



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

BOBONARO MUNICIPALITY

LD RHE

DATA COLLECTION OF EXISTING
HUMAN RESOURCES

LD RHE REPORT 2018



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

Municipality of Bobonaro

Fundo do Desenvolvimento do Capital Humano (FDCH)
(Human Capital Development Fund – HCDF)

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CONTENTS

CONTENTS	1
LIST OF TABLES.....	2
LIST OF FIGURES.....	3
ACKNOWLEDGMENT	4
MESSAGE FROM THE MINISTER	6
MESSAGE FROM THE EXECUTIVE SECRETARY OF FDCH	9
EXECUTIVE SUMMARY	11
PART A: INTRODUCTION, OBJECTIVES AND METHODOLOGY	20
1. INTRODUCTION, OBJECTIVES AND METHODOLOGY	20
1.1. General Introduction	20
1.2. Objective	28
1.3 Methodology.....	28
PART B : ANALYSIS AND RESULTS FOUND	30
2. OVERVIEW THE HUMAN CAPITAL OF THE BOBONARO MUNICIPALITY.....	30
2.1. Presentation and Analysis of Data	30
2.2. Profile of Respondents	30
2.3. People with Disability.....	31
2.4. Education Level	33
2.5. Vocational Training Certificate Level I - Certificate IV.....	52
2.6. Professional Occupations in the Public Sector.....	56
2.7. Level of Education of Temporary Public Servants	58
2.8. Non-Public Sector (Private sector).....	59
2.9. Preferred Working Areas.....	63
2.10. Business Sector Preferred to Work in	64
2.11. Age Group (age) of Respondents Who are Looking for a Job.....	65
2.12. Graduates in Job Search "Unemployment".....	66
2.13. Number and Areas of Study of Students who are Currently Attending Courses	69
2.14. Year the Course Ends.....	71
2.15. The Demand of Training for Personal and Institutional	75
2.16. Institution Providers and Financing.....	77
2.17. Training Financing.....	78
2.18. Future Training Plan.....	79
2.19. Category and Academic Degree of Training.....	82
3. DEVELOPMENT OF HUMAN RESOURCES WITHIN THE STRATEGIC DEVELOPMENT PLAN OF THE MUNICIPALITY	85
3.1. The Four pillars of the Municipal Strategic Plan (PEM).....	85
3.2. Main Areas of Training.....	95
4. DISCUSSION AND ANALYSIS	104
C. CONCLUSION AND RECOMMENDATIONS.....	109
5. CONCLUSIONS AND RECOMMENDATIONS.....	109
6. BIBLIOGRAPHIC REFERENCES.....	113
ANNEX 1. QUESTIONS FOR DISCUSSION OF GROUPS	114
ANNEX 2. LIST ATTENDANCE OF THE PARTICIPANTS IN THE DISCUSSION OF GROUP	119

LIST OF TABLES

TABLE 1 . DISTRIBUTION OF EXISTANCE OF PEOPLE DISABILITYNS BY SUB DISTRIC ADMINISTRATION	31
TABLE 2. DISTRIBUTION OF THE DISABLED BY SUB DISTRICT ADMINISTRATION	32
TABLE 3. DISTRIBUTION OF THE PEOPLE WITH DISABILITY BY TYPE OF DISABILITY AND BY SUB DISTRIC ADMINISTRATION	33
TABLE 4. DISTRIBUTION BY LEVEL OF EDUCATION AND BY SUB DISTRICT ADMINISTRATIONS.....	34
TABLE 5. DISTRIBUTION OF EDUCATION LEVEL OF RESPONDENTS BY STUDY PROGRAM AND BY SUB DISTRIC ADMINISTRATION	35
TABLE 6. NUMBER AND AREAS OF CERTIFICATE I-IV TRAINING BY SUB DISTRIC ADMINISTRATION.....	52
TABLE 7. DISTRIBUTION OF PERMANENT PUBLIC SERVANTS BY OCCUPATION AND YEARS OF SERVICE.....	57
TABLE 8. DEGREE AND LEVEL OF PERMANENT OFFICIALS INTERVIEWED.....	57
TABLE 9. DISTRIBUTION OF TEMPORARY PUBLIC SERVANTS BY OCCUPATION AND YEARS OF SERVICE.	58
TABLE 10. DISTRIBUTION OF TEMPORARY PUBLIC SERVANTS BY LEVELS OF EDUCATION.	58
TABLE 11 . DISTRIBUTION OF ENTREPRENEURS AND LEVEL OF EDUCATION.....	63
TABLE 12. TOTAL NUMBER OF RESPONDENTS IN THE MUNICIPALITY OF BOBONARO IN SEARCH OF EMPLOYMENT AND INTENDS TO WORK IN THE PUBLIC OR PRIVATE SECTOR	64
TABLE 13. DESTRUCTION OF AREAS OF ACTIVITY THAT RESPONDENTS WISH TO WORK	64
TABLE 14. AGE GROUP OF RESPONDENTS LOOKING FOR A JOB	66
TABLE 15. NUMBER AND AREAS OF KNOWLEDGE OF HIGHER EDUCATION COURSES IN EMPLOYMENT AND WISH TO WORK.	67
TABLE 16. DISTRIBUTION OF THE NUMBER OF STUDENTS WHO ARE CURRENTLY ATTENDING COURSES IN HIGHER EDUCATION	69
TABLE 17. DISTRIBUTION NUMBER OF STUDENTS WHO ARE CURRENTLY ATTENDING COURSES AND PREDECTION OF THER YEAR IN WHICH THE COURSE WILL END	72
TABLE 18. PROFESSIONAL DEVELOPMENT COURSES CARRIED OUT BY TRAINING AREA AND DURATION OF THE COURSE.	76
TABLE 19. LANGUAGE TRAINING AND AND DURATION OF THE COURSE	77
TABLE 20 . FUNDERS OF LANGUAGE TRAINING	78
TABLE 21. AREA OF TRAINING DESIRED BY NON-EMPLOYED RESPONDENTS.....	80
TABLE 22. DESIRED TRAINING AREAS BY NON-EMPLOYED RESPONDENTS.....	81
TABLE 23. CATEGORY OF TRAINING - ACADEMIC OR VOCATIONAL TRAINING	82
TABLE 24 . ACADEMIC DEGREES AND AREAS OF STUDY THAT YOU WISH TO PURSUE.....	83
TABLE 25. DISTRIBUTION OF TRAINING NEEDS IN THE SHORT, MEDIUM AND LONG TERM	95

LIST OF FIGURES

FIGURE 1. DISTRIBUTION OF RESPONDENTS BY AGE GROUP AND BY SEX	31
FIGURE 2 . STAF OF NON-GOVERNMENTAL ORGANIZATIONS (NGOs) BY POSITION.....	60
FIGURE 3. DISTRIBUTION OF ENTREPRENEURS OR BUSINESSMAN BY POSITION.	61
FIGURE 4. DISTRIBUTION OF THE AREAS OF ENTREPRENEURS' OR BUSINESSMAN ACTIVITIES	62
FIGURE 5 . PROVIDER OF LANGUAGE TRAINING.....	78
FIGURE 6 . DEGREES OF STUDIES THAT WISH TO CONTINUE	83

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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



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 through the country. The Program was held from March to April 2018, due to the budget constraints 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 of which is based on the collection of existing human resources data at the Municipal and Administrative posts carried out by the Human Capital Development Fund (FDCH), and the second, the identification of natural resources and the economic powers of the Municipality with priority programs related to, based on the 4 pillars of the Municipal Strategic Plan (PEM) and the key human resources needed for training for the development of the same priority programs.

The key to the effective development of the municipality's human resources is not only to identify the natural and economic development potentials and priority areas of training but also prior knowledge of existing human resources and the targeting of adequate funds for Human Resource Development needs (DRH), ensuring different phases of MSP/PEM to be successfully implemented.

The formulation of a human resource development strategy requires the integrated and multifaceted understanding of a complexity of subjects such as population demographics mainly the current human resources of the municipality, human development workforce in the public and private sector, vocational education and well as capacity development, current and future labor market issues including employer and market needs and the higher 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 and natural resources available in the municipality are scarce and are often dispersed through many sources.

The integration of these issues into a human resource development strategy for the municipality will ensure the development of appropriate local government

(municipal) policy responses, civil society desires, educational institution programs, and business and industry needs. well-aligned and work together in a coordinated way to increase the capabilities of all human resources.

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

Thus, this work was carried out with the purpose of 1) identifying and analyzing the current human resources situation and its distribution in Sub District Administration 2) identifying the natural resources and economic powers and priority programs of the municipality based on the 4 pillars of the Municipality

(PEM); 3) identify the key human resources that training need in the development of the same priority programs; and 4) try to analyze and compare the existing human resources and the need for training / training required by the municipality based on its 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 or over by means of census in the resident population in the Municipality of Bobonaro with the completion of a questionnaire, carried out from September 5 to 5 November, 2016 and **in the second phase**, was done through the "Focus Group Discussion" (FGD) held on March 13, 2018, to Municipal Administrator, Administrative Officers, Directors, and also with the participation of representatives 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 municipality's.

Summary of Results

The data presented here show that the majority of the respondent population in the Bobonaro Municipality are young people aged between 17 - 36 years. At the level of knowledge, there is a large number of people with no education level

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

This dispersion of schooling, together with the rapid growth of the population in the relevant age groups, shows the essence of the challenge faced by the municipality of Bobonaro. 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 professional technical courses at both secondary technical and higher technical - polytechnic levels. 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 had already taken part in one of the short-term professional courses in most of them are 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 to create their own jobs (self-employment).

It is further aggravated by a large number of job seekers, including those who have completed their degree in areas such as Sociology of Education, Management, Information Technology Engineering, Mathematics in Education, Law and General Medicine, and others in other fields (see table 15), without taking advantage of them in the labor market. The work preference is in the public sector while the non-graduated have preference in the non-public sector such as agriculture, domestic work, industry and construction.

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

concerns about quality not only in technical knowledge but also language skill 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 work overseas.. In this sense, it is important to unite language training with the additional at post graduations directed to 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 Qualification will not be able to overcome the serious problems that it faces nor 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 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 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 agriculture 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, programming or software engineering 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 skill 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 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 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, to earn a higher salary than the subsidy received 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 enable them to acquire the knowledge and skills necessary to obtain a vocational qualification to help them 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 elementary education

especially the small business people and medium-sized enterprises and farmers. Education and training for entrepreneurship is also fundamental to encourage 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 Municipality of Bobonaro 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:

- 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) 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) 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 graduates and post graduated with the highest number of job seekers "unemployment", are in the areas of Sociology of Education, Management, Information Technology Engineering, Mathematics of teaching, Law and Medicine - Clinica Medica and more graduates 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 job-poor and have inadequate professional qualifications, or very limited practical professional knowledge. The need to develop initial and continuing vocational training for people with disabilities incapacity and in

capacity, especially 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 Research and development (R & D) centers, closely related to the needs of agriculture in the Bobonaro municipality.
- **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 Bobonaro Municipality remains 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 policy planning and planning capabilities.

2). Private Sector - Survey data shows that private sector growth is constrained by skill gaps in the workforce both employers and workers. In this sense, 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). The FDCH study shows a lower level of TVET qualifications than the university qualifications in Bobonaro 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, perhaps especially in agriculture, and 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 Municipalities (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 of secondary and post-secondary education.

PART A: INTRODUCTION, OBJECTIVES AND METHODOLOGY

1. Introduction, Objectives and Methodology

1.1. General Introduction

The Bobonaro Municipality is located in the center west of the country, is a mountainous zone, characterized by the high lands and low lands as in the zone that near the sea. Astronomically it lies in the south latitude of 9 ° and 125.22 ° east latitude. It shares the borders to the West with the province of West Timor Indonesia, to the East with the Ermera Municipality and Ainaro, to the Northeast with the Liquiça Municipality, in the North part is the Sea of Savo, to the South with the Covalima Municipality, in the part with the Ermera and Aileu Municipalities. The Bobonaro Municipality has a total area of 1,380.82 km².

In 2017, the population was estimated to be 97,762, with 48,875 men and 48,887 women, and according to the household census of 17,635 families.

The dominant religion in the territory of the Bobonaro Municipality is the Catholic religion that is followed by 89% of the population and the rest follows the Protestant religion, Islamic or without religion; languages being spoken in several languages; 44% of the population speak **Kemak**, 25% speak **Bunak**, 23% **Tetum**, 4% **Becais**, 3% **Tetum Terik** and 1% speak **another language**.

Sub - District Administration (formerly sub- district). Villages (Sucos) and sub Villages (Aldeias)

The Bobonaro Municipality is divided into 6 Sub District Administration, 50 Village and 191 sub villages (Aldeias) scattered throughout the territory as per the table below:

Region of the Sub District Administrations

Sub-District Administrations	Superficie Km ²	Percentage (%)
Atabae	252.80	18.31
Balibo	297.08	21.51
Bobonaro	217.12	15.72
Cailaco	205.17	14.86
Lolotoe	169.31	12.26
Maliana	239.35	17.33
Total	1,380.82	100 %

Sub District Administration Villages (*Sucos*) and Number of Sub Villages (Hamlets/*Aldea*)

Sub-District Administration Atabae consists of 4 villages and 20 Sub-villages

Sub-District Administration Balibo consists 6 villages and 26 Sub-Villages

Sub-District Administration Bobonaro consists 18 villages and 63 Sub-Villages

Sub-District Administration Cailaco consists 8 villages and 23 Sub-Villages

Sub-District Administration Lolotoe consists 7 villages and 20 Sub-Villages

Sub-District Administration Maliana consists 7 villages and 39 Sub-Villages

Climate, Relief and Hydrography

The climatic situation of Bobonaro Municipality is essentially characterized in two main stations, a dry season and a rainy season. The long dry season occurs between May and September with the average temperature between 30o and 35o C in the afternoon and between 18o - 20o C in the evening. The rainy season occurs during the month of November and April. In the change of season in every year, there is an impressionable climate change that affects the life of the community; as for example in the rainy season can happen the sliding of the earth due to the intensity of the rain and in the time of prolonged drought it can result the puddles let run out of water, thus the populations have difficulty obtaining water.

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

a) Agriculture

The Bobonaro Municipality PEDM is aimed at strengthening stronger agricultural development for poverty reduction, ensuring food security and promoting economic growth, increasing employment in rural areas and at the national level. A strong and developed agricultural sector will stimulate rural development. The first phase of agricultural development in the Bobonaro Municipality is to ensure food security by following the promotion of food production in domestic markets to replace imports and the last phase is to focus on exporting agricultural production through the plan to improve agricultural practices to increase corn production as well as to ensure food security and create opportunities for the well-being of rural populations and reduce the trade deficit.

It continues to promote the production of Coffee, Palm, Vanilla, Hazelnut, Cravinho and other powers that of the municipality. Ensure and invest more in irrigation and dams infrastructure and also support aquaculture activities and develop the fishing industry.

In order for the agriculture sector to guarantee food subsistence of the local community, as well as to produce raw materials that are transformed into secondary products in other fields of economic activity, the Bobonaro Municipality will bet on the development of human resources, technical assistance, offer advocacy and create conditions through cooperatives to obtain funding support and develop basic infrastructures.

The Bobonario Municipality is one of the municipalities with greater potential agricultural territory that contributes strongly to the food production at the national level. Such important productions as rice in Maliana, maize in the Sub District Administration of Cailaco and Atabae, beans in Bobonaro and Lolotoe, coffee in Lolotoe, Bobonaro, Maliana and Cailaco and corn in the 6 Sub District Administration.

The potential area for várzea 8,575 hectares, area cultivated 4,920 hectares and area harvested 4,883 hectares (Statistical Data, 2015).

Since ancient times, the majority of the population of Bobonaro lived with agriculture, worked in the vargens, raised animals and made fisheries. According to data from the Bobonaro Municipality, 50% (46,025 thousand) of the population work in agriculture mainly in Varzim distributed by Sub District Administration de Maliana 20% (9,205), Sub District Administration of Cailaco, 15% (6904) Sub District Administration of Atabae, 8% (3682), Sub District Administration of Balibo 4% (1150) and Sub District Administration of Bobonaro 3% (153).

Production	Hectares (ha)
Várzea	5 416,26
<i>"To'os rai maran"</i>	2 692,70
Horticulture (Vegetables, Cabbage, Sweet Potatoes, Potatoes, Garlic and Others)	20,00
Plantation (Coffee, Hazelnut, Clove, Teak)	74 275,83

Source: Data of Agriculture of the Bobonaro Municipality

The area with the largest industrial plantation is coffee with a total of 2,130.9 hectares; Hazelnuts 676.7 ha; Cravinho 1,5 ha; Cocoa 7.4 ha; Cashew 3,045 ha; Tobacco 56.3 ha; Coconut tree 49,8 ha.

The plantations are the fundamental economic bases of farmers for yield and support the human. The largest plantation in the Bobonaro Municipality is coffee, in addition to teak used as a basic industry to increase the economic income of the population.

b) Forests

Forests in the Bobonaro Municipality occupy about 24,319 hectares.

The forests with commercial economic value with total area 8,100 hectares is located in the central mountain region and the south-central coast. The species with commercial value and economic interest are: *Teca*, *Ai-Naa*, *Candalo*, *Ai-saria*, *Rota*, *Bamboo*, *Nitas* and *Mahomi*.

c) Pecuária

Livestock is one of the complementary areas of agriculture that contributes greatly to the increase of income of the local population, being Bobonaro is one of the municipalities that has great production of buffaloes, cows, horses, goats, sheep, pigs and chickens. Livestock is a sector with great economic value and almost all families raise animals, beginning with those with agricultural activities in the rural to some who live in the cities. The activities carried out are characterized by family exploitation and constitute an important complement to the income of the households.

According to the statistics of 2015, the Bobonaro Municipality has a great potential for development in the creation of several types of animals. As an indicator, it can be seen that approximately $\pm 85\%$ of the total household in the Bobonaro Municipality has the creation of animal. The animals with the greatest developmental power are roosters, pigs (pigs), cows, buffaloes, goats and between diamonds. The pigs and goats have more business in the market of Bobonaro for being used in the events of traditional local culture, "Koremetan", and "Barlaque".

The Sub District Administration of Atabae, Maliana, Cailaco and Lolotoe are going to be the centers of animal husbandry for the production of animal of large quantity to be able to support the financing of the breeding of animals in other places that need within the Bobonaro Municipality.

d) Fisheries

The fishing activity including aquaculture is one of the great powers of the Bobonaro Municipality mainly in the Sub District Administration of Balibo and Atabae. The fish pond center was identified at the Atabae, Balibo and Maliana Sub District Administration to multiply the species considered viable that matches the climate and the environment of the municipality. In addition, the municipality has supported the provision of seeds to farmers who wish to develop freshwater fish. The development of the fisheries sector will undoubtedly contribute to increasing the income of families and local communities. The challenges that the fishing sector has to overcome in order to contribute fully to food security, making more and more fish available for domestic consumption as well as for generating income and benefits that have an impact on the reduction of community poverty levels. For this to happen, it is essential to strengthen training to increase the knowledge of farmers, particularly fish farmers, in the area of freshwater fish farming.

In addition, in the Sub District Administration of Lolotoe, Balibo and Maliana there are large lagoons where several species of fish are found and others such as black, white and red crocodiles. These species lived from our ancestors and still exist. In the future, the municipality wants to promote these potentialities to attract more tourists to visit the place. The above species not only find in the Sub District Administration mentioned above but are also dispersed in other Sub District Administration like Atabae and Cailaco.

e) Commerce

The activities of commerce in the Bobonaro Municipality occupy a part of development to realize in the future like the creation of industry of salt to reduce the import. The Atabae Sub District Administration has been identified as a potential development site of the salt industry in the medium term.

Other potential that the Bobonaro Municipality has for the development of trade is forest trees as raw material for "Minyak Kayu Putih".

According to the Ministry of Trade Industry and Environment (MCIA) has been identified trees in 10 hectares for the industry "Minyak Kayu Putih" in the Sub District Administration of Atabae and Balibo. These powers will have development priorities in the future to increase the income of the local population.

Anticipating the implementation of the process of decentralization and creation of the municipality, it identifies as being the main challenge of the economy: increasing the competitiveness of the economy through diversification of the economy; 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, EEZs, aquaparks, thermal power plants, 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 Administration 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 development activities in Bobonaro 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 funds appropriate to the identified HRD needs, ensuring different phases of the strategic development plan to be successfully implemented in the future.

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

1.2. Objective

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 one, the data were collected from individuals aged 17 years or older, by census of the

population living in the Bobonaro Municipality with the completion of a questionnaire, held between September 5 and November 5, 2016, and the second was done through the Focus Group Discussion (FGD) held on March 13, 2018.

The population census is the only source of information on the life situation of the population in Sub District Administration and villages. The census produces information essential for the definition of public policies of the state at the level of Sub District Administration 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 Municipal Administrator, 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 human resources in the Municipality.

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 human resource strategy of the Bobonaro Municipality, continue in four sections.

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

Section 2 starts from the four pillars of the Municipality' 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. Overview the Human Capital of the Bobonaro Municipality

2.1. Presentation and Analysis of Data

This section briefly reviews data on the existing human resources of Bobonaro Municipality and its distribution in Sub District Administration, as well as providing a basis for human resource strategy decisions. The main source of information presented here is the results of the FDCH survey and statistical data from the Directorate General of Statistics (DGE). *(official acronym in Portuguese Language)*.

2.2. Profile of Respondents

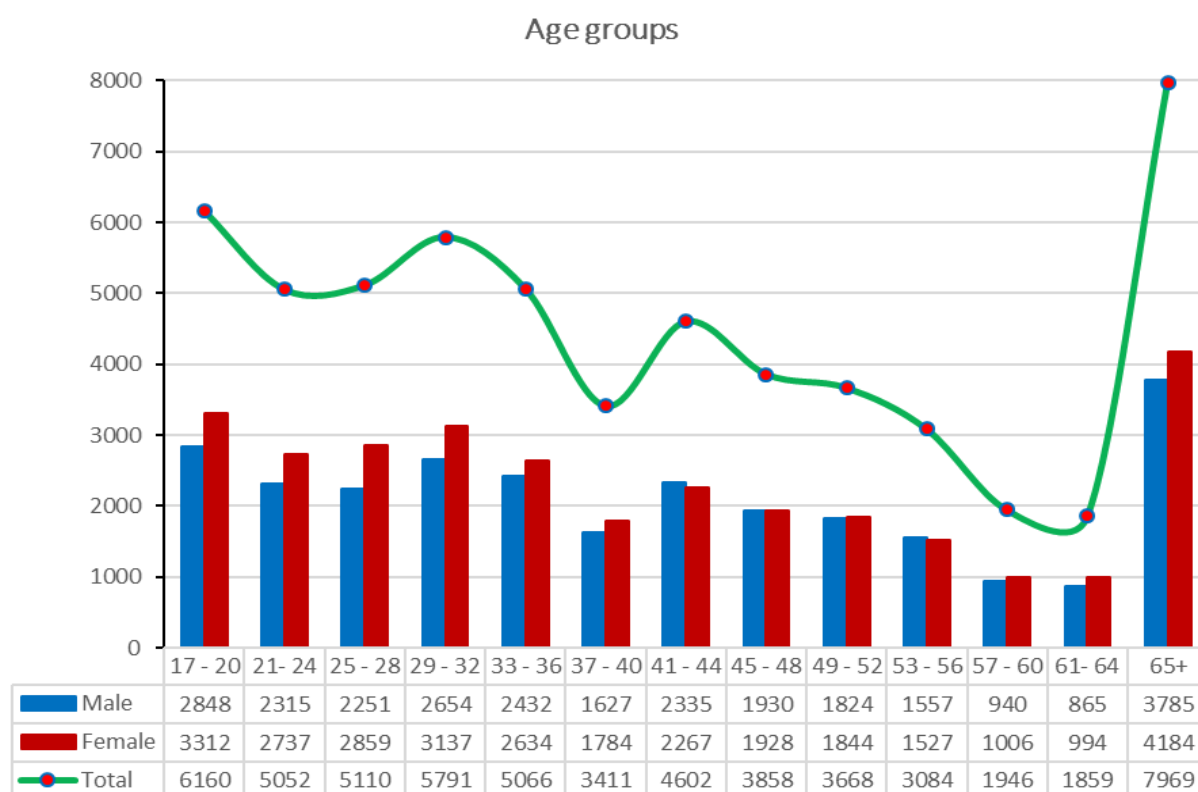
The first part of the collection tool outlined the profile of the respondents and as shown below, the results were represented in percentage graphs. Parallel to the graphical presentation of these results an analysis of the obtained data is made, aiming to reach the objectives already listed initially.

The survey involved 5,7576 respondents, of which 47.5% were male and 52.5% female. The other aspects of the profile are arranged in the graphs below.

The majority are aged between 17 and 44 years old, representing 61.1%, followed by the age group from 45 to 64 years old, with 25% of those surveyed and 13.8% older than 65 years old. The female sex is the largest number in the age group

between 17-40 years old. In the age groups between 41 and 56 years old, the numbers tend to be similar between both genders, only after 64 years old the predominance is female (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 the disabled in the Bobonaro Municipality. A total of 847 disabled respondents were registered corresponded to 1.5% of the total of the respondents distributed by 6 Sub - District Administration (table 1):

Table 1 . Distribution of Existence of people disabilities by Sub District Administration

Sub-District Administrations	have a disability ?		TOTAL
	Yes	No	
Atabae	77	4,703	4,780
Balibo	171	11,240	11,411
Bobonaro	218	13,062	13,280
Cailaco	147	5,362	5,509
Lolotoe	148	3,229	3,377

Sub-District Administrations	have a disability ?		TOTAL
	Yes	No	
Maliana	86	19,133	19,219
BOBONARO	847	56,729	57,576
Percentage (%)	1,5	98,5	100

The highest number of people with disability was registered in the Sub-District Administration of Bobonaro (26%) and Balibo (20%). The Sub District of Cailaco (17%) and Lolotoe (17%) has a very similar number of disabled people, while in Maliana and Atabae a reduced number was found to be less than 10% (Table 2).

Table 2. Distribution of the disabled by Sub District Administration

Sub-District Administrations	Frequency	Percentage (%)
Atabae	77	9
Balibo	171	20
Bobonaro	218	26
Cailaco	147	17
Lolotoe	148	17
Maliana	86	10
Total	847	100%

Among the 847 people with disability, the main difficulties relate to physical mobility (29.7%) and vision / eyes (31.6%). There was also a very similar number of psychosocial / mental and hearing deficits (Table 3).

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

Sub District Administration	Type of disability					Total
	Physics / Mobilit	View	Deaf mute	Psychosocial / Mental	Cognitive / intellectual	
Atabae	28	7	11	29	2	77
Balibo	60	39	9	59	7	174
Bobonaro	56	77	51	33	4	221
Cailaco	38	57	24	23	6	148
Lolotoe	23	82	27	16	-	148
Maliana	50	9	15	14	2	90
Total BOBONARO	255	271	137	174	21	858
Percentage (%)	29,7	31,6	16,0	20,3	2,4	100,0

2.4. Education Level

As for the level of education of illiterate respondents, adult literacy and incomplete basic education occupy 58.6% of the total respondents. Basic (primary) and pre-secondary education accounts for 21.5% and secondary education accounts for 15.7%. Vocational education course and other levels of courses occupy 0.7% and 0.4%, respectively. At the tertiary / higher level, 3.1% of respondents have the level of higher education (Table 4).

Among the 1768 (3.1%) of the respondents, 79.9% had a bachelor's degree following Diploma III 13.6%, Diploma II (2.7%) and Diploma I (2%). Other academic levels have a percentage lower than 2% (Table 4).

Among the 1768 (3.1%) of the respondents, 79.9% had a bachelor's degree following Diploma III of 13.6%, Diploma II (2.7%) and Diploma I (2%). Other academic levels have a percentage lower than 2% (Table 4).

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

Level of Education	Bobonaro	Atabae	Balibo	Bobonaro	Cailaco	Lolotoe	Maliana
Can not read / write	28,937	2,399	5,415	8,777	3,451	1,296	7,599
Does not read / write (did not finish primary school)	4,796	527	1,730	671	295	316	1,257
Sub Total	3,3733	2,926	7,145	9,448	3,746	1,612	8,856
Primary	5,168	481	1,301	974	504	628	1,280
Pre-secondary	7,199	453	1,186	1,053	509	365	3,633
Secondary	9,061	663	1,263	1,599	472	583	4,481
Technical Vocational (high) School	397	28	112	32	74	32	119
Others	110	4	7	18	26	7	48
Sub Total	21,935	1,629	3,869	3,676	1,585	1,615	9,561
1 st. Cycle (1st class - 4 th class)	114	4	24	19	14	5	48
2 ^o . Cycle (1st Year, 2 nd Year)	9	-	3	-	1	1	4
3 ^o . Cycle (3rd year - 9 / 3 rd year up)	17	3	3	2	2	3	4
Sub Total	140	7	30	21	17	9	56
Diploma I	35	5	13	8	0	2	7
Diploma II	48	7	10	13	1	6	11
Diploma III	241	24	29	47	26	15	100
Diploma IV	3	-	-	1	-	-	2
Bachelor's degree (S1)	1,412	62	103	147	95	32	973
Master's degree (S2)	29	2	2	1	1	2	21
PhD (S3)	-	-	-	-	-	-	-
Sub Total	1,768	100	157	217	123	57	1,114
Total	57,576	4,662	11,201	13,362	5,471	3,293	19,587

Regarding the distribution of the knowledge of respondents by study area (study program) and by Sub District Administrations, of the 1,768 who hold the higher degree only 793 (44.9%) answered this question. The details given can be seen in Table 5, below.

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

Study of Program	Education Level							Total	Gender	
	Diploma I	Diploma II	Diploma III	Diploma IV	Bachelor's Degree (S1)	Master's degree (S2)	PhD (S3)		Male	Female
Total	22	21	105	1	619	25	-	793	520	273
Public Law	-	-	-	-	61	-	-	61	42	19
Medicine - Medical Practice (General Practitioner)	1	-	6	-	39	-	-	46	18	28
Sociology of Education	-	-	-	-	45	-	-	45	22	23
Computer Technology Engineering (Computer)	1	2	-	-	31	-	-	34	22	12
Production of live stock	-	-	-	-	30	2	-	32	28	4
Management	-	2	-	-	24	6	-	32	18	14
Mathematics of Teaching	-	-	7	-	24	-	-	31	21	10
Education	1	6	6	1	15	-	-	29	25	4
Mathematics	-	-	8	-	20	-	-	28	27	1
Economy	2	-	3	-	22	-	-	27	21	6
Nursing	-	-	11	-	14	-	-	25	9	16
Agronomy	-	-	-	-	22	2	-	24	21	3
Civil Engineering - Civil Construction	-	-	1	-	21	-	-	22	16	6
Accounting	-	-	-	-	22	-	-	22	14	8
Education Biology	-	-	7	-	9	2	-	18	14	4
Public health	3	-	5	-	9	-	-	17	7	10

FUNDO DE DESENVOLVIMENTO DO CAPITAL HUMANO (FDCH)

Study of Program	Education Level							Total	Gender	
	Diploma I	Diploma II	Diploma III	Diploma IV	Bachelor's Degree (S1)	Master's degree (S2)	PhD (S3)		Male	Female
Midwife	2	-	3	-	12	-	-	17	3	14
Portuguese	3	1	4	-	4	2	-	14	12	2
English	-	1	2	-	10	-	-	13	5	8
Agro-business	-	-	-	-	11	2	-	13	10	3
Mining engineering	-	-	-	-	12	-	-	12	9	3
Philosophy	-	1	-	-	7	2	-	10	9	1
Geology	-	-	1	-	9	-	-	10	9	1
Public policy	-	-	-	-	10	-	-	10	9	1
Aquaculture	-	-	-	-	9	-	-	9	9	-
Public administration	-	-	1	-	8	-	-	9	8	1
Economics of Finance or Financial Management - Banking Economics	-	-	2	-	7	-	-	9	6	3
Public law	-	-	-	-	8	-	-	8	8	-
Electrical engineering	-	2	1	-	3	-	-	6	4	2
Management	2	-	1	-	3	-	-	6	2	4
Carreira religiosa Religious career	-	-	2	-	4	-	-	6	2	4
Pharmacy	-	-	3	-	3	-	-	6	-	6
Preventive Veterinary Medicine	-	-	2	-	4	-	-	6	4	2
Physics of Teaching	-	-	2	-	4	-	-	6	6	-

Study of Program	Education Level							Total	Gender	
	Diploma I	Diploma II	Diploma III	Diploma IV	Bachelor's Degree (S1)	Master's degree (S2)	PhD (S3)		Male	Female
General - environmental biology	-	-	-	-	5	-	-	5	3	2
Human resource Management	2	-	-	-	3	-	-	5	3	2
Teaching chemistry	-	-	-	-	5	-	-	5	5	-
Forest Resources and Forestry Engineering	-	-	-	-	4	-	-	4	2	2
Forestry management	-	-	-	-	4	-	-	4	2	2
Government Planning and Policy	-	-	1	-	3	-	-	4	3	1
Tourism and Hospitality	2	-	-	-	2	-	-	4	2	2
Governmental sciences	-	-	-	-	2	2	-	4	2	2
International, bilateral and multilateral relations	-	-	-	-	4	-	-	4	1	3
Engineering Architecture	-	-	1	-	2	-	-	3	3	-
Environmental health	-	-	1	-	2	-	-	3	-	3
Food Technology	-	-	2	-	1	-	-	3	3	-
Peace study	-	-	-	-	3	-	-	3	3	-
Moral Theology	-	-	-	-	3	-	-	3	2	1
Teacher training	-	2	-	-	1	-	-	3	1	2
Chemistry	-	-	-	-	2	-	-	2	-	2
Clinical Analysis	-	-	1	-	1	-	-	2	1	1
Psychology	-	-	-	-	2	-	-	2	2	-
Political science	-	-	-	-	1	1	-	2	2	-

Study of Program	Education Level							Total	Gender	
	Diploma I	Diploma II	Diploma III	Diploma IV	Bachelor's Degree (S1)	Master's degree (S2)	PhD (S3)		Male	Female
Theology	-	-	-	-	-	2	-	2	2	-
Others	2	-	-	-	-	-	-	2	-	2
Dentist	-	-	2	-	-	-	-	2	-	2
Physical Education or Sports Education	-	-	-	-	2	-	-	2	2	-
Maternal and child health	1	-	1	-	-	-	-	2	-	2
Floriculture, Parks and Gardens and Arborization of Public Roads	-	-	-	-	2	-	-	2	-	2
Water and Soil Engineering	-	-	-	-	2	-	-	2	2	-
Nutrition and animal feed	-	-	1	-	1	-	-	2	1	1
Clinical and animal surgery	-	-	-	-	2	-	-	2	-	2
Administration of Specific Sectors	-	-	-	-	2	-	-	2	-	2
Development Studies	-	-	-	-	2	-	-	2	2	-
International economy	-	-	-	-	2	-	-	2	2	-
Demography	-	-	-	-	2	-	-	2	2	-
Social work (including Gravedigger)	-	-	2	-	-	-	-	2	2	-
Business Administration	-	-	-	-	2	-	-	2	2	-
Philosophy of Education	-	-	2	-	-	-	-	2	-	2
Economics of Education or Management of Education	-	-	1	-	1	-	-	2	1	1

FUNDO DE DESENVOLVIMENTO DO CAPITAL HUMANO (FDCH)

Study of Program	Education Level							Total	Gender	
	Diploma I	Diploma II	Diploma III	Diploma IV	Bachelor's Degree (S1)	Master's degree (S2)	PhD (S3)		Male	Female
Music	-	-	2	-	-	-	-	2	2	-
special education	-	2	-	-	-	-	-	2	1	1
Physics	-	-	1	-	-	-	-	1	1	-
Zoology	-	1	-	-	-	-	-	1	1	-
Hydraulic Engineering	-	-	1	-	-	-	-	1	1	-
Specialized surgery										
Ophthalmology	-	-	1	-	-	-	-	1	1	-
Agricultural engineering	-	-	-	-	1	-	-	1	1	-
Sociology	-	-	-	-	1	-	-	1	1	-
History and geography	-	-	-	-	1	-	-	1	1	-
Sociolinguistics and Dialectology	-	-	1	-	-	-	-	1	-	1
Psycholinguistics	-	-	-	-	1	-	-	1	1	-
Applied Linguistics	-	-	1	-	-	-	-	1	1	-
Indonesian language	-	1	-	-	-	-	-	1	-	1
Business consulting	-	-	-	-	1	-	-	1	1	-
Microbiology	-	-	-	-	1	-	-	1	1	-
Mechanical Engineer	-	-	-	-	1	-	-	1	-	1
Pediatric Specialist	-	-	-	-	1	-	-	1	-	1
Forestry Techniques and Operations	-	-	-	-	1	-	-	1	1	-
Inland water resources	-	-	-	-	1	-	-	1	1	-

FUNDO DE DESENVOLVIMENTO DO CAPITAL HUMANO (FDCH)

Study of Program	Education Level							Total	Gender	
	Diploma I	Diploma II	Diploma III	Diploma IV	Bachelor's Degree (S1)	Master's degree (S2)	PhD (S3)		Male	Female
Economy - Cooperativa – Marketing	-	-	-	-	1	-	-	1	-	1
Catechism	-	-	1	-	-	-	-	1	1	-
Artistic education	-	-	1	-	-	-	-	1	-	1
Pre-primary and primary education	-	-	-	-	1	-	-	1	1	-
Others	-	-	3	-	1	2	-	6	4	2
Atabae										
Total	2	3	8	-	29	2	-	44	33	11
Public Law	-	-	-	-	8	-	-	8	7	1
Medicine - Medical Practice (General Practitioner)	1	-	-	-	6	-	-	7	4	3
Education	-	1	1	-	-	-	-	2	2	-
Portuguese	1	1	-	-	-	-	-	2	2	-
Geology	-	-	1	-	1	-	-	2	1	1
Midwife	-	-	1	-	1	-	-	2	1	1
Agro-business	-	-	-	-	2	-	-	2	1	1
Management	-	-	-	-	1	1	-	2	2	-
Mathematics of Teaching	-	-	1	-	1	-	-	2	2	-
Agronomy	-	-	-	-	1	-	-	1	1	-
Mathematics	-	-	-	-	1	-	-	1	1	-

Study of Program	Education Level							Total	Gender	
	Diploma I	Diploma II	Diploma III	Diploma IV	Bachelor's Degree (S1)	Master's degree (S2)	PhD (S3)		Male	Female
Agricultural engineering	-	-	-	-	1	-	-	1	1	-
Management	-	-	-	-	1	-	-	1	1	-
Political science	-	-	-	-	-	1	-	1	1	-
Psycholinguistics	-	-	-	-	1	-	-	1	1	-
Applied Linguistics	-	-	1	-	-	-	-	1	1	-
Computer Technology Engineering (Computer)	-	-	-	-	1	-	-	1	1	-
Nursing	-	-	1	-	-	-	-	1	1	-
Pharmacy	-	-	1	-	-	-	-	1	-	1
Production Livestock	-	-	-	-	1	-	-	1	1	-
Food Technology	-	-	-	-	1	-	-	1	1	-
Human resource Management	-	-	-	-	1	-	-	1	-	1
Artistic education	-	-	1	-	-	-	-	1	-	1
Teacher training	-	1	-	-	-	-	-	1	-	1
Balibo										
Total	9	4	17	-	46	2	-	78	42	36
Mathematics	-	-	3	-	5	-	-	8	8	-
Philosophy	-	-	-	-	6	2	-	8	8	-
Medicine - Medical Practice (General Practitioner)	-	-	4	-	4	-	-	8	4	4
Management	-	2	-	-	3	-	-	5	3	2

FUNDO DE DESENVOLVIMENTO DO CAPITAL HUMANO (FDCH)

Study of Program	Education Level							Total	Gender	
	Diploma I	Diploma II	Diploma III	Diploma IV	Bachelor's Degree (S1)	Master's degree (S2)	PhD (S3)		Male	Female
Economy	2	-	-	-	2	-	-	4	2	2
English	-	-	2	-	2	-	-	4	-	4
Nursing	-	-	4	-	-	-	-	4	-	4
Human resource Management	2	-	-	-	1	-	-	3	3	-
Civil Engineering - Civil Construction	-	-	-	-	2	-	-	2	-	2
Mining engineering	-	-	-	-	2	-	-	2	2	-
Electrical engineering	-	2	-	-	-	-	-	2	-	2
Psychology	-	-	-	-	2	-	-	2	2	-
Portuguese	-	-	-	-	2	-	-	2	-	2
Religious career	-	-	-	-	2	-	-	2	2	-
Public health	-	-	-	-	2	-	-	2	-	2
Floriculture, Parks and Gardens and Arborization of Public Roads	-	-	-	-	2	-	-	2	-	2
Production of Livestock	-	-	-	-	2	-	-	2	-	2
Preventive Veterinary Medicine	-	-	2	-	-	-	-	2	-	2
Administration of Specific Sectors	-	-	-	-	2	-	-	2	-	2
Development Studies	-	-	-	-	2	-	-	2	2	-
Tourism and Hospitality	2	-	-	-	-	-	-	2	-	2
Social work (including Gravedigger)	-	-	2	-	-	-	-	2	2	-

FUNDO DE DESENVOLVIMENTO DO CAPITAL HUMANO (FDCH)

Study of Program	Education Level							Total	Gender	
	Diploma I	Diploma II	Diploma III	Diploma IV	Bachelor's Degree (S1)	Master's degree (S2)	PhD (S3)		Male	Female
Public policy	-	-	-	-	2	-	-	2	2	-
Geology	-	-	-	-	1	-	-	1	1	-
Computer Technology Engineering (Computer)	1	-	-	-	-	-	-	1	1	-
Others	2	-	-	-	-	-	-	2	-	2
Bobonaro										
Total	4	2	17	1	61	-	-	85	64	21
Public Law	-	-	-	-	12	-	-	12	9	3
Mathematics	-	-	2	-	6	-	-	8	8	-
Economy	-	-	2	-	4	-	-	6	4	2
Medicine - Medical Practice (General Practitioner)	-	-	-	-	6	-	-	6	3	3
Accounting	-	-	-	-	5	-	-	5	2	3
Education	1	-	-	1	2	-	-	4	4	-
Portuguese language	-	-	2	-	2	-	-	4	4	-
Public health	3	-	-	-	1	-	-	4	4	-
International, bilateral and multilateral relations	-	-	-	-	4	-	-	4	1	3
Civil Engineering - Civil Construction	-	-	1	-	1	-	-	2	2	-
Geology	-	-	-	-	2	-	-	2	2	-

FUNDO DE DESENVOLVIMENTO DO CAPITAL HUMANO (FDCH)

Study of Program	Education Level							Total	Gender	
	Diploma I	Diploma II	Diploma III	Diploma IV	Bachelor's Degree (S1)	Master's degree (S2)	PhD (S3)		Male	Female
International, bilateral and multilateral relations										
Civil Engineering - Civil										
Construction										
Geology										
Nursing	-	-	1	-	1	-	-	2	2	-
Midwife	-	-	1	-	1	-	-	2	-	2
Sociology of Education	-	-	-	-	2	-	-	2	2	-
Public policy	-	-	-	-	2	-	-	2	2	-
Physics	-	-	1	-	-	-	-	1	1	-
General - environmental biology	-	-	-	-	1	-	-	1	1	-
Zoology	-	1	-	-	-	-	-	1	1	-
Hydraulic Engineering	-	-	1	-	-	-	-	1	1	-
Clinical Analysis	-	-	1	-	-	-	-	1	-	1
Specialized surgery										
Ophthalmology	-	-	1	-	-	-	-	1	1	-
Agronomy	-	-	-	-	1	-	-	1	1	-
GestãoManagement	-	-	1	-	-	-	-	1	-	1
History and geography	-	-	-	-	1	-	-	1	1	-
political science	-	-	-	-	1	-	-	1	1	-

FUNDO DE DESENVOLVIMENTO DO CAPITAL HUMANO (FDCH)

Study of Program	Education Level							Total	Gender	
	Diploma I	Diploma II	Diploma III	Diploma IV	Bachelor's Degree (S1)	Master's degree (S2)	PhD (S3)		Male	Female
Computer Technology Engineering (Computer)	-	-	-	-	1	-	-	1	1	-
Public administration	-	-	-	-	1	-	-	1	-	1
Economics of Finance or Financial Management - Banking Economics	-	-	1	-	-	-	-	1	1	-
Education Biology	-	-	-	-	1	-	-	1	1	-
Mathematics of Teaching	-	-	-	-	1	-	-	1	1	-
Economics of Education or Management of Education	-	-	1	-	-	-	-	1	1	-
Special education	-	1	-	-	-	-	-	1	1	-
Pre-primary and primary education	-	-	-	-	1	-	-	1	1	-
Others	-	-	1	-	1	-	-	2	-	2
Cailaco										
Total	-	1	12	-	34	1	-	48	34	14
Public Law	-	-	-	-	9	-	-	9	6	3
Education	-	-	2	-	2	-	-	4	3	1
Nursing	-	-	4	-	-	-	-	4	2	2
Economics of Finance or Financial Management - Banking	-	-	1	-	2	-	-	3	2	1

Study of Program	Education Level							Total	Gender	
	Diploma I	Diploma II	Diploma III	Diploma IV	Bachelor's Degree (S1)	Master's degree (S2)	PhD (S3)		Male	Female
Economic										
Engineering Architecture	-	-	1	-	1	-	-	2	2	-
Agronomy	-	-	-	-	2	-	-	2	2	-
Philosophy	-	1	-	-	1	-	-	2	1	1
Pharmacy	-	-	-	-	2	-	-	2	-	2
Medicine - Medical Practitioner (General Practice)	-	-	-	-	2	-	-	2	1	1
Mathematics of Teaching	-	-	1	-	1	-	-	2	2	-
Electrical engineering	-	-	1	-	-	-	-	1	1	-
Economy	-	-	-	-	1	-	-	1	1	-
Sociology	-	-	-	-	1	-	-	1	1	-
Business consulting	-	-	-	-	1	-	-	1	1	-
Geology	-	-	-	-	1	-	-	1	1	-
Computer Technology Engineering (Computer)	-	-	-	-	1	-	-	1	-	1
Agro-business	-	-	-	-	1	-	-	1	1	-
Aquaculture	-	-	-	-	1	-	-	1	1	-
Public administration	-	-	1	-	-	-	-	1	1	-
Government Planning and Policy	-	-	-	-	1	-	-	1	1	-
Accounting	-	-	-	-	1	-	-	1	1	-

Study of Program	Education Level							Total	Gender	
	Diploma I	Diploma II	Diploma III	Diploma IV	Bachelor's Degree (S1)	Master's degree (S2)	PhD (S3)		Male	Female
Management	-	-	-	-	-	1	-	1	1	-
Human resource Management	-	-	-	-	1	-	-	1	-	1
Biology of Education	-	-	1	-	-	-	-	1	1	-
Peace study	-	-	-	-	1	-	-	1	1	-
Teacher training	-	-	-	-	1	-	-	1	-	1
Lolotoe										
Total	1	3	10	-	7	2	-	23	18	5
Education Biology	-	-	3	-	-	-	-	3	3	-
Public Law	-	-	-	-	2	-	-	2	2	-
Education	-	1	1	-	-	-	-	2	2	-
Theology	-	-	-	-	-	2	-	2	2	-
Mathematics of Teaching	-	-	2	-	-	-	-	2	1	1
Physics of Teaching	-	-	2	-	-	-	-	2	2	-
Electrical engineering	-	-	-	-	1	-	-	1	1	-
Economy	-	-	-	-	1	-	-	1	1	-
Indonesian	-	1	-	-	-	-	-	1	-	1
Microbiology	-	-	-	-	1	-	-	1	1	-
Pediatric Specialist	-	-	-	-	1	-	-	1	-	1
Maternal and child health	1	-	-	-	-	-	-	1	-	1
Government Planning and Policy	-	-	1	-	-	-	-	1	-	1
Teaching chemistry	-	-	-	-	1	-	-	1	1	-

Study of Program	Education Level							Total	Gender	
	Diploma I	Diploma II	Diploma III	Diploma IV	Bachelor's Degree (S1)	Master's degree (S2)	PhD (S3)		Male	Female
Catechism	-	-	1	-	-	-	-	1	1	-
Teacher training	-	1	-	-	-	-	-	1	1	-
Maliana										
Total	6	8	41	-	442	18	-	515	329	186
Sociology of Education	-	-	-	-	43	-	-	43	20	23
Public Law	-	-	-	-	30	-	-	30	18	12
Computer Technology Engineering (Computer)	-	2	-	-	28	-	-	30	19	11
Production of livestock	-	-	-	-	27	2	-	29	27	2
Management	-	-	-	-	20	4	-	24	12	12
Mathematics of Teaching	-	-	3	-	21	-	-	24	15	9
Medicine - Medical Practitioner (General Practice)	-	-	2	-	21	-	-	23	6	17
Agronomy	-	-	-	-	18	2	-	20	17	3
Civil Engineering - Civil Construction	-	-	-	-	18	-	-	18	14	4
Education	-	4	2	-	11	-	-	17	14	3
Accounting	-	-	-	-	16	-	-	16	11	5
Economy	-	-	1	-	14	-	-	15	13	2
Nursing	-	-	1	-	13	-	-	14	4	10
Midwife	2	-	1	-	10	-	-	13	2	11

Study of Program	Education Level							Total	Gender	
	Diploma I	Diploma II	Diploma III	Diploma IV	Bachelor's Degree (S1)	Master's degree (S2)	PhD (S3)		Male	Female
Education Biology	-	-	3	-	8	2	-	13	9	4
Mathematics	-	-	3	-	8	-	-	11	10	1
Public health	-	-	5	-	6	-	-	11	3	8
Mining engineering	-	-	-	-	10	-	-	10	7	3
Agro-business	-	-	-	-	8	2	-	10	8	2
English language	-	1	-	-	8	-	-	9	5	4
Aquaculture	-	-	-	-	8	-	-	8	8	-
Public Law	-	-	-	-	8	-	-	8	8	-
Public administration	-	-	-	-	7	-	-	7	7	-
Portuguese language	2	-	2	-	-	2	-	6	6	-
Public policy	-	-	-	-	6	-	-	6	5	1
Economics of Finance or Financial Management - Banking Economics	-	-	-	-	5	-	-	5	3	2
General - environmental Biology	-	-	-	-	4	-	-	4	2	2
Forest Resources and Forestry Engineering	-	-	-	-	4	-	-	4	2	2
Management	2	-	-	-	2	-	-	4	1	3
Religious career	-	-	2	-	2	-	-	4	-	4
Geology	-	-	-	-	4	-	-	4	4	-
Forestry management	-	-	-	-	4	-	-	4	2	2

FUNDO DE DESENVOLVIMENTO DO CAPITAL HUMANO (FDCH)

Study of Program	Education Level							Total	Gender	
	Diploma I	Diploma II	Diploma III	Diploma IV	Bachelor's Degree (S1)	Master's degree (S2)	PhD (S3)		Male	Female
Preventive Veterinary Medicine	-	-	-	-	4	-	-	4	4	-
Physics of Teaching	-	-	-	-	4	-	-	4	4	-
Teaching chemistry	-	-	-	-	4	-	-	4	4	-
Governmental sciences	-	-	-	-	2	2	-	4	2	2
Pharmacy	-	-	2	-	1	-	-	3	-	3
Environmental health	-	-	1	-	2	-	-	3	-	3
Moral Theology	-	-	-	-	3	-	-	3	2	1
Chemistry	-	-	-	-	2	-	-	2	-	2
Electrical engineering	-	-	-	-	2	-	-	2	2	-
Dentist	-	-	2	-	-	-	-	2	-	2
Physical Education or Sports Education	-	-	-	-	2	-	-	2	2	-
Water and Soil Engineering	-	-	-	-	2	-	-	2	2	-
Nutrition and animal feed	-	-	1	-	1	-	-	2	1	1
Clinical and animal surgery	-	-	-	-	2	-	-	2	-	2
Food Technology	-	-	2	-	-	-	-	2	2	-
Government Planning and Policy	-	-	-	-	2	-	-	2	2	-
Tourism and Hospitality	-	-	-	-	2	-	-	2	2	-
International economy	-	-	-	-	2	-	-	2	2	-
Demography	-	-	-	-	2	-	-	2	2	-
Business Administration	-	-	-	-	2	-	-	2	2	-

Study of Program	Education Level							Total	Gender	
	Diploma I	Diploma II	Diploma III	Diploma IV	Bachelor's Degree (S1)	Master's degree (S2)	PhD (S3)		Male	Female
Philosophy of Education	-	-	2	-	-	-	-	2	-	2
Peace study	-	-	-	-	2	-	-	2	2	-
Music	-	-	2	-	-	-	-	2	2	-
Architecture engineering	-	-	-	-	1	-	-	1	1	-
Clinical Analysis	-	-	-	-	1	-	-	1	1	-
Sociolinguistics and Dialectology	-	-	1	-	-	-	-	1	-	1
Mechanical Engineering	-	-	-	-	1	-	-	1	-	1
Maternal and child health	-	-	1	-	-	-	-	1	-	1
Forestry Techniques and Operations	-	-	-	-	1	-	-	1	1	-
Inland water resources	-	-	-	-	1	-	-	1	1	-
Economy - Cooperativa – Mercado	-	-	-	-	1	-	-	1	-	1
Economics of Education or Management of Education	-	-	-	-	1	-	-	1	-	1
special education	-	1	-	-	-	-	-	1	-	1
Others	-	-	2	-	-	2	-	4	4	-

2.5. Vocational Training Certificate Level I - Certificate IV

Amount of the 57576 respondents who participated in this research, about 2% who had already participated in one of the Certificate I - Certificate IV courses. Of those who completed the certificate courses, 63.9% completed the Cert I course, 18.8% cert II, 7.9 cert III and 9.5% cert IV (Table 6). The predominant areas of the formation of Cert I - Cert IV are Computer, Portuguese Language Course. English Language and Agriculture or Horticulture Course. Other areas of training represent very little. 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

Sub-District Administrations	Total	Cert. I	Cert. II	Cert. III	Cert. IV	Training area that requires more attention
BOBONARO						
Total	1137	726	214	90	107	Physiotherapy or Massage
Computer	445	336	68	19	22	Solar Production
Portuguese language	185	80	48	20	37	Coffee Production
English Language	90	53	25	7	5	Small machine
Agriculture or horticulture	30	19	5	3	3	Guide Tourist
Carpentry	21	13	7	1	-	Hair Stylist or Hairdresser
Information Technology (IT)	10	8	1	-	1	Piano and music course
Public Administration	9	8	1	-	-	
Improve business	8	7	1	-	-	
Financial Services (Micro Finance and Banking);	8	7	-	-	1	
Training and evaluation	8	6	2	-	-	
Tailor or Seamstress	8	7	-	1	-	
Automotive and Maintenance	7	6	1	-	-	
Hospitality Management (General)	5	1	2	1	1	
Training for Contractors	3	-	-	-	3	
Public Administration	3	3	-	-	-	
Culinary	3	3	-	-	-	
Agriculture	3	3	-	-	-	

Sub-District Administrations	Total	Cert. I	Cert. II	Cert. III	Cert. IV	Training area that requires more attention
Rural water supply	2	-	1	-	1	
Welding	2	1	1	-	-	
Electricity	2	2	-	-	-	
Management for Police	2	-	1	1	-	
Painter of arts, paintings, tattoos	2	2	-	-	-	
Fishing course	2	2	-	-	-	
Business Construction (General)	1	-	1	-	-	
Public communication to the study of the public sector (SEFTEK);	1	-	-	1	-	
Hospitality (food production)	1	1	-	-	-	
Bricklayer	1	1	-	-	-	
Construction (General)	1	1	-	-	-	
Plumbing	1	1	-	-	-	
Photographer	1	-	-	1	-	
Police investigation.	1	-	1	-	-	
Training and Evaluation (M&E) diploma	1	1	-	-	-	
Aesthetic Course (Manicure and Pedicure)	1	-	-	1	-	
Others	269	154	48	34	33	
Atabae						
Total	42	34	4	3	1	
Computer	10	9	1	-	-	
Portuguese	7	6	1	-	-	
English	5	5	-	-	-	
Hospitality (food production)	1	1	-	-	-	
Construction (General)	1	1	-	-	-	
Electricity	1	1	-	-	-	
Training and Evaluation (M&E) diploma	1	1	-	-	-	
Culinary	1	1	-	-	-	
Agriculture or horticulture	1	1	-	-	-	
Others	14	8	2	3	1	

Sub-District Administrations	Total	Cert. I	Cert. II	Cert. III	Cert. IV	Training area that requires more attention
Balibo						
Total	136	94	22	9	11	
Computer	25	21	3	1	-	
Portuguese language	23	12	4	2	5	
English language	22	13	7	2	-	
Improve business	5	5	-	-	-	
Financial Services (Micro Finance and Banking);	4	4	-	-	-	
Agriculture or horticulture	3	2	-	1	-	
Training for Contractors	2	-	-	-	2	
General Administration Office	2	2	-	-	-	
Carpentry	2	1	1	-	-	
Tailor or Seamstress	2	2	-	-	-	
Painter of arts, paintings, tattoos	2	2	-	-	-	
Fishing course	2	2	-	-	-	
Rural water supply	1	-	1	-	-	
Agricultural Course	1	1	-	-	-	
Others	40	27	6	3	4	
Bobonaro						
Total	220	115	53	24	28	
Portuguese Language	68	30	20	8	10	
Computer	38	26	7	3	2	
English Language	21	10	5	2	4	
Agriculture or horticulture	8	5	2	-	1	
Hospitality Management (General)	3	1	-	1	1	
Information Technology	3	2	1	-	-	
Training and evaluation	3	1	2	-	-	
Improve business	2	1	1	-	-	
Public Administration	2	2	-	-	-	
Carpentry	2	1	1	-	-	
Business Construction (General)	1	-	1	-	-	
Welding	1	1	-	-	-	

Sub-District Administrations	Total	Cert. I	Cert. II	Cert. III	Cert. IV	Training area that requires more attention
Photographer	1	-	-	1	-	
Electricity	1	1	-	-	-	
Police investigation.	1	-	1	-	-	
Tailor or Seamstress	1	1	-	-	-	
Aesthetic Course (Manicure and Pedicure)	1	-	-	1	-	
Others	63	33	12	8	10	
Cailaco						
Total	125	58	25	14	28	
Computer	33	18	9	2	4	
Portuguese Language	28	5	4	3	16	
Agriculture or horticulture	8	3	3	1	1	
English Language	8	7	-	1	-	
Carpentry	7	4	3	-	-	
Financial Services (Micro Finance and Banking);	2	2	-	-	-	
Management for Police	2	-	1	1	-	
Training for Contractors	1	-	-	-	1	
Public Administration	1	1	-	-	-	
Information Tecnology (IT)	1	-	-	-	1	
Bricklayer	1	1	-	-	-	
Plumbing	1	1	-	-	-	
Training and evaluation	1	1	-	-	-	
Tailor or Seamstress	1	-	-	1	-	
Agriculture	1	1	-	-	-	
Others	29	14	5	5	5	
Lolotoe						
Total	70	43	13	7	7	
Computer	11	6	4	1	-	
Portuguese language	11	5	4	1	1	
English language	8	5	2	-	1	
Carpentary	4	3	-	1	-	
Financial Services (Micro Finance and Banking);	2	1	-	-	1	
Public Administration	1	1	-	-	-	

Sub-District Administrations	Total	Cert. I	Cert. II	Cert. III	Cert. IV	Training area that requires more attention
Automotive and Maintenance.	1	1	-	-	-	
Public communication to the study of the public sector (SEFTEK);	1	-	-	1	-	
Public Administration	1	1	-	-	-	
Welding	1	-	1	-	-	
Agriculture or horticulture	1	1	-	-	-	
Agriculture Course	1	1	-	-	-	
Others	27	18	2	3	4	
Maliana						
Total	544	382	97	33	32	
Computer	328	256	44	12	16	
Portuguese Language	48	22	15	6	5	
English Language	26	13	11	2	-	
Agriculture or horticulture	9	7	-	1	1	
Information Technologica	6	6	-	-	-	
Automotive and Maintenance.	6	5	1	-	-	
Carpentry	6	4	2	-	-	
Public Administration	5	4	1	-	-	
Training and evaluation	4	4	-	-	-	
Tailor or Seamstress	4	4	-	-	-	
Hospitality Management (General)	2	-	2	-	-	
Culinary	2	2	-	-	-	
Rural water supply	1	-	-	-	1	
Improve business	1	1	-	-	-	
Others	96	54	21	12	9	

2.6. Professional Occupations in the Public Sector

2.6.1. Permanent Public Servants

Table 7 shows that the public servant and teachers are the main occupations of the public sector and together account for 85.12% of the positions. 39.2% of teachers maintained their positions between 6 - 10 years, 27.2 over 15 years, 20.1% between 11 - 15 years and less than 6 years corresponds to 13.5%. As for staff in

general, 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	105 Year	6 - 10 Year	11015 Year	>15 Year	Total	Percentage (%)
Teachers	29	94	357	183	248	911	46,60
Public Servants	26	247	235	169	76	753	38,52
Medical or Medical Specialist	-	45	10	16	21	92	4,71
Chief Department	6	10	20	11	12	59	3,02
Director General	-	3	3	12	7	25	1,28
National Director	2	8	3	6	9	28	1,43
Public Defender 's	-	-	3	-	1	4	-,20
Others	2	30	33	11	7	83	4,25
Total	65	437	664	4-8	381	1955	100%
Percentage (%)	3,3%	22,4%	34%	20,9%	19,5%	100	

Regarding the degree / level of respondents, the majority are in the positions between grade F (level 1, & 2) - grade D / level 5, together it corresponds to 96.6%. The servers with level above 6 are quite low, registering about 2.1% and those with special regime 1.3% (Table 8).

Table 8. Degree and Level of permanent officials interviewed

Grau / Nível	Frequency	Percentagem (%)
Grau A / nível 7	20	1,01
Grau B / nível 6	22	1,12
Grau C / nível 5	159	8,07
Grau D / nível 4	500	25,37
Grau E / nível 3	867	43,99
Grau F / nível 1, 2	378	19,18
Regime Especial	25	1,27
Total	1971	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 staff with the mastery of teachers and staff. Teachers and staff are those who have a large number of contractors. Both account for 90.6% of temporary staff while hiring the specialized technicians only 2.2%. its standard of service duration is similar to that of permanent staff, the highest proportion of whom have maintained public service between 1-5 years and 6-10 years and together account for 84.5% compared to those who have maintained the service. more than 10 years (4.6%).

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

Year of Service	Public Servants	Specialized technical	Teachers	Others	Total	Percentage (%)
<1 Year	28	1	32	14	75	10,9
1-5 Year	135	10	242	21	408	59,2
6 - 10 Year	74	2	84	14	174	25,3
11-15 Year	12	2	8	1	23	3,3
>15 Year s	1	-	8	-	9	1,3
Total	250	15	374	50	689	100,0
Percentage (%)	36,3	2,2	54,3	7,3	100,0	

2.7. Level of Education of Temporary Public Servants

At the level of Education, 72.2% of temporary public servant have a secondary education bachelor's, a 16.5% undergraduate degree and a 4.4% pre-secondary level. Other levels of education have a percentage less than 2% (Table 10).

Table 10. Distribution of temporary public Servants by levels of education.

Education level	Number of Employees	Percentage (%)
Primary	16	2,0
Pre-secondary	35	4,4
Secondary	570	72,2
Professional Technical High School	15	1,9
Others	11	1,4
Diploma I	-	0,0
Diploma II	-	0,0
Diploma III	13	1,6

Education level	Number of Employees	Percentage (%)
Diploma IV	-	0,0
Bachelor's degree (S1)	130	16,5
Master's degree (S2)	-	0,0
PhD (S3)	-	0,0
Total	790	100

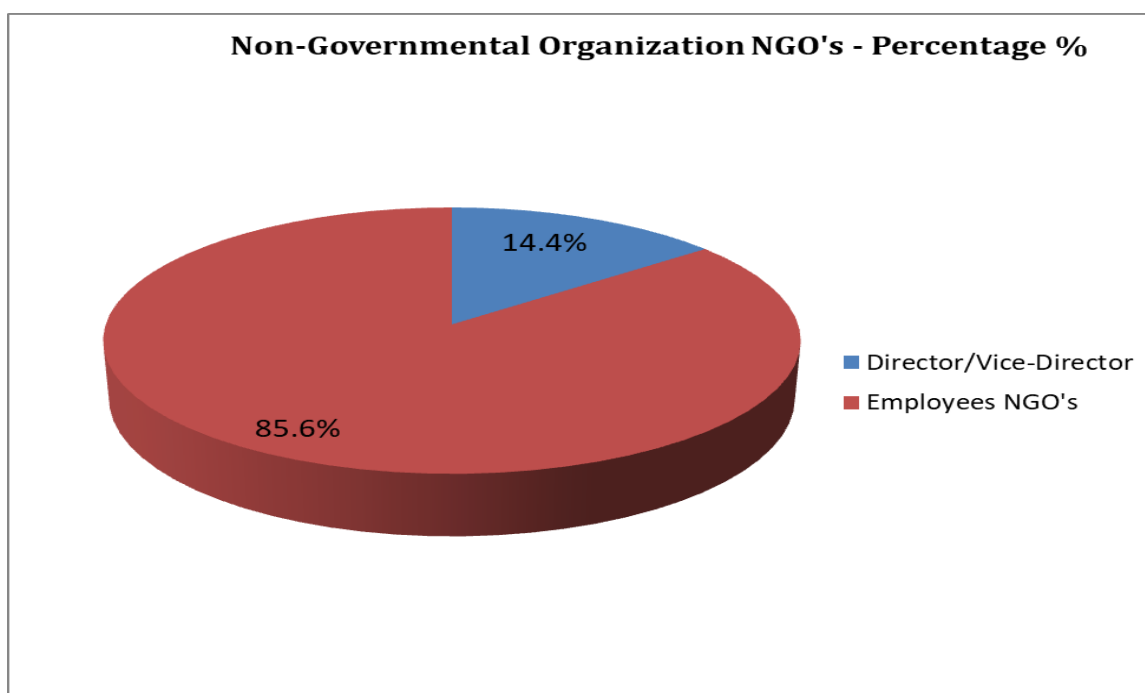
2.8. Non-Public Sector (Private sector)

The non-public sector (Private sector) in the Bobonaro Municipality persists small in comparison with the public sector. Although the growth of the non-public sector is one of the government's main goals, and most of those who do not currently work expressed their 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 118 respondents, 14.4% hold positions as Director or Deputy Directors of the organizations and the highest percentage are 85.6% employees.

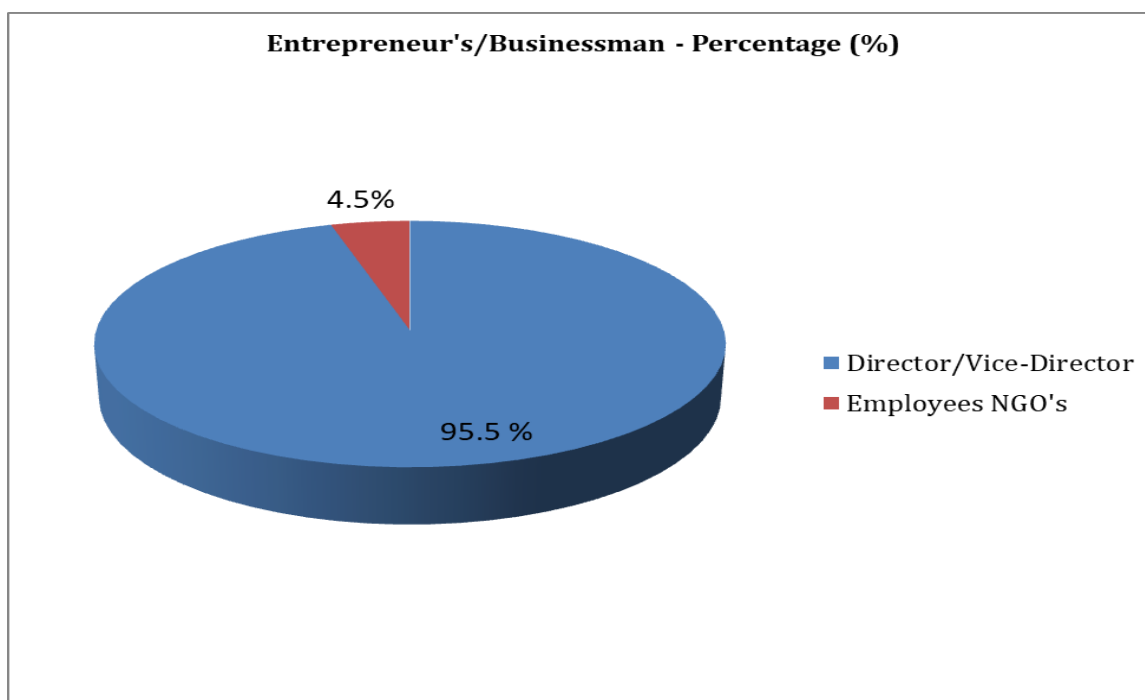
Figure 2 . Staf of Non-Governmental Organizations (NGOs) by position



2.8.2. Entrepreneurs or Businessman

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. 95.5% of the respondents are employed as Director / Vices Directors and 4.5% assume the role of simultaneous Director as an employee of the same company.

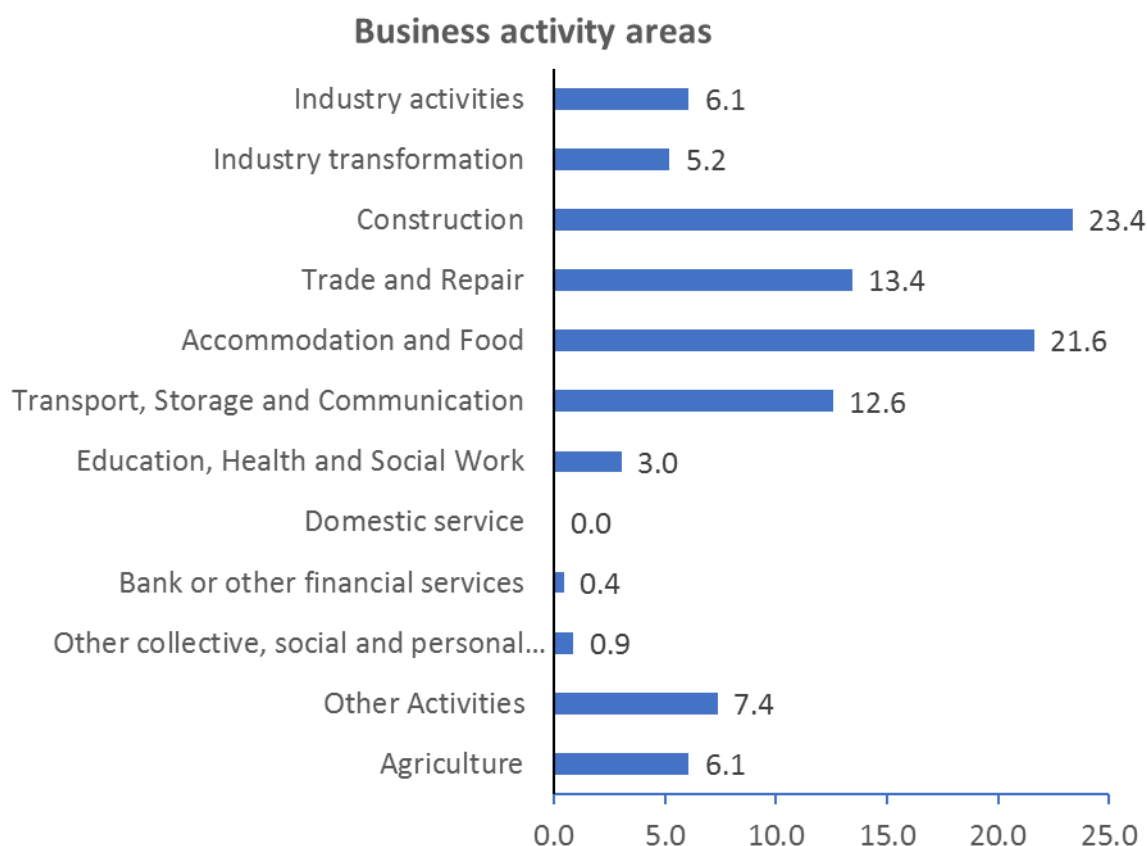
Figure 3. Distribution of entrepreneurs or businessman by position.



2.8.3. Activity Sectors.

The largest proportion of the companies' areas of activity are related to construction, food accommodation, commerce - repair and transportation, storage and communication. Other sectors of activity are less than 10% (Figure 4).

Figure 4. Distribution of the areas of entrepreneurs' or businessman activities



2.8.4. Education Level of Entrepreneurs or businessman

The data also shows that most of the people involved have no level of education (62.8%), secondary education (10.8%), do not read / write (did not finish primary) (8.6%), (8.1%) and basic education (7.2%). Other levels of schooling have a percentage less than 2% (Table 11).

When analyzing the presence of entrepreneurs and their qualifications is essential for the growth of the municipality. increasing the level of education, the municipality 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 trained of qualified employees are crucial for the municipality.

Table 11 . Distribution of entrepreneurs and level of education

Education Level	Number of Entrepreneurs	Percentagem (%)
Can not read / write	13691	62,8
Secondary	2352	10,8
Do not read / write (did not finish primary)	1876	8,6
Pre-secondary	1767	8,1
Primary	1570	7,2
Bachelor's Degree (S1)	307	1,4
Secondary School of Agriculture	58	0,3
1 st. Cycle (1st Grade up to 4th Grade)	41	0,2
Secondary Technical School	34	0,2
Secondary School Economics	25	0,1
Diploma III	20	0,1
Master's degree (S2)	10	0,0
Secondary School of Sports	8	0,0
Secondary School of Social Work	8	0,0
Others	7	0,0
Diploma II	5	0,0
2º. Cycle (1st Year, 2nd Year)	2	0,0
3º. Cycle (3rd Grade up to 9th Grade/ 3rd year)	2	0,0
Secondary School of Nursing	2	0,0
Diploma I	2	0,0
Diploma IV	0	0,0
PhD (S3)	0	0,0
Total	21787	100,0

2.9. Preferred Working Areas

This data collection process also asked people 17 years of age or older who never worked in which sector they would like 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 84.3% compared to the public sector (private) 15.7%. The Balibo Sub District Administration 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 at the Bobonaro, Balibo Sub District Administration (Table 12).

Table 12. Total number of respondents in the Municipality of Bobonaro in search of employment and intends to work in the public or private sector

Sub District Administrations	Public sector	Percentage (%)	Non-Public Sector	Percentage (%)	Total	Percentage (%)
Atabae	47	1,9	854	6,4	901	5,7
Balibo	331	13,4	4282	32,2	4613	29,3
Bobonaro	860	34,7	2104	15,8	2964	18,8
Cailaco	326	13,2	1149	8,6	1475	9,4
Lolotoe	55	2,2	1260	9,5	1315	8,3
Maliana	860	34,7	3635	27,4	4495	28,5
Total	2479	100,0	13284	100,0	15763	100,0

2.10. Business Sector Preferred to Work in

Table 13 indicates that in the private sector the preference is mainly for agriculture (42.2%), industrial activity (11.7%), construction (9%), household tasks (8.8%), housing and food (6%), Education, Health and Social Work (5.6%) and trade and cooperation (5.3%). Other sectors of activity have a percentage less than 5%.

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

Activity sectors	Sub District Administrations						Total	Percentage (%)
	Atabae	Balibo	Bobonaro	Cailaco	Lolotoe	Maliana		
Agriculture	697	2,382	1,189	929	1,626	2,645	9,468	42,2
Industrial Activity	43	1271	322	58	259	681	2634	11,7
Transformation industry	10	234	110	30	92	265	741	3,3
Construction	32	943	246	111	155	533	2,020	9,0
Commerce	30	235	179	116	79	544	1,183	5,3

Activity sectors	Sub District Administrations						Total	Percentage (%)
	Atabae	Balibo	Bobonaro	Cailaco	Lolotoe	Maliana		
and repair								
Accommodation and Food	32	730	160	112	87	231	1,352	6,0
Transport, Storage and Communication	20	184	80	42	28	294	648	2,9
Education, Health and Social Work	27	79	124	56	54	907	1,247	5,6
Domestic Service	159	301	334	122	215	836	1,967	8,8
Bank or other financial services	10	55	35	40	17	52	209	0,9
Other collective, social and personal services	64	261	47	27	89	365	853	3,8
Other activities	16	13	59	2	5	5	100	0,4
Total	1,140	6,688	2,885	1,645	2,706	7,358	22,422	100
Percentage (%)	5,1	29,8	12,9	7,3	12,1	32,8	100,0	

2.11. Age Group (age) of Respondents Who are Looking for a Job

Regarding the age group, the largest number of respondents seeking employment are young people aged between 17 and 36 years, representing around 69.3% (Table 14).

Table 14. Age group of respondents looking for a job

Age Group	Non-Public Sector	Percentage (%)
17 – 20	1339	10,1
21- 24	2020	15,2
25 – 28	2019	15,2
29 – 32	2116	15,9
33 – 36	1710	12,9
37 – 40	974	7,3
41 – 44	1051	7,9
45 – 48	740	5,6
49 – 52	387	2,9
53 – 56	311	2,3
57 – 60	147	1,1
61- 64	110	0,8
65+	360	2,7
Total	13284	100

2.12. Graduates in Job Search "Unemployment"

The data also provide information on the number and qualifications of people with higher education into job search (Table 15). The figures show that among the 316 graduates respondents, 64.9% intend to work in the public sector and 35.1% intend to work in the non-public sector. Graduates want more work in the public sector rather than the private sector.

The areas of higher education courses with the highest number of job seekers, "unemployment" are in the areas of Sociology of Education, Management, Informatics Technology Engineering, Teaching Mathematics, Law and Medicine - Medical Clinic (General Practice) (Table 15). Graduates in other areas are less than 5%, so these data are key for municipal government, employers and other employers' partners how to take advantage and employ them.

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

No.	Study Program or Area of Specialization	Do not work and want to work?		Total	Percentage (%)
		Public sector	Non-Public Sector		
1	Sociology of Education	29	0	29	9,2
2	Management	12	9	21	6,6
3	Computer technology engineering	9	11	20	6,3
4	Teaching mathematics	17	2	19	6,0
5	Public law	8	10	18	5,7
6	General Medicine (General Practice)	10	6	16	5,1
7	Civil Engineering - Civil Construction	5	10	15	4,7
8	Animal Production (Livestock)	13	2	15	4,7
9	Midwife	13	0	13	4,1
10	Accounting	7	5	12	3,8
11	Teaching biology	11	0	11	3,5
12	Private right	5	5	10	3,2
13	Agronomy	6	3	9	2,8
14	Nursing	5	4	9	2,8
15	Mining engineering	3	4	7	2,2
16	Agro-business	3	3	6	1,9
17	Public Law	2	4	6	1,9
18	English language	1	4	5	1,6
19	Geology	3	2	5	1,6
20	Teaching Physics	4	1	5	1,6
21	Education	3	1	4	1,3
22	Tourism and Hospitality	2	2	4	1,3
23	Mathematics	3	0	3	0,9
24	Electrical engineering	2	1	3	0,9
25	Portuguese language	3	0	3	0,9
26	Public health	1	2	3	0,9
27	Public administration	1	2	3	0,9
28	Government Planning and Policy	0	3	3	0,9
29	Economy of Finance or management	1	2	3	0,9

No.	Study Program or Area of Specialization	Do not work and want to work?		Total	Percentage (%)
	of finances - Banking Economics				
30	Chemistry	2	0	2	0,6
31	General - Environmental Biology	0	2	2	0,6
32	Religious Career	0	2	2	0,6
33	Dentist	2	0	2	0,6
34	Physical Education or Sports Education	2	0	2	0,6
35	Environmental health	2	0	2	0,6
36	Floriculture, Parks and Gardens and Arborization of Highways	2	0	2	0,6
37	Clinical and Animal Surgery	2	0	2	0,6
38	Preventive Veterinary Medicine	2	0	2	0,6
39	Business Administration	0	2	2	0,6
40	Teaching chemistry	0	2	2	0,6
41	Public policy	2	0	2	0,6
42	Others	2	0	2	0,6
43	Hydraulic Engineering	0	1	1	0,3
44	Analyst, Medical Assistant	1	0	1	0,3
45	Agricultural engineering	1	0	1	0,3
46	Political science	1	0	1	0,3
47	Engineering Industry	0	1	1	0,3
48	Nutrition and Animal Feed	0	1	1	0,3
49	Human Resource Economics	0	1	1	0,3
50	Economics of Education or Management of Education	1	0	1	0,3
51	International, Bilateral and Multilateral Relations	1	0	1	0,3
52	Teacher training	0	1	1	0,3
Total		205	111	316	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 Bobonaro Municipality who are currently attending higher education in different study programs. The numbers show that some areas of study, where their graduates have more "unemployment" (Table 15), still remain areas with higher numbers of students (Table 16). It is hoped that decentralization of local power will be implemented by the government and the development of the private sector in the municipality there are 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 the number of students who are currently attending courses in higher education

No	Study of areas	Frequency	Percentage (%)
1	Public health	69	12,3
2	Management	40	7,1
3	Mining engineering	37	6,6
4	Civil Engineering - Civil Construction	28	5,0
5	Computer Technology Engineering	28	5,0
6	Education	24	4,3
7	English language	18	3,2
8	Medicine - Medical Practice (General Practice)	18	3,2
9	International, Bilateral and Multilateral Relations	16	2,9
10	Agronomy	15	2,7
11	Accounting	15	2,7
12	Public Law	13	2,3
13	Architecture engineering	11	2,0
14	Sociology	11	2,0
15	Portuguese language	11	2,0
16	Economy of Finance or management of finances - Banking Economics	11	2,0
17	Public administration	10	1,8
18	Animal Production (Livestock)	9	1,6
19	Public law	8	1,4

No	Study of areas	Frequency	Percentage (%)
20	Communication - Journalism and Publishing	8	1,4
21	Public policy	8	1,4
22	Moral Theology	8	1,4
23	Mathematics	7	1,3
24	Political science	7	1,3
25	Development Studies	7	1,3
26	Human Resource Economics	7	1,3
27	Physics	6	1,1
28	Industrial engineering	6	1,1
29	Economics of education	6	1,1
30	Computer Management	6	1,1
31	Mechanical Engineering	5	0,9
32	Nursing	5	0,9
33	Aquaculture	5	0,9
34	Geology	4	0,7
35	Petrology	4	0,7
36	Midwife	4	0,7
37	Agro-business	4	0,7
38	Study of Peace	4	0,7
39	Anesthetist	3	0,5
40	Agricultural engineering	3	0,5
41	Indonesian Language	3	0,5
42	Sociology of Education	3	0,5
43	Government Science	3	0,5
44	Teacher training	3	0,5
45	Mineralogy	2	0,4
46	Transportation Engineering and Telecommunication	2	0,4
47	Gerontology	2	0,4
48	Nutrition	2	0,4
49	Others	2	0,4
50	Tourism and Hospitality	2	0,4
51	Industrial Economics	2	0,4
52	Teaching biology	2	0,4
53	Teaching mathematics	2	0,4

No	Study of areas	Frequency	Percentage (%)
54	Economics of Education or Management of Education	2	0,4
55	Others	2	0,4
56	Mining engineering	1	0,2
57	Electrical engineering	1	0,2
58	Pathological Anatomy and Clinical Pathology	1	0,2
59	Cardiovascular Surgery Specialist	1	0,2
60	Philosophy	1	0,2
61	Theology	1	0,2
62	Computer science	1	0,2
63	Others	1	0,2
64	Pharmacy	1	0,2
65	Environmental health	1	0,2
66	Fishing engineering	1	0,2
67	Food Technology	1	0,2
68	Social service	1	0,2
69	Teaching Physics	1	0,2
70	Teaching chemistry	1	0,2
71	Philosophy of Education	1	0,2
72	Education (teaching) Preschool and primary	1	0,2
Total		560	100,0

2.14. Year the Course Ends

Regarding to the estimation of the numbers of students of higher education who will graduate or finish their courses in the next 6 years, the data in table 17 shows that the areas of Public Health, Mining Engineering, Management, Civil Engineering - Civil Construction , Education, Informatics Technology Engineering, Medicine - Medical Clinic (General Medicine) and English Language are the most graduated. Other areas have few graduation numbers per year, so it is important to highlight the need to anticipate not to contribute more to the number of unemployed graduates.

Table 17. Distribution number of students who are currently attending courses and Prediction of the year in which the course will end

Areas of Studies	Year the course ends							Total
	2017	2018	2019	2020	2021	2022	2023	
Public health	18	18	15	9	2	0	0	62
Mining engineering	13	8	2	9	0	0	0	32
Management	9	8	9	3	2	0	0	31
Civil Engineering - Civil Construction	7	12	2	3	1	0	0	25
Education	9	12	0	1	2	0	0	24
Computer Technology Engineering	5	4	6	7	0	2	0	24
Medicine - Medical Practice (General Practitioner)	3	2	13	0	0	0	0	18
English Language	3	6	6	2	0	0	0	17
Agronomy	13	0	0	0	0	0	0	13
International, Bilateral and Multilateral Relations	4	6	2	1	0	0	0	13
Public Law	4	3	0	1	1	2	0	11
Portuguese language	4	1	3	3	0	0	0	11
Accounting	1	1	9	0	0	0	0	11
Architecture engineering	5	0	3	2	0	0	0	10
Public administration	5	1	3	1	0	0	0	10
Sociology	2	3	0	4	0	0	0	9
Public law	4	4	0	0	0	0	0	8
Animal Production (Livestock)	3	3	0	2	0	0	0	8
Communication -	4	0	2	2	0	0	0	8

Areas of Studies	Year the course ends							Total
	2017	2018	2019	2020	2021	2022	2023	
Journalism and Publishing								
Moral Theology	2	0	0	0	6	0	0	8
Human Resource Economics	2	3	0	2	0	0	0	7
Physics	2	2	2	0	0	0	0	6
Economics of education	0	0	0	4	2	0	0	6
Economy of Finance or management of finances - Banking Economics	2	1	3	0	0	0	0	6
Mathematics	1	1	1	1	1	0	0	5
Nursing	0	3	0	2	0	0	0	5
Public policy	2	2	0	1	0	0	0	5
Political science	2	1	1	0	0	0	0	4
Geology	0	0	4	0	0	0	0	4
Petrology	2	1	1	0	0	0	0	4
Industrial engineering	2	0	0	0	2	0	0	4
Midwife	0	2	2	0	0	0	0	4
Agro-business	4	0	0	0	0	0	0	4
Development Studies	3	0	0	1	0	0	0	4
Computer Management	0	3	0	1	0	0	0	4
Agricultural engineering	0	3	0	0	0	0	0	3
Indonesian Language	1	0	0	0	2	0	0	3
Aquaculture	3	0	0	0	0	0	0	3
Sociology of Education	0	0	3	0	0	0	0	3

Areas of Studies	Year the course ends							Total
	2017	2018	2019	2020	2021	2022	2023	
Teacher training	0	0	0	0	3	0	0	3
Mechanical Engineering	0	0	2	0	0	0	0	2
Mineralogy	0	0	2	0	0	0	0	2
Transportation Engineering and Telecommunication	0	2	0	0	0	0	0	2
Gerontology	0	0	2	0	0	0	0	2
Nutrition	0	0	0	2	0	0	0	2
Tourism and Hospitality	0	0	2	0	0	0	0	2
Industrial Economics	0	2	0	0	0	0	0	2
Teaching biology	2	0	0	0	0	0	0	2
Teaching mathematics	0	0	2	0	0	0	0	2
Study of Peace	2	0	0	0	0	0	0	2
Mining engineering	1	0	0	0	0	0	0	1
Electrical engineering	1	0	0	0	0	0	0	1
Cardiovascular Surgery Specialist	0	0	1	0	0	0	0	1
Theology	0	0	1	0	0	0	0	1
Computer science	0	1	0	0	0	0	0	1
Pharmacy	0	0	0	1	0	0	0	1
Environmental health	0	1	0	0	0	0	0	1
Fishing engineering	1	0	0	0	0	0	0	1
Food Technology	0	1	0	0	0	0	0	1
Social service	0	1	0	0	0	0	0	1
Teaching Physics	1	0	0	0	0	0	0	1
Philosophy of Education	0	0	1	0	0	0	0	1

Areas of Studies	Year the course ends							Total
	2017	2018	2019	2020	2021	2022	2023	
Government Science	0	1	0	0	0	0	0	1
Others	0	1	3	1	0	0	0	9
Total	152	124	108	66	24	4	0	478

2.15. The Demand of Training for Personal and Institutional

2.15.1. Training in Areas of General and Specialized Competences

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 Bobonaro Municipality. 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 4305 respondents represent a substantial level of training activity, since 47.4% lasted 1 - 6 months, 44.5% less than one month and 8.2% were for more than 6 months. It is also notable that the main courses were in the areas of leadership, finance, planning and administration. 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.

Area of Training	Duration				Total	Percentage (%)
	Less than 1 month	1 - 6 months	7 months - 1 year	More than 1 year		
Leadership	549	347	41	33	970	22,5
Business	246	274	19	17	556	12,9
Planning	296	239	22	16	573	13,3
Management	158	143	11	15	327	7,6
Human Resources	182	228	18	16	444	10,3
Information Technology	100	256	25	6	387	9,0
Procurement and Logistics	36	51	9	3	99	2,3
Administration	178	289	28	16	511	11,9
Information System and Business Management	117	71	5	10	203	4,7
Media and Public Relations	6	12	1	3	22	0,5
Specialized Technician	15	37	1	1	54	1,3
Others	33	92	21	13	159	3,7
Total	1,916	2,039	201	149	4,305	100,0
Percentage (%)	44,5	47,4	4,7	3,5	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 (55.6%) followed by English with 29%. The Tetum language has 11% participation of respondents and other languages with a share of less than 4%. 72.4% of the courses have duration between 1 - 6 months, 5% less than one month and another 22.7% are longer than 7 months. The Portuguese language and English language courses are the main courses conducted by the respondents in the Bobonaro Municipality.

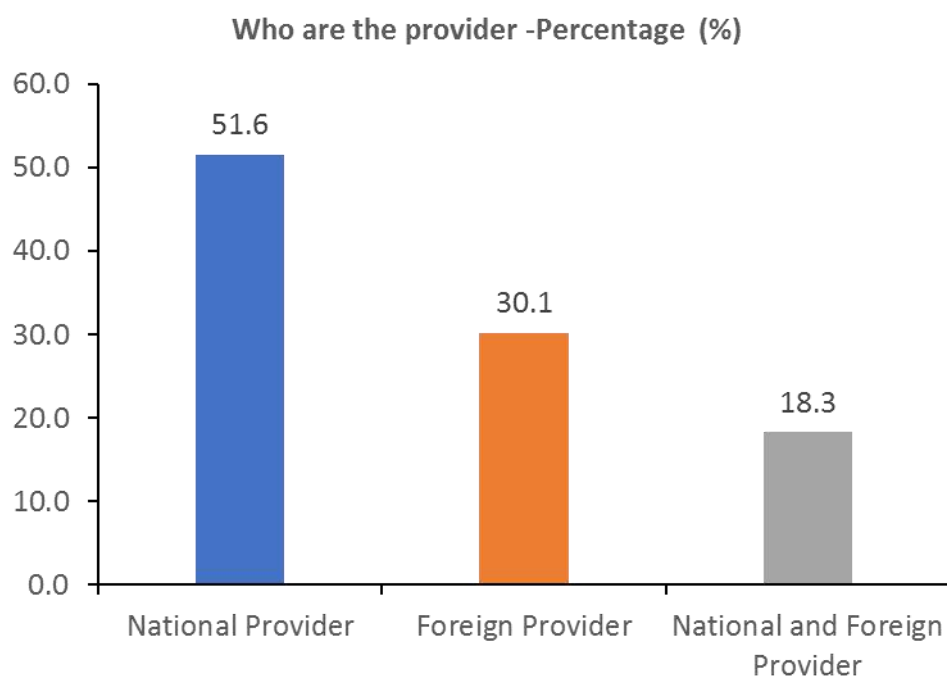
Table 19. Language training and duration of the course

Type of training	Duration				Total	Percentage (%)
	Less than 1 month	1 - 6 months	7 months - 1 year	More than 1 year		
Portuguese	128	1946	313	334	2721	55,6
English	78	1083	142	116	1419	29,0
Tetum	33	353	76	78	540	11,0
Indonesia	3	120	18	21	162	3,3
Korea	2	21	2	5	30	0,6
Others	0	20	0	2	22	0,4
Total	244	3543	551	556	4894	100,0
Percentage (%)	5,0	72,4	11,3	11,4	100,0	

2.16. Institution Providers and Financing

As for the institutions that provide language training, 51.6% of the training providers are national institutions, 30.1% provided by foreign institutions and 18.3% promoted by national and foreign institutions (Figure 5).

Figure 5 . Provider of language training



2.17. Training Financing

Among the total number of respondents who have already done language training, 54.2% was financed by the trainee himself, 33% by the government and 6.2% by the private sector. Training with government support in cooperation with international partners and only by international partners corresponds to 4.6% and 1.7%, respectively (Table 20).

Table 20 . Funders of language training

Sub District Administration	Government	Private sector	Own account	Government and international partners	International Partners	Total
Atabae	126	25	210	21	14	396
Balibo	159	45	191	25	6	426
Bobonaro	247	54	349	29	14	693
Cailaco	121	23	165	20	6	335
Lolotoe	73	20	64	6	5	168
Maliana	712	100	1362	98	29	2301
Total	1438	267	2341	199	74	4319
Percentage(%)	33,3	6,2	54,2	4,6	1,7	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, those 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, especially those who do not yet have and are looking for a job.

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, you were asked what kind of training you want to do in order to increase your personal skills, to obtain greater job opportunity and to facilitate their job search. The data in table 21, shows that the majority of respondents wish to raise their knowledge in the specific areas of Languages (English, Portuguese, etc.), Agriculture, Management, Administration and Leadership, Teachers and Professionals of Education and Medicine and Health Professionals, Information Technology, Database, Web, Software and Electronic Filing (registration) - Computer, Variety and Police, Defense, Security (training for employees). The longing for training in specific areas such as 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. Check out training to broaden general knowledge are more preferred compared to specialized areas.

Table 21. area of training Desired by non-employed respondents

Nu.	Training Areas	Frequency	Percentage (%)
1	Languages (English, Portuguese, etc.)	94	31,4
2	Agriculture	35	11,7
3	Management, Administration and Leadership	31	10,4
4	Teachers and Education Professionals	26	8,7
5	Medicine and Health Professionals	19	6,4
6	Information Technology, Database, Web, Software and Electronic Filing (registration) - computer	19	6,4
7	Varieties *	19	6,4
8	Police, Defense, Security (employee training)	18	6,0
9	Finance, Budget, Accounting and Planning	12	4,0
10	Law in Justice	6	2,0
11	Production og livestok	6	2,0
12	Procurement, Logistics and Estate Management	4	1,3
13	Project Management	3	1,0
14	Information System & Business Management;	2	0,7
15	Professional, Research and Development Knowledge (based on the operating sector)	2	0,7
16	General Skills Development- Induction	1	0,3
17	Marketing, Communication, Journalism and Media	1	0,3
18	Fisheries	1	0,3
Total		299	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 formations.

2.18.2. Development Training and Institutional Strengthening

As regards the second question - the personal development training and institutional or organizational strengthening applied to the employed respondents, the data in Table 22 shows that the of training areas such as Languages (English, Portuguese, etc.), Teachers and Professionals of Education and Management - Administration and Leadership, continue to be areas of higher preference desired by the respondents.

Table 22. Desired training areas by non-employed respondents

No.	Training Area	Frequency	Percentage (%)
1	Languages (English, Portuguese, etc.)	250	28,2
2	Teachers and Education Professionals	206	23,3
3	Management, Administration and Leadership	72	8,1
4	Police, Defense, Security (employee training)	56	6,3
5	Medicine and Health Professionals	50	5,6
6	Information Technology, Database, Web, Software and Electronic Filing (registration) - computer	49	5,5
7	Varieties *	48	5,4
8	Finance, Budget, Accounting and Planning	43	4,9
9	System Information & Management Business;	25	2,8
10	Agriculture	23	2,6
11	Human resource Management	13	1,5
12	Fisheries	13	1,5
13	Production of livestock	9	1,0
14	Law and Justice	8	0,9
15	Mediation Technique, Conflict Analysis, Conciliation and Sensitive Cases	6	0,7
16	Procurement, Logistics and Estate Management	5	0,6
17	General Skills Development- Induction	2	0,2
18	Training of trainers	2	0,2
19	Professional, Research and Development Knowledge (based on the operating sector)	2	0,2
20	Marketing, Communication, Journalism and Media	1	0,1
21	Monitoring and Evaluation (M&E)	1	0,1
22	Hospitality and Tourism	1	0,1
Total		885	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 Training

2.19.1. Vocational / Academic Training

When asked about the training category, of the 10,075 respondents, 80.1% of the respondents intend to develop their knowledge through the vocational or professional training course and 19.9% in the Academic - higher education course (Table 23). The Sub District Administration of Maliana has a greater number of those who want vocational or professional training, as well as in academic or university training.

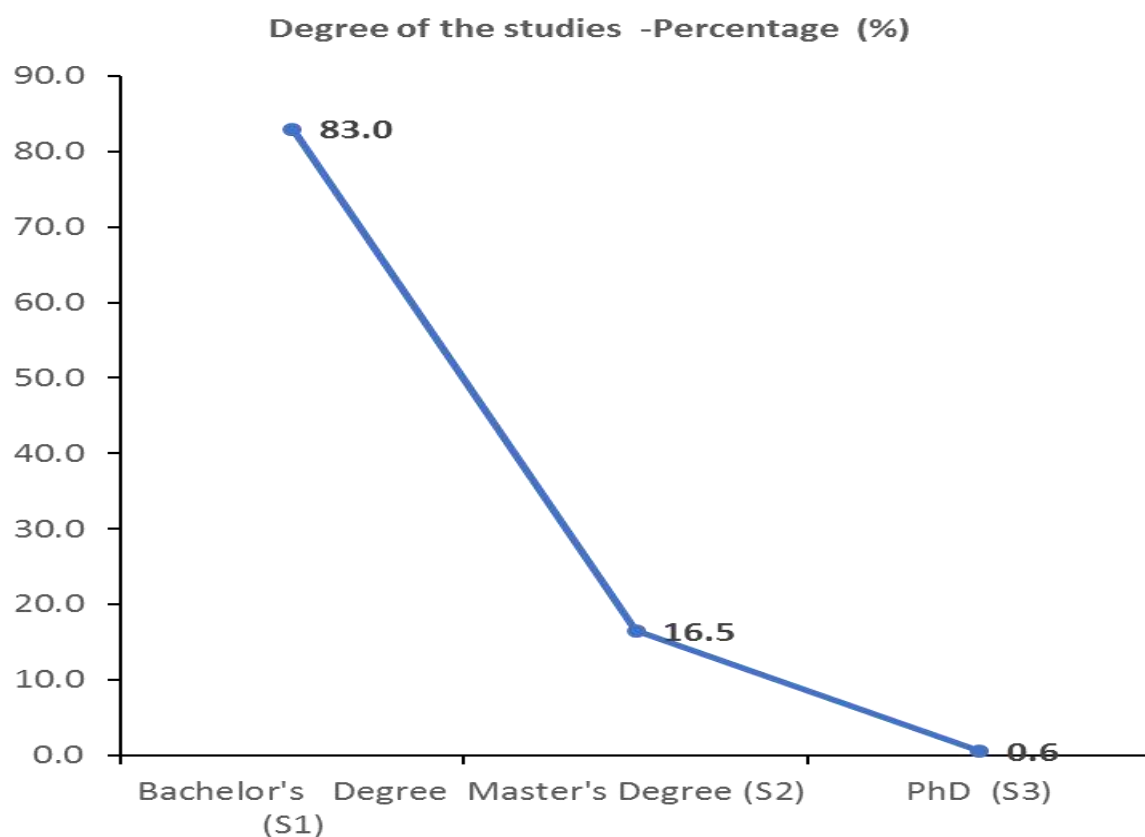
Table 23. Category of training - Academic or Vocational Training

Sub District Administrations	Academic / University	Vocational or Professional Training	Total
Atabae	204	1178	1382
Balibo	149	2205	2354
Bobonaro	181	1155	1336
Cailaco	166	263	429
Lolotoe	54	333	387
Maliana	1249	2938	4187
Total	2,003	8,072	10,075
Percentage (%)	19,9	80,1	100

Among the 2003 (19.9%) respondents who wish to take the course in higher education, 83% plan to increase their knowledge in Bachelor's degree (S1), 16.5% in Master's degree (S2) and 0.6% in doctoral studies (PhD S3) (Figure 6).

Figure 6. Degrees of studies that wish to continue

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

No.	Area of Study	Academic level courses (University)			Total
		Bachelor's Degree (S1)	Master's Degree (S2)	PhD (S3)	
1	Teachers and Education Professionals	82	23	2	107
2	Languages (English, Portuguese, etc.)	89	16	0	105
3	Medicine and Health Professionals	37	1	0	38
4	Management, Administration and Leadership	22	3	0	25
5	Finance, Budget, Accounting and Planning	21	0	0	21
6	Information Technology, Database, Web, Software and Electronic Filing (registration) - computer	11	3	0	14

No.	Area of Study	Academic level courses (University)			Total
		Bachelor's Degree (S1)	Master's Degree (S2)	PhD (S3)	
7	Human resource Management	3	6	0	9
8	Varieties	6	1	0	7
9	Law and Justice	6	0	0	6
10	Information System & Business Management;	6	0	0	6
11	Production Livestock	4	2	0	6
12	Mediation Technique, Conflict Analysis, Conciliation and Sensitive Cases	2	2	0	4
13	Agriculture	4	0	0	4
14	Police, Defense, Security (employee training)	3	0	0	3
15	Procurement, Logistics and Estate Management	0	2	0	2
16	Marketing, Communication, Journalism and Media	1	0	0	1
Total		297	59	2	358
Percentage (%)		83,0	16,5	0,6	100,0

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 Bobonaro Municipal Strategic Plan (PEM), aligned with the Timor-Leste Government's Strategic Development Plan for 2011-2030, aims to promote the progress and sustainable development of the territory by 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 human resources must take into account these four pillars and also the current situation of the economy and the 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 economy structure and recent growth in various sectors.

The Municipality of Bobonaro has 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 municipal development, in line with the strategic development objectives.

Capital Social (health, education and social protection)**Education Sector**

1. Recruit and increase primary and secondary school teachers;
2. Socialization of illiteracy rates in remote areas or villages;
3. Rehabilitate all school buildings and equip them with quality facilities;
4. Accompany the activity of good quality school meals and equipment in all schools;
5. Build, equip and maintain pre-school education establishments, primary and secondary schools ensuring the development and requalification of school facilities in the municipality and conditions for the quality training of Bobonaro youth.
6. Support the development of complementary activities of educational action in pre-school education and in primary to secondary education promoting and integrating initiatives in the area of culture (theater, ...) and sports, among others.
7. Guaranteeing also the conditions for the teaching of students with special needs with the introduction of sign language among other supports.
8. Participate in the support for out-of-school education by creating a mobile library service that can take reading and culture to the most remote and isolated places in the territory, serving all citizens. The municipality should also promote and support non-formal education initiatives and

Health Sector

the work carried out in this area by NGOs and religious institutions.

9. To manage non-teaching staff in pre-school and primary education by training them for their support and follow-up functions.
10. Ensure the creation and management of cafeterias of pre-school and basic education establishments under a direct or concession regime, guaranteeing a quality service and a careful diet for young students who attend municipal schools.
11. To approve and execute the municipal plan of recurrent education, guaranteeing the literacy of the population. This plan could integrate the participation of private agents, religious institutions and NGOs, competing the municipality to articulate the various initiatives.

In the Health sector, the Municipality of Bobonaro identified the training priorities programs, categorizing them into two areas, training programs for employees and fellowships for medical professionals. The programs are listed below:

1. Establish the health infrastructure for emergencies, specialist doctors, complete and qualified equipment;
2. Prepare qualified human resources for all aspects of health services;
3. Expand the integration of health centers, such as SISCA programs, for all rural levels;

	<ol style="list-style-type: none"> 4. Training program in the development of knowledge in the area of the Promotion of Mother and Child Health and Family Planning 5. TBC and MHRs elimination program 6. Training in hospital nursing management 7. Management of documentation systems 8. Management training and Portuguese and English courses
<p>Youth and Sports</p>	<ol style="list-style-type: none"> 1. Provide support and facilitate all sports activities, such as football, volleyball, basketball and other gaming at the administrative and village level; 2. Provide sports infrastructure such as facilitating field, game or tourist sport, hiking into the mountains for the young;
<p>Social Inclusion</p>	<ol style="list-style-type: none"> 1. Provide the social security guarantee to the most vulnerable groups; 2. Social formation to the populations at the level of juices and villages; 3. Protection of child victims of violence; 4. Infrastructure for mobilization in case of emergency caused by natural disasters; 5. Provide a place for vulnerable groups; 6. Build a social home; 7. Provide tomb graveyard for the general population; 8. Establish training centers for the disabled;

Infrastructure (transport, telecommunications, energy and water supply and sanitation).

<p>Transport</p>	<p>supply and guarantees sustainable use;</p> <ol style="list-style-type: none"> 3. 2.513% of each family has access to sanitation and guarantees sustainable use; 4. Special training for employees to deal with sanitation and drinking water; <ol style="list-style-type: none"> 1. Planning for the implementation of the construction of international terminals in Batugade and mini terminals in 6 administrative posts in the municipality of Bobonaro; 2. Socialization of regulations on the use of public and private transport;
<p>Telecommunications</p>	<ol style="list-style-type: none"> 1. 50% of students and workers in the municipality of Bobonaro have access to the internet properly;
<p>Natural resources</p>	<ol style="list-style-type: none"> 1. Formation of special human resources to develop mineral resources; 2. Attract investors to invest in the municipality of Bobonaro; 3. Industrial investment in the municipality of Bobonaro;
<p>Port and airport</p>	<ol style="list-style-type: none"> 1. Conduct research at various locations for the planning of the construction of a seaport; 2. Establish or build airport in case of emergency for the transportation of patients;
<p>Economic development</p>	

Agriculture	<ol style="list-style-type: none"> 1. Improve the quality of human resources for agricultural technology; 2. Educational planning related to agriculture; 3. Training in agricultural extension techniques; 4. Development planning in the agricultural service in the municipality of Bobonaro; 5. Increasing livestock production and fishing production; 6. Increase the productivity of agricultural products such as coconut, cloves, almonds, coffee and cocoa 7. The addition of staff in agriculture;
Livestock	<ol style="list-style-type: none"> 1. Carrying out livestock training courses in the Municipality of Bobonaro; 2. Conduct research on infectious diseases in cattle or animals; 3. Plan or prepare a clean and suitable place for animals; 4. Prepare or establish the clinic for the animals;
Fishing	<ol style="list-style-type: none"> 1. Implementation of aquaculture training programs; 2. Increase the production of fishery products; 3. Establish a fishing industry; 4. Provide training for fishermen; 5. Prepare the breeding ground for freshwater fish;

<p>Trade</p>	<ol style="list-style-type: none"> 1. Granting licenses or renewing certificates to start a business; 2. Providing commercial licenses for the sale of pets such as cows, buffalo, goats, birds and other animals; 3. Authorization of transportation for public transportation; 4. To give leave to the establishment of company and to open the business; 5. Create regulations to limit the import of imported goods in the municipality of Bobonaro;
<p>Environment</p>	<ol style="list-style-type: none"> 1. Monitoring of landfills or garbage; 2. Install information boards in areas with risk of environmental damage; 3. Identify strategic locations for waste disposal or garbage in the area; 4. Make agreements between the Ministry of Tourism and agriculture biodegradation of flora and fauna; 5. Authorization or regulation for cutting of trees or timber;
<p>Cooperatives</p>	<ol style="list-style-type: none"> 1. It can influence public transportation groups such as van and motorcycle taxi to be more cooperative; 2. Influencing productive young people to create cooperatives within the school, office or workplace

Industry	<ol style="list-style-type: none"> 1. Establish industries such as the following: salt, wine industry, local products such as fish and fruit preserves;
Institutional Framework	
Public Sector Good Governance Management	<ol style="list-style-type: none"> 1. Establish legal framework necessary 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 professionalism of public service in the municipality; 3. Ensure implementation of the land and property law 4. Strengthen the performance and the services of the justice authorities 5. Promote the favorable business environment to attract investment within the municipality; 6. Strengthen the presence of community police in justices 7. Promote continuous dialogue on conflict prevention 8. Ensure public order, environmental health, rights and freedom of expression of all people. 9. Strengthen the implementation of the PNDS & MDP program

3.2. Main Areas of Training

The Bobonaro Municipality presented the following distribution of training needs per training area required for each pillar and development sector for the immediate period 2019-2022, then for 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 in the form of the following table 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 / Professional)		Training priorities		
	Academic	Professional Technician	Short Term (2 (2019-2022))	Medium Term (2023-2025)	Long Term (Until 2030)
Training Technology Fish Cultivation	x	x	x	x	x
Fisheries Engineering	x	?	x	x	?
Aquaculture / Freshwater Farming	?	x	x	?	?
Shipowner crew	?	x	x	?	?
Engineering Horticulture,	x	x	x	x	x
Agronomy	x	x	x	x	?
Agribusiness	x	x	x	x	?
Nursery Technology / Cement	x	x	x	x	?
Agricultural Production	x	x	x	x	?

Main areas of training	Category of training you wish to pursue (Academic / Professional)		Training priorities		
	Academic	Professional Technician	Short Term (2 (2019-2022))	Medium Term (2023-2025)	Long Term (Until 2030)
Techniques					
Animal health	x	x	x	x	?
Laboratory Technology of Nurseries / Cement	x	x	x	x	?
"Bibit Unggul" (Quality Cements)	x	x	x	x	?
Livestock Engineering	x	x	x	x	x
Forestry Engineer	x	x	x	x	x
Training for Forest Guards,	?	x	x	?	?
Training for community nurseries	?	x	x	?	?
Anthropology (Knowledge on History)	x	x	x	x	x
Languages: Portuguese, English and Tetum	x	x	x	x	x
Training on drawing in historical spaces	x	x	x	x	x
Training in Tourism		x	x		
Hospitality Training		x	x		
Tourism Planning Management	x	x	x	x	x
Engineering Oil / Mining	x	x		x	x
Engineering Geology	x	x	x	x	x

Main areas of training	Category of training you wish to pursue (Academic / Professional)		Training priorities		
	Academic	Professional Technician	Short Term (2 (2019-2022))	Medium Term (2023-2025)	Long Term (Until 2030)
Professional Technician in the area of oil in gas.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Environment Specialist	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
civil Engineering	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Engineering Architecture	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Environment Specialist	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Engineering Geology	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Training on Environment and Culture Protection		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Portuguese and English training		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Pedagogical training		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Training method of teaching teachers		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Planning Training		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Training on Archive		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Management training		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Teacher training to teach literacy		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
School Lunch Management Training		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Evaluation and monitoring training		<input type="checkbox"/>	<input type="checkbox"/>		

Main areas of training	Category of training you wish to pursue (Academic / Professional)		Training priorities		
	Academic	Professional Technician	Short Term (2 (2019-2022))	Medium Term (2023-2025)	Long Term (Until 2030)
Leadership Training		x	x		
Public Financial Management Training		x	x		
Method of teaching	x	?	?	x	
Science Administration	x	?	?	x	
Language: Portuguese, English and Tetum	x	x	x	x	
Internist Specialist	?	x	x	x	
Specialist Obstetrics	x			x	
Specialist surgery	x			x	
Pediatric Specialist	x			x	
Nutrition Training	x			x	
Specialist / Laboratory Technician	x	x	x	x	
Basic Forensic Knowledge	x	x	x	x	
Basic Knowledge Clinic	x	x	x	x	
Pharmacy Knowledge	x	x	x	x	
Training on methodology	x	x	x	x	
Science biology	x	x	x	x	
Chemical Science	x	x	x	x	
Surgical (Heart, Neurology, Jaw, Bone, Kidney)	x	x	x	x	

Main areas of training	Category of training you wish to pursue (Academic / Professional)		Training priorities		
	Academic	Professional Technician	Short Term (2 (2019-2022))	Medium Term (2023-2025)	Long Term (Until 2030)
Nurse	x	x	x	x	
Midwife	x	x	x	x	
General doctor	x	x	?	x	
Allied Clinic	x	x	?	x	
Internal Specialist	x	x	?	x	
Training on Natural Disaster Management	x	x	x	x	
Social Assistance Training	x	x	x	x	
Architecture	x	x	x	x	
Archeology	x	x	x	x	
Anthropology	x	x	x	x	
Education Attitude / Ethics / Civics and Citizenship		x	x		
Analyze environmental impact		x	x		
Training on the Environment Law		x	x		
Reforestation training		x	x		
Training to strengthen Reforestation Law		x	x		
Training for socialization of the law		x	x		
Monitoring and Evaluation		x	x		

Main areas of training	Category of training you wish to pursue (Academic / Professional)		Training priorities		
	Academic	Professional Technician	Short Term (2 (2019- 2022))	Medium Term (2023- 2025)	Long Term (Until 2030)
Waste management training		x	x		
Technical Training		x	x		
Cooperative Management Training		x	x		
Financial Education and Accounting		x	x		
Technical Course Production		x	x		
Technical Fishing Training	x	x	x	x	x
Technical Industry	x	x	x	x	
Technical Planting	x	x	x	x	
Veterinary Engineer	x	x	x	x	
Specialist Agronomy	x	x	x	x	
Civil Engineering and Architecture	x	x	x	x	
Agricultural Techniques	x	x	x	x	
Plant Disease Pest	x	x	x	x	
Seed Technology	x	x	x	x	
Soil Science	x	x	x	x	
Researcher Area / Research Methodology	x		x	x	
Tourism Specialist	x	x	x	x	

Main areas of training	Category of training you wish to pursue (Academic / Professional)		Training priorities		
	Academic	Professional Technician	Short Term (2 (2019-2022))	Medium Term (2023-2025)	Long Term (Until 2030)
Technology and Information	x	x	x	x	
Hospitality Specialist	x	x	x	x	
Training for Trainers (TOT)		x	x		
Specialist Economics	x	x	x	x	
Laboratory training (soil testing / Test tanah Laboratory)		x	x		
SAP 2000 Training		x	x		
Training program Swetch-up		x	x		
Esp. Total Station, Theodolite, auto level and gps	x		x	x	
Civil Engineering and Civil Engineering	x	x	x	x	
Training for technical program Auto Cad		x	x		
Auto-Cad Training Program		x	x		
Management Administration		x	x		

Main areas of training	Category of training you wish to pursue (Academic / Professional)		Training priorities		
	Academic	Profession al Technician	Short Term (2 (2019- 2022))	Medium Term (2023- 2025)	Long Term (Until 2030)
Researcher	x			x	
Administration and Management	x	x	x	x	
Technical Laboratory	x	x	x	x	
Eng. Analyzes Water Contamination	x	x	x	x	
Technical Installation and Repair		x	x		
Technical Reading	x	x	x		
Accounting	x	x	x	x	
Administration and Management	x	x	x	x	
Technical Humaniora		x	x		
Electronic technician	x	x	x	x	
Technical Hydrology	x	x	x	x	
Electronic Engineer	x	x	x	x	
Accounting		x	x		
Technical Ground Transportation Management		x	x		
Technical Spec. WEIGHT		x	x		
Technical Spec. Traffic Control		x	x		

Main areas of training	Category of training you wish to pursue (Academic / Professional)		Training priorities		
	Academic	Professional Technician	Short Term (2 (2019- 2022))	Medium Term (2023- 2025)	Long Term (Until 2030)
Audit Training	x	x	x	x	x
Accounting Training	x	x	x	x	
Finance Training	x	x	x	x	
Administrative Training in Leadership		x	x		
Training for Lawyers	?	x	x		
Training for Judge	x		x		
Training for Public Defender	x		x	x	
Eng. Cadastre and Eng. Topography	x	x	x	x	
Notary Registration Training	x	x	x	x	
Technology and Information, data base and computer	x	x	x	x	
Law of the land formation	x	x	x	x	
Civil Engineer	x	x	x	x	
Training for Planning		x	x		
Land Administration	x	x	x	x	
Direct from Earth		x	x		
Public Administration	x		x	x	

4. Discussion and Analysis

This study has two complementary lines of work, the first identification of the distribution of existing human resources at the Municipal level and Sub District Administration. All the data collected, in which the levels of education and areas of study were analyzed, the occupations and their intentions of training and employment in the desired areas. The second is to identify the priority programs of the municipality based on the four pillars of the Municipal Strategic Plan (PEM) and the key human resources needed 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 respondent population in the Municipality of Bobonaro are young people aged between 17 - 36 years. At the level of knowledge, there are a large number of people with no education level (illiterate), followed by those with complete secondary education, pre-secondary education and basic education respectively.

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 Bobonaro. 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 finished professional technical courses at both the secondary technical level and 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 public function as a course of 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 still a large number of job seekers, including those who have already completed a bachelor's degree in areas such as Sociology of Education, Management, Information Technology Engineering, Mathematics in Education, Law and General Medicine, and others in other fields (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, industry and construction.

Analyzing the training preference based on the priority programs (Table 25) with the current human resources (Table 5), the data show that the Bobonaro Municipality has a high number of graduates in several areas, however so 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 additional training at the level of post graduations directed to the priority technical areas and professional stages.

Another challenge demonstrated in the work presented 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 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 seen 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 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 allow them to continue to seize 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 of Bobonaro 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, software programing and decision, 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 ability as a means to provide qualitative and quantitative benefits.

It is important to emphasize that skills development can not be seen only be seen 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 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, to earn a higher salary than the benefit of the government. Employers have some concerns about hiring people with disabilities because they feel they may not have adequate professional qualification. 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 which help 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 creation of opportunities and mobilizing of 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 traders small and medium-sized business and farmers. Education and training for entrepreneurship is also principal key to encourage 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 supply of study areas at the secondary and post-secondary level that is geared to the needs of the country

(demand-driven secondary vocational education and demand-driven post secondary technical 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.**

C. CONCLUSION AND RECOMMENDATIONS

5. Conclusions and Recommendations

On the basis of the data presented and discussed above, it is concluded that, in developing human capital resources and achieving sustainable development in the future, the Municipality of Bobonaro needs to pay more attention to the development opportunities identified in the PDM and to the following five dimensions: 1) economic (increased efficiency of the production system), 2) social (improvement of income distribution levels of the population), 3) ecological (preservation of the environment), 4) spatial (balance in distribution and occupation of rural population 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 over academic, focusing more on the opening of vocational training centers (or Polytechnic institutes) to the detriment of the opening of more universities.

Complement to the academic training, the creation of specialization courses 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 graduates with the highest number of job seekers, "unemployment", are in the areas of Sociology of Education, Management, Information Technology Engineering, Mathematics Teaching, Law and Medicine - Medical Clinic and most 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 quite a large number of people with disabilities who are job-poor 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 disability, in particular the 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 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 Bobonaro.

- **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 Bobonaro continues to be 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 planning capabilities
- 2) **Private Sector** - Survey data show that private sector growth is constrained by skill gaps in the workforce 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). The FDCH survey shows a lower level of TVET qualifications than the university qualifications in Bobonaro, 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 training in the workplace. In our view, these three areas are of considerable importance. In particular, the increasing role of women, perhaps especially in agriculture, and a higher skill level due to improved training, can contribute to household and national income growth, 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 demand-driven secondary-vocational education and demand-driven post secondary technical education area of secondary and post-secondary education.

6. Bibliographic References

- Data collection of Existing Human Resources in Timor Leste, 2016
- Human Capital Development Fund (FDCH), 2016.
- General Directorate of Statistics - Ministry of Finance, Population and Housing Census, 2010.
- General Directorate of Statistics - Ministry of Finance, Population and Housing Census, 2015.
- Strategic Plan for National Development 2011-2030.
- Strategic Plan for Municipal Development 2016.

Annex 1. Questions for discussion of groups

QUESTIONS FOR GROUP DISCUSSION - GROUP I - GENERAL QUESTIONS

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

QUESTIONS FOR GROUP DISCUSSION - GROUP II - SOCIAL CAPITAL

Social capital	What are the priority programs related to the sectors below that the Municipality and RAE OA - 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 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)	Medium Term (2022-2025)	Long Term (2026 - 2030)
EDUCATION AND TRAINING							
CHEERS							
SOCIAL INCLUSION							
ENVIRONMENT							
CULTURE AND HERITAGE							

QUESTIONS FOR GROUP DISCUSSION - GROUP III - ECONOMIC DEVELOPMENT

Economic development	What are the priority programs related to the sectors below that the Municipality and 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 to develop the existing potentialities?	What level of Human Resources do you want to training?		raining priority for (Short, Medium and Long Term)		
			Academic	Professional Technical	Short Term (2019-2021)	Medium 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 and 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 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)	Medium Term (2022-2025)	Long Term (2026 - 2030)
ROADS AND BRIDGES							
WATER AND SANITATION							
ELECTRICITY							
MARITIME PORTOS (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- 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 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)	Medium 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 group

List of participants in the discussion of groups on the identification of natural resources and economic powers, related priority programs and key areas of training in the municipality of Bobonaro

Nu.	Name	Position	Institutions
1	Bonifacio T,Tavares		
2	Paulo Bonifacio	Xefe de CDE Maliana	IADE
3	Aderito dos Santos	Diretor DSAM	Agrikultura
4	Alipio Moniz	Adm. Posto Maliana	MAE
5	Acacio Gonsalves	Diretor	MSS
6	Damiao F.Lobato	Diretor	DTPSC Bobonaro
7	Vitor Soares Martins	Diretor	Saude Municipiu
8	Ricardo A. Moniz	Xefe Departamento	Educasaun
9	Joao Paulo H.Baptista	Diretor	DNTT
10	Alfredo Martins	Xefe dep.Administrasaun	MAE
11	Paulino V.Tilman	Diretor	PNDS Bobonaro
12	Zeferino S.dos Santos	Staf	MAE
13	Hermenegildo da Silva	Xefe Departamento	FDCH
14	Domingos da C.Tavares	Diretor	Infordepe
15	Adriano da Cruz	Diretor	SMASA
16	Faustino Henrique	RH	MJ Notariado
17	Franlino Marques	PNDS	MAE
18	Jaime C.	Aprovizionamento	MAE
19	Duarte dos Santos	Diretor SLAIM	MAE Bobonaro
20	Rosario Gonsalves	Adm. Posto Balibo	MAE
21	Mariano V.Amaral	Diretor STAE	MAE

22	Victor Martins	Koordenador	Protesaun Civil
23	Domingos de Araujo	Project fasilitador	Word Vision
24	Eliseu Lopes de Araujo	Sec.Autoridade	
25	Marcos Gomes	Financas	MCI
26	Donata de C. Marques	Xefe dep.RH	MAE
27	Antonio Soares	Diretor	SMOPT
28	Januario da Costa	Adm.Posto Lolotoe	MAE
29	Jose Henriques	CDO Posto Bobonaro	MAE
30	Hermenegildo da Silva	Departementu Peskiza (DEPE)	ST-FDCH
31	Maria Godinho	Staff Administrasaun Peskiza	ST-FDCH
32	Alfredo M.da Costa	Adm.Posto Cailaco	MAE
33	Amilcar Tavares	Xefe Dep.Social	MAE
34	Alfredo Soares	Oficial RH	MAP