

Timor-Leste National Action Plan to Accelerate Science, Engineering, Technology and Innovation




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Prepared by:







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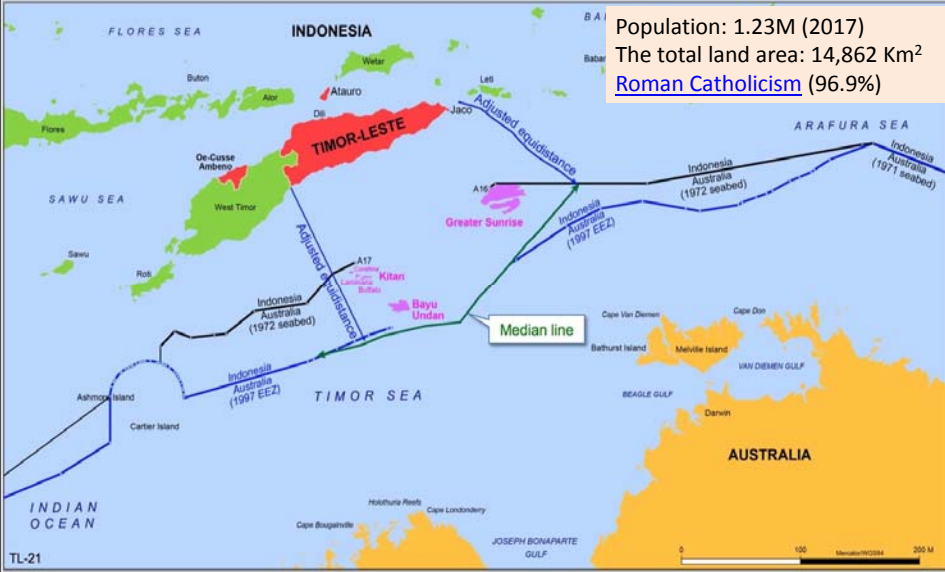
AP-FAST TIMOR LESTE WORKSHOP

Dili, 7-9 June 2017

Timor-Leste National Action Plan to Accelerate Science, Engineering, Technology and Innovation

Welcome to Timor Leste!



Population: 1.23M (2017)
 The total land area: 14,862 Km²
Roman Catholicism (96.9%)

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Timor-Leste National Action Plan to Accelerate Science, Engineering, Technology and Innovation






Content

- ❑ Country's Policy related with SETI
- ❑ NAP
- ❑ SETI Capacity in Timor-Leste
- ❑ Challenges and Opportunities
- ❑ Recommendations and alternatives

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❑ Country's Policy Related SETI

Ministry of Education to Council of Ministry (CoM) and Approved on February 27, 2008)

- ✓ Reform of the education System
- ✓ Reform of Education Management

National Institute of Science and Technology

- ✓ In Partnership with government to promote, monitor, evaluate and articulate the incorporation of annual plans in the area of science and technology with those related to TL's SDP 2011-2030
- ✓ Provide capacity building, promote and create the reinforcement of the infrastructure in support of scientific research and technological development in higher institutions
- ✓ To promote dissemination of the culture, scientific and technological education and provide data and information of National interest. (Decree Law No 23/2-14)

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□ National Action Plan related SDG's

In terms of the National Action Plan a proof by Parliament of Timor Leste is SDG number 2, 3, & 9.

- ✓ Nutrition, Health, Infrastructure (2008 Focus)



TL 2017 SDG Focus

SDG-2 Agriculture (Hunger & Malnutrition)	SDG-3 Health	SDG-4 Basic Education	SDG-6 Clean Water and Sanitation	SDG-9 Basic Infrastructure	General Election
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Source: Presented by PM in 2016

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□ SDG Related with SETI


- ✓ **Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all**
- ✓ Goal 7: Ensure access to affordable, reliable sustainable and modern energy for all
- ✓ Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster Innovation

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□ AP-FAST related to SDG



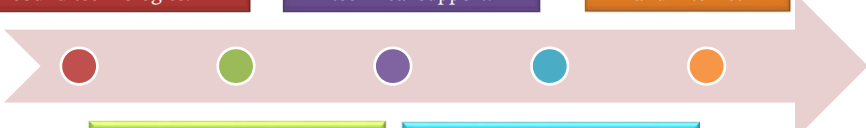
SETI related to SDG 9



9.4 - Upgrade infrastructure, increased resource-use efficiency, greater adoption of clean and environmentally sound technologies.

9.a - Facilitate sustainable infrastructure development through enhanced financial, technological and technical support.

9.c - Increase access to information and communications technology and internet




9.5 - Enhance scientific research, upgrade the technological capabilities, encouraging innovation and increase the research number.

9.b - Support domestic technology development, research and innovation.

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□ Timor-Leste's National Action Plan



**TIMOR-LESTE
STRATEGIC
DEVELOPMENT PLAN
2011 - 2030**

VERSION SUBMITTED TO THE NATIONAL PARLIAMENT

<p>PART 1 INTRODUCTION</p> <p>OVERVIEW</p> <p>BACKGROUND</p> <p>STRATEGIC DEVELOPMENT PLAN</p> <hr/> <p>PART 2 SOCIAL CAPITAL</p> <p>EDUCATION AND TRAINING ←</p> <p>HEALTH</p> <p>SOCIAL INCLUSION</p> <p>ENVIRONMENT</p> <p>CULTURE AND HERITAGE</p> <hr/> <p>PART 3 INFRASTRUCTURE DEVELOPMENT ←</p> <p>ROADS AND BRIDGES</p> <p>WATER AND SANITATION</p> <p>ELECTRICITY</p> <p>SEA PORTS</p> <p>AIRPORTS</p> <p>TELECOMMUNICATIONS</p>	<p>PART 4 ECONOMIC DEVELOPMENT</p> <p>RURAL DEVELOPMENT</p> <p>AGRICULTURE</p> <p>PETROLEUM</p> <p>TOURISM</p> <p>PRIVATE SECTOR INVESTMENT</p> <hr/> <p>PART 5 INSTITUTIONAL FRAMEWORK</p> <p>SECURITY</p> <p>DEFENCE</p> <p>FOREIGN AFFAIRS</p> <p>JUSTICE</p> <p>PUBLIC SECTOR MANAGEMENT AND GOOD GOVERNANCE</p> <p>NATIONAL DEVELOPMENT AGENCY AND ECONOMIC POLICY AND INVESTMENT AGENCY</p> <hr/> <p>PART 6 ECONOMIC CONTEXT AND MACROECONOMIC DIRECTION</p> <hr/> <p>PART 7 CONCLUSION AND STAGING OF THE STRATEGIC DEVELOPMENT PLAN</p>
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❑ SETI Development based on SDP

Innovation Technology

- ✓ E-health
- ✓ E-Government
- ✓ E-Services

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❑ Capacity of SETI at Timor Leste



Current condition related to SETI→SDG

- ❖ 11 Higher Education
- ❖ National Center of Scientific Investigation (CNIC)
- ❖ National Institute of Science and Technology (INCT)
- ❖ Research Results: Annual publication @ Revista Cientifica



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Example: Capacity of SETI at FoEST-UNT

Human Resources for SETI →SDG


No	Education Background	Grau	Total Lectures					
			2017	2019	2021	2023	2025	2027
1	Doctoral program	S3	8	15	20	25	34	42
2	Master Program	S2	60	57	57	61	65	70
3	Bachelor Program	S1	12	12	13	15	15	16
4	Diploma Program	D3	2	2	2	2	2	2
Total Lecturer of FoEST-UNT			82	86	92	103	116	130

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Facility for accelerating SETI in TL



Quality of Education

Increase the quality of education

- Pre-primary to Universities
- Quality of educators

Capacity building

- Focus areas
- Applied science, engineering and technology

Non-formal education


- Management
- Industry
- Commercialization

Infrastructure support


- National library
- National laboratory
- Technical standards facilities
- Power energy, water and sanitation

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SWOT ANALYSES




<p>Strengths</p> <ul style="list-style-type: none"> ✓ 11 Higher Education ✓ National Center of Scientific Investigation (CNIC) ✓ National Institute Science and Technology (INCT) ✓ Research Results: Annual publication @ Revista Scientifica ✓ SDP 2011 - 2030 	<p>Weaknesses</p> <ul style="list-style-type: none"> ✓ Lack of SETI Capacity at Human Resources ✓ Lack of infrastructure on SETI ✓ Lack of Funds ✓ Strict bureaucracy on procurement ✓ Low urban plan
<p>Opportunities</p> <ul style="list-style-type: none"> ✓ Aid Development Agencies ✓ Fulfill ASEAN requirements ✓ To Achieve SDG Target ✓ No longer fragile state 	<p>Threats</p> <ul style="list-style-type: none"> ✓ Innovation is very low based on limited facility of laboratory ✓ Poor Contribution for SDG ✓ Lack of experts related of SETI ✓ Cyber Crime

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Recommendations





- ✓ Cyber security for country
- ✓ Urban Plan related for green environment
- ✓ Establishment of National laboratory standardization
- ✓ Establishment of National Scientific Publisher
- ✓ Establishment of R&D for all SETI related institutions
- ✓ Keeping education and research relevant
- ✓ Capacity Building of Human Resources (Researcher, Scientist, Technician)
- ✓ Promote and maintain strong organizational excellence and sustainability of innovation and entrepreneurship

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 **Capacity of SETI** 

- ✓ The capacity of the SETI to improve their knowledge base on the research and economy situation is limited by deficiency of good infrastructure arrangements. This includes not only hardware such as roads, water and sanitation but also software i.e. Systems for maintaining them. Electricity, telephone and information communications technology (ICT) systems have become the subject of national debate, yet not much of it has controlled to the improvement of the systems.

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SETI Development based on SDP



Social Capital and Infrastructure Development

- ✓ Education and Training
- ✓ Road and Bridge/ **ESTRADAS E PONTES**
- ✓ Water and Sanitation/ **ÁGUA E SANEAMENTO**
- ✓ Electricity/ **ELECTRICIDADE**
- ✓ Marine Airport/ **PORTOS MARÍTIMOS**
- ✓ Airport/ **AEROPORTO**
- ✓ Telecommunication/ **TELECOMUNICAÇÕES**
- ✓ E-health, E-Budget

Source: Strategic Development Plan