# Instituto Nacional de Ciências e Tecnologia de

# **Timor-Leste**



# Relatório de Investigação Científica

# **INCT 2024**

"Diving Development Business Opportunities for Young Timorese Entrepreneurs: A Case Study of Diving Companies in Dili, Timor-Leste"

Investigador Responsável:

Helio Brites da Silva

Dili, Novembro 2024

## Instituto Nacional de Ciências e Tecnologia de

## **Timor-Leste**



# Relatório de Investigação Científica INCT 2024

### "Diving Development Business Opportunities for Young Timorese Entrepreneurs: A Case Study of Diving Companies in Dili, Timor-Leste"

Area de Conhecimento: Economia Azul no Turismo e Industria Estudo Elaborado por:

> Investigador Responsável: Helio Brites da Silva, PhD Investigador 1: Rogerio da Costa Fernandes, M. Par Investigador 2: Elizabeth Barreto Araujo, M. Par Investigador 3: Estanislau Antonio Baptista, MBA Investigador 4: Calisto Cunha Godinho, M.Par

Dili, 6 Novembro 2024

### Declaração

Nome do Investigador Responsável: Helio Brites da Silva Endereço Eletrónico: Ai-Meti Laran, Dili Institute of Technology (DIT) Telefone/Telemóvel: +670 77419128 Número de Bilhete de Identidade: 06030111038091467 Título da Pesquisa Científica INCT 2024:

## "Diving Development Business Opportunities for Young Timorese Entrepreneurs: A Case Study of Diving Companies in Dili, Timor-Leste"

Área de Conhecimento: Economia Azul e Turismo Ano de Conclusão: 2024

Declaro, por minha honra, que os dados aqui apresentados são verdadeiros e que neste estudo apresentado não foi cometido plágio nem nenhuma ilegalidade em termos de direitos de autor. Autorizo a reprodução integral deste relatório apenas para efeitos de investigação.

Instituto Nacional de Ciências e Tecnologia, a \_06\_de Novembro\_de\_2024.

Assinatura do Investigador Responsável :

Nº-

Helio Brites da Silva, PhD

#### "Diving Development Business Opportunities for Young Timorese Entrepreneurs: A Case Study of Diving Companies in Dili, Timor-Leste"

#### Abstract

The study aims to identify and investigate the potential for diving and business opportunities for young Timorese entrepreneur. The key informants of this study are dive instructor and dive master of Dive Timor Lorosae, Aquatic, Dream Divers Academy and Compas Diving in Dili, Timor-Leste, government officer from the Ministry of Tourism and young divers. In total of the key informants are eight informants. This study applies a qualitative method of study. The data collection method conducted observation, documentation and in-depth interviews, and the data analysis used narrative and descriptive analysis.

The result of this study is that most of the informants mentioned that; Firstly, it is the significant potential in the Timorese ocean being identified, particularly around Dili and Atauro Island. The coral reefs in these areas are among the most beautiful in the world. Additionally, tourism activities such as whale watching, observing dugongs, turtles, and other marine fauna could generate substantial income for the country. Secondly, to encourage for your entrepreneurs, it is starting from training and education on the significance of diving are crucial. For Timorese individuals who are eager to learn about diving. It is started from open water, advance dive, rescue dive, dive master and dive instructor. Thirdly, the application of supply and demand theory in the diving industry is important. It shows that when there is limited supply of diving services, prices tend to be higher. Conversely, the potential for running a successful diving business is substantial, particularly given potential support from government and international diving organizations. Fourthly, it is obstacles facing the diving industry, including the need to protect marine ecosystems and address issues related to crocodiles. Lastly, it is emphasized the critical importance of safeguarding the ecosystems within the Timorese ocean. Protecting these ecosystems is essential not only for their sustainability but also for securing future economic benefits for the nation. It is for both the government and local communities focus on preservation, protection, and conservation efforts. Also, there are potential for both local and international partnerships to enhance the development of Timor-Leste's ocean resources and the blue economy, and the collaborations could significantly benefit the diving industry and contribute to sustainable economic growth in the region.

Keywords: Tourism, Diving, Business Opportunities, Timor-Leste's ocean

#### Contents

Chapter	Title	Page
	Title	i
	Declaration	iii
	Abstract	iv
	Contents	v
	Lists of Tables	vii
	Lists of Figures	viii
	Lists of Abbreviations	ix
1	Introduction	1
	1. Contextualization	1
	2. Theoretical Background	33
	3. Problem Statement	3
	4. Research Questions	4
	5. Research Objectives	4
	6. Important of the Research	5
	7. Work Organizations	5
	8. Local Geographic	6
2	Methodology	8
	1. Research Design	8
	2. Sampling Technique	8
	3. Data Collection technique	8
	4. Data Analysis Technique	8

Data Analysis Technique 4.

3	Result and Discussions	9
	3.1 Demographic Information of Respondents	9
	3.2 Description of Findings	10
	3.2.1 To Identify Potentials of Diving Business Opportunity	10
	3.2.1.1 Diving Potentials in Dili	10
	3.2.2 To Encourage Young Timorese Entrepreneurs to Invest in Diving	
	Industry	14
	3.2.2.1 Education and Training for Timorese	14
	3.2.2.2 Expenses and Cost	17
	3.2.2.3 Obstacles and Challenges for Diving	19
	3.2.2.4 Recommendation for government and partnerships	21
	3.3 Discussions	24
4	Conclusions and Recommendations	25
	4.1 Conclusions	25
	4.2 Recommendations	26
	4.2.1 Recommendation to the Government and Private Sectors	26
	4.2.2 Recommendation to the community	27
	4.2.3 Ministry of Agriculture and Fisheries of Timor-Leste	27
5	References	28
	Attachments	30

Table	Title	Page
3.1	Key informants	9

### Lists of Figures

Figure	Title	Page
1.1	Map of Timor-Leste's Ocean	1
1.2	Map of Dili Municipality	7
3.1	Potentials for Diving	13
3.2	Training and Education	17
3.3	Benefits from Diving	19
3.4	Marine Life Protection	23

#### Lists of Abbreviations

DDA	Dive Dreamers Academy
K41	Kilometer 41 from Dili
NSP	National Strategic Plan
PADI	Professional Association for Diving Instructor
SDI	Scuba Diving International
TDI	Technical Diving International
UNDP	United Nation Development Program

#### **1. INTRODUCTION**

#### **1.1 Contextualization**

The study of the Diving Development Business Opportunities for Young Timorese Entrepreneurs holds paramount importance in the context of Timor-Leste's economic trajectory and the aspirations of its burgeoning youth population. As one of the youngest nations in the world, Timor-Leste faces a pressing need to diversify its economy away from its heavy reliance on oil and gas revenues towards sustainable and inclusive economic growth. In this light, the exploration of innovative entrepreneurial strategies becomes not only relevant but imperative for the country's longterm development.

Timor-Leste is an island nation. The area of Timor-Leste is only 14,919 km2. However, the executive maritime economic zone of Timor-Leste is 75.000 km2, which means that the ocean area is more than 5 times the size of its land (as cited in Soares & Andy, 2023 p.4, sources from the generate statistics of tourism in TL). Therefore, the ocean is the major driver of economy which much of the country revenue generated and jobs will be created from the ocean and marine resources. This includes the rich of marine biodiversity, food, oil and gas extraction, tourism, and coastal and marine ecosystem includes mangroves, coral reefs, and sea grasses.

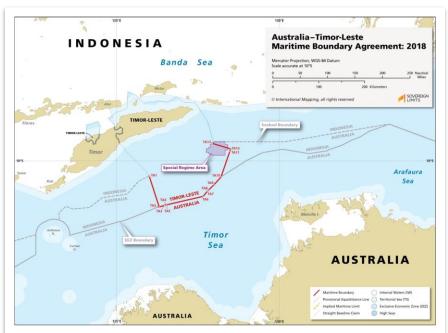


Figure 1.1 Map of Timor-Leste's ocean (Sources: Sovereign, 2024)

Furthermore, Timor-Leste is part of the coral reef triangle, among the most pristine and divers coral reefs in the world. The country's coastal and marine ecosystem are the foster of nature

based tourism and have the potential to generate a range of benefits such as protection of coastlines from storm and erosion, job creations, livelihood for local communities, cultural preservation and ecotourism (Lucrezi & Saayman, 2017, p. 633; Susanto et al., 2024, p. 55). Moreover, there are 90 distinct species of whales and dolphins and at least 30 of them occur in Timor-Leste. Whale and dolphin tourism could generate significant income for Timor-Leste. Globally Whale watching is booming. Whale tourism contributes around US\$30m per year.

Therefore, the Diving Business Opportunities, with its emphasis on niche market exploration, creative opportunity identification, and adaptive business practices, presents a compelling framework for young Timorese entrepreneurs to pioneer new ventures, stimulate job creation, and foster broader socio-economic prosperity. Also, as based on the observation many foreign entrepreneur who runs this business instead of local entrepreneurs, On the other hand, contextually and currently, there is minimum number of local young entrepreneurs who has the business of diving or scuba diving in Timor-Leste. In addition, the Timor-Leste National Strategic Plan (NSP) for 2011-2030 highlights tourism as one of the key pillars of the nation's economic development. The current Prime Minister has also emphasized the importance of the blue economy for Timor-Leste's future, recognizing the critical role that the ocean and its resources play in driving sustainable growth, particularly through sectors such as tourism and marine conservation. This underscores the significance of protecting and utilizing the ocean wisely to ensure long-term economic prosperity.

Furthermore, the study of the Diving Business Opportunities offers insights into the unique challenges and opportunities faced by young entrepreneurs in Timor-Leste. With a population characterized by its youthfulness, entrepreneurship emerges as a powerful vehicle for harnessing the energy, creativity, and talent of Timorese youth towards nation-building efforts. Understanding the dynamics of diving development not only equips aspiring entrepreneurs with essential knowledge and skills but also informs policymakers, educators, and support organizations about the tailored interventions needed to cultivate a thriving entrepreneurial ecosystem. By shedding light on the potential pathways, best practices, and success factors associated with the diving development approach, this study contributes to the broader discourse on entrepreneurship, economic development, and youth empowerment in Timor-Leste.

#### **1.2 Theoretical Background**

The concept of Diving Business Opportunities draws upon several theoretical perspectives from the fields of entrepreneurship, economic development, and strategic management. At its core,

diving development aligns with the principles of entrepreneurial discovery and opportunity recognition (Lucrezi et al., 2017, p. 385; Lucrezi & Saayman, 2017, p. 635; Shane & Venkataraman, 2000, p. 219). It posits that young entrepreneurs in Timor-Leste can capitalize on emerging trends, untapped market segments, and unique local resources to create value and drive economic progress.

Moreover, Diving Business Opportunities resonates with the notion of market niche exploitation (Depondt & Green, 2006, p. 189; Dimmock & Musa, 2015, p. 53; Naidoo et al., 2018, p. 44; Porter, 1980; Susanto et al., 2024, p. 58), which underscores the importance of identifying specialized market segments with limited competition. By focusing on niche markets, young Timorese entrepreneurs can differentiate their offerings, mitigate competitive pressures, and establish a sustainable market position.

Additionally, the Diving Business Opportunities aligns with the principles of effectuation theory (Cavallini et al., 2023; Hodeck et al., 2021, p. 65; Sarasvathy, 2001, p. 243; Townsend, 2007, p. 139), which emphasizes the use of affordable loss, leveraging contingencies, and engaging in partnerships to pursue entrepreneurial opportunities. Through a process of experimentation and adaptation, young Timorese entrepreneurs can navigate uncertainty and capitalize on the dynamic nature of emerging market.

In conclusion, the Diving Business Opportunities offers a promising framework for young Timorese entrepreneurs to unlock new opportunities, drive innovation, and contribute to economic development (Forest at al., 2023; Gerungan & Chia, 2020). By embracing principles of entrepreneurial discovery, market niche exploitation, and effectuation, entrepreneurs can overcome barriers to entry, leverage local resources, and create sustainable ventures with lasting social and blue economic impact. Moving forward, further research and practical interventions are needed to support the implementation and refinement of the diving development strategy within the context of Timor-Leste's evolving entrepreneurial ecosystem.

#### **1.3 Problem Statement**

This study addresses several critical issues that must be resolved to develop better solutions. It focuses on two primary challenges: the underutilization of the ocean's potential by the Timorese, despite its promise as a future economic asset alongside oil and gas, and the limited number of local entrepreneurs investing in the diving industry.

Firstly, significant tourism opportunities in the Timor Sea have been neglected. Various activities, such as whale watching, dolphin and dugong observation, sea turtle conservation, and the exploration of some of the most pristine coral reefs in the world, offer potential sources of income for local communities. These natural resources, located exclusively within the waters of Timor-Leste, represent an invaluable asset that Timorese people have a responsibility to protect,

preserve, and conserve to ensure their sustainability. In doing so, these resources could become a major source of future wealth.

Secondly, there is a notable lack of local investment in the diving industry. While it may be costly to operate such businesses, this financial barrier likely contributes to the limited number of local entrepreneurs involved in this sector. However, with proper investment and management, the diving industry has the potential to yield substantial economic returns in the future, benefiting both individual entrepreneurs and the broader community.

In conclusion, despite the challenges facing the diving industry, recognizing its potential and making strategic investments in it could lead to significant economic benefits. These benefits would not only enhance the profitability of individual businesses but also contribute to the local economy and generate national revenue for Timor-Leste.

#### **1.4 Research Questions**

This study is to investigate whether viable opportunities exist for young Timorese entrepreneurs in the diving industry and to identify optimal solutions to encourage their participation and success in this sector.

- 1. Is diving a good business?
- 2. How to encourage young Timorese entrepreneurs to invest in diving industry?

#### 1.5 Objectives of the Study

General objective:

The general objective is to enhance or improve the local economy life.

The specific objective:

- 1. To identify potentials of the Diving Business Opportunities
- 2. To encourage the young Timorese entrepreneurs to invest in diving industry.

#### 1.6 Important of the Study

In practice, the Diving Business Opportunities offers several practical implications for young Timorese entrepreneurs seeking to launch and grow their ventures:

1. Market Research and Opportunity Identification: Young entrepreneurs should conduct thorough market research to identify niche opportunities aligned with emerging consumer

preferences, industry trends, and local socio-cultural dynamics. By understanding the unmet needs and preferences of target customers, entrepreneurs can tailor their offerings to address specific market gaps effectively.

- 2. Value Proposition Design: Entrepreneurs should focus on developing a compelling value proposition that highlights the unique features and benefits of their products or services. Emphasizing factors such as quality, affordability, sustainability, and cultural relevance can help differentiate offerings in crowded marketplaces and attract customer interest.
- 3. Resource Leveraging and Collaboration: Given the resource constraints faced by many young entrepreneurs in Timor-Leste, collaboration and resource-sharing initiatives can play a crucial role in driving business growth. Entrepreneurs should explore partnerships with other businesses, non-profit organizations, government agencies, and academic institutions to access complementary resources, expertise, and networks.
- 4. Agility and Adaptation: The Diving Business Opportunities Strategy requires entrepreneurs to adopt an agile and adaptive approach to business development. Timorese entrepreneurs should be willing to experiment, learn from failures, and pivot their strategies based on market feedback and changing circumstances. Flexibility and resilience are essential traits for navigating the uncertainties inherent in entrepreneurial endeavors.

#### 1.7 Work Organization

This study originated from the recognition of the importance of effectively managing the ocean's potential to foster a blue economy for national development. The structure of the study is as follows:

First, the background section examines the critical reasons for the current underutilization of the ocean's potential in Timor-Leste, highlighting how this untapped resource could yield significant national benefits. This section includes an analysis of Timor-Leste's geographic position and its implications for ocean resource development.

Second, several theoretical frameworks are applied, including entrepreneurship, economic, and strategic management theories. These theories are utilized to assess how best to develop the ocean's potential, particularly in promoting investments within the diving industry.

Third, the study employs a qualitative research methodology. Data was gathered through interviews with key stakeholders, including diving industry experts, young local divers, and government representatives, to gain a comprehensive understanding of their perspectives on ocean resource management.

Finally, the results and discussion section presents the study's findings, followed by a set of recommendations aimed at advancing the sustainable development of the ocean's resources for Timor-Leste's blue economy. Moreover, a considerable body of research exists on the diving

industry, exploring factors that contribute to the growth of diving tourism as well as those that lead to its decline. However, this study specifically focuses on the untapped potential of the diving industry in Timor-Leste and the opportunities it presents for young Timorese entrepreneurs to establish and run successful businesses in this sector.

#### **1.8 Local Geographic**

This study is primarily conducted in Dili, the capital city of Timor-Leste, where four major diving companies operate, government officer form the ministry of tourism, and young divers. The first is Dive Timor Lorosae, situated along the coastal area in Kampung Alor. The second is Aquatic Timor-Leste, located near Arbiru Beach. The third is Dream Divers Academy, based in Metiaut. Finally, Compass Diving is located at Pantai Kelapa, also known as Praia de Coqueiros Beach. These companies play a pivotal role in the local diving industry and form the basis of this study's investigation into the sector's potential.



Figure 1.2 Map of Dili Municipality (Source: Wasianga F, 2022)

#### 2. METHODOLOGY

#### 2.1 Research Design

This study employs a qualitative research design to comprehensively explore the Diving Business Opportunities for Young Timorese Entrepreneurs (Cortini, 2014). Qualitative methods, such as interviews and focus groups, enable the in-depth exploration of participants' perspectives, experiences, and insights regarding diving development.

#### **2.2 Sampling Technique**

The sampling strategy involves a purposive sampling technique to select participants who possess relevant knowledge, experience, and expertise in entrepreneurship and economic development in Timor-Leste (Etikan & Alkassim, 2016, p. 3). The sample includes young entrepreneurs, business owners, industry experts, governments officers, young Timorese and academic institutions.

#### 2.3 Data Collection Technique

Qualitative data is primarily collected through semi-structured interviews and focus group discussions (Edenglanr, 2012; Lauterbach, 2018, p. 14). Interviews are conducted with individual participants to elicit detailed narratives, insights, and reflections on their experiences with the diving business opportunities (Edenglanr, 2012; Lauterbach, 2018, p. 15). Focus groups provide a platform for interactive discussions and idea generation among diverse stakeholders.

#### 2.4 Data Analysis Technique

Qualitative data analysis involves thematic coding and content analysis techniques to identify recurring patterns, themes, and categories within the interview transcripts and focus group transcripts (Edenglanr, 2012; Lauterbach, 2018, p. 13). The coding process follows an iterative approach, starting with open coding to generate initial codes and gradually refining them through axial coding and selective coding.

### 3. DATA ANALYSIS, RESULT AND DISCUSSION

#### **3.1** Distribution of the informants

The initial section will provide an overview of the demographic information of the informants involved in this study. This includes details such as age, gender, occupation, and any relevant background information that characterizes the participants. Understanding the demographics of the informants will help contextualize their perspectives and insights regarding the diving industry and its associated opportunities and challenges.

No	Informants' name	Gender	Company	Working Experience	
1 (R1)	Mrs. Marianne Woods	F		20 years	
2 (R2)	Mr. Malo (local master diver)	М	Dive Timor Lorosae		
3 (R3)	Mr. Regio Horta	М	Aquatic Timor-Leste	14 years	
4 (R4)	3 staff of DDA (Dive Dreamers Academy)	1 F and 2 M	DDA (Dive Dreamers Academy)	Two of the males are 5 years and one dive instructor is 10 years	
5 (R5)	Ms. Melisa Pareira and	F	COMPAS DIVING	25 Years	
6 (R6)	Mr. Robert Ryan	М			
7(R7)	Mr. Deonizio Baltazar Afonso Belo	М	Autoridade Turismo de Timor-Leste (ATTL-IP)	1 Year	
8(R8)	Mr. Nogenio	М	Diver at DDA	2 Years	
9(R9)	Mr. Luis Melky Berehunu	М	Diver at DDA	5 Years	

Table 3.1 Key Informants
--------------------------

The demographic information on the table above indicates that the majority of informants possess extensive experience in managing diving businesses and hold advanced qualifications, such as being Master Divers or certified Instructors. These qualifications are critical for running a successful diving operation, as they ensure that the entrepreneurs not only have a deep understanding of diving techniques and safety protocols but also possess the necessary credentials to train others and lead diving expeditions. Their expertise and qualifications contribute significantly to the credibility of their businesses, enabling them to offer high-quality services while adhering to industry safety standards.

#### **3.2 DESCRIPTION OF FINDINGS**

Result of this study based on two objectives. First objective: To identify potentials of the Diving Business Opportunities. Second objectives: To encourage young Timorese entrepreneurs to invest in diving industry. This result are categorized into five key themes for narrative analysis. These themes include: the potential opportunities for the diving business, the availability and quality of diving training, the potential for investments and associated costs, recommendations for the gov-ernment and local community, and the potential for partnerships to support the development of the diving industry in Timor-Leste.

#### 3.2.1 TO IDENTIFY POTENTIALS OF THE DIVING BUSINESS OPPORTUNITIES

# 3.2.1.1 Opportunities Potentials for Diving in Timor-Leste (Customer preferences and Industrial trends)

#### Theme 1: Potentials of Coral reefs in Timor-Leste

Most informants highlighted that some of the world's most beautiful coral reefs are located in Timor-Leste, particularly around Atauro Island and near Dili. Notable sites include Tasi-Tolu, Dolok Oan Beach, and K41 Beach, all of which are recognized for their rich marine biodiversity and pristine underwater ecosystems.

Timor-Leste has the Pristine coral reefs in Atauro area is the best above Raja 4 in Indonesia—Along the cost they have beautiful coral reefs. (R1)

Hua iha Quensland and Darwin, Luku diak mas la duun klean. Iha Tasi Timor klean liu e kapaas liu. <u>Ita nia riku soin ida nee liu fali osan mean--</u> Ida nee mak importante ba ita nia nasaun, riku soin nee nia liu fali osan mean-- Nia liu fali osan mean? Laos deit ba ita, nee ba ita nia oan sira, importante ita preserva liu tan. (R2)

The unique things is the coral reefs here is beautiful than other places in the world—Not many places in the world still have beautiful coral reefs like in Timor. (R3)

Ahu ruin (biodiversidade ahu ruin nebee bonita loos iha mundu).. It's still virgin--- Diak ba ita no ba ita nia beiona sira hotu--- <u>hanesan ita nia riku soi, riku soin ida nebee mak</u> <u>nunka hotu</u>. (R4)

Insightful experience and opportunity in adventure because the ocean is biodiverse, condition is vey favorable for diving. The coral are most healthy and beautiful that I have seen in my diving career and lot of potentials. We also provide activity for expats who live in Dili if they don't wanna go to Atauro as well, they could go diving and snorkeling in Tasitolu, Dili rocks (Dolok Oan Beach), and sometimes we go further location to K41. Also, we got the major income from Diving and snorkeling. (R5)

Haree ba iha potensia tasi, ita timor iha potensia barak tamba nee ita tenki proteje fatin sira nee, depois de ida nee ita mos servisu ho seitor privadu hodi hanoin atu diversifika ita nia rekursu tasi nee, tamba ida nee hanesan responsabilidade Governu nomos seitor privadu nian hotu. (R7 & R8)

Agora daudaun governu iha politika atu diversifika turizmu area marina nian, agora daudaun foin hahuu iha Atauro, liu husi gabinete Fronteira Maritima sira sei koloka matenek nain husi Australia hodi halao peskija iha Atauro, depois de ida nee sira sei aprezenta fali rezultadu husi peskija nee ba iha ministerio relevante sira hanesan Agrikultura e Pescas no ministerio turizmu rasik.(R7)

From the perspectives of respondents it will be concluded that establishing and enforcing marine protected areas (MPAs) could protect coral reefs from harmful activities such as overfishing and coastal development. These zones can serve as safe havens for marine biodiversity, allowing ecosystems to heal and regenerate. By promoting sustainable practices and marine conservation, coral reefs can play a role in community development, supporting local economies, and improving the well-being of coastal populations. And at the other side, Coral reefs offer significant economic benefits for Timor-Leste, particularly in the fields of fisheries, tourism and marine product.

- a) Fisheries: many coastal communities depend on coral reef ecosystems for their livelihoods. These reefs serve as spawning grounds and nurseries for fish, playing a vital role in food security and local economies. By adopting sustainable fishing practices, communities can ensure long-term food security and stable incomes.
- b) Tourism: Timor-Leste, with its abundant marine biodiversity, has the potential to become a major eco-tourism hub. Its coral reefs draw divers and snorkelers from across the globe, eager to experience the colorful marine life and crystal-clear waters. Promoting sustainable eco-tourism could enhance local economies while preserving the environment.
- c) Marine Products: Coral reefs offer valuable marine products such as pearls, shells, and other organisms that can be harvested sustainably to support local incomes. However, it is essential to manage this harvesting carefully to prevent overexploitation.

This perspectives supported by the Law on Biodiversity (Law No. 5/2017/TL): This law provides a framework for the conservation and sustainable use of biological diversity. It emphasizes the protection of ecosystems and species, and includes provisions for the establishment of protected areas.

#### Theme 2: Potentials of Whale Watching, Dolphins, Dugong and Turtles in Timor-Leste

Most informants emphasized the value of observing marine life in the Timor Ocean, particularly around Dili. They highlighted whale watching, as well as sightings of dolphins, dugongs, turtles, and other fauna, as significant attractions. Their comments reflect the belief that these natural resources are not only of ecological importance but also hold considerable potential for tourism and economic development. The following are some of their statements:

Why do divers want to come here because its new and it is different--- people wants to know why they are different--- It is the Whale watching which is expensive--- When is the good spot for the whale watching? It is just out there 3km Deep that's why the whales like it--- It is Huge whales between Hera and Dili....It brings lots of income or money to Timor-Leste. (R1)

What the most things attract tourists to come to TL is the Pigmy blue whales--- It is the second biggest whales in the world and on the planet --- It's approximately about 27 meters long--- You get to swim with it (R1)

You can not guarantee for the whale watching in October and November--- We promise diving and whale watching as a package. For examples, the whales came late three (3) weeks last year, so we had dolphins; we had dugong in TasiTolu, Thus, we took tourists to visit there. Therefore, You need to sell Diving and Whale watching as a package. (R1)

Ikan Paus bele too 30 m ou liu nebee mak sempre liu husi Tasi Timor--- Dugong (Ikan Duyung/ mermaid), Sira travel iha nee sira passa deit--- Dolphins and Turtles mos barak iha Dili (Tasi Tolu, Cristo Rei, K41)--- Tasi tolu tenki protected--- Nee bele halo osan barak ou income ba Timor-Leste. (R4)

Besides Coral Reefs, are they have blue whale seasons and dugong--- It's high impact season is in October, November and December--- We operate a year around--- Our focus more on the biodiversity of coral reefs and unique aspects of diving in Atauro Island in late Oct and-November we are going to focus on Whales. (R5 and R6)

They also mentioned that Whales Season is economic for us--- all the money is coming to our country--- Every business in the country in Timor-Leste will get income on the whale season--- Above anything as well, but I think, during the whales season we have small numbers of the boat--- if many people is not good practices, for whales--- interaction with whales is very or it has to be done in the correct way--- it's a fragile--- That's why we saw on 24 may is year that's one whales and one calf--- it was two weeks ago--- for people to go and see that its very expensive to go too--- for some island some where not really well

known.. But here is all we have that--- Blue Whales (30 meters long) and local whales that are coming in October. (R5 and R6)

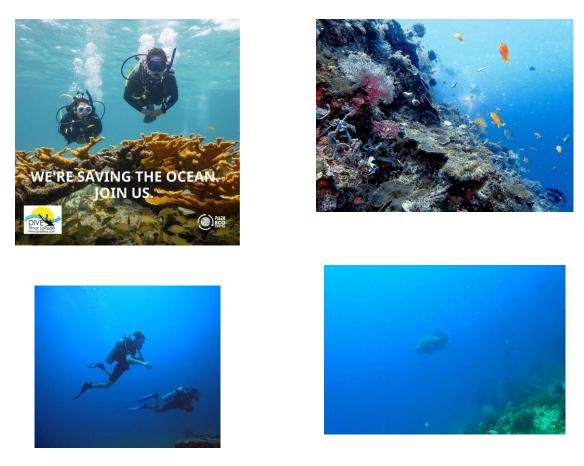


Figure 3.1 Potential of diving in the ocean Coral reefs, Dugong and etc. (Sources; Dive Timor Lorosa'e, 2024)

The below is some of the video link from the diving companies:

- <u>https://www.instagram.com/dive\_timor?utm\_source=ig\_web\_button\_share\_sheet&igs</u> <u>h=ZDNIZDc0MzIxNw</u>==
- <u>https://www.instagram.com/reel/C0Lg2hCyPX1/?utm\_source=ig\_web\_button\_share\_sheet&igsh=MzRIODBiNWFIZA</u>==
- <u>https://www.instagram.com/reel/Cz-</u> <u>xDG1SrwX/?utm\_source=ig\_web\_button\_share\_sheet&igsh=MzRIODBiNWFIZA</u>==

This study reveals significant potential in the Timorese ocean, particularly around Dili and Atauro Island. The coral reefs in these areas are among the most beautiful in the world, offering considerable opportunities for eco-tourism. Additionally, activities such as whale watching,

observing dugongs, turtles, and other marine fauna could generate substantial income for the country.

To ensure the sustainability of these ecosystems, it is highly recommended that certain areas be designated as protected or restricted zones. Specific locations, such as parts of Atauro Island, Tasi Tolu (behind the *Selamat Datang* monument), and Dolok Oan Beach, should be prioritized for conservation to preserve the delicate marine life and ensure long-term ecological balance.

Timor-Leste Government has approved **the Law on Biodiversity** (Law No. 5/2017): This law provides a framework for the conservation and sustainable use of biological diversity. It emphasizes the protection of ecosystems and species, and includes provisions for the establishment of protected areas.

# 3.2.2 TO ENCOURAGE YOUNG TIMORESE ENTREPRENEURS TO INVEST IN DIVING INDUSTRY

#### **3.2.2.1 Training Opportunities for Timorese**

#### Theme 1: Educational Training is Essential for Timorese

The majority of informants emphasized the necessity of providing educational training for Timorese individuals to become dive instructors. Currently, there is a shortage of qualified Timorese dive masters and instructors, highlighting the need for targeted training programs. Establishing such training within local dive centers is crucial to ensure that Timorese are equipped to lead the industry.

This initiative is vital not only for the protection and sustainable use of the ocean as part of the nation's blue economy but also for the conservation and preservation of Timor-Leste's unique marine ecosystems. By empowering local individuals to take charge of these efforts, Timorese can ensure the long-term sustainability and stewardship of their oceanic resources.

The most requirement to DIVE is to be able to Swim 200m without stopping, and be able to float for 10 minutes--- It's difficult for Timorese--- PADI (Professional Association of Diving Instructors) certification for open water, recreational diver, advance diver, rescue diver, dive master and dive instructor. These are the dive levels that a new diver should pass on. (R1)

The trainee must be in fully training with good health. Also, for the beginner course takes four days, for the recreational diver, you need to dive 18 meters down with all materials on; For the dive master which is professional diving, you need to finish 40 times dive before starting diving--- For the dive instructor, you need to do 100 dives and two weeks intensive course in Bali which is cost a lot of time and money. This place is the training center (Dive Timor Lorosae training center), we do all fully training in here. Also, we can recommend to the local divers – As long as you can swim, you can come here to do the training; In the beginning you start with 10 meters, 12 meter, 15 meters, 18 meters, and 20 meters dive. So far we have 2 local dive master and I am the only one (the manager of Dive Timor Lorosa'e) dive instructor here. (R1) Timor oan la duun interese kona ba estuda no foka ba Diving ou luku tasi nee--- Ita la bele semana ida nee mak halo semana oin la halo fali--- Importante mak ita nia edukasaun--ba jerasaun foun--- talves ita bele halo video hodi nunee estudante sira hatene. Bele hahuu husi eskola Pre-Primaria, fim de semana lori sira mai nani, hodi bele salva ema, clean up day, ita hao uluk mak ida nee--- Hau pronto sai hanesan instructor--- la bele selu hau--hau bele foo treinamentu ba sira, hodi Timor oan mak kaer. (R2)

The time frame for the Dive training: For open water training is 4 days, advance dive training is 5 days, rescue dive training is 2 days, and the dive master training is for 1 months. Lastly the instructor dive training is 2 months. Importantly, you have to make 40 dives to reach dive master and you have to make 60 dives to reach dive instructor. For the dive master you can take people to dive but you cannot teach--- You have to be instructor--- This is their standard. (R1)

Even My staff who never been outside in the world, I sent him to Bali or other country to see how they develop their diving skills. For me, Timorese with 20 to 25 years old, it's good to learn how to swim and protect the eco system in the ocean---- We take them to swim in the swimming pool first and then we bring them to the ocean---- For Timorese if they are potential, I will send them further for the training---- Be safe to swim around the ocean. (R3)

In terms for local training, we did training for one Timorese dive master those who are able to swim is a must or compulsory. We did training for: Open water certification (Paper and practical exam), followed by the advance dive, then the rescue dive, then, the dive master (Dircya, she was working in the dive tourism) it's a private marine tourism and one of UNTL student is Mizo (open water students, trained by Dreamers Academy as freelance local dive) and the final one is the dive Instructor. (R5, R6 and R8))

Most of the courses are in English, also in Bahasa Indonesia. We have all about 30 staff both in Dili and Atauro; One of the sustain company of diving in Timor-Leste since 2000. Compas Diving is recovering from the covid as well. In terms of certification, we are working with PADI training centre, for DDA is TDI (Technical Diving International) or SDI (Scuba Diving International). PADI is a global organization of 75% diving company in the world is under the PADI organization. (R5)

Training opportunities for Timorese in diving are important for various reasons, including the growth of tourism, marine conservation, and employment opportunities in the diving industry. Timor-Leste is a country rich in marine biodiversity and has potential as a diving destination, it makes sense to provide education and training in scuba diving to local people, because many of young timorese still lack of information related to diving and job opportunities that will provided by diving industry. Diving training opportunities for Timorese individuals are expanding and varied, offering pathways in recreation, professional development, and marine conservation. These opportunities allow locals to build careers, participate in environmental protection, and promote sustainable tourism. Dive centers in Timor-Leste, along with international organizations like Professional Association of Diving Instructor (PADI) and Scuba School International (SSI), as well as NGOs, are key players in facilitating this training. Meanwhile, the stunning marine environment of Timor-Leste offers an ideal setting for learning and advancing in the diving industry.

#### Theme 2: Training Opportunities and Guarantees (Free for Timorese)

Certain training programs, such as those offered by R4 and R2, are provided at no cost to Timorese individuals. However, the success of these programs depends on the willingness of young Timorese to engage in learning, pursue diving skills, and commit to protecting the ocean. The importance of this commitment was strongly emphasized by several informants, as reflected in their comments below:

Ami DDA (Dive Dreamers Academy) mos iha sertifkadu internasional nian--- Ami foo treinamentu gratuita ba Timor oan nebee mak hakarak nani no luku tasi. (R4)

Ita tenki hao nia eskola tiha ka oinsaa--- Ida nee laos tipu peskas ninian--- Eskola nee tiha hatene luku ona ita baa halo clean up tiha--- ita tenki servisu hamutuk hodi ita bele domina luku tasi nee--- Hanorin Timor ona sira nebee iha emotional diak komesa husi idade 10 anus too 15 anus--- Sira khusus deit ba haree ambiente tasi nian--- Nia kareira mak ida nee--- Hodi nunee ita bele haree ema nee iha duni vokasaun ba ida nee ka lae?--- Ita la bele lakon tempu--- Governu lalika selu hau--- Hau voluntatiu ba halo ida nee--- Hau nia matenek hau sei foo gratuita. (R2)

Do you feel like it's very important to train local Timorese to see what is in the water, and how special it is--- we would be very happy to find a better ways to educate for local people on how important the ocean is, as well as to find the potential for local divers--- In our "Discover scuba dive", they can swim just to try and to see it whether you like it or not, It's not certification. Just in case if locals want to experience it. They are never going to the water and experience it, they would never love it--- in the water slowly, the one that who saw potential and really want to do it, we will give them opportunity to dive with us. (R5 and R6)



The findings indicate that training and education on the significance of diving are crucial. For Timorese individuals who are eager to learn about diving, there are substantial opportunities available, including access to training centers and instructors. It is essential to take full advantage of these resources to ensure proper use and to benefit from the guidance provided by experienced professionals.

#### **3.2.2.2 Investments and expenses**

#### Theme 1: Diving Prices

Informants reported that diving prices vary widely based on the specific requirements and levels of the dive experience sought. The cost of diving is influenced by factors such as the type of dive, the depth, and the level of expertise required. The following details provide a breakdown of how these factors impact pricing:

*Price for one time for the local Dive in Dili is \$50, for the K41 is \$110, 2 dives per person. Also, there is no per group price, all is in price per person. (R1)* 

The price is different in here is much cheaper \$450 for person. (R3)

Special prize for training, for local is \$50 per person and for foreigner is \$150 per person for one time diving (R5)

#### Theme 2 Diving Training cost

Training for the course is quite costly as mentioned by the informants below:

The coast for a person is \$145, for 2 people is 369, for 3 people is \$450, and for a group is \$1200 for the diving, and use the equipments. (R1)

There is a 2 weeks intensive course in Bali for the instructor dive, and it costs up to 2000--- It's need a lot of time and a lot of money. (R1)

Special prize for training, for local is \$50 per person and for foreigner is \$150 per person for one time diving (R5)

#### Theme 3: Investment Requirements

Most informants noted that while starting and operating a diving business involves significant investment, it also presents substantial income potential. The costs associated with running a diving business can be considerable, but the revenue opportunities are equally promising. The following points illustrate the key investment requirements and potential returns as described by the informants:

Lots of investments: starting from \$20.000, \$36.000 and up to \$200.000 to but the boat and all the equipments that is required for the diving. (R1)

Material hotu -hotu mesak karun deit, Ro ida deit bele too \$200.000 ho material sira seluk mos karun. (R4)

*We work very hard for our self, in the starting we spent all together* \$50.000 *to do the diving company.* (*R6*)



Figure 3.3 Benefits for the business (Sources: Dive Timor Lorosa'e, 2024)

This finding demonstrates the application of supply and demand theory in the diving industry. It shows that when there is limited supply of diving services, prices tend to be higher. Conversely, the potential for running a successful diving business is substantial, particularly given potential support from government and international diving organizations. This support could help mitigate initial costs and enhance business viability, making it a promising opportunity for investment.

#### **3.2.2.3 Obstacles or Challenges**

#### Theme 1: Obstacles and Difficulties in Diving

Most informants identified key obstacles facing the diving industry, including the need to protect marine ecosystems. These challenges highlight the dual responsibility of benefiting from diving

activities while ensuring the sustainability and protection of marine environments for the future. The following comments from informants provide insight into these concerns:

We struggle to protect them from industry and rubbish--- In the city we have Tasitolu, We created the artificial reefs which encourage marine life to grow. (R1)

Risku mak ita nai hasoru lafaek ho ombak, maibeee ita bele hamenus nia riksu. Iha nee la iha tubaraun problema mak lafaek; Hau moris iha Com nebee iha lafaek barak, maibee diak hela; Ita sae motor deit mos ita hetan asidenti.. risku pasti iha; Lafaek barak liu mak iha Darwin maibee ida nee protejidu. (R2)

Very few tourists visit here or small number of tourists; if you compare with other countries that has diving business, they have many tourists. What are the difficulties? The roads are bad and also the transportation. (R3)

Like in Srilanka many people chasing them the whales and the whales are going away so its hard for them to bring them to come back again. We have to limit it. because its only few of us who taking care of them in here. (R5)

Many people are studying and working in Marine stuff and marine education, all of the corals; but none of them is going to the water--- I have the time for the kids in the High School, but teachers did not like to support it. (R5 and R6)

Very expensive to run the business, for examples, Boat, needs to maintain, mechanic who knows how to fix the boat, one regulator is \$50, for diving needs 20 regulators, jacket, fins, it's not only expensive to buy but expensive to fix it too---- Because we can't do it in here, we need to bring it to Bali or Australia. (R5).

#### **Theme 2: Challenges in Diving**

Most informants pointed out that key challenges in diving include dealing with current and wave conditions. While diving can be an enjoyable experience, divers must also be vigilant about adverse weather and ocean conditions that can pose risks or complicate the diving experience. The following comments from informants highlight these concerns:

The challenges in diving are mostly due to the current, and waves especially in the wet season--- we can hear it and we can feel it. Once you hear it you need to come back to the up, and the helper will come and pick you up. (R1)

Saude moras; If you are unhealthy or sick, you cannot dive, please make sure you are healthy when you dive. (R4)

Weather could be rough (R5)

Getting all approval from the government or docs is really rough. I was trying it for five years already/// we don't have anybody sign it from the government. Its very difficult to invest. (R6)

The country is good to have coffee, oil and whatever happen in the future--- if limited resource and next income is tourism--- If I have someone come from Australia we bring money--- we need to provide services for them so we can have that money--- the income is into Timor-Leste--- if we get 10 people from the other country, they got 10 million dollar--- they money is not going out. In my opinion is you might spend 2 million dollars it might be coming back for 20 million dollars--- so much here to see this country just for the island as well--- you have got mountain climbing, local communities on the island---- it all will collect the income--- particularly, this is the most amazing coral reefs in the world---- we must protect it. (R5)

The explanation of the informants is based on their experience during dealing with this industry, those experience as an important information for the new investor who want to invest in diving industry, but the important things is how to overcome this obstacle. Overcoming challenges in diving involves both mental and physical preparation. Whether dealing with environmental conditions, equipment malfunctions, or psychological barriers, a well-prepared and experienced diver can handle most challenges by staying calm, practicing regularly, and using the appropriate techniques. It's important to remember that diving is a safe sport when approached with respect for safety protocols, preparation, and ongoing learning.

#### 3.2.2.4 Recommendations for the government or public and private sectors business

#### Theme 1: Recommendations for the Local Government

Most informants emphasized the critical importance of safeguarding the ecosystems within the Timorese ocean. Protecting these ecosystems is essential not only for their sustainability but also for securing future economic benefits for the nation. They strongly recommended that both the government and local communities focus on preservation, protection, and conservation efforts. The following comments illustrate their recommendations:

To be honest with you--- Once they have all qualification--- you need to get at least dive masters--- Local Dive centre get to be serious--- see how tourists expect the services, on time, easy, know everything--- AC, clean rooms, water, electricity, internet, safe, tracing protections, life jacket--- that's what they expect--- When tourists come to this country they expect that--- It's very different the level of services here--- No have, sorry I forgot--- Tourists want the perfect. Government needs to provide the training for the services--- Get the training, get the experiences--- and see how they are different. Therefore, the services is better--- The facilities works well, and the services works well, that's what we can earn much income. (R1)

Hau nia hanoin ema barak tenki iha espelizasaun ba nani--- Halo area ida prohibited ba tinan lima ka sanulu--- Taka zona balu ita proteje tiha depois tinan lima ka sanulu mak loke. (R2)

Tanba nee ita nia riku soin, Mina nee loron ida sei mohu--- Por exemplu, ita nia ikan iha atauro ema dada sai hotu entaun aioan tasi balu mos ema dada sai hotu. Hau hakarak lori ita nia oan sira ba hareee Atauro, Com no Jaco. Depois komesa husi kikoan tenki hatene nani tasi, ita rasik bele haree. Hau nia hanoin se maun sira iha tempu, ita bele ba eskola primaria sira hodi hatudu foto ka video hodi nunee bele atrai ita nia oan sira hodi buka hatene oinsaa nani no proteje ita nia rikusoin nee. (R2)

Kustu hau bele husu ba prezidente bele tulun--- laos hau mesak se ita hotu bele baa koalia ho presidente--- hodi koalia ho presidente--- tau bandu ema kail iha Selamat datang---Ekipamentus sira nee karun--- maibee ida nee bele halo doasaun--- preokupa mak zona sira nee tenki protejidu --- ita rasik mak tenki kaer nia kuda talin. (R2)

The important is to protect them (Coral Reefs, Dugong, and whales and all eco system in the ocean)--- Once it is dead is dead--- Pelican paradise is gonna be built so its gonna destroy the dugong there--- It's very important in the around the world--- so please protect them. (R3)

What's equipment? To run this business: I asked him can you swim? Have you swum in the ocean? How can you see the beautiful things in the ocean if you never been there, and how can you protect it. You know it so you can protect it! To the ministry of Tourism previous one. (R3)

Tasi tolu tenki protected--- Nee bele halo osan barak--- Aat liu maka rubbish barak loos nee bele estraga ahu ruin hotu--- Hamoos tasi laran--- Halo atividade iha Tasi--- Ita tenki tama ba haree mak diak hodi nunee it abele proteje tasi nee--- Ita nia tasi kan barak liu ita nia rai--- entaun ita nia potensia barak liu mak iha Tasi laran. (R4)

*One of our result and recommend, if we are not doing it, and where will be our future goes? Government never support. (R6)* 

People from Dili don't like to be in the water, which is different from Atauro, People from Dili to go to Atauro as well to see--- how people--- Education about swimming for the marine safety--- Do they learn how to swim or they just wanna go to the water? (R5)

Doing working Serious of tourism and prohibited Plastic pollution (Various way) every day the whole beach--- completely cover with plastics--- I went to a meeting and they have lots of plastic cups of water. Some short of awareness and plastic--- you can see for all of plastics floating in the water---- we need to fight those company who is producing plastics as well--- How can we understand of our sources--- How can we try to change our habit in more sustain as well. (R5 and R6)

Generate more people and we could generate more money--- we need some backup from the government---- we work for ourselves, we advertise this country from our company---How to start to invest in Diving: Timor under earth--- School children--- have an incentives with those schools to collaborate with schools so they are getting same types of program. (R5) Two points that also can be raised that Possibility of making Atauro Island as a Marine Par--- Understand of having the Taru Bandu as well.. It benefits for the community--- Turtles are scare and they go away as well--- it's the balance how do we protect and also we benefits for our resources. (R5)

#### Theme 2: Potential Partnerships for Diving Business Opportunities

Most informants discussed the potential for both local and international partnerships to enhance the development of Timor-Leste's ocean resources and the blue economy. They highlighted that collaborations could significantly benefit the diving industry and contribute to sustainable economic growth in the region. The following expressions from informants provide insight into these potential partnerships:

There are many potential partnerships such as the Trip advisors for tourists to get more tourists. The trip advisors from that they get commissions. the Dream divers is to support for the Tank for the compressor, and also there are certain agents that their job is to support diving. In Australia we have the Dive adventures, and also PADI---They are the one who helped us. (R1)

Ita bele halo parseiru ho Mia Alkatiri, Nilton Gusmau, Osacar Lima, no Sua Eselensia Presidente nia mos hanoin--- nia katuas ona nia hakarak ema tau matan duni ba ita nia tasi nee. (R2)

*Will collaborate with other industry like accommodation with hotel Timor--- for tourist to stay* 

Partnerships to support tourist to stay--- if tourists want to go to Liquica and Balibo. (R5)

Be conscious of type of partnerships (Marine of tourism, it has to be done in sustainable way), partner up with those schools and university and collaborate funding--- To invest in Diving--- ALOLA and conservation information. (R5 and R6)



Figure 3.4 Marine life protection (Sources: Dive Timor Lorosa'e, 2024)

The findings highlight the urgent need for the government of Timor-Leste to establish marine protected areas (MPAs) to safeguard the country's rich marine biodiversity. These areas would not only contribute to environmental conservation but also create a foundation for sustainable tourism, particularly in the diving sector. Moreover, the study underscores the importance of young entrepreneurs collaborating closely with potential partners, such as local businesses, international organizations, and government agencies. Such partnerships would facilitate the development of diving enterprises, which in turn could generate employment opportunities and contribute to a sustainable income for both local communities and the national economy. Establishing MPAs and fostering strategic partnerships are critical steps towards ensuring the long-term viability of Timor-Leste's marine tourism industry.

#### 3.3 Discussion

The findings of this study can be categorized into two key areas of discussion: To identify potentials of the diving business opportunities, and to encourage the young Timorese entrepreneurs to invest in diving industry.

First, with regard to identify potential of diving industry, the study reveals substantial potential in Timor-Leste's coastal regions, particularly around Dili and Atauro Island. The coral reefs in these areas are among the most pristine and beautiful in the world, presenting significant opportunities for eco-tourism development. Activities such as whale watching, observing dugongs, turtles, and other marine species could serve as additional revenue streams for the nation. These findings align with the work of Lucrezi et al. (2017), Lucrezi and Saayman (2017), and Shane and Venkataraman (2000), who emphasize the importance of recognizing and seizing entrepreneurial opportunities in underdeveloped or emerging markets. In the context of diving tourism, such opportunities are closely tied to environmental assets, shifting tourism trends, and local resources. With its abundant marine biodiversity and a burgeoning tourism sector, Timor-Leste is well-positioned for entrepreneurial ventures in diving tourism, capitalizing on its natural beauty and underexploited market segments.

Second, in terms of encouraging the young Timorese entrepreneurs to invest in diving industry, the study highlights the application of supply and demand theory within the diving industry. Specifically, it demonstrates that when the supply of diving services is limited, prices naturally increase, offering high revenue potential for service providers. However, there is significant potential for successful diving businesses, particularly with potential support from the government and international diving organizations, the young Timorese entrepreneurs can invest on it. These findings are consistent with previous research by Depondt and Green (2006), Dimmock and Musa (2015), Naidoo et al. (2018), Porter (1980), and Susanto et al. (2024), which suggest that niche market exploitation allows businesses to cater to specific consumer needs. By focusing on tailored diving experiences and services, Timorese entrepreneurs can avoid direct competition with well-established global diving destinations, thus creating a sustainable market niche for themselves.

Finally, the study underscores the importance of partnerships in business development. The findings suggest that young Timorese entrepreneurs could collaborate with key local figures such as Mia Alkatiri, Nilton Gusmao, and Oscar Lima, as well as political leaders like the President, who is committed to marine conservation. These partnerships could offer substantial opportunities for entrepreneurship, particularly in the diving sector, through mutual support and resource sharing. These results align with prior studies by Cavallini et al. (2023), Hodeck et al. (2021), Sarasvathy (2001), and Townsend (2007), which emphasize the importance of leveraging contingencies and forming partnerships in emerging markets like Timor-Leste. Strategic alliances with local communities, international diving organizations, and government bodies are crucial for accessing resources, reducing operational costs, and enhancing business credibility, ultimately fostering sustainable growth in the diving industry.

#### 4. CONCLUSIONS AND RECOMMENDATIONS

#### **4.1 Conclusions**

This study can be concluded into two main objectives such as identify potentials of diving and encourage young entrepreneurships to invest in the diving industry (which included in this five main conclusions). It is starting from the identity potential of Timor-Leste ocean is, then, followed by the important of education and training in diving and the expenses and costs, then the obstacles and challenges and lastly is the recommendation for the government and partnership to run the diving business.

Firstly, it is the significant potential in the Timorese ocean, particularly around Dili and Atauro Island. The coral reefs in these areas are among the most beautiful in the world, offering considerable opportunities for eco-tourism. Additionally, activities such as whale watching, observing dugongs, turtles, and other marine fauna could generate substantial income for the country. As one of the informants said **"Riku soin iha Tasi laran liu fali osan mean"** Secondly, training and education on the significance of diving are crucial. For Timorese individuals who are eager to learn about diving, there are substantial opportunities available, including access to training centers and instructors. It is started from open water, advance dive, rescue dive, dive master and dive instructor.

Thirdly, the application of supply and demand theory in the diving industry is important. It shows that when there is limited supply of diving services, prices tend to be higher. Conversely, the potential for running a successful diving business is substantial, particularly given potential support from government and international diving organizations. This support could help mitigate initial costs and enhance business viability, making it a promising opportunity for investment.

Fourthly, it is obstacles facing the diving industry, including the need to protect marine ecosystems and address issues related to crocodiles. These challenges highlight the dual responsibility of benefiting from diving activities while ensuring the sustainability and protection of marine environments for the future.

Lastly, it is emphasized the critical importance of safeguarding the ecosystems within the Timorese ocean. Protecting these ecosystems is essential not only for their sustainability but also for securing future economic benefits for the nation. It is for both the government and local communities focus on preservation, protection, and conservation efforts. There are potential for both local and international partnerships to enhance the development of Timor-Leste's ocean resources and the blue economy, and the collaborations could significantly benefit the diving industry and contribute to sustainable economic growth in the region.

Also least but for most, to ensure the sustainability of these ecosystems, it is highly recommended that certain areas be designated as protected or restricted zones. Specific locations, such as parts of Atauro Island, Tasi Tolu (behind the *Selamat Datang* monument), and Dolok Oan Beach, should be prioritized for conservation to preserve the delicate marine life and ensure long-term ecological balance.

#### 4.2 Recommendations

# **4.2.1** To the relevant government officials, including the Ministry of Tourism and Environment:

1. Designate Protected Areas: It is highly recommended that specific areas be designated as protected or restricted zones to preserve marine ecosystems. Priority locations for conservation include parts of Atauro Island, Tasi Tolu (behind the Selamat Datang monument), and Dolok Oan Beach. Implementing such measures will help maintain the delicate balance of marine life and ensure long-term ecological health.

2. Foster Private Sector Cooperation: Collaborate with private sector stakeholders to emphasize the importance of investing in the diving industry. Such partnerships should focus on both maximizing economic benefits and protecting the marine ecosystem in Timor-Leste. Encouraging investment while ensuring environmental stewardship will support the sustainable development of the diving industry.

#### 4.2.2 To the community in Timor-Leste:

1. Proper Waste Disposal: Please avoid disposing of rubbish carelessly, as it can negatively impact our marine ecosystems. Proper waste management is crucial for protecting the health of our ocean and the life it supports.

2. Preserve for Future Generations: Remember that Timor's ocean is a valuable resource for future generations and has the potential to generate significant income.

3. Encourage Ocean Education: Teach and encourage our children to swim and engage with the ocean. This not only helps in preserving our marine environment but also fosters a sense of responsibility and connection to our oceanic heritage.

#### **4.2.3** To the Ministry of Agriculture and Fisheries

Ministry of Agriculture and Fisheries has a pivotal role in fostering the development of this sector by providing training, financial support, infrastructure, and a conducive policy environment. By focusing on eco-tourism, conservation, and local entrepreneurship, Timor-Leste can build a thriving diving industry that benefits both the economy and the environment, while also empowering its youth to become leaders in marine-related businesses.

### **5. REFERENCES**

- CAVALLINI, I., Marzo, D., Scaccia, L., Scipioni, S., & Niccolini, F. (2023). Scuba diving tourism and the challenge of sustainability: evidence from an explorative study in North African-Mediterranean countries. *EuroMed Journal of Business*.
- CORTINI, M. (2014). Mix-method research in applied psychology. *Mediterranean Journal of Social Sciences*, 5(23), 1900.
- DEPONDT, F., & Green, E. (2006). Diving user fees and the financial sustainability of marine protected areas: Opportunities and impediments. *Ocean & Coastal Management*, 49(3-4), 188-202.
- DIMMOCK, K., & Musa, G. (2015). Scuba Diving Tourism System: A framework for collaborative management and sustainability. *Marine policy*, 54, 52-58.
- EDENGLANR, M. (2012). The interview: Data collection in descriptive phenomenological human scientific research. *Journal of phenomenological psychology*, 43(1), 13-35.
- ETIKAN, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American journal of theoretical and applied statistics*, *5*(1), 1-4.

- FORREST, M. J., Favoretto, F., Nisa, Z. A., & Aburto-Oropeza, O. (2023). A deeper dive into the blue economy: the role of the diving sector in conservation and sustainable development goals. *Frontiers in Marine Science*, 10, 1212790.
- GERUNGAN, A., & Chia, K. W. (2020). Scuba diving operators' perspective of scuba diving tourism business in Nusa Penida, Indonesia. *Journal of Outdoor Recreation and Tourism*, 31, 100328.
- GOVERNMENT of Timor-Leste (2024) Program of the IX Constitutional Government (Blue economy program). Retrieved from: <u>https://timor-leste.gov.tl/?cat=39&lang=en</u>. Accessed on October, 24, 2024
- HODECK, A., Tuchel, J., Hente, L., & von Reibnitz, C. (2021). The importance of sustainability in diving tourism—the case of German speaking diving tourists. *Sustainability*, *13*(11), 6485.
- LAUTERBACH, A. A. (2018). Hermeneutic phenomenological interviewing: Going beyond semi-structured formats to help participants revisit experience. *The Qualitative Report*, 23(11), 2883-2898.
- LUCREZI, S., Milanese, M., Markantonatou, V., Cerrano, C., Sarà, A., Palma, M., & Saayman, M. (2017). Scuba diving tourism systems and sustainability: Perceptions by the scuba diving industry in two Marine Protected Areas. *Tourism management*, 59, 385-403.
- LUCREZI, S., & Saayman, M. (2017). Sustainable scuba diving tourism and resource use: Perspectives and experiences of operators in Mozambique and Italy. *Journal of cleaner production*, *168*, 632-644.
- NAIDOO, P., Ramseook-Munhurrun, P., & Li, J. (2018). Scuba diving experience and sustainability: An assessment of online travel reviews. *The Gaze: Journal of Tourism and Hospitality*, 9, 43-52.
- PORTER, M. E. (1980). Competitive strategy: Techniques for analyzing industries and competitors. Free Press.
- SARASVATHY, S. D. (2001). Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency. Academy of Management Review, 26(2), 243-263.
- SHANE, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. Academy of Management Review, 25(1), 217-226.
- SOARES, M., & Andy, A., (2023). Challenges and Potential of Marine and Coastal Tourism in a country, Timor-Leste, TAJST-vol 6.
- SOVERIGN., (2024) Timor-Leste's Maritime Boundaries. Retrieved from: https://sovereignlimits.com/boundaries/australia-timor-leste-maritime. Acessed on 22 Feb 2024.
- SUSANTO, H. A., Tania, C., Narcise, C. I., Aguiling, K. R., Triani, D., Gautama, D. A., ... & Belo, E. M. (2024). ATSEA: A Regional Collaboration to Address Transboundary Threats to Ecosystems for Human Well-Being in the Arafura and Timor Seas. *Coastal Management*, 52(3), 55-72.
- TOWNSEND, C. (2007). Dive tourism, sustainable tourism and social responsibility: a growing agenda. In *New frontiers in marine tourism* (pp. 139-152). Routledge.
- UNDP., (2022) "Blue Economy of Timor-Leste. Retrieved from: https://en.tatoli.tl/2022/06/15/undp-commits-to-work-with-govt-towards-a-blueeconomy/16/. Accessed 22 Feb 2024.

#### **Attachements:**

#### I. INTERVIEW QUESTIONS FOR DIVING OWNER COMPANY

- 1. Please tell us about your current job and activities!
- 2. Please tell us about the ocean potential for diving in Timor-Leste?
- 3. Kindly tell us about your experience with diving entrepreneurship in Timor-Leste, and how you perceive the current landscape for young entrepreneurs?
- 4. Would it be possible for a young Timorese to run business of diving? Why?
- 5. What motivated you to pursue entrepreneurship, and how did you come across the concept of diving development as a strategy?
- 6. In your opinion, what are the key challenges and opportunities associated with diving development for young entrepreneurs in Timor-Leste?
- 7. How do you identify potential niche markets or untapped opportunities within the Timorese economy, and what factors do you consider when selecting business ventures to pursue?
- 8. What support mechanisms or resources do you believe are essential for young entrepreneurs to effectively implement the diving development strategy?
- 9. Can you discuss the role of collaboration and partnerships in diving development initiatives, particularly in the context of Timor-Leste's entrepreneurial ecosystem?
- 10. Looking ahead, what do you envision as the future prospects and potential evolution of the diving development strategy within the context of Timor-Leste's economic and social development goals?

#### II. INTERVIEW QUESTIONS FOR YOUNG ENTREPRENEUR

General Interest and Awareness

- 1. Have you ever considered starting a business in the diving industry?
- 2. What do you know about the diving industry in Timor-Leste?
- 3. What do you think are the main advantages of starting a diving business in Timor-Leste?
- 4. Do you see diving as a potential way to contribute to Timor-Leste's tourism and economy?
- 5. Do you think young Timorese have access to the necessary training or education to enter the diving industry?
- 6. What challenges do you think young Timorese might face in starting a diving business and how to overcome the potential challenges?
- 7. Would you consider partnering with other youth or local organizations to start a diving business, if it meant sharing the costs and responsibilities?
- 8. Do you think there is enough support from the government or NGOs to help young Timorese enter the diving business?

- 9. What is your long-term vision for the role of young Timorese in the tourism and diving industry?
- 10. What would motivate you to start a diving business or to work in the diving industry in Timor-Leste?
- 11. Do you have any recommendation related to this context (diving industry in Timor-Leste)

#### III INTERVIEW QUESTIONS FOR GOVERNMENT OFFICERS

Government Support and Policy

- 1. How does the government view the potential of diving as a business opportunity for young Timorese?
- 2. What role do you think the government should play in fostering entrepreneurship in the diving industry?
- 3. Is there government funding available to support young Timorese who want to start diving businesses?
- 4. How does the government ensure that diving businesses, including those owned by young Timorese, comply with environmental protection laws and regulations?
- 5. What steps is the government taking to protect Timor-Leste's marine ecosystem, and how do these efforts affect the diving business sector?
- 6. Are there policies in place to foster youth entrepreneurship in Timor-Leste, particularly in the tourism and diving sectors?
- 7. How can the government collaborate with private sector stakeholders (e.g., diving companies, tourism boards) to create a supportive ecosystem for young Timorese diving entrepreneurs?
- 8. Do you have any recommendation for young Timorese who want to start their business in diving industry?
- 9. What incentives could be put in place to encourage young Timorese entrepreneurs to invest in the diving industry?
- 10. How can we create a strong sense of purpose or motivation for young entrepreneurs to take on this venture?
- 11. Do you have any recommendation to the young Timorese who want to start their business in diving industry?

#### **B.** Research Timetable

No	Research desscriptions	Montly					
		1	2	3	4	5	6
1.	Proposal preparation						
2.	Data collection						
3.	Data analysis						
4	Result, conclusion and recommendation						
5	Research report presentation						



## C. Pictures of interview activities

Photo 1 Interviewed with Ms. Marianne from Dive Timor Lorosa'e





Photo 2 Interviewed with Ms. Marianne from Dive Timor Lorosa'e

### Photo 3 Interviewed with Mr. Roger from Aquatic Dive





Photo 4 Interviewed with the DDA team



Photo 5 Interviewed with Compas Diving team