest number of respondents seeking employment are young people aged 17-36 years, representing around 49.3% and the age group between 41-48 representing 17% (Table 14).

Table 14. Age range of respondents looking for a job

Age Group	Private Sector	Percentage (%)
17 - 20	1216	8,7
21- 24	1558	11,2
25 - 28	1503	10,8
29 - 32	1463	10,5
33 - 36	1128	8,1
37 - 40	799	5,7
41 - 44	1294	9,3
45 - 48	1019	7,3
49 - 52	815	5,8
53 - 56	759	5,4
57 - 60	470	3,4
61- 64	482	3,5
65+	1446	10,4
Total	13,952	100

2.12. Graduates in Job Search "Unemployment"

The data also provide information on the number and qualifications of people with higher education in job search (Table 15). The figures show that among the 163

graduated respondents, 36.2% intend to work in the public sector and 63.8% intend to work in the non-public sector. Graduates want to work more in the private sector than in the public sector.

The areas of higher education courses with the highest number of job seekers, "unemployment" is in the area of Law with a percentage of 8.6%, Civil Engineering - Civil Construction (7.4%) and Computer / Computer Engineering (6.7%). Graduates in other areas are less than 5%. These data are fundamental for municipal government officials, employers and other employers in the sense of how to take advantage and employ them.

Table 15. Number and areas of knowledge of higher education courses in job search and wish to work.

No.	Study Program / Area of Expertise	Do not work and want to work?		Total	Percentage (%)
		Public sector	Private sector		
1	Law	4	10	14	8,6
2	Civil Engineering - Civil Construction	2	10	12	7,4
3	Computer Technology Engineering (Computer)	2	9	11	6,7
4	Management	4	4	8	4,9
5	mining engineering	3	3	6	3,7
6	Medicine - Medical Clinic (General Practitioner)	2	4	6	3,7
7	Accounting	2	4	6	3,7
8	Teaching biology	2	4	6	3,7
9	Teaching mathematics	2	3	5	3,1
10	Teaching Physics	2	3	5	3,1
11	Agronomy	2	2	4	2,5
12	Economy	0	4	4	2,5
13	Education	3	1	4	2,5
14	English language	3	1	4	2,5
15	Tourism and Hospitality	2	2	4	2,5
16	Economics / Human Resource Management	2	2	4	2,5
17	Teacher training	0	4	4	2,5
18	Mathematics	1	2	3	1,8

No.	Study Program / Area of Expertise	Do not work and want to work?		Total	Percentage (%)
		Public sector	Private sector		
19	Physics	3	0	3	1,8
20	Electrical engineering	0	3	3	1,8
21	Animal Production (Livestock)	1	2	3	1,8
22	Economy Finance / finance management - Banking Economy	1	2	3	1,8
23	General / Environmental Biology	1	1	2	1,2
24	Environmental Ecology	0	2	2	1,2
25	Industry Engineering	0	2	2	1,2
26	Nursing	1	1	2	1,2
27	Public health	2	0	2	1,2
28	Midwife	1	1	2	1,2
29	Aquaculture	1	1	2	1,2
30	Public Law	1	1	2	1,2
31	International, Bilateral and Multilateral Relations	1	1	2	1,2
32	Moral Theology	0	2	2	1,2
33	Architecture Engineering	1	0	1	0,6
34	Engineering Hydraulic	1	0	1	0,6
35	Agricultural engineering	0	1	1	0,6
36	Sociology	0	1	1	0,6
37	Applied Linguistics	0	1	1	0,6
38	Portuguese language	0	1	1	0,6
39	Geology	1	0	1	0,6
40	Plant Biology	0	1	1	0,6
41	Chemical engineering	0	1	1	0,6
42	Pharmacy	0	1	1	0,6
43	Maternal and Child Health	0	1	1	0,6
44	Floriculture, Parks and Gardens and Arborization of Highways	0	1	1	0,6
45	Inland Water Fishing Resources	1	0	1	0,6
46	Business Administration	0	1	1	0,6
47	Public administration	1	0	1	0,6
48	Government Planning and Policy	0	1	1	0,6
49	Study Development	0	1	1	0,6

No.	Study Program / Area of Expertise	Do not work and want to work?		Total	Percentage (%)
		Public sector	Private sector		
50	Business Administration	1	0	1	0,6
51	Teaching chemistry	1	0	1	0,6
52	Catechism	1	0	1	0,6
53	Video Arts	0	1	1	0,6
Total		59	104	163	100,0

2.13. Number and areas of study of students who are currently attending courses

Table 16 shows the number of students surveyed in the Municipality of Baucau who are currently attending higher education in different study programs. The numbers show that the areas of study, where their graduates have more "unemployment" (Table 15), still remain the areas with the highest number of students (Table 16). The decentralization of local power that will be implemented by the government and the development of the private sector in the Municipality is expected to provide opportunities to absorb the graduates in the labor market. If this does not happen, it may possibly increase the number of job seekers in particular in the areas identified above in table 15.

Table 16. Distribution of number of students who are currently attending courses in higher education

No.	Study areas	Frequency	Percentage (%)
1	Education	146	10,9
2	Management	108	8,1
3	Public health	93	6,9
4	Computer technology engineering	84	6,3
5	Civil Engineering - Civil Construction	63	4,7
6	Law	60	4,5
7	International, Bilateral and Multilateral Relations	49	3,7
8	Accounting	48	3,6
9	Portuguese language	45	3,4
10	Public Law	41	3,1
11	Tourism and Hospitality	39	2,9

No.	Study areas	Frequency	Percentage (%)
12	English language	38	2,8
13	Mining engineering	28	2,1
14	Nursing	26	1,9
15	Electrical engineering	25	1,9
16	Teacher training	21	1,6
17	Public administration	20	1,5
18	Engineering Industry	19	1,4
19	Agro-business	18	1,3
20	Physics	16	1,2
21	Medicine - Medical Clinic (General Practitioner)	16	1,2
22	mechanical Engineering	14	1,0
23	Agronomy	14	1,0
24	Development Study	14	1,0
25	Economy of Finance / management of finances - Banking Economics	13	1,0
26	Communication - Journalism and Publishing	12	0,9
27	Mathematics	11	0,8
28	Livestock Production	11	0,8
29	Chemistry	10	0,7
30	Geology	10	0,7
31	Computer Management	10	0,7
32	Engineering Architecture	9	0,7
33	political science	9	0,7
34	Physical Education / Sports Education	9	0,7
35	Human Resource Economics	9	0,7
36	Public policy	9	0,7
37	Pharmacy	7	0,5
38	Clinical and Animal Surgery	7	0,5
39	Teaching chemistry	7	0,5
40	Anesthetist	6	0,4
41	Specialist Surgery Ophthalmology	6	0,4
42	Government Science	6	0,4
43	General / Environmental Biology	5	0,4
44	Computer science	5	0,4
45	Dentist	5	0,4

No.	Study areas	Frequency	Percentage (%)
46	Midwife	5	0,4
47	Environmental health	5	0,4
48	Teaching biology	5	0,4
49	Teaching mathematics	5	0,4
50	Cardiovascular Surgery Specialist	4	0,3
51	Sociology	4	0,3
52	Teaching Physics	4	0,3
53	Genetics	3	0,2
54	Engineering Ore Treatment	3	0,2
55	Business Analyst	3	0,2
56	Social Economy Agricultural	3	0,2
57	Forest Resources and Forestry Engineering	3	0,2
58	Agricultural engineering	3	0,2
59	Psychology	3	0,2
60	Petroleum	3	0,2
61	environmental engineering	3	0,2
62	Forestry Management	3	0,2
63	Others	3	0,2
64	Education (teaching) Pre-primary and primary	3	0,2
65	Zoology	2	0,1
66	Geotechnical Engineering	2	0,1
67	Pathological Anatomy and Clinical Pathology	2	0,1
68	Specialist Gastroenterology Surgery	2	0,1
69	veterinary Medicine	2	0,1
70	Philosophy	2	0,1
71	Aerospace Engineering	2	0,1
72	Gastrointestinal Radiology, Medical Radiology	2	0,1
73	Preventive Veterinary Medicine	2	0,1
74	Aquaculture	2	0,1
75	Education Economics	2	0,1
76	Industrial Economics	2	0,1
77	information Science	2	0,1
78	Social service	2	0,1
79	Educational Psychology	2	0,1
80	Geosciences	1	0,1

No.	Study areas	Frequency	Percentage (%)
81	Hydraulic Engineering	1	0,1
82	Food Science and Technology	1	0,1
83	Archeology	1	0,1
84	Gender Study	1	0,1
85	Indonesian Language	1	0,1
86	Mineralogy	1	0,1
87	Geological Climatology	1	0,1
88	Naval and Oceanic Engineering	1	0,1
89	Specialist Obstetrics / Gynecologist	1	0,1
90	Pediatric Specialist	1	0,1
91	Nutrition	1	0,1
92	Maternal and Child Health	1	0,1
93	Agricultural Product Processing Engineering	1	0,1
94	Rural Constructions and Environment	1	0,1
95	Food Technology	1	0,1
96	Administration of Specific Sectors	1	0,1
97	Economy - Cooperativa - Mercado	1	0,1
98	Business Administration	1	0,1
99	Education Sociology	1	0,1
100	Tetum language	1	0,1
Total		1340	100,0

2.14. Year the course ends

Regarding to the estimation of the numbers of higher education students who will graduate or finish their courses in the next 6 years, the data in Table 17 show that the areas of Education-teaching, Management, Computer Engineering, Civil Engineering (Civil Construction) and Law are those with the highest number of graduations. Other areas have a smaller number of graduations per year and it is therefore important to highlight the need to anticipate not to contribute more to the number of unemployed graduates.

Table 17. Distribution of the number of students who are currently attending the courses and predicting of the year in which they will finish the course.

Study areas	Year the course ends							Total
	2017	2018	2019	2020	2021	2022	2023	
Education	66	23	7	9	4	0	0	109
Management	48	27	5	8	1	1	0	90
Public health	20	21	11	7	3	0	0	62
Computer technology engineering	18	19	11	7	3	1	0	59
Civil Engineering - Civil Construction	12	9	4	11	2	2	0	40
Law	10	13	6	5	5	0	0	39
International, Bilateral and Multilateral Relations	18	9	0	8	2	0	0	37
Accounting	13	10	4	8	1	0	0	36
Portuguese language	15	8	4	4	3	0	0	34
Tourism and Hospitality	12	7	6	4	3	0	2	34
Public Law	9	10	5	7	0	0	1	32
English language	10	6	3	8	2	0	0	29
Mining engineering	7	9	3	5	2	0	0	26
Nursing	4	2	4	7	4	1	0	22
Agro-business	5	12	0	0	0	0	0	17
Public administration	9	6	2	0	0	0	0	17
Electrical engineering	11	2	2	1	0	0	0	16
Engineering Industry	7	2	2	4	1	0	0	16
Teacher training	4	10	2	0	0	0	0	16
Medicine - Medical Clinic (General Practitioner)	1	5	1	4	1	0	0	12
Development Study	4	5	0	2	1	0	0	12
mechanical Engineering	9	0	0	1	0	0	0	10
Agronomy	6	3	0	1	0	0	0	10
Economy Finance / finance management - Banking Economy	3	2	1	4	0	0	0	10
Physics	2	3	1	2	0	1	0	9
Geology	2	0	1	5	1	0	0	9
Livestock Production	5	3	1	0	0	0	0	9
Engineering Architecture	2	2	0	4	0	0	0	8

Study areas	Year the course ends							Total
	2017	2018	2019	2020	2021	2022	2023	
Physical Education / Sports Education	2	2	3	1	0	0	0	8
Computer Management	3	0	2	2	1	0	0	8
political science	2	4	1	0	0	0	0	7
Pharmacy	3	0	3	1	0	0	0	7
Clinical and Animal Surgery	7	0	0	0	0	0	0	7
Human Resource Economics	2	1	2	2	0	0	0	7
Communication - Journalism and Publishing	3	1	1	2	0	0	0	7
Chemistry	1	2	2	0	1	0	0	6
Teaching chemistry	1	2	2	0	1	0	0	6
General / Environmental Biology	1	0	1	3	0	0	0	5
Teaching biology	1	1	0	3	0	0	0	5
Mathematics	1	1	1	0	1	0	0	4
Dentist	3	1	0	0	0	0	0	4
Midwife	2	0	1	1	0	0	0	4
Environmental health	0	1	0	3	0	0	0	4
Teaching mathematics	1	1	1	1	0	0	0	4
Teaching Physics	0	4	0	0	0	0	0	4
Government Science	1	1	0	1	1	0	0	4
Public policy	4	0	0	0	0	0	0	4
Social Economy								
Agricultural	3	0	0	0	0	0	0	3
Sociology	0	1	0	2	0	0	0	3
Psychology	0	3	0	0	0	0	0	3
Computer science	0	1	1	1	0	0	0	3
Petroleum	0	1	2	0	0	0	0	3
Pre-primary and Primary Education	3	0	0	0	0	0	0	3
Zoology	0	1	1	0	0	0	0	2
Engineering Ore Treatment	0	1	1	0	0	0	0	2
Analyst, Medical Assistant	0	0	0	1	0	1	0	2
Gastroenterology Surgery Specialist	0	1	0	0	0	0	1	2

Study areas	Year the course ends							Total
	2017	2018	2019	2020	2021	2022	2023	
Agricultural engineering	0	2	0	0	0	0	0	2
environmental engineering	0	1	1	0	0	0	0	2
Gastrointestinal Radiology, Medical Radiology	1	1	0	0	0	0	0	2
Forestry Management	2	0	0	0	0	0	0	2
Aquaculture	1	0	1	0	0	0	0	2
Education Economics	0	2	0	0	0	0	0	2
Educational Psychology	0	2	0	0	0	0	0	2
Geosciences	1	0	0	0	0	0	0	1
Genetics	1	0	0	0	0	0	0	1
Specialist Surgery Ophthalmology	0	0	0	0	0	1	0	1
Forest Resources and Forestry Engineering	1	0	0	0	0	0	0	1
veterinary Medicine	1	0	0	0	0	0	0	1
Food Science and Technology	1	0	0	0	0	0	0	1
Philosophy	1	0	0	0	0	0	0	1
Archeology	0	0	0	1	0	0	0	1
Gender Study	0	0	0	1	0	0	0	1
Indonesian Language	0	0	0	0	1	0	0	1
Naval and Oceanic Engineering	0	0	0	1	0	0	0	1
Specialist Obstetrics / Gynecologist	1	0	0	0	0	0	0	1
Pediatric Specialist	0	0	1	0	0	0	0	1
Nutrition	0	0	0	1	0	0	0	1
Maternal and Child Health	0	0	0	0	1	0	0	1
Agricultural Product Processing Engineering	0	0	1	0	0	0	0	1
Preventive Veterinary Medicine	1	0	0	0	0	0	0	1
Food Technology	0	1	0	0	0	0	0	1
Industrial Economics	1	0	0	0	0	0	0	1
information Science	0	1	0	0	0	0	0	1
Social Workers	0	0	0	1	0	0	0	1

Study areas	Year the course ends							Total
	2017	2018	2019	2020	2021	2022	2023	
Economy - Cooperativa - Mercado	1	0	0	0	0	0	0	1
Business Administration	0	1	0	0	0	0	0	1
Education Sociology	0	1	0	0	0	0	0	1
Tetum language	0	0	1	0	0	0	0	1
Others	0	0	0	1	0	0	0	1
Total	390	271	116	156	46	8	4	991

2.15. The demand of training for personal and institutional

2.15.1. Training in the areas of general and specific competence

One of the fundamental results of this work is that the data show a considerable level of professional development activity in several training areas in the Municipality of Baucau. Table 18 below indicates the size of the professional development training performed by training area and the duration of the course. In response to this question, respondents were asked to select up to three options for the courses taken, so the table refers to the number of courses taken and not to trainees.

Among the 4,461 respondents represent a substantial level of training activity, since 53.8% have a duration of 1 - 6 months, 28% less than one month and 18.2% have been for more than 6 months. It is also notable that the main courses were in the areas of leadership, finance, administration and other areas of training. There are few indications of training in areas considered as priority areas for the municipality, such as agriculture, construction and hospitality and tourism.

Table 18. Professional development courses carried out by training area and duration of the course.

Training Areas	Duration				Total	Percentage (%)
	Less than 1 month	1 – 6 months	7 months – 1 year	More than 1 year		
Leadership	342	447	107	79	975	22,0
Business	140	314	69	29	552	12,4
Planning	131	201	38	21	391	8,8
Management	91	163	34	22	310	7,0
Human Resources	82	171	29	23	305	6,9
Information Technology	56	296	48	28	428	9,6
Procurement and Logistics	33	59	13	7	112	2,5
Administration	108	263	57	29	457	10,3
Information System and Business Management	62	149	18	17	246	5,5
Media and Public Relations	9	23	2	2	36	0,8
Specialized technical	48	87	27	20	182	4,1
Others	141	216	59	31	447	10,1
Total	1243	2389	501	308	4441	100,0
Percentage (%)	28,0	53,8	11,3	6,9	100,0	

2.15.2. Languages Training

Table 19 shows the proportion of vocational training in the language areas and the duration of the course. There are a remarkable number of people who have already taken part in a language course. As expected, the Portuguese language as the official language has the highest percentage (52.7%) following the English language with 28.8%. The Tetum language has a participation of 10.9% of the respondents and other languages with a participation of less than 5%. 67.7% of the courses are between 1 and 6 months, 5.5% less than one month and 26.9% more than 7 months. The Portuguese language and English language courses are the main courses carried out by the respondents in the Municipality of Baucau.

Table 19. Language training and course duration

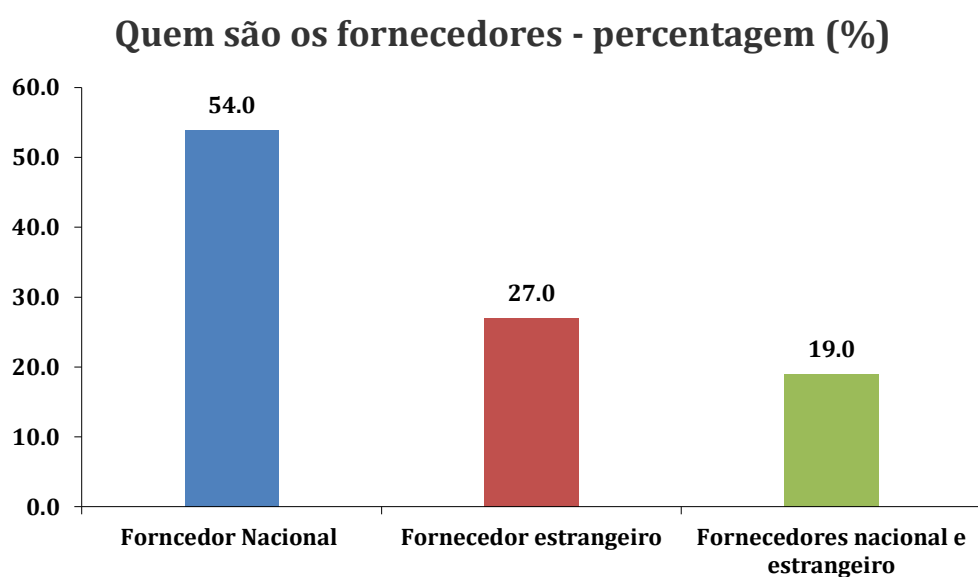
Type of training	Duration	Total	Percentage
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	Less than 1 Month	1 – 6 Months	7 Months – 1 Year	More than 1 year		(%)
Português	217	2600	652	399	3868	52,7
Inglês	96	1531	323	165	2115	28,8
Tetum	54	480	143	126	803	10,9
Indonésia	24	232	72	59	387	5,3
Coreia	5	65	12	3	85	1,2
Others	5	58	8	8	79	1,1
Total	401	4966	1210	760	7337	100,0
Percentage (%)	5,5	67,7	16,5	10,4	100,0	

2.16. Supplier Institution and Financing

As for language training institutions, 54% of training providers are national institutions, 27% provided by foreign institutions and 19% promoted by national and foreign institutions (Figure 5).

Figure 5 . Provider of language training



2.17. Training Financing

Of the total number of respondents who have already done language training, 53% were funded by the trainee himself, 25.8% by the government, and 9.2% supported by the private sector. Training with government support in cooperation

with international partners and only by international partners corresponds to 8% and 4%, respectively (Table 20).

Table 20 . Funders of language training

Sub District	Government	private Sector	Conta própria	Government and Internacional Partner	Internacional Partners	Total
Baguia	89	11	140	14	2	256
Baucau	582	239	1748	218	129	2916
Laga	179	40	188	37	25	469
Quelicalai	181	59	197	33	17	487
Vemasse	117	52	186	51	15	421
Venilale	183	71	268	61	18	601
Total	1331	472	2727	414	206	5150
Percentage (%)	25,8	9,2	53,0	8,0	4,0	100,0

2.18. Future Training Plan

2.18.1. Personal Development Training

The training plan for the future desired by the respondents was also the subject of an investigation in this work. In order for training to generate capital gains, it is necessary to respond to the needs of the organization or institution and, consequently, the needs of the trainees themselves. For this it is important to make a study of the training needs, before starting the investment.

The study of training needs is one of the most common ways to identify the needs of the municipality, since it allows, on the one hand, to see if the training is the answer to the problems and, on the other hand, to identify which type of training which serves to fill them. In addition, it allows identifying the individual training needs, particularly those that do not yet have and are seeking employment.

In the context of the desire for training for the future, two questions were asked for those who are not yet employed or looking for jobs and those who are already employed in the public or non-public sector. In relation to the first, they asked what type of training they want to do in order to increase their personal skills, to obtain a greater job opportunity and to facilitate their job search. The data in table

21 show that the majority of respondents wish to raise their knowledge in the specific areas of Teachers and Professionals in Education, Agriculture, Languages (English, Portuguese, etc.) and Management - Administration and Leadership.

With the exception of agriculture, the longing for training in specific areas such as tourism, fisheries, livestock, in industries was not found in any of the respondents compared to generic training areas. This is due, of course, to the lower number of employees in this area and a lack of knowledge on the part of respondents about the importance of training for self-employment. It is found that training to broaden the general knowledge is more preferred compared to specialized areas.

Table 21. Desired training areas by non-employed respondents

No.	Training Areas	Frequency	Percentage (%)
1	Varieties *	75	28,8
2	Teachers and Education Professionals	46	17,7
3	Agriculture	45	17,3
4	Languages (English, Portuguese, etc.)	27	10,4
5	Management, Administration and Leadership	13	5,0
6	Police, Defense, Security (employee training)	10	3,8
7	Medicine and Health Professionals	9	3,5
8	Information System & Business Management;	8	3,1
9	Finance, Budget, Accounting and Planning	5	1,9
10	Law and Justice	5	1,9
11	Information Technology, Database, Web, Software and Electronic Filing (registration) – computer	4	1,5
12	Human resource Management	4	1,5
13	Project management	2	0,8
14	Production of livestock	2	0,8
15	Professional, Research and Development Knowledge (based on the operating sector)	2	0,8
16	Audit and Inspection	1	0,4
17	Procurement, Logistics and Estate Management	1	0,4
18	Fisheries	1	0,4
Total		260	100,0

* Training areas that by their nature could not be classified in a category of their own. This category includes all data that could not be integrated into any of the training categories, as well as very specific training.

2.18.2. Development training and institutional strengthening

As regards the second question - the personal development training and the institutional or organizational strengthening applied to the employed respondents, the data in Table 22 show that the training areas such as Education of Teachers and Professionals of Education, Languages (Portuguese and English), remains the most preferred areas desired by respondents.

Table 22 . Desired training areas by non-employed respondents

No.	Training Areas	Frequency	Percentage (%)
1	Teachers and Education Professionals	78	24,7
2	Languages (English, Portuguese, etc.)	52	16,5
3	Varieties *	52	16,5
4	Management, Administration and Leadership	32	10,1
5	Human resource Management	28	8,9
6	Information Technology, Database, Web, Software and Electronic Filing (registration) - computer	14	4,4
7	Medicine and Health Professionals	13	4,1
8	Finance, Budget, Accounting and Planning	13	4,1
9	Police, Defense, Security (employee training)	10	3,2
10	Agriculture	7	2,2
11	Law and Justice	4	1,3
12	Development of General Abilities - induction	3	0,9
13	Information System & Business Management;	3	0,9
14	Audit and Inspection	2	0,6
15	Mediation Technique, Conflict Analysis, Conciliation and Sensitive Cases	2	0,6
16	Procurement, Logistics and Estate Management	1	0,3
17	Monitoring and Evaluation	1	0,3
18	Professional, Research and Development Knowledge (based on the operating sector)	1	0,3
Total		316	100,0

* areas that by their nature could not be classified in a category of their own. This category includes all data that could not be integrated into any of the training categories, as well as very specific training.

2.19. Category and Academic Degree of Formation

2.19.1. Vocational or Academic Training

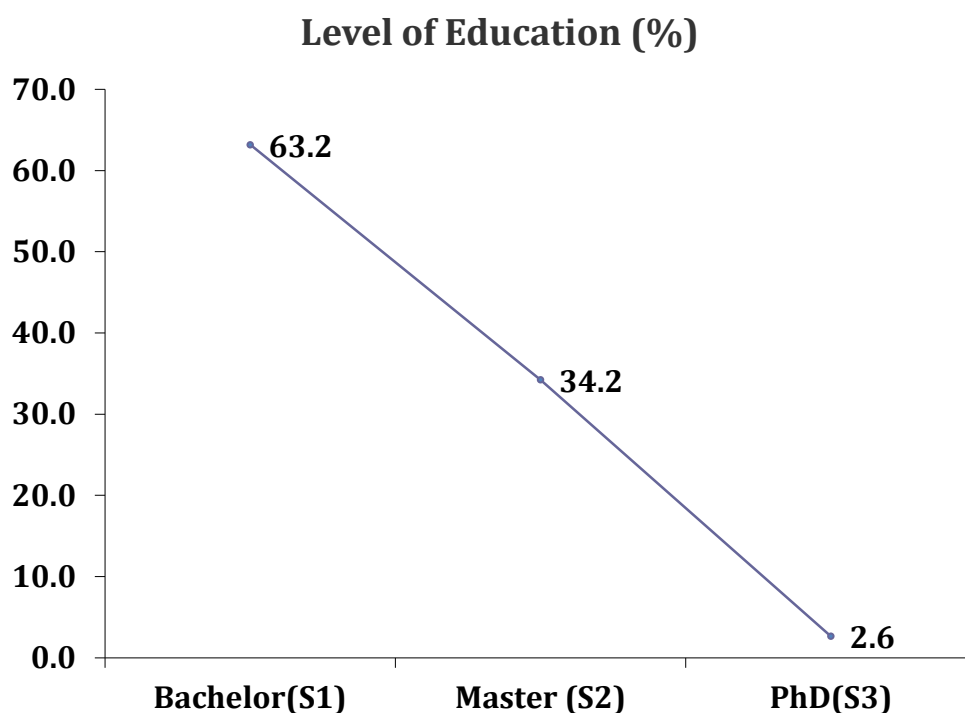
When asked about the training category, of the 8,453 respondents, 73.4% of the respondents intend to develop their knowledge through the vocational or professional training course and 26.6% in the academic-higher education course (Table 23). The Sub District of Baucau has a greater number of those who wish to have vocational or professional training, as well as in academic or university training.

Table 23. Category of training - Academic or Vocational Training

Sub District Administrations	Academic / University	Vocacional / Formação profissional	Total
Baguia	98	327	425
Baucau	1,473	2,851	4,324
Laga	130	411	541
Quelicaí	235	1871	2106
Vemasse	140	301	441
Venilale	176	440	616
Total	2252	6201	8453
Percentage (%)	26,6	73,4	100

Among the 2,252 (26.6%) surveyed who wish to take the course in higher education, 63.2% plan to raise their knowledge in undergraduate degree, 32.4% in master's degree and 2.6% in doctoral studies (Figure 6).

Figure 6 . Degrees of studies that wish to continue



The details of the training areas and the academic degrees desired can be seen in table 24.

Table 24. Academic degrees and areas of study that you wish to pursue

Table 24 . Academic degrees and areas of study that you wish to pursue

No.	Training Areas	Academic Level Courses (University)			Total
		Bachelor (S1)	Master (S2)	PhD (S3)	
1	Varieties *	9	8	0	17
2	Languages (English, Portuguese, etc.)	11	4	1	16
3	Teachers and Education Professionals	11	2	0	13
4	Medicine and Health Professionals	3	3	0	6
5	Management, Administration and Leadership	5	1	0	6
6	Human resource Management	2	2	0	4
7	Information Technology, Database, Web, Software and Electronic Filing (registration) - computer	2	1	0	3

No.	Training Areas	Academic Level Courses (University)			Total
		Bachelor (S1)	Master (S2)	PhD (S3)	
8	Finance, Budget, Accounting and Planning	2	0	1	3
9	Law and Justice	1	2	0	3
10	Police, Defense, Security (employee training)	1	1	0	2
11	Procurement, Logistics and Estate Management	0	1	0	1
12	Mediation Technique, Conflict Analysis, Conciliation and Sensitive Cases	0	1	0	1
13	Agriculture	1	0	0	1
Total		48	26	2	76
Percentage (%)		63,2	34,2	2,6	100,0

* Areas that by their nature could not be classified in a category of their own. This category includes all data that could not be integrated into any of the training categories, as well as very specific training.

3. Development of Human Resources within the Strategic Development Plan of the Municipality

3.1. The four pillars of the Municipal Strategic Plan (PEM)

The Baucau Municipal Strategic Plan (PEM), aligned with the Timor-Leste Government's Strategic Development Plan (PEDN) for 2011-2030, aims to promote the progress and sustainable development of the territory, defining strategies and guidelines, creating conditions of competitiveness, innovation and modernity, ensuring the public interest through an efficient, transparent and rigorous management and allocation of resources. Like the PEDN, the PEM is built around four pillars:

- i. Social capital: health, education and social protection.
- ii. Infrastructure: transport, telecommunications, energy and water supply and sanitation.

- iii. Economic fundamentals: targeting three sectors for development - agriculture, tourism and petrochemicals - to generate growth, jobs and new sources of public revenue beyond oil.
- iv. Institutional framework: focus on macroeconomic management and improvement of the capacity and effectiveness of government institutions.

The development of the municipality's human resources must take into account these four pillars and also the current situation of the economy and society as a whole. In addressing key human resource developments, this section builds on the four pillars and begins with a summary of the municipality's economic structure and the recent growth in various sectors.

The Municipality of Baucau identified the following needs for generic training areas in order to develop the capacity and competence of its human resources for the implementation of its strategic priority programs and the development of the Municipality, in line with the strategic development objectives.

Development of Social Capital		
Education industry)	Management	<p>1) Construction and maintenance of equipment, pre-school education (kindergarten) and primary schools with guaranteed conditions and quality;</p> <p>2) Support the development of complementary activities with educational actions of kindergarten and basic education;</p> <p>3) Participation and support for extracurricular education;</p> <p>4) Provide training and capacity building for preschool and primary school teachers;</p> <p>5) Eradication of illiteracy;</p> <p>6) Establish a professional center for qualification and training of engineering schools;</p> <p>7) Establish tourism and hospitality training centers and youth training;</p> <p>8) Establish more the technical - vocational school in the area of hotel and agriculture in the municipality of Baucau;</p>
Health Sector		<p>1) Participation in the planning of district and community health equipment networks in prevention programs and sanitation operations;</p> <p>2) Participation in planning communication and information to all citizens regarding the health curriculum of health promotion and health in family planning;</p> <p>3) Ensure that health services in the municipality of Baucau establish health centers in each Sub District Administration ;</p> <p>4) Development of human resources in each village, for example, every 2,000 inhabitants and above, one doctor, two midwives, two nurses, one laboratory technician and one pharmacy engineering person;</p>
Youth and Sport		<p>1) To establish a sports association directed by young people at administrative and municipal level;</p>

<p>Social inclusion</p>	<p>2) The construction of sports infrastructure such as stadiums and gymnasiums for volleyball, soccer, basketball and others;</p> <p>3) Construction of youth training centers at the municipal level;</p> <p>4) Support finances in youth sports activities in the community and promote quality talents;</p> <p>1) Establish social protection networks in all Villages and Sub District at the municipal level;</p> <p>2) Construction of social housing at the municipal level for the benefit of vulnerable groups;</p> <p>3) To dignify veterans and combatants of national liberation and to provide assistance to orphans and widows.</p> <p>4) Establish fire brigades or fire brigades;</p> <p>5) Establish veterans fund to stimulate productive activities for the sustainability of veterans in their daily lives.</p> <p>6) Construction and maintenance of fireplaces at municipal level;</p> <p>7) Provide infrastructure to prevent forest fires;</p>
<p>Environment</p>	<p>1) The local administration must guarantee quality drinking water to the public;</p> <p>2) Rehabilitation of drinking water facilities, providing good conditions and conservation of all illegal supply networks;</p> <p>3) General cleaning, solid waste collection and treatment and identification of solid waste disposal sites;</p> <p>4) Provide protection for special areas of natural heritage, beautiful sights and protection of animals of flora and fauna;</p> <p>1) To promote culture and Patrimony;</p>

Culture and Patrimony	<p>2) Construction of Cine -Theatre and museum of fight history in the Municipality of Baucau;</p> <p>3) Organize and update the investors in cultural heritage, scenery locations and promote other aspects;</p> <p>4) Identify cultural sites and heritage and preserve their uniqueness for the economic benefit of local communities;</p>
Development of the Economy	
Financial Services industry	<p>1) Support the initiative and creativity of local communities to build and invest in family economic life;</p> <p>2) Encourage and continue to strengthen companies in the municipality to contribute to the development of the municipality.</p> <p>3) Facilitate credit to each household, small and medium enterprises that need it through BNCT and National Development Bank of Timor-Leste (BDNTL) in the municipality.</p> <p>4) Promote the organic product in Quilicai and Baguia;</p>
Agriculture	<p>1) Implementation of integrated management of collection of rice intensification system in combination with several rice variations;</p> <p>2) Improve irrigation systems;</p> <p>3) Establish and consolidate the economic system - commerce and industry;</p> <p>4) Promotion and development of the agricultural sector to increase incomes and create jobs;</p> <p>5) Establish and support agricultural centers, fisheries at each Sub District Administration ;</p> <p>6) Promote agroindustrial, agribusiness and cooperatives for rural development;</p> <p>7) Establish processing center for local products such as tomatoes, peanuts, corn, etc .;</p>

Forestry	<p>1) The implementation of reforestation activities with an agroforestry system involves all components of the community;</p>
Production of livestock	<p>1) Establish environmental and sanitary conditions with sanitary and livestock supervision;</p> <p>2) To promote and study the viability of animal quality and the production of animal milk;</p> <p>3) Establishment of livestock infrastructure with diversification system (quality of production);</p>
Fishing	<p>1) Establish and build a fishing office with the aim of controlling the entire fish trade in the Municipality of Baucau;</p>
Minerals and Industries	<p>1) Exploration of mineral resources for the benefit of the economic value of the community;</p> <p>2) To carry out a study feasibility for exploitation of natural resources for the benefit of the community;</p> <p>3) Accelerate the implementation of cement factory in Kaisidu, aiming to reduce the import of this, to increase the activity</p>
Tourism	<p>1) Give licenses and inspection or control of the establishment of hotels or accommodation for tourists;</p> <p>2) Establish and promote tourist sites and centers for access to information;</p> <p>3) Promote leisure tourism on the beaches of Wataboo, Maubai and others in municipal economic development;</p> <p>4) To develop historical and religious tourism, also in adventure tourism in Matebian Mountain;</p>

Infrastructure Development	
Roads and Bridges	<ol style="list-style-type: none"> 1) Construction and maintenance of roads and sites linking national roads, urban roads and rural roads in the Municipality of Baucau; 2) Ensure access to drinking water and sanitation to all citizens 3) Construction of municipal government offices, local parliamentary offices and official houses for civil servants in the Municipality of Baucau; 4) Ensure regular transportation for the movement of communities between urban and rural areas; 5) Build Municipal Convention Centers for multipurpose activities. 6) Prepare a Master Plan for the Municipality as a development guide;
Electricity	<ol style="list-style-type: none"> 1) Identify and distribute electric energy to all urban and rural communities to access good quality electricity for 24 hours; 2) Central energy investment and management of alternative energy distribution networks (solar panels);
Porto and Airport	<ol style="list-style-type: none"> 1) Rehabilitation of regional ports in the Municipality of Baucau (Cairabela) to benefit trade; 2) Reconstruction of the Baucau Municipal Airport in the interests of the military, emergency needs (such as rapid access to health) and forest fires;
Telecommunications	<ol style="list-style-type: none"> 1) effective telecommunications networks for the benefit of inter-rural, regional and cross-border network communities;
Institutional framework - focus on macroeconomic management and improvement of the capacity and effectiveness of government institutions.	

<p>Management of good governance of the public sector</p>	<ol style="list-style-type: none"> 1) Establish the necessary legal framework for the development of the municipality 2) Accelerate the implementation of local power by empowering the Municipality, bringing the public service closer to citizens and promoting public service professionalism in the municipality; 3) Ensure implementation of the land and property law 4) To reinforce the performance and the attendance services of the Villages authorities 5) Promote the favorable business environment to attract investment within the municipality; 6) Strengthen the presence of community policing in Village 7) Promote continuous dialogue for conflict prevention 8) Ensure public order, environmental health, law and freedom of expression of all people. 9) Strengthen the implementation of the PNDS & MDP program 10) Strengthen the Administration of Local Government-Public Administration through increasing the knowledge of employees in the generic areas such as: the Public Administration, Supply management, File Management, Accounting, Finance and Audit Management, Human Resource Management, the Spatial Planning, Patrimony and logistics
<p>Justice</p>	<ol style="list-style-type: none"> 1) Training for private lawyers, Notaries, Registration and lawyers 2) Training for magistrates and defense lawyers Specific training for magistrates and public defense lawyers 3) Management of public administration for employees involved in social / community development. 4) Languages mainly Portuguese.

3.2. Main Areas of Training

The Municipality of Baucau presented the following distribution of training needs per training area required for each pillar and development sector in relation to the immediate period 2019-2022, and then in relation to the period 2023-2025 and in the long term to end of 2030. Training needs were subdivided into two categories: the first refers to scholarships for vocational and technical education, bachelor's, master's and doctorate degrees, and the second refers to professional development through participation in workshops, seminars and development in a work context. Data from the main training areas are presented only as table 25 below taking into account the short, medium and long term priorities.

Table 25. Distribution of training needs in the short, medium and long term

Main areas of training	Category of training you wish to pursue (Academic / Vocational)		Training priorities		
	Academic	Técnico profissional	Curto Prazo (2019-2022)	Médio Prazo (2023-2025)	Longo Prezo (Até 2030)
Hotel Specialist	√	√	√		
Community tourism planning	√	√	√		
IT training	√	√	√		
Training for Technical Receptionist, Administration and Finance	√	√	√		
Tourism Promotion	√	√	√		
Management and Maintenance for Irrigation	√	√	√		
Product Quality Training	√	√	√		
Modernization for fishing equipment		√	√		
Forest Inventory and Management	√				
Veterinary / Animal Husbandry Engineer	√				√
Port and airport inventory	√	√	√		
Management for sea port	√	√	√		
Management for Energy (Inventory, Management and Maintenance of	√	√	√		

Main areas of training	Category of training you wish to pursue (Academic / Vocational)		Training priorities		
	Academic	Técnico profissional	Curto Prazo (2019-2022)	Médio Prazo (2023-2025)	Longo Prezo (Até 2030)
electricity energy)					
Sports Training		√	√		
Training for Industry		√	√		
Small Industry		√	√		
Industry Average		√	√		
Large Industry to develop		√	√		
Develops Rural Youth mainly Study and Research		√	√		
Nutritionist	√	√		√	
Methodical teacher		√	√		
School Health		√	√		
Curriculum	√		√	√	√
Administration, Finance, Logistics, Human Resources and IT	√	√	√	√	√
Autocad		√	√		
Personal management		√	√		
Human resources planning and capacity management	√		√	√	√
Training in leadership area in health center		√	√		
Technical Planning		√		√	√
Administrative management				√	√
Management and Maintenance electronic equipments		√	√		
Training for Search and Rescue		√	√		
Management training for disaster risk	√			√	
Social service training	√			√	
Environmental management	√	√	√	√	√
Environmental Engineering /	√	√	√	√	√

Main areas of training	Category of training you wish to pursue (Academic / Vocational)		Training priorities		
	Academic	Técnico profissional	Curto Prazo (2019-2022)	Médio Prazo (2023-2025)	Longo Prezo (Até 2030)
Environmental Biology					
Environmental law	√	√	√	√	√
Business Analyst	√	√	√	√	√
Climate Change Specialist	√	√	√	√	√
Management of public finances	√	√	√	√	√
Information Technology (Computer)	√	√	√	√	√
Agriculture and horticulture	√	√	√	√	√
Fishery Engineer	√	√	√	√	√
Veterinary / Animal Husbandry Engineer	√	√	√	√	√
Basic infrastructure (dam, laboratory)	√	√	√	√	√
Tourism marketing	√	√	√	√	√
Computer Science Engineer (Computer)	√	√	√	√	√
Hospitality	√	√	√	√	√
Financial Management	√	√	√	√	√
Government intervention (credit)	√	√	√	√	√
Audit and Communication Training		√	√	√	√
Architect engineer	√		√	√	√
Construction technicians		√	√	√	√
Mapping Engineer	√		√	√	√
Geodesy Engineer	√		√	√	√
Supervisor		√	√	√	
Leadership Management	√	√	√	√	
Language Training (Tetum, Portuguese and English)	√	√	√	√	√
Project management				√	√
Logistics Management				√	√
Supply Management				√	√
Formation of plan and drawing		√	√		√

Main areas of training	Category of training you wish to pursue (Academic / Vocational)		Training priorities		
	Academic	Técnico profissional	Curto Prazo (2019-2022)	Médio Prazo (2023-2025)	Longo Prazo (Até 2030)
Mechanical and electrical training		√	√		√
Training for the management and treatment of drinking water		√	√		√
Waste management		√	√		√
Finance, administration and logistics		√			√
Computer (administration service)		√		√	
File Management	√	√	√	√	
Logistics and IT	√	√	√	√	
Public service		√	√	√	
Accounting	√	√	√	√	
Tax		√	√	√	
System and Procurement Process		√	√	√	
Control	√	√	√	√	
Inspection	√	√	√	√	
Audit	√	√	√	√	
Rural Planning	√	√	√	√	√
Public Defender	√	√	√	√	
Private Lawyer	√	√	√	√	
Jurist	√	√	√	√	
Notary Public Notary Public Civil Marriage – Law		√	√	√	
Registration of Birth, Death and Marriage		√	√	√	
Political Party Registration		√	√	√	
Martial Art Registration		√	√	√	
Furniture registration		√	√	√	
Identification, notification, mediation and mapping	√	√	√	√	

4. Discussion and Analysis

This study has two complementary lines of work, the first being the identification of the distribution of existing human resources at the Municipal level and Sub District Administrations. All data collected, subsequently analyzed the levels of education and areas of study, occupations and their intentions of training and employment in the areas sought. The second is the identification of priority municipal programs based on the four pillars of the Municipal Strategic Plan (MSP) and key human resources that need for training in the development of the same priority programs. Attempts have also been made to analyze and compare the existence of current human resources and the need for training or training required by the municipality based on its priority programs to allocate funding efficiently and effectively.

The data presented here show that the majority of the population respondents in the Municipality of Baucau are young people aged 17-44 years. At the level of knowledge, there are a large number of people with no education level (illiterate), followed by those with pre-secondary education and full basic and secondary education respectively.

This dispersion of education level, together with the rapid growth of the population in the relevant age groups, shows the essence of the challenge faced by the Municipality of Baucau. One aspect of this challenge is the balance between those who have completed general secondary education and academic education are predominant compared to those who have completed vocational technical courses, either at the secondary technical level or at the higher technical level - polytechnics. The ideal balance between academic and technical education is a key issue in the development process. In addition, the data also indicate a very small number of people who had taken part in one of the vocational training courses with a skilled workforce prepared for self-employment or institutional strengthening.

Those who have already taken part in one of the short-term professional courses in most are generic professional courses geared more towards administrative work and the civil service such as courses in leadership, administration, finance,

planning, management and languages, which in practical technical terms do not support the creation of their own jobs (self-employment).

There are also a high number of job seekers, including those who have completed their degree programs in Law, Civil Engineering-Civil Construction and Computer Engineering, and more licensed in other areas (see table 15). without taking advantage of them in the labor market. The work preference is in the public sector while the non-licensed are in the non-public sector such as agriculture, domestic work, industrial activity and civil construction.

Analyzing the preference for training based on the priority programs (Table 25) with the current human resources (Table 5), the data show that the Municipality of Baucau has a large number of graduates in several areas, even though it is verified that there are still needs in some specialized areas. In relation to the current human resources, the question is how to take advantage of and employ them. However, it is important to emphasize that there are still serious concerns about quality not only in technical knowledge but knowledge of languages and this can become one of the challenges. Language training activities are intended to provide the beneficiaries with fluency in reference languages and to enable them to be more effective in carrying out their tasks in particular when traveling to international work. In this sense, it becomes important to unite with the language training with the additional training at postgraduate level directed to the specialized technical priority areas and professional internships.

Another challenge demonstrated in the presented work was the greater number of public and private employees including entrepreneurs with very low levels of education. This may possibly imply a lack of productivity and competitiveness in companies or organizations. It is evident that with this very low level of education of the municipality will not be able to overcome the serious problems which are facing right now even the future challenges.

Private sector growth is constrained by skills gaps in the workforce of both employers and workers. The private sector contributes to economic development by generating jobs and income, as well as through investment, new technologies,

knowledge transfer and increased productivity. This has been observed in some Asian countries, where much of the recent success in poverty reduction is due to robust economic growth stimulated by the private sector. In this regard, it is vital to strengthen the private sector by promoting the development and adequacy of the qualification of workers and employers with a view to improving their employability and increasing the productivity and competitiveness of the enterprise.

Equipping workers with certain skills will enable them to continue to take advantage of opportunities for growth expansion in a non-farm private sector. A high school diploma or higher is increasingly an indicator of employment opportunities in the urban private sector.

The municipality identified skills shortages in the following sectors: electronics engineering, health, tourism, aviation, manufacturing, waste treatment and financial services (banks, insurance and securities). It also identified a lack of skills in the following areas: English, nursing, pharmacy, hospitality, pilot training, accounting and auditing, machine operation, component manufacturing and assembly, engineering (design and development), literacy and software programming and management (decision making, leadership, delegation, motivation). Thus, it is considered that academic skill and professional technical training should be provided for the most crucial areas in the implementation of its priority program as set out in table 25.

Based on the data presented above, it becomes evident the need for training and the development of people's ability as a means to provide qualitative and quantitative benefits.

It is important to emphasize that skills development can not be seen only in formal technical and vocational education and training. It comprises skills acquired through all levels of education and training, taking place in formal, non-formal and vocational training contexts. It enables individuals in all sectors of the economy to engage fully and productively in livelihoods and to be able to further enhance and adapt their skills to meet new demands and opportunities in the economy and the

labor market. Skills development should not be characterized by the source of education or training itself, but by the skills that are acquired through this process.

With regard to people with disabilities, data show that there are a large number of people with disabilities and many of them have stopped at primary and secondary level due to various difficulties, and this makes it difficult to get a job and to earn a higher salary than the benefit from the government. Employers have some concerns about hiring people with disabilities because they feel they may not have adequate professional qualifications. This issue can be minimized if there are some inclusive policies such as developing initial and continuing vocational training for people with disabilities to enable them to acquire the knowledge and skills necessary to obtain a vocational qualification to help overcome the concerns of employers so that they can have more opportunities and easier to entry into the labor market.

The data also point out the need to reduce or combat illiteracy by creating opportunities and mobilizing municipal managers to increase literacy provision for all young people, adults and older people who did not have access or stay in basic education, especially small and medium-sized enterprises and farmers. Education and training for entrepreneurship is also principal key to encouraging creativity and the realization of new local economic initiatives.

Intensive training, in service and postgraduate (specialization), should be intensified as key elements for the quality of the human resources currently possessing the Secondary and Bachelor's level of education.

It also reveals the need for a demand-driven secondary-vocational education and demand-driven post-secondary technical education area of secondary and post-secondary education.

And finally, in the scope of preparation of Human Resources for the creation of Municipalities, it is important to strengthen the training in the areas of **Urbanization and Regional Planning, Planning and Territorial Planning.**

PART C: CONCLUSION AND RECOMMENDATIONS

5. Conclusions and Recommendations

Based on the data presented and discussed above, it is concluded that in order to develop human capital resources and achieve sustainable development in the future, the Baucau Municipality needs to pay more attention to the development opportunities identified in the PDM and to the following five dimensions : 1) economic (increase efficiency of the production system), 2) social (improvement of the levels of income distribution of the population), 3) ecological (preservation of the environment), 4) spatial (balance in distribution and occupation of population rural and urban) and 5) cultural (respect to the ways of thinking and acting of society, focusing on the construction of an environmental awareness linked to consumption).

According to the results obtained, it is considered pertinent to conclude and recommend the following:

- a) The commitment to education should give priority to technical and professional training on academic, focusing more on the opening of vocational training centers (or Polytechnic institutes) to the detriment of the opening of more universities.
- b) Complement to the academic formation, the creation of courses of specialization to increase the employability and professional capacity of those who finish the formal education.

Based on the data analyzed, we reinforce the need to train other areas where there are notable shortages of qualified human resources and areas of greater importance according to the priority programs found in table 25.

Most respondents wish to work in the non-public (private) sector than in the public sector. The desire for the private sector was slightly higher among young people aged 17-36 and the preference for work is mainly in the area of agriculture, domestic tasks, industry and construction.

The most unemployed graduates and postgraduates are in the areas of Law, Civil Engineering - Civil Construction and Computer Engineering (Computer) and more licensed in other areas (table 15).

Intensive training, in service and postgraduate (specialization), should be intensified as key elements for the quality of the human resources currently possessing the Secondary and Bachelor's level of education.

There are a large number of people with disabilities of productive age who are looking for work and have inadequate professional qualifications, or very limited practical professional background. It is recommended the need to develop initial and continuing vocational training for people with disabilities and incapacity, in particular the gestural training for those with visual and hearing disabilities, is recommended so that they can have more opportunities in the labor market.

To complete this general conclusion, we highlight five main points:

- 1) Education and training opportunities remain limited in some of the major areas highlighted by SDP, such as agriculture, construction and hospitality and tourism. It should focus more on the development of human capital:
 - Agriculture is the heart of the municipality's economy and critical to the well-being of its people. A sustainable agricultural development path will require greater investment in building innovation and skills on small-scale farms through many routes: training and technology transfer; a strong expansion of the number and skills of extension workers; through better education and training for members of rural families, including women; and increased investment in vocational and tertiary education programs and R & D centers, closely related to the needs of agriculture in the Municipality of Baucau.
 - Construction with a limited infrastructure inherited from the Indonesian government period and the continuous needs to consolidate the infrastructures namely the roads thus offering the population of the benefited region better conditions transport, easy

access and enables local farmers to transport their products to the market quickly and effectively.

- Tourism in Baucau continues to be a future opportunity, but taking advantage of this opportunity will require the development of a trained workforce, from entry-level staff to senior managers, as well as investment in R & D, development and planning policies and planning capabilities.
- 2) Private Sector - Survey data show that private sector growth is constrained by skill gaps in the workforce of both employers and workers. In this regard, it is crucial to strengthen the private sector by promoting the development and adequacy of the qualification of workers and employers with a view to improving their employability and increasing the productivity and competitiveness of the enterprise.
 - 3) Technical and vocational education and training (TVET). FDCH research shows a lower level of TVET qualifications than university qualifications in the City of Baucau, and increased investment in TVET expansion should be a high priority. This expansion should cover technical secondary schools, the polytechnic system, and the community-based non-formal vocational training system. In doing so, it is important that the boundary between academic and technical education remains fluid, with easy articulation between the two areas.
 - 4) Adult education (literacy for all young people, adults and the elderly), especially for women, and training in the workplace. In our view, these three areas are of considerable importance. In particular, the increasing role of women, especially in agriculture, and with a higher skill level due to improved training, may contribute to the growth of household and national income, and to more jobs in general.
 - 5) In the preparation of Human Resources for the creation of municipalities (decentralization) it is important to strengthen the training in the areas of **Urbanization and Regional Planning, Planning and Territorial Planning.**

- 6) It also reveals the need for a supply of study areas at secondary and post-secondary levels that are geared to the needs of the municipality's (demand-driven secondary vocational education and demand-driven secondary technical education).

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Annex 1. Questions for group discussion
QUESTIONS FOR GROUP DISCUSSION - GROUP I - GENERAL QUESTIONS

Identify the Natural Resources that the Municipality / RAEOA - Oecusse has as priorities to develop!	Related to the Natural Resources that exists, What kind of Human Resources do you want to training (train) to develop the existing potentialities?	What level of Human Resources do you want to training?		Training priority for (Short, Medium, Midterm and Long Term)		
		Academic	Professional Technical	Short term (2019-2021)	Mid-term (2022-2025)	Long Term (2026 - 2030)
Tourism						
Agriculture						
Identify other potentials						

QUESTIONS FOR GROUP DISCUSSION - GROUP II - SOCIAL CAPITAL

Social Capital	What are the priority programs related to the sectors below that the Municipality / RAEOA-Oecusse has to develop? Describe according to each industry!	Related to the Natural Resources that exists, What kind of Human Resources do you want to training (train) to develop the existing potentialities?	What level of Human Resources do you want to training?		Training priority for (Short, Medium/Midterm and Long Term)		
			Academic	Professional Technical	Short term (2019-2021)	Mid-term (2022-2025)	Long Term (2026 - 2030)
EDUCATION AND TRAINING							
HALTH							
SOCIAL INCLUSION							
ENVIRONMENT							
CULTURE AND PATRIMONY							

QUESTIONS FOR GROUP DISCUSSION - GROUP III - ECONOMIC DEVELOPMENT

Economic development	What are the priority programs related to the sectors below that the Municipality / RAEOA has to develop? Describe according to each industry!	Related to the Natural Resources that exists, What kind of Human Resources do you want to training (train) to develop the existing potentialities?	What level of Human Resources do you want to training?		Training priority for (Short, Medium and Long Term)		
			Academic	Professional Technical	Short Term (2019-2021)	Mid Term (2022-2025)	Long Term(2026 - 2030)
Rural development							
AGRICULTURE							
PRIVATE SECTOR							

QUESTIONS FOR GROUP DISCUSSION - GROUP IV - INFRASTRUCTURE DEVELOPMENT

INFRASTRUCTURE DEVELOPMENT	What are the priority programs related to the sectors below that the Municipality / RAEOA has to develop? Describe according to each industry!	Related to the powers (Natural Resources) that exists, What kind of Human Resources do you want to train (train) to develop the existing potentialities?	What level of Human Resources do you want to train?		Training priority for (Short, Medium and Long Term)		
			Académico	Profesional Technitions	Short Term (2019-2021)	Mid Term (2022-2025)	Long Term (2026 - 2030)
ROADS AND BRIDGES							
WATER AND SANITATION							
ELECTRICITY							
MARITIME PORTS (if applicable)							
AIRPORT AND TELECOMMUNICATIONS							

QUESTIONS FOR GROUP DISCUSSION - GROUP V - INSTITUTIONAL FRAMEWORK

INSTITUTIONAL FRAMEWORK	What are the priority programs related to the sectors below that the Municipality / RAEOA has to develop? Describe according to each industry!	Related to the powers (Natural Resources) that exists, What kind of Human Resources do you want to train (train) to develop the existing potentialities?	What level of Human Resources do you want to train?		Training priority for (Short, Medium and Long Term)		
			Academic	Professional Technician	Short Term (2019- 2021)	Mid Term(2022- 2025)	Long Term (2026 - 2030)
MANAGEMENT AND GOOD GOVERNANCE OF THE PUBLIC SECTOR							
Justice							

Annex 2. List attendance of the participants in the discussion of groups

Attendance List of the participants in the Group discussion on identification of natural resources and economic potencies, related priority programs and key areas of training in the Municipality of Baucau

NO.	NAME	POSITION	INSTITUTION
1	Antonio Guterres	DAM	AM
2	Evarista A.Mendonca	Oficial Human Resource (HR)	Saude
3	Ana M.Souares	Chief Department of HR	AM-BCU
4	Joaninha Ornai Ximenes	Oficial HR	M.Educasaun
5	Agustinho Ximenes	Staf	MOPTC
6	Ana Recardina Siqueira	Staf	MOPTC
7	Vicente Soares	Chief Dep.GAE	Educasaun
8	Nelson Guterres	Chief	ASA
9	Leonel Guterres	Director	SNS
10	Nelson A.S.Nunes	Official HR	SMAS&JDN
11	Justina dos Neves Mendonca	Official	SRNSC
12	Fernando Soares	Director	MAP
13	Jauario Pereira	Director	MCI
14	Francisco Ximenes	Adm.Posto Baucau Vila	MAE
15	Augusto .Pires	Director	F.Cailolo
16	Joao B.Ximenes	Rep.Posto Laga	MAE
17	Vasco Ribeiro	Chief	Telekomcel
18	Juvinal da Costa	Estajiariu	AM
19	Liborio A.da Sousa	OGL/MP,APA	DNAL-MAE
20	Ana M.F.Guterres	Estajiadu	F.Cailolo
21	Baltazar da costa	Estajiadu	F.Cailolo
22	Estanislau M.Q. da. Costa	Director	Costa Motor Unip.
23	Cidalia dos Santos	Estajiadu	Aministrasun
24	Adriano Jose da C.L	Staff	Empresa
25	Venancio da Costa	Rep.	MAE
26	Ernio F.M.Freitas	Koordinator	PNDS-MAE
27	Felicidade C.C.Belo	Estajiadu	
28	Tito P.Pereira	Estajiadu	
29	Cecalina S.da Costa	Estajiadu	

30	Francisco c.Pereira	Estajiadu	
31	Emeliana J.A.C.Pereira	Estajiadu	
32	Avelino Domingos Savio	Estajiadu	
33	Amalia M.Viegas	Kontabelista	MAE
34	Olimpio D.S.Gomes	MIS	PNDS
35	Antonio Febu	Chief Dep. Of Media & PR	FDCH-MDRI
37	Ivo J.B.Belo	Chief Dep. Of IT	FDCH-MDRI