

FUNDO DAS INFRAESTRUTURAS

CONSELHO DE ADMINISTRAÇÃO DO FUNDO DAS INFRAESTRUTURAS

SECRETARIADO DOS GRANDES PROJETOS



2º SEMINAR FEASIBILITY STUDY REPORT



5 MARCH 2020

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Please use this link to download FS documents:

<http://sgp.tl/en/fs>

INTRODUCTION

The Government of Timor-Leste is developing the national standards for infrastructure projects, including the project planning and preparation, project appraisal and the Feasibility Study (FS). During 2016 – 2017 the Major Project Secretariat (MPS) with the assistance from the Japan International Cooperation Agency (JICA) has developed the FS Guideline that was introduced to all Line Ministries and Government Agencies on the first workshop in February 2017.

During 2018 – 2019, some proposals were selected as pilot Infrastructure projects to test and to implement the FS Guideline in practice. Among these proposals: 1) FS for water supply of the Dili metropolitan area, 2) Timor-Leste's Center of Excellence for Qualified Workforce (TL-CEQW); 3) Bus terminals in Hera and Manleuana, 4) Buildings for Radio and Television RTTL and TATOLI. And during this Seminar the result of Pre-Feasibility Study on the ground water in Dili Metropolitan area was presented by the Consultant.

The purpose of the second Workshop on 5 March 2020 is to present the updated Feasibility Study Guideline and to get a feedback from the government institutions, agencies and development partners as part of the consultations prior to the document approval as the national standard. The Seminar on the Feasibility Study consists of 2 sessions and presentations from 6 speakers, both national and international.

As a result of the Seminar on 5 March 2020, more than 160 participants visited the event, including the President of CAFI, Mr. Agio Pereira; JICA Representative Mr. Nagaishi Masafumi; Line Ministries and Government Agencies; Ministry of Public Works; MPS; ADN; NPC; UNTL Representatives; Development Partners (ADB, WB); Media and others.

This Report summarizes the working materials and presentations of the Seminar, photos and contents of the Feasibility Study and Project Evaluation Guidelines, and other relevant documents. All materials also published on the MPS website www.sgp.tl.

Agio Pereira

President of Council of Administration of Infrastructure Fund (CAFI)
Minister of State and of the Presidency of the Council of Ministers
Minister of Planning and Strategic Investment (interim)

I. SPEECH FROM THE PRESIDENT OF CAFI MR. AGIO PEREIRA

Good morning and welcome to all distinguished speakers and participants.

A very special welcome to our guests from JICA who have supported the Feasibility Study Guideline development since 2016 and also have assisted in the organization of this workshop. Thank you.

The Government established the Infrastructure Fund in 2011 to better support the implementation of the Strategic Development Plan for 2011 – 2030. Since 2011, more than 1,600 projects from 22 strategic programs were considered under the Infrastructure Fund portfolio. Many projects have been completed and many more are ongoing.

In February 2017, a draft of the Feasibility Study Guideline was presented during the first workshop. In the following two years, the Major Projects Secretariat had the opportunity to test the Guideline on several pilot projects and consequently to improve and update it, from a practical point of view, using lessons learned.

As we all know, the development and implementation of infrastructure requires substantial funds and a great national efforts. Around 30% of our annual budget is allocated for building and maintenance of strategic infrastructure. But our financial resources are limited and the Government must prioritize projects and plan accordingly to ensure national priorities are to meet a quality within reasonable time and cost.

Except for rare exceptions, the infrastructure projects are long term projects and have a high cost. Therefore, the feasibility study stage is crucial and intends to assure they meet national standards, namely:

- To improve projects planning and decrease cost;
- To reduce risks during the project implementation; and
- To ensure quality of the infrastructure.

This workshop allows us to better understand the planning process, to be informed of the results of pilot projects and also to present new initiatives related to an artificial intelligent tool, and database development.

I am sure that throughout the sessions we will take lessons learned and will discuss the next steps that needed to be improved along this process in the future.

Thank you for attending this Seminar and good work.

II. SPEECH OF JICA CHIEF REPRESENTATIVE MR. NAGAISHI MASAFUMI

Good Morning,

H.E. Mr. Agio Pereira, President of CAFI, President of Council of Ministers,
Mr. Krispin Fernandes, Director of Major Project Secretariat,
Mr. Gustavo da Cruz, General Director of Water and Sanitation,
Distinguished guests, ladies and gentlemen.

It is my great pleasure to address all of you at this Grand Seminar.

First of all, I would like to express my sincere appreciation to the Director of MPS, JICA Advisor Mr. Kaneda and the team members who have been working hard for the smoothly implementation of the Feasibility Study.

It has already passed several years since the MPS and JICA started the project for Infrastructure evaluation guideline and feasibility study, and today's grand seminar is an important event for us all to see the how Feasibility Study has contributed to preparation of the project which was recently done by the General Directorate of Water and Sanitation(DGAS) for "the Surface water resource Development for the water supply of Dili Metropolitan Area".

One of the main reasons why JICA supported the MPS through its Advisor for starting the Infrastructure Project Evaluation Guideline and Feasibility Study, because as a new developing country, we considered Timor-Leste need to have quality and effective planning for national budget spending and implementation of any project in the country.

Timor-Leste clearly has developed its Strategic Development Plan for 2011-2030. And according to the SDP, in the first two decades, Timor-Leste will focus on the development of the basic infrastructure.

However, to ensure the efficiency of the planning and spending of the nation budget, we need to have a standard guideline which we could rely on before starting of planning or implementation of the projects.

Timor-Leste's Government has established the scheme of Infrastructure Fund, and has set its target expenditure, but actually I heard that it is slow progress in budget execution which may be attributed to several causes, the low quality and low efficiency in project planning and project appraisal, among others, are considered to be the major causes, which in turn point to the issue of absence of guidelines for project appraisal as well.

Therefore, the Project Evaluation and Feasibility Study Guidelines were considered as important aspects to support the quality development of infrastructure of Timor-Leste.

What is the Feasibility Study? It is an assessment of the practicality of a proposed project. There are various reports to be prepared in project assessment phase and main purpose of FS is originally to check practicality of the financial aspect and environmental impact prior to the project implementation.

In addition, one of the important roles of FS is considered to avoid to implement the useless projects with over specification which you cannot do the proper maintenance and operation, it means to avoid the project become the “White elephant”.

Do you know what is the white elephant? It means something that costs a lot of budget, but has no useful purpose, and it is coming from the old tale.

The white elephant projects of course result to waste your government’s budgets, not contribute to your society and people.

We are already in the middle of the 20 years of Timor-Leste’s Strategic Development Plans as projected schedule, and there are quite many projects, which have been implemented by the Timor-Leste’s Government.

Thus, in this occasion I would like to request all of you to review whether our project provides quality infrastructure, which are useful to society? And its specification matches your height, it means match your maintenance and operation abilities? Whether the projects in the country give effective solution to problems or issues of Timor-Leste’s society? Whether our spending is giving an improvement to the society?

We can review those problems and find improvements for issues through a better planning study. And we hope that the Feasibility Study, which has been prepared by the MPS and JICA Adviser Mr. Kaneda could give a contribution for preparation of a project and a better project implementation planning.

As in a while, we will hear from the presentation of DGAS about the feasibility study that they have done. I hope not only the result, but the lessons learnt of their FS have provided them the better ideas and information that they need to develop in order to have a quality, effective and right project plan for our society and economy before the implementation of the project itself.

Using this opportunity, I would like to encourage the Ministry of Public Works, Ministry of Strategic Planning and Investment, MPS as well as all relevant ministries to have a close collaboration in order to achieve the goal of SDP and a good quality of the project implementation.

In regards to this, I would like also to encourage all of you here to have a fruitful discussions and sharing your opinions and inputs for the improvement of the quality of the project activities by reviewing the lessons learned of this FS, that done for DGAS.

Lastly, I hope this occasion could inspire enthusiasm from relevant institutions to work together to achieve the development of Timor-Leste.

Thank you for the attention.

III. A G E N D A

TIME	PROGRAMME	SPEAKERS
08:30 - 09:00	Registration	-
09:00 - 09:20	Opening Remarks	H.E. Mr. Agio Pereira; President of CAFI, President of Council of Ministers (CoM) Mr. Nagaishi Masafumi; JICA Chief Representative
	Session I	
09:20 - 09:35 <i>(15 minutes)</i>	Feasibility Study implementation under the Infrastructure Fund: ✓ Feasibility Study Guideline update ✓ Infrastructure Fund Workflow	Mr. Krispin Fernandes; Director of MPS
09:35 - 09:45 <i>(10 minutes)</i>	Infrastructure Project Evaluation Guideline	Mr. Kaneda Koki, JICA Adviser
09:45 - 10:00 <i>(15 minutes)</i>	Role of the Line Ministries and Experience of DGAS with the Feasibility Studies preparation (Project Concept, ToR, Consultant selection and the Feasibility Study Report)	Mr. Gustavo da Gruz; Director Geral Agua e Saneamento (DGAS), Ministry of Public Works
10:00 – 10:10 <i>(10 minutes)</i>	Pre-Feasibility Study of a Ground Water Resource Development Project for the Water Supply of Dili Metropolitan Area	Consultant for PreFS, Team Group, Thailand
10:10 – 10:15 <i>(5 minutes)</i>	Video from the Infrastructure Fund	Major Projects Secretariat (MPS)
10:15 - 10:35 <i>(20 minutes)</i>	Q & A	
10:35 - 11:00	Coffee Break	
	Session II	
11:00 - 11:15 <i>(15 minutes)</i>	Database Development and Geo-spatial data infrastructure	Mr. Joao da Cruz Cardoso, Head of Planning, Evaluation & Budgeting Department, MPS
11:15 – 11:30 <i>(15 minutes)</i>	Artificial Intelligent (AI) for the Road Condition Survey and Visual Mapping	Mr. Mariano Renato Monteiro da Cruz, Lecturer of UNTL
11:30 - 12:00 <i>(30 minutes)</i>	Q & A	
12:00 - 12:05 <i>(5 minutes)</i>	Closing Remarks	Mr. Krispin Fernandes, Director of MPS
12:05 - 13:00	Lunch	

IV. PHOTO REPORT



President of CAFI Mr. Agio Pereira and Director of MPS Mr. Krispin Fernandes



Opening ceremony of the Seminar on 5 March 2020



Introduction speech of the CAFI President & President of the Council of Ministers (CoM), Mr. Agio Pereira and JICA Chief Representative Mr. Nagaishi Masafumi



Participants of the Seminar on 5 March 2020, Ministry of Finance conference hall



Speech of Mr. Nagaishi Masafumi, JICA Chief Representative



*Discussion: Mr. Nagaishi Masafumi, JICA Chief Representative;
Ms. Maruyama Satoko JICA Timor-Leste; Mr. Kaneda Koki, JICA Adviser*



The Scope of the Feasibility Study and the panel discussion



The Feasibility Study Guideline, presented by MPS



Participants of the Seminar from the Major Projects Secretariat (MPS)



Presentation of JICA Advisor, Mr. Koki Kaneda of the FS Project Evaluation



Discussion and question from ADN, Sr. Abdul Afif



Discussion and questions from participants from LMs and TL Government



2nd session of the Seminar on the Feasibility Study, 5 March 2020



Presentation of Mr. Joao Cardoso on GIS and Database Development, MPS



Questions and Answer Session with the presenters and participants (Q&A Session)





Media briefing on the Feasibility Study Seminar, 5 March 2020



GMN TV broadcasting of the FS Seminar, 5 March 2020



GMN TV Broadcasting, Vice-Director of MPS, Mr. Pleno Fraga (right)
MC of the FS Seminar Mr. Gil Boavida (left), Mr. Joao Cardoso, presenter (back)



Media National, Timor-Leste – Press Briefing of the FS Seminar

V. SUMMARY OF THE PRESENTATIONS

Mr. Krispin Fernandes; Director of MPS	<p>Feasibility Study implementation under the Infrastructure Fund</p> <p>FS Guideline update & IF Workflow</p> <p>The infrastructure development will ensure that Timor-Leste has the core and productive infrastructure needed to build a sustainable, growing, and connected nation. According to the Strategic Development Plan for 2011-2030, public expenditures are a primary driver of the economic growth. And to build a foundation for social and economic development and to be sustainable over the longer term these changes in the structure of Timor-Leste's economy will be facilitated by the Infrastructure Fund.</p> <p>The SDP has a 20-years vision that covers three key areas: social capital, infrastructure development and economic development that will drive long-term development towards the building and maintenance of core and productive infrastructure, help create employment opportunities and ensure sustainable economic growth, social transformation and improvement of quality of life and to become a prosperous nation.</p> <p>The Feasibility Study is the essential component for infrastructure projects, that should help to improve project planning and preparation. The scope of the Feasibility Study (FS) consists of the following 5 main components that are required and very essential:</p> <ol style="list-style-type: none">1. Strategic importance;2. Problem to be solved;3. Technical feasibility;4. Financial feasibility;5. Environmental risks. <p>In 2019 – 2020, the Major Projects Secretariat together with JICA updated the Feasibility Study Guideline (FSG) focusing on the following main points:</p> <ul style="list-style-type: none">➤ Revised contents of the Guideline;➤ Testing through the Pilot projects;➤ Updated concept template for FS;➤ New sample forms for project proposals;➤ Final purpose of the FSG to become a national standard.
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	<p>The result of the review and the difference between FS Guidelines, that old FS Guideline (2018) contained 12 chapters, only project concept content was provided, Items for a Field survey were presented without a rank, and the structure of FS Report with attachments were not updated. The new FS Guideline (2020) contains 15 chapters, including some new chapters, also identified types of projects suitable for FS, provided comparison of main project items to study at each stage, new Project concept Format and content was provided with the Self-Evaluation Sheet as well, provided items for a Field survey with a rank, updated structure of FS Report, and the Workflow for IF provided in the Appendix to the updated Feasibility Study Guideline.</p>
Mr. Kaneda Koki; JICA Advisor	<p>All Projects are desirable to be evaluated for the selection by their priority within the limited budget. How to evaluate? And who could select? Projects will start from the selection of high priority projects among various kinds of projects. LMs should propose their high priority project. First step is the preparation of project concept. Project concept should be prepared by government staff, not by outsourcing. Base on the project concept, government should decide that FS should be done or not. However, FS could not be applied to all projects.</p> <p>The main purpose of FS is to study these three items. Principally, FS is necessary for all projects to know the unpredicted issues in advance. FS is executed by the consultant or specialists to know the unpredicted issues that cannot be known at the concept preparation. However, implementation of FS for all project could not done due to various reasons.</p> <p>Principally, we need appraisal to all projects on pre-implementation stage. And we should decide that FS is necessary or not. This table is the comparison of Pre-appraisal and FS. FS is required for the project necessary to know the feasibility in details to avoid the future troubles and to save the government budget.</p> <p>How to evaluate the project? It is not an easy for the government staff, because evaluation categories are different for each sector and each project.</p> <p>Currently, the Project Appraisal report is prepared to propose good project to CAFI. Scoring criteria consist of 8 items. And the bigger total project score, the higher priority of the project. However, how is about the environmental impact in case of telecommunication project for example?</p>

Weight of scoring project is expected to change according to the character of each sector.

What are necessary evaluation items applicable to all sector projects?

- First item is the Investment efficiency;
- Second item is the situation for the implementation or maintenance of project;
- Third one is the project effect.

Importance of these evaluation items may be variable according to the stage of project.

How to know the Investment efficiency? Usually, this is the study items of Economists. However, the government staff should know roughly the project cost and its benefits, or you could not propose a project. IRR or profitability is expected to be shown, if possible.

Situations for implementation could be known from relevance of the project, project situation and technical difficulty. Relevance of project means the consistency with higher level plan. Project situation could be known from coordination with stake holders, legal procedures, prospect and O&M plan status etc. Technical difficulties mean issues come from topographic conditions and whether we need new technology. If ignored these pre-study, we will encounter to the possibility of the significant increase of project cost or delay/suspension of the project.

The Project effect could be evaluated by the various factors, such as contribution to life of people, economy development of related area, securing of safety, environmental effect, development of local peoples etc. These items are different according to the character of the project. Therefore, we should select appropriate evaluation item for the project by project.

What kind of data or report are necessary to evaluate the project? On pre-implementation stage, no reference for available data. All should be prepared by ourselves. The Project Concept is the first one. And preparation of the Project self-evaluation sheet is recommended to recognize the value of project. On executing stage, we can get progress report from consultant and contractor. On post completion stage, we may refer completion report and maintenance plan prepared by consultant. The preparation of self-evaluation sheet is recommended to all stages. If the scoring results of self-evaluation are decreasing according to the progress of project, it means there will be some problems. Project Concept is outline idea

	<p>of the project to be proposed. About Outline scale, Comparison between current status and expected plan is expected. Project benefit is important for the project owner to recognize the significance of project. Financial prospect also important for project owner to know the meaning of project.</p>
Mr. Gustavo da Gruz; Director General of Water and Sanitation	<p>The following presentation from the Ministry of Public Works explains the Role of the Ministry & experience of DGAS with THE FS preparation with the Project concept, ToR, Tender and selection of the Consultant and FS Report.</p> <p>There are several main steps of the FS preparation:</p> <ul style="list-style-type: none"> • Preparation of the Project Concept; • ToR preparation with ADN & MPS; • Tender process and selection of the Consultant with the National Procurement Commission (NPC/CNA); • Signing of the Contract for FS; • Guidance to the Consultant - FS Guideline: (Inception report, Progress Reports and consultations, and the Final Report); • Evaluation and Approval of the Final Report. <p>And the workflow and the timeline for FS includes the Project formulation and preparation stage that takes around 3-4 months, including preparation of the Project Concept by LM, ToR for the project proposals with the assistance from ADN, Tender by NPC & selection of the Consultant. And the Study and the final report preparation stage, that takes around 5 months, including start of the FS Preparation by the Consultant & Inception Report, Study process and Progress Reports from the Consultant to the Project owner LM, and the Final FS Report.</p> <p>There are some challenges with the FS preparation:</p> <ul style="list-style-type: none"> • Required support with the Concept and ToR preparation from MPS and ADN; • Required support from NPC with the tender documents and selection; • Limited budget for FS from LM; • Evaluation of results of FS Final Report; • Help from FS Guideline (structure of the FS Report, and study process and evaluation method). <p>Regarding the cost and source of the FS budget, the cost of the Feasibility Study preparation as follows:</p>

	<p>1 option: Usually, the cost of the FS is 2-5% of the project cost. For example, if the project cost \$5 mln, FS cost is around \$100-250K;</p> <p>2 options: Based on the cost of consultants and duration of the study. For example, team of 3 consultants and 4 months – FS ~180K.</p> <p>Finally, the conclusions and recommendations are as follows:</p> <ul style="list-style-type: none"> • Line Ministry are encouraged to prepare new concepts for FS (financial support possible from the Infrastructure Fund); • For the Government recommended to establish a Roster for FS Consultants; • Results of the FS projects are valuable for the Database and future projects; <p>LMs are encouraged to improve capacity and attend future trainings of the Feasibility Study.</p>
Consultant for Pre-Feasibility Study Team group, Thailand	<p>The main purpose of the study is to identify the groundwater resources that will be used for the long-term water supply of Dili, as well as the conditions in which the groundwater resources will be mobilized. This project will also provide guidance for formulating a water resources monitoring development plan that should be implemented by the responsible authorities. The objectives of the study can be broadly defined as follows:</p> <ul style="list-style-type: none"> - To assess the available water resources, including the descriptions of all considered options, and full justification of the selected option; - To prepare the detailed specifications of the gauging equipment that will enable us to make up for the lack of hydro meteorological and hydrological data necessary to secure the feasibility of the proposed infrastructure; - To prepare the detailed specifications of the dedicated groundwater monitoring boreholes; - To prepare the detailed specifications of the equipment required to monitor the evolution of the saline interface; - To define the locations of the 2 deep boreholes planned to be built in the Comoro area and to prepare the technical specifications for their Construction. <p>The conclusion of the works done on main aspects is as follows:</p> <p>1) Surface Water Assessment</p> <p>The study area is influenced by the Northwest and Southeast monsoons. From October to February, the Northwest monsoon from the South China Sea brings the heavy rainfall. Tropical cyclone affect during December to April. The dry air of Southeast monsoon dominates during April to September, thus this period is long and</p>

sharp dry season. The average rainfall is in the range between 1,200 - 2,700 mm/year. Comoro Basin has the mean annual rainfall of 1,319 m, while Gleno Sub-basin has the mean rainfall of 2,082 mm/yr. higher than Comoro Basin due to located in the windward side. Monthly rainfall varies in the range of 5 – 400 mm/month, more than 80% of total rainfall in year round is in wet season. The wet season starts in November and lasts until April which the highest rainfall is found in January. The long and sharp dry seasons are the norms for the months of May through October.

The annual flow of Comoro Basin and Gleno Sub-basin is about 147 MCM (4.65m³/s) and 244 MCM (7.72 m³/s) respectively. Runoff yield of the study area is in range of 12 – 26 l/s/km². Monthly flow is varying in range of 3.79 MCM to 42.10 MCM, the minimum flow is generally in October. Monthly flow in Gleno Sub-basin is much more varying than in Comoro Basin. The discharge volume in wet season is approximate 60% of annual volume for Comoro River and 72% of annual volume for Gleno River.

The simple hydrological water balance, with assumption that the evaporation and transpiration is about 22% of precipitation, found that Comoro Basin (consisting of Comoro River and Bemos River) and East Basin (consisting of Benamauc River and Maloa River) has the average groundwater flow and change in storage is about 90 MCM/year and 17 MCM/year which approximate 38% and 23% of average annual precipitation respectively. To monitor the surface water resources of Comoro Basin and Gleno Sub-Basin, 14 rain gauge stations and 11 river stations were designed with regarding the topography, climatology, hydrology and water management of the study area.

2) Groundwater Resources Assessment

Groundwater resource of the Project is separated into two areas from the different geological setting and properties. The Comoro one is mainly sand and gravel of alluvial deposits that confined mainly along Comoro Channel but the East Area is composed of mixed sediments including mainly colluvium deposits of silt, sand, clay, rock fragments and boulders found along the feet of mountains with locally alluvial deposits along river channel and marine deposits found at flat area.

As the study has been conducted mainly by using existing data which may contain some errors with assumption by using experiences of experts. So it is recommended that the further study

in detail of groundwater resources including recharge and storage in each aquifer layers with the mathematic model should be carried out to identify the precise of aquifer storage, recharge amount, and safe amount of groundwater to be used. To setup the accurate mathematic model, more information about geology and groundwater characteristics at Feasibility Stage have to be conducted.

The further study need to be conducted as soon as possible as summarized below:

- a) Geological map covering Comoro Aquifer and East Aquifer with scale 1:4,000 by conducting Two-Dimensions Electrical Resistivity Survey and subsurface drilling plus borehole geophysics logging,
- b) Seismic survey in the upper Comoro Basin to investigate the behavior of groundwater in upstream.
- c) Pumping test with pump capacity 100 cms or more for at least 4 wells in both Comoro Aquifer and East Aquifer.
- d) Create geological 3-Dimension model to evaluate the aquifer properties and storage.
- e) Establishment of tidal gauge measurement to be use in the model.
- f) Develop the groundwater flow model to simulate the characteristics in wet and dry season for seasonal recharge estimation.

In parallel with the engineering study, Environment study and Economic and Financial study shall be carried out. More, to sustain the groundwater for Dili Water Supply, the government should set a Sustainability Management strategy and Action Plan consisting of:

- 1) Set up the monitoring system to for piezometric level, salinization and land movement,
- 2) Issue law and regulation to control the use of groundwater
- 3) Data base of all wells including public and private wells
- 4) Zoning of Dili area for well development, set save yield in each zone (review every 5 years or big change of extractions), monitoring each zone, limit the depth of development. Care should be focus in East Dili aquifer where heterogeneous aquifer characteristic and doubt about recharge basin.
- 5) Reduce the loss of water supply in the system both loss in the distribution pipeline and non-revenue water supply.

<p>Mr. Joao da Cruz Cardoso, Head of Planning, Evaluation & Budgeting Department, MPS</p>	<p>The National Strategic Development Plan (SDP 2011–2030), released in 2010, highlights that having a strong core productive infrastructure is a central pillar to support the sustainable economic development and social transformation of Timor-Leste in the future. In line with this vision, the Government of Timor-Leste (GoTL) has made significant investment in recent years to develop basic infrastructure (road and bridges, power plants and stations, water supply and distribution) and improve economic infrastructure (port, airport, highway, and the development of special economic zone).</p> <p>To ensure the development of the core infrastructure, the GoTL established the Infrastructure Fund (IF) in 2011 to finance large core infrastructure projects that have significant impacts and are carried out over multiple years. Today, total portfolio of infrastructure projects under the IF have converged roughly 1,300 projects with the total budget approved by National Parliament over \$3.7 billion.</p> <p>Corresponding to the growing number of infrastructure projects financed through the IF, infrastructure database in the format of Geographic Information System (GIS) portfolio was proposed by the Major Project Secretariat (MPS) to CAFI to be added in 2016. These projects are widespread geographically in the territory of the country, however, data related to each project such as location of the project, total investment made, year of construction and year of completion, to name a few, are not organized in one place with a proper formatting system, which can create difficulty to manage (monitoring the status, maintenance, etc.) in the future. This data or information, on the other hand, is very important to support proper planning and decision making process by referring to the past historical data on the failure and success of a project. This, then, raises the need to create geo-spatial database system that includes spatial inventory, distribution, and progress of projects under IF portfolio to see where the projects are located, where they are concentrated, and how they are progressing. This information, as a result, shall enable and promote easy access and visualization of entire IF projects by CAFI and other relevant entities.</p> <p>In the light of above, MPS is in the process of developing the database that will become an integral part of:</p> <ul style="list-style-type: none"> • Infrastructure database of IF portfolio; • Development of framework on the mechanism of data sharing; • GIS database for monitoring of the ongoing IF funded projects; • Develop interlink-age of infrastructure data to other external data for broader application.
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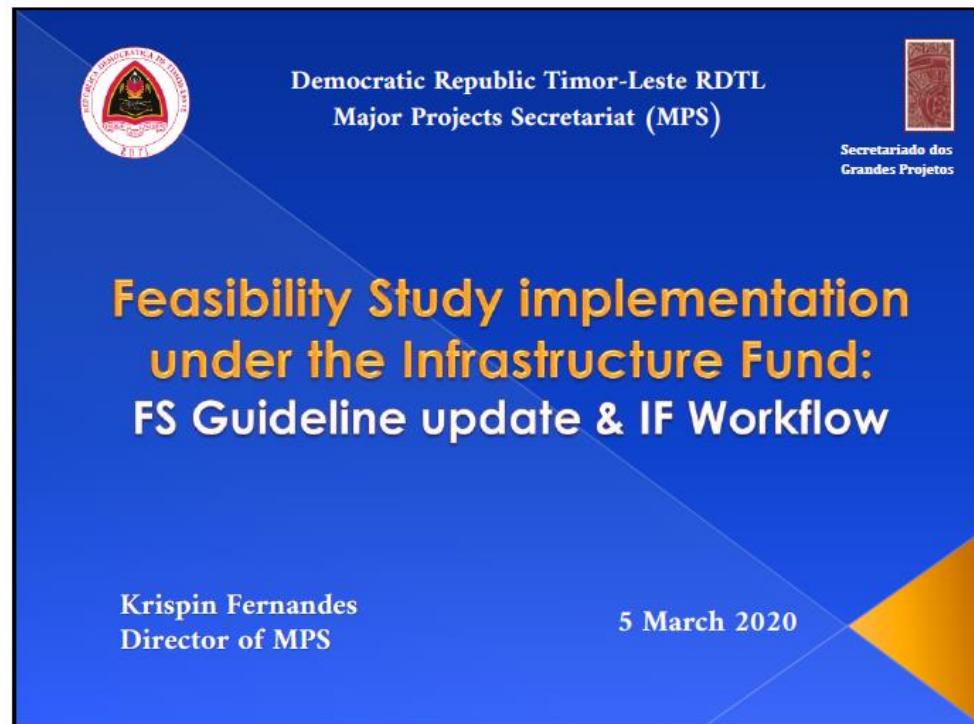
	<p>GIS tool is selected because it is the best system designed to capture, store, analyses, manage, and present all types of geographical data that enables the amassing of the geographic data inventory, which is frequently used in the two main functions of GIS, which are:</p> <ul style="list-style-type: none"> a) capability to do analysis (spatial), and b) Generating visualization products, especially maps. <p>These two functions make GIS a powerful tool as it can process large data in short-time and display ample information in a single map. As such, GIS improves the quality of works during the planning and preparation stage, and promotes practical monitoring and impact assessment scheme during the implementation and monitoring stage. This results in a timely decision making and more efficient communication to take proper course of actions.</p>
Mr. Mariano Renato Monteiro da Cruz, Lecturer of UNTL	<p>The last presentation of the seminar is presented by UNTL on a study about the Integrated Road Infrastructure Monitoring (IRIM) System using Artificial Intelligent Method and Low Cost Technology.</p> <p>This study or project is mainly focus on utilization of IRIM system through smartphone for road sector, where the project framework consist of :</p> <ol style="list-style-type: none"> 1) System 1: Smartphone based: <ul style="list-style-type: none"> • Paved and Unpaved road classification • Anomaly detection • Roughness estimation 2) System 2: Dashcam: <ul style="list-style-type: none"> ✓ Paved and Unpaved road classification ✓ Pothole detection ✓ Crack detection ✓ Drainage, Bridge, Culverts, Retaining wall, Gabion, and Road Side Collapse detection 3) System 3: Visual inspection: <ul style="list-style-type: none"> ✓ Paved and Unpaved ✓ Pothole estimation ✓ Crack estimation 4) System 4: Traffic: <ul style="list-style-type: none"> ✓ Volume ✓ Density ✓ Accident ✓ Peak hours ✓ Real time notification

In addition, the study/project was conducted through several processes such data collection process and showing the result, conduct size identification and map visualizations including cross check on the site including compare the result with ROMDAS system that commonly used by other international agencies, for instance ADB.

In conclusion, the study found that :

- The smartphone device and dash camera can be used to monitor road surface conditions.
- This technique can become an alternative tool for road condition monitoring in Timor-Leste.
- The application of smartphone is easy and suitable for collecting road infrastructure data.
- From these systems, we can easily identify the location of anomalies and also estimate roughness the volume and cost for repair.
- The result suggests the priority for rehabilitation and maintenance.

V.I. PRESENTATIONS



The slide has a dark blue background with a white title bar at the top. The title "Scope of the Feasibility Study (FS)" is centered in large, bold, yellow text. To the left is a 3D-style illustration of two people working with large screens displaying charts and graphs, surrounded by various icons like a laptop, a smartphone, and a bar chart. To the right is a vertical list of five items, each preceded by a yellow hexagonal icon with a black number and text:

- 1 Strategic importance
- 2 Problem to be solved
- 3 Technical feasibility
- 4 Financial feasibility
- 5 Environmental risks

Feasibility Study Guideline (FSG)

Major Projects Secretariat
Infrastructure Fund, TL

- Agriculture and Fisheries
- Water and Sanitation
- Public Buildings
- Electricity
- Roads
- Flood control
- Telecom
- Airports
- Ports

Chapter I
FEASIBILITY STUDY IMPLEMENTATION

Chapter II
ECONOMIC & FINANCIAL ANALYSIS GUIDELINE (E&F)

Chapter III
SAMPLE FORMS BY SECTORS FOR THE FEASIBILITY STUDY

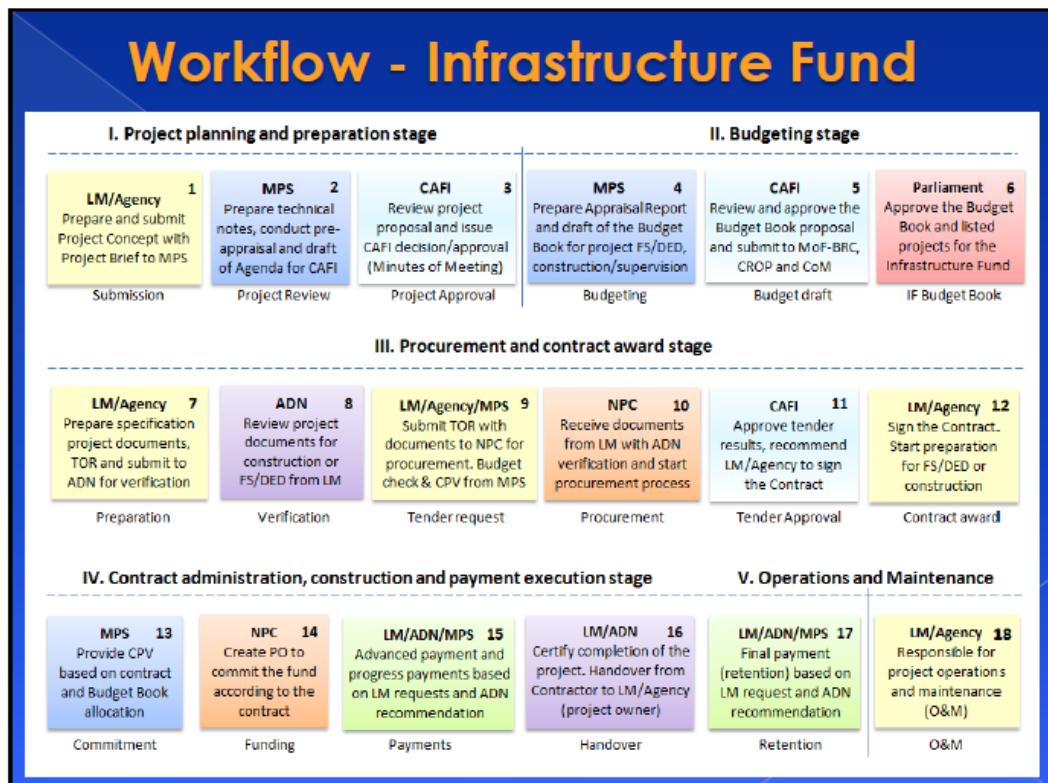
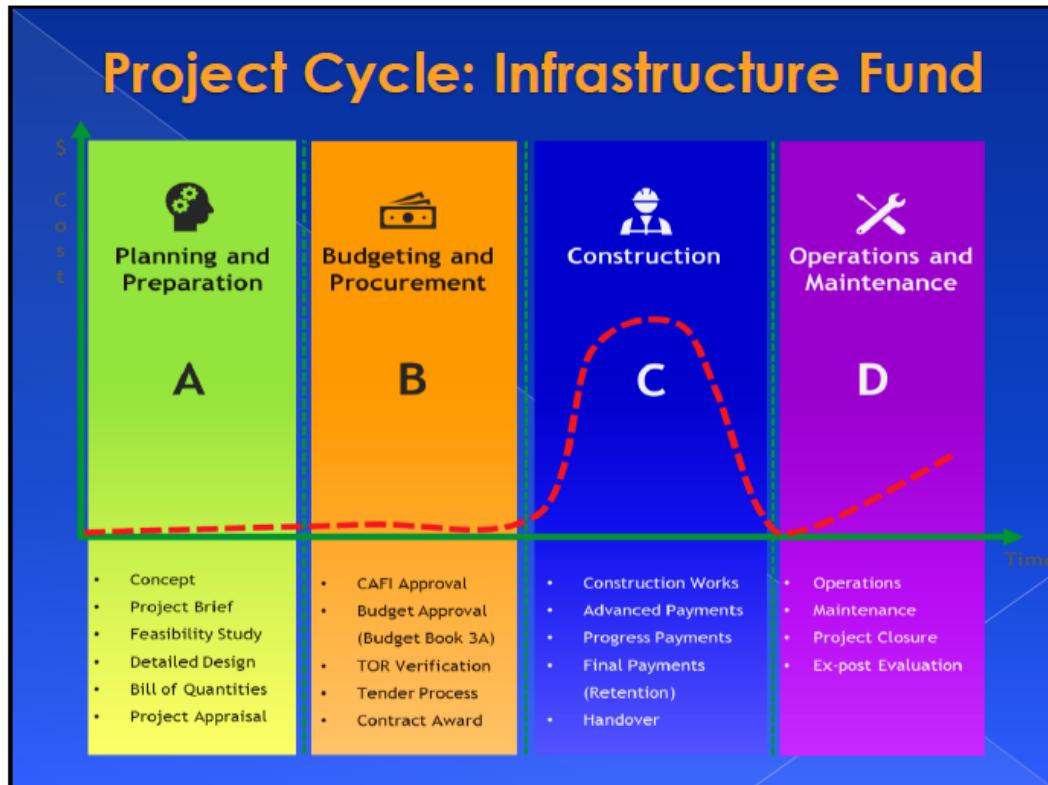
Chapter IV
EVALUATION OF THE FEASIBILITY STUDY REPORT

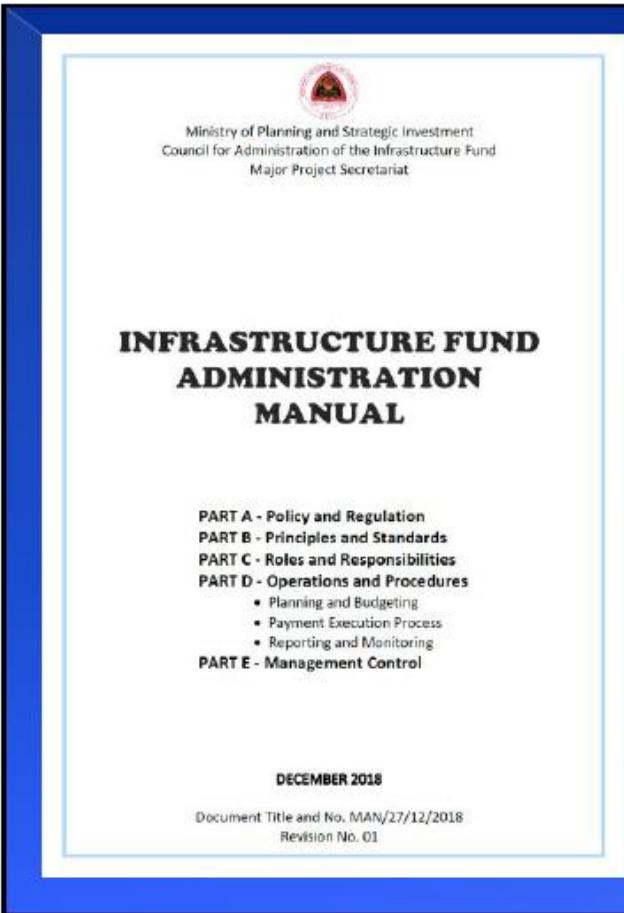
March 2020

Updated FS Guideline 2019-2020

- Pilot projects testing
- Revised contents
- Updated concept template for FS
- New sample forms
- National Standard

Results of the FS Guideline review	
Old FS Guideline (2018)	New FS Guideline (2020)
12 chapters	15 chapters (some new chapters)
-	Types of projects suitable for FS
-	Comparison of main project items to study at each stage (table)
Only project concept content	New Project concept Format and content (table)
-	Self-Evaluation Sheet
Items for a Field survey <u>without</u> rank	Items for a Field survey <u>with</u> rank
Structure of FS Report	Updated structure of FS Report
-	Workflow for IF (Appendix)
Attachments	Updated Attachments





The image shows the cover of the 'INFRASTRUCTURE FUND ADMINISTRATION MANUAL'. The cover is white with a blue border. At the top left is the logo of the Ministry of Planning and Strategic Investment. Below the logo, the text reads: 'Ministry of Planning and Strategic Investment', 'Council for Administration of the Infrastructure Fund', and 'Major Project Secretariat'. The title 'INFRASTRUCTURE FUND ADMINISTRATION MANUAL' is centered in bold capital letters. Below the title, there is a list of parts: 'PART A - Policy and Regulation', 'PART B - Principles and Standards', 'PART C - Roles and Responsibilities', 'PART D - Operations and Procedures' (which includes 'Planning and Budgeting', 'Payment Execution Process', and 'Reporting and Monitoring'), and 'PART E - Management Control'. At the bottom of the cover, it says 'DECEMBER 2018', 'Document Title and No. MAN/27/12/2018', and 'Revision No. 01'.

Thank you!

More information
In the IF Manual

and also online
SGP website:
www.sgp.tl

5 March 2020

*Project Evaluation Infrastructure Fund

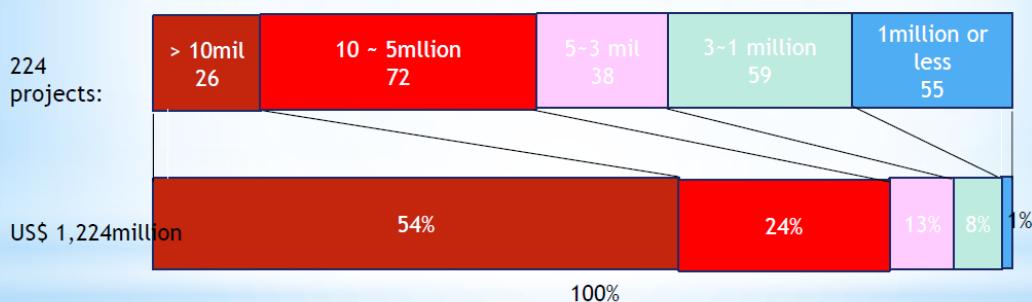
JICA Advisor
Kaneda Koki

Current Project Status

224 Projects are proposed between 2016 and 2019

Total cost is US\$ 1,244 million

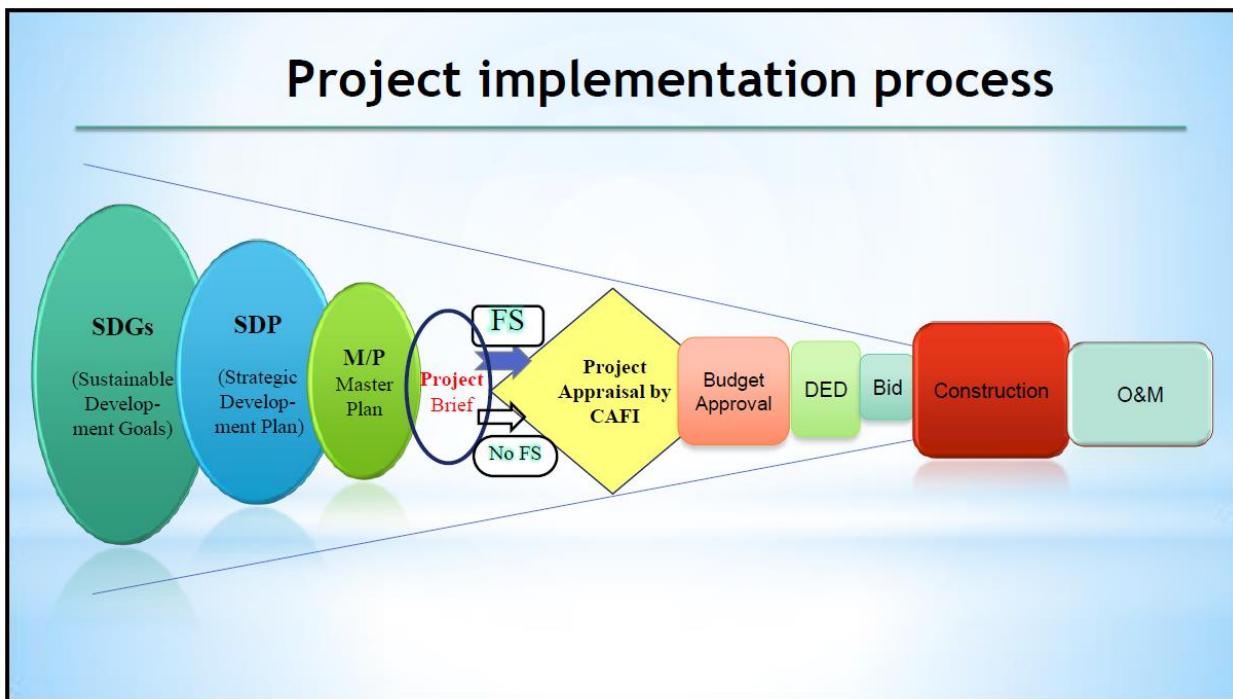
Average project cost is US\$ 5.55 million



Big Projects' risk control is important
However, evaluation of other projects is also important



Project implementation process



Why evaluation is necessary for the project?

1. Project Evaluation is necessary to recognize the significance/importance of the project,
2. For the evaluation, Project Concept is necessary to all project
4. LMs staff could select high priority projects through the preparation of concept,
5. And, LMs could propose their good project with confidence
6. As the results, the Government could implement project with saving the budget

What kinds of projects should be evaluated?



- For almost projects Feasibility Study is necessary,
- For the rest - How to evaluate without FS?

* Current the issue to evaluate FS in short period

On the reasonable appraisal of FS, there are two major issues:

- limitation of Time
- and Ability

Problem
2

Solution: FS Report should be prepared in the manner on the

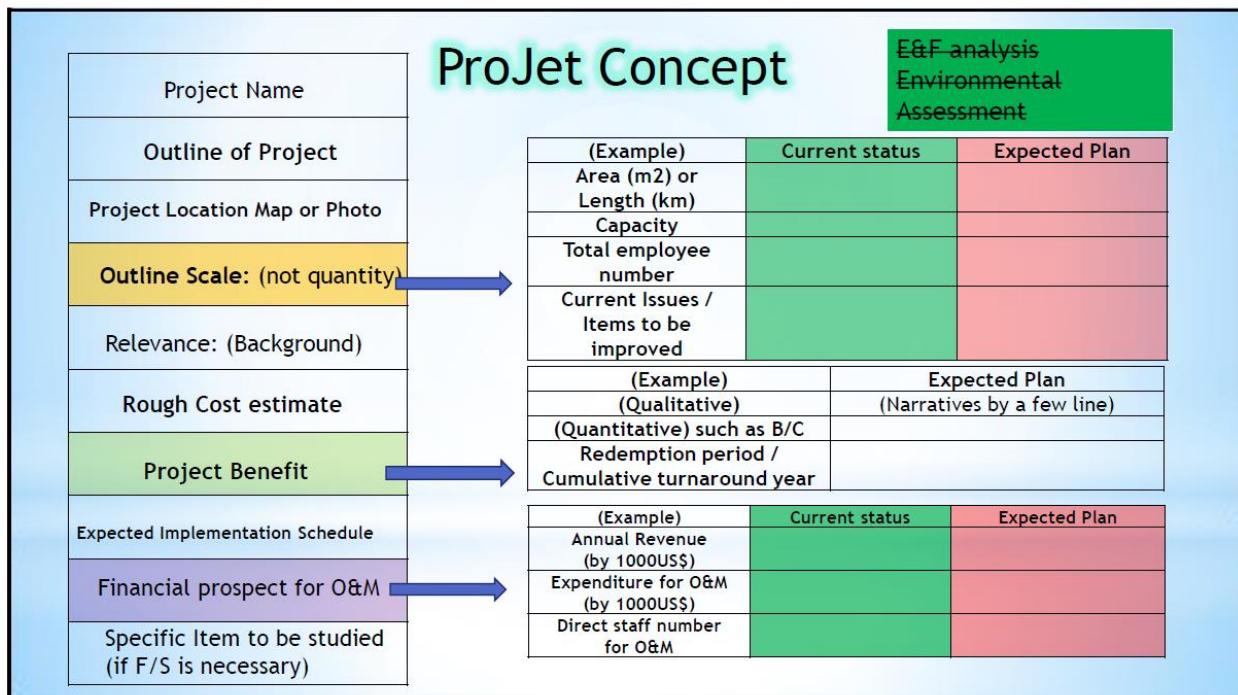
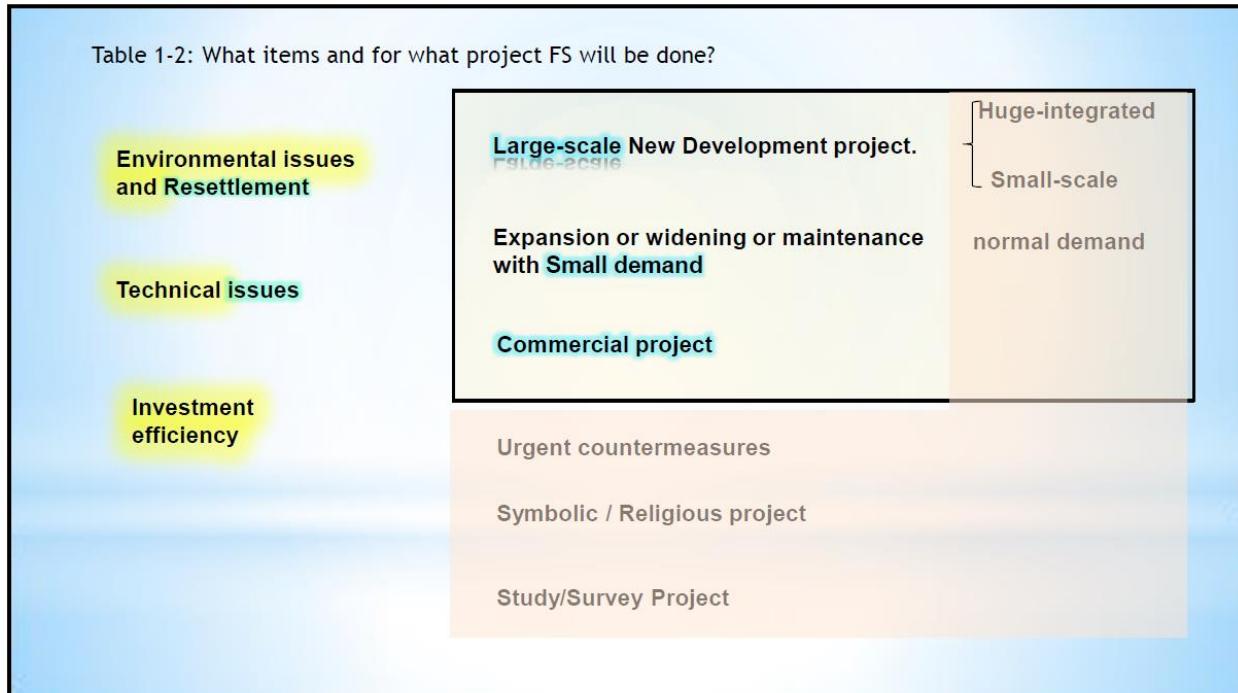
form to make easy for the Appraisal by getting this: Check-List.

Standardization Simplification

Preparation of the
Self Check sheet
by the Consultant

Proposal
2

Table 1-2: What items and for what project FS will be done?



Check Items in Project Concept

Investment Efficiency

Situations for implementation/
O&M

Project Effect

Weight difference of evaluation items by stages

Main evaluation Item	Pre-Implementation	Execution stage	Ex-Post stage
Investment Efficiency (Effectiveness against the investment.)	◎	◎	○
Situations for the Implementation (Procedures' prospects required for project implementation)	◎	○	◎
Project Effect (Various effects and impacts due to the project)	○	◎	◎

Evaluation Sub-item for “Investment Efficiency”

Sub Evaluation item	Evaluation indicator			
Construction Cost (million US\$)	1-5	5-10	>10	no info
Cost-Benefit Ratio (B/C)	>2	>1.5	>1	<1
IRR	IRR>16%	16>IRR>12	12>IRR>8	8>IRR

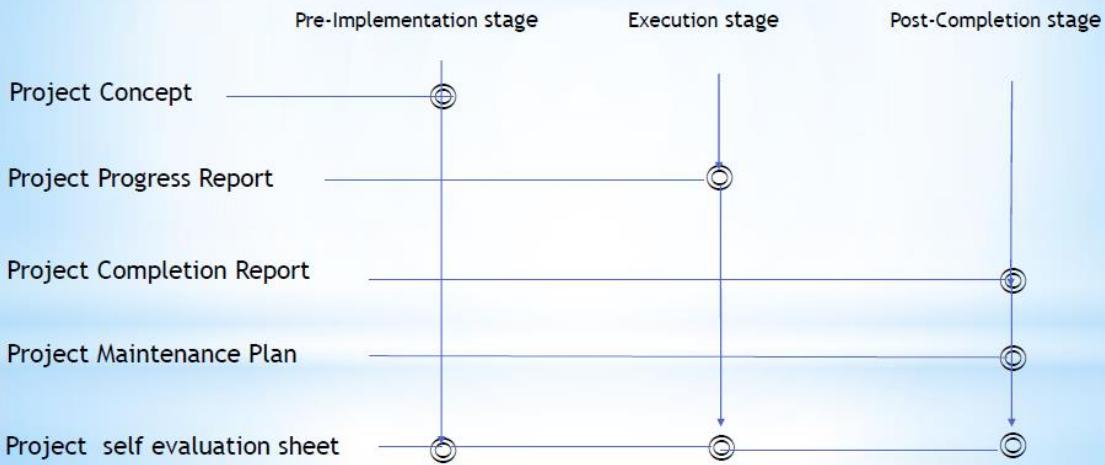
Evaluation Sub-Items for “Situations for Project implementation”

Sub Evaluation item	Example of minor evaluation items
Relevance of Project	<ul style="list-style-type: none"> ▪ Relationship with higher level plan ▪ Type of Projects
Project Situation	<ul style="list-style-type: none"> ▪ Consensus of local people ▪ Situations of legal procedures ▪ Budgetary status ▪ O&M plan status
Technical Difficulty	<ul style="list-style-type: none"> ▪ topographic conditions ▪ necessity of new technology

Evaluation Sub-Items for “Project Effect”

Sub-item	Example of minor evaluation items
Life of the people	<ul style="list-style-type: none"> ✓ Improvement of public service ✓ Opportunity for expansion in life ✓ Improvement of Amenity
Economy of Concerned area	<ul style="list-style-type: none"> ✓ Expansion of Productivity ✓ Increasing of Job opportunity
Safety securing	<ul style="list-style-type: none"> ✓ Reduction of Accidents and Disasters ✓ Reduction of Natural Disaster
Environmental affect	<ul style="list-style-type: none"> ✓ Conservation of Natural Environment ✓ Conservation of Life Environment ✓ Improvement of Landscaping ✓ Contribution to conservation global Environment
Local Community	<ul style="list-style-type: none"> ✓ Utilization of local Resources ✓ Contribution to the conservation ✓ Stabilization of Community

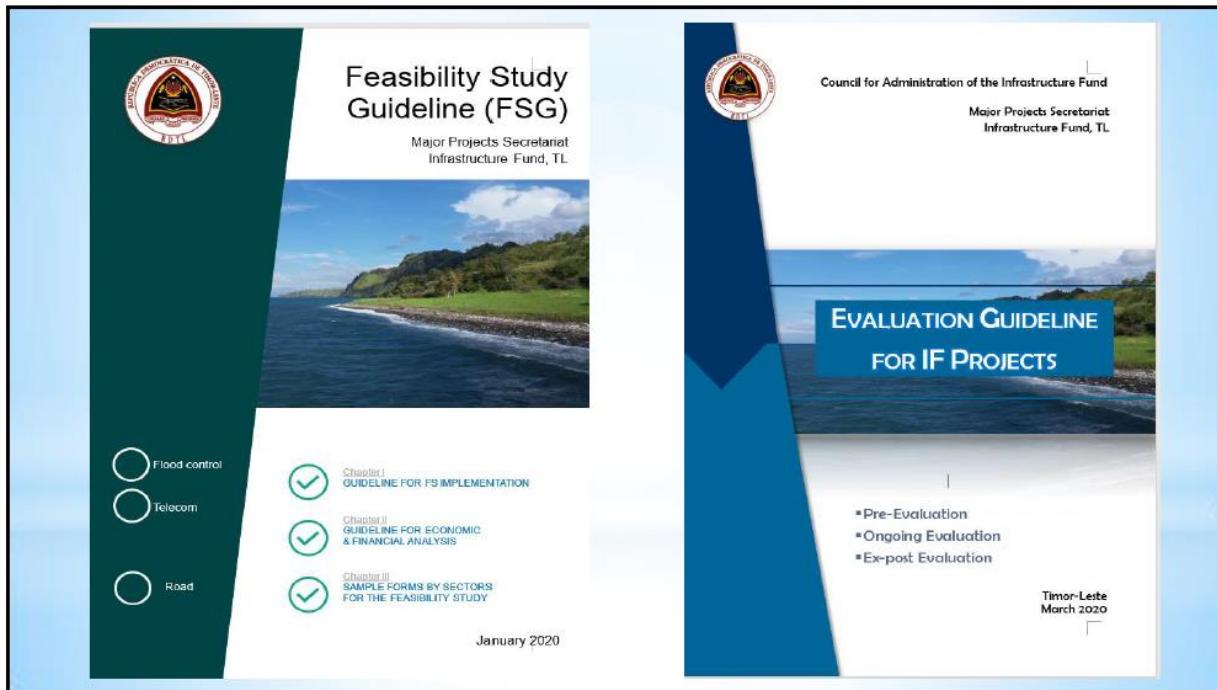
What is necessary to evaluate on each project?



The trial execution results about 13 projects concept

N	Concept proposal	Main idea	Cost (M, US\$)	Full Score 100
1	New Dili bypass	25km including tunnel 4km (13,000)	127	57
2	Viqueque - Lospalos road	125km (PCU 2200/d)	130	58
3	Loes - Maliana road improvement	62km 2 bridges	72	44
4	Industrial park	5ha	27	53
5	Surface water resources for Dili	Reservoir at Railaco Gleno	144	50
6	Dili airport Improvement	2050m Runway, Terminal B, Navigation	?	63
7	Com fishery port	Pier, Road, Dock, Factory, Market	24	45
8	Subsea telecommunication cable	Under sea fiber cable 158km	14	54
9	Spatial data Infrastructure	Facilities	5	70
10	Flower park	6 km2	17	63
11	Coffee production	Factory + Road 143km	73	48
12	Dili sewage plants	Tasitolu, Tibar, Caicoli	54	69
13	Community upgrading	3.5 ha	13	42

	Concept	FS	DED
Main purpose	Check the plan/idea practical or just idea	Study how to make feasible	Estimate the cost to ensure the budget
Background	Confirmation of project position in the development plan		x
	Confirmation of rerated regulations		x
Defining the problem	Check for privatization		x
	Current status		x
Environment	Current issues	Specific issues on execution	
	Impact	IIE: Natural environment study	EIA & Countermeasures
Who is the beneficiary?	x	Social impact study	
	Justification of the new project		x
Possible Schedule	Rough Time schedule		Detailed schedule
Budget & Revenue Financial Economical	Financial resources	E&F Analysis	Detailed cost estimation
	Possibility of Revenue	Operation methods	
Quality, Quantity and Accuracy	x	x	Quality Control
	Rough scale		Detailed Quantity
	x	x	x



Thank you for your attention

ROLE OF THE MINISTRY & EXPERIENCE OF DGAS WITH THE FS PREPARATION:

Project concept, ToR, Tender and selection
of the Consultant and FS Report

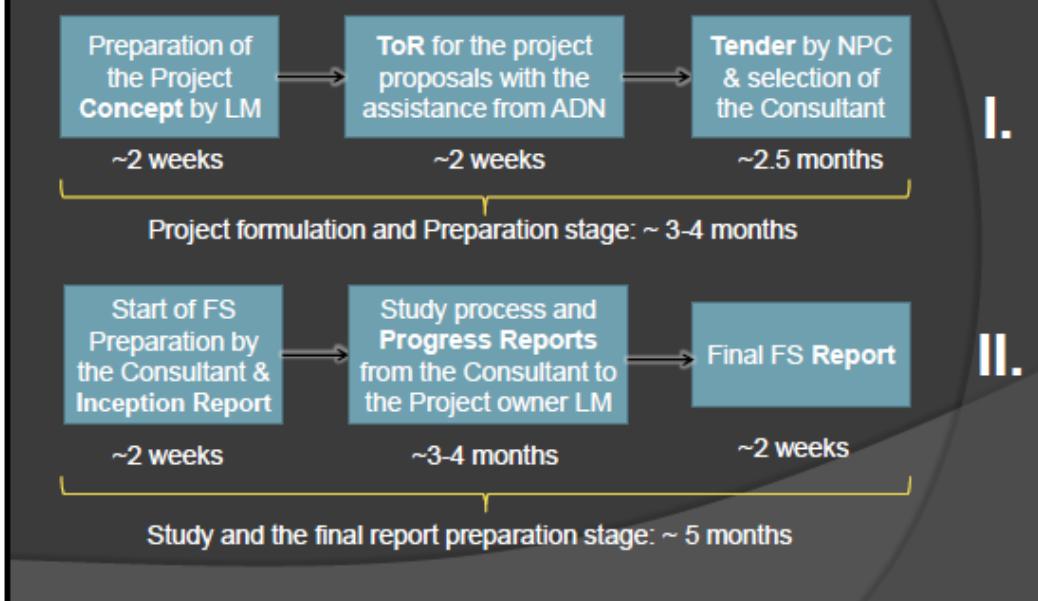
Mr. Gustavo da Gruz;
Director Geral Agua
e Saneamento (DGAS)

5 March 2020

Main steps of the FS preparation:

- Preparation of the **Project Concept**
- **ToR preparation** with ADN & MPS
- Tender process and **selection of the Consultant** with the National Procurement Commission (NPC/CNA)
- Signing of the **Contract** for FS
- **Guidance to the Consultant** - FS Guideline:
(Inception report, Progress Reports and consultations, structure of the Final Report)
- Evaluation and Approval of the **Final Report**

Workflow and the timeline for FS



Challenges with the FS

- Required support with the Concept and ToR preparation from MPS and ADN
- Required support from NPC with the tender documents and selection
- Limited budget for FS from LM
- Evaluation of results of FS Final Report
- Help from FS Guideline:
 - structure of the FS Report
 - study process and evaluation method

FS cost and source of Budget

Cost of the Feasibility Study preparation:

1 option: Usually, cost of the FS is 2-5% of the project cost. For example, if the project cost \$5 mln, FS cost is around \$100-250K

2 option: Based on the cost of consultants and duration of the study. For example, team of 3 consultants and 4 months – FS ~180K

Sources of the funding for FS:

- Line Ministry's budget
- Infrastructure Fund (IF)
- Development partners (ADB, WB, JICA)

Conclusions and recommendations

- Line Ministry are encouraged to prepare **new concepts for FS** (financial support possible from the Infrastructure Fund)
- For the Government recommended to establish a **Roster** for FS Consultants
- Results of the FS projects are valuable for the **Database** and future projects
- LMs are encouraged to improve capacity and attend future **trainings of FS**

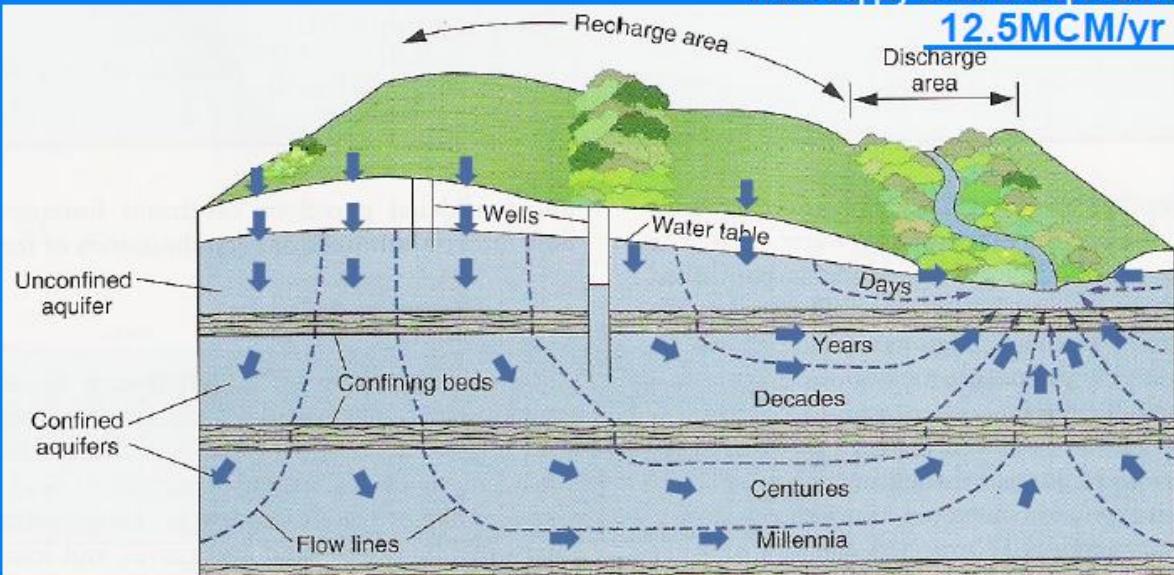
Pre-Feasibility Study of the Ground Water Resource Development Project for the Water Supply of Dili Metropolitan Area

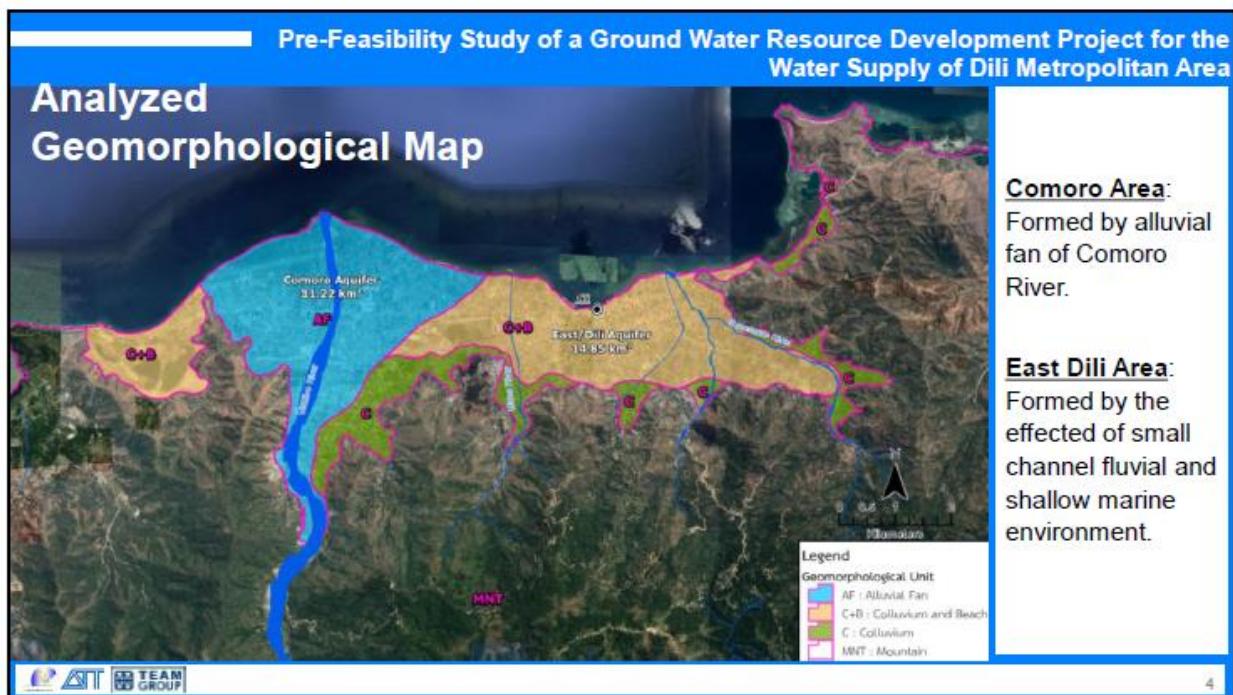
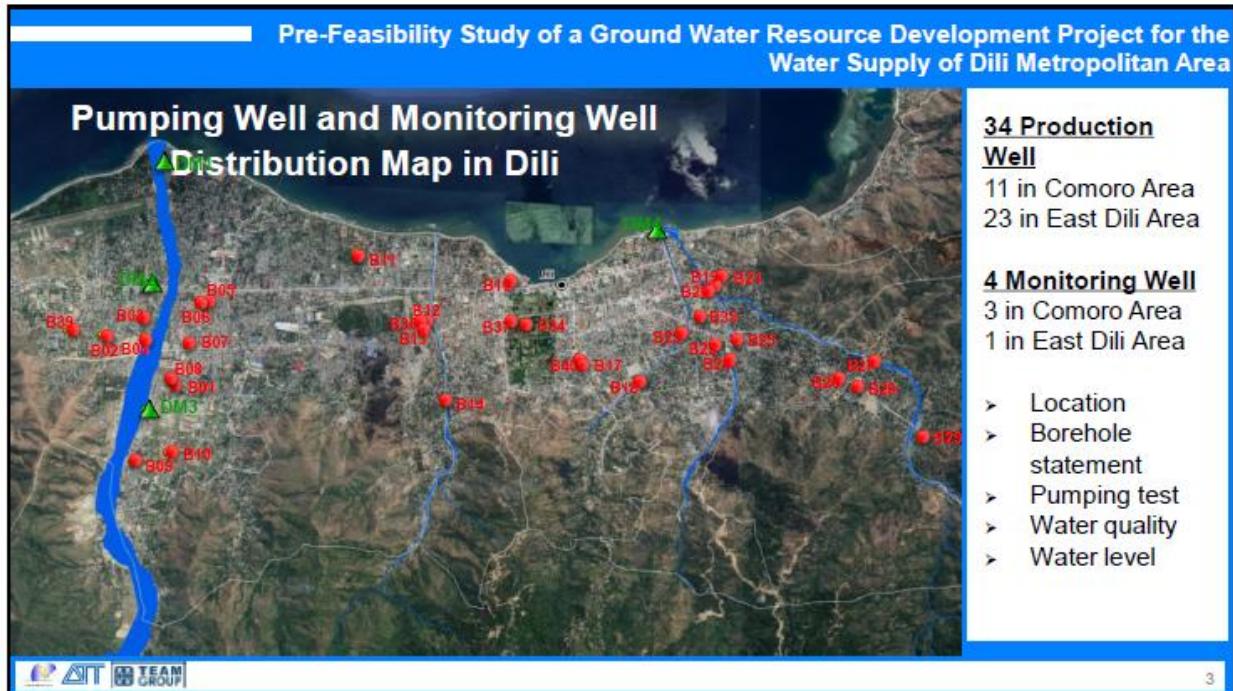
Workshop on the Feasibility Study

5 March 2020

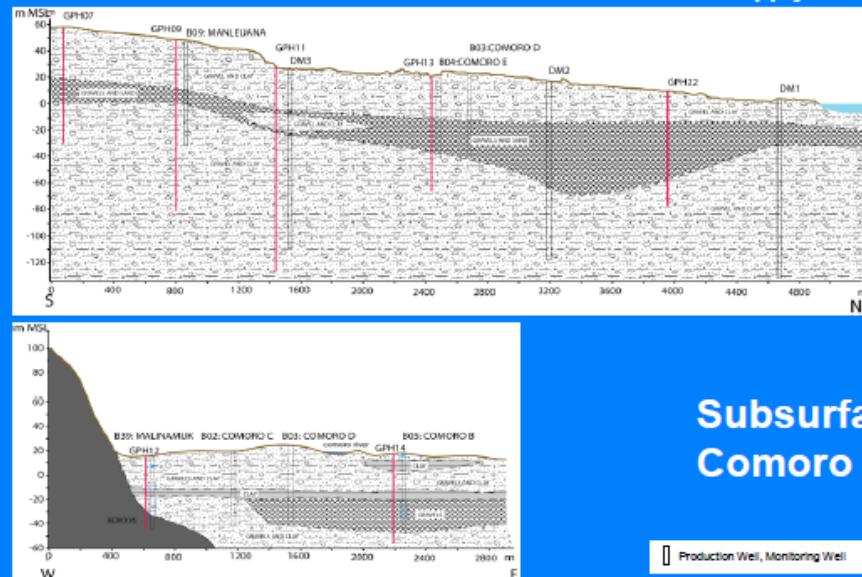


12.5MCM/yr





Pre-Feasibility Study of a Ground Water Resource Development Project for the Water Supply of Dili Metropolitan Area



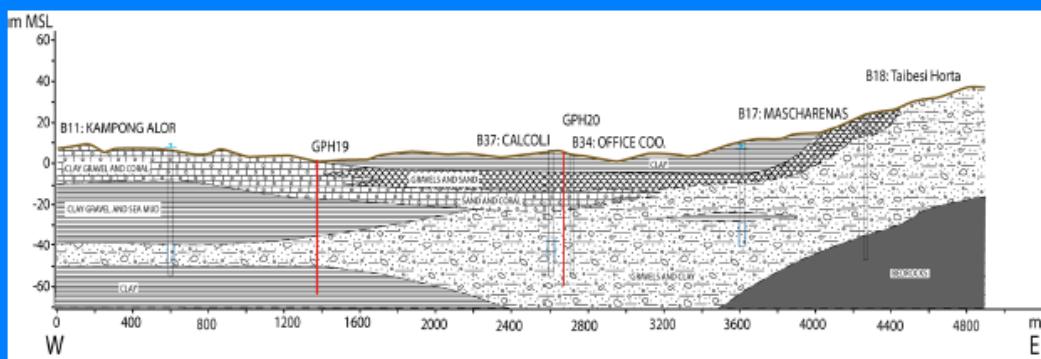
Subsurface of Comoro Area

□ Production Well, Monitoring Well | VES Survey Point

5

Pre-Feasibility Study of a Ground Water Resource Development Project for the Water Supply of Dili Metropolitan Area

Subsurface of East Dili Area



□ Production Well, Monitoring Well | VES Survey Point

6

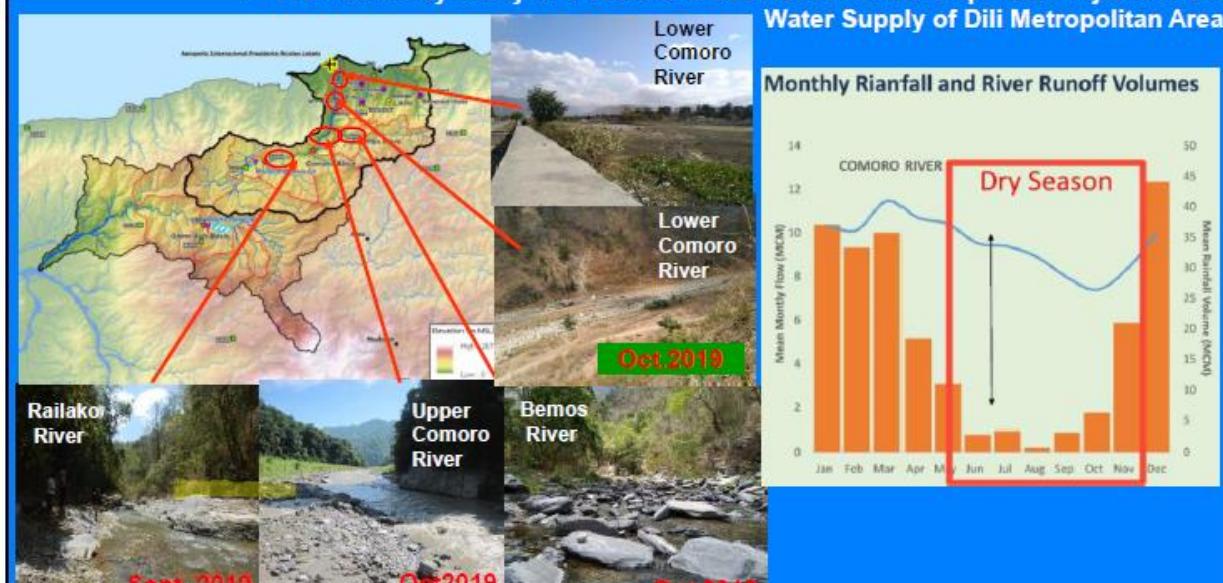
Pre-Feasibility Study of a Ground Water Resource Development Project for the Water Supply of Dili Metropolitan Area

Piezometric Level and Flow net Analysis in Wet Season

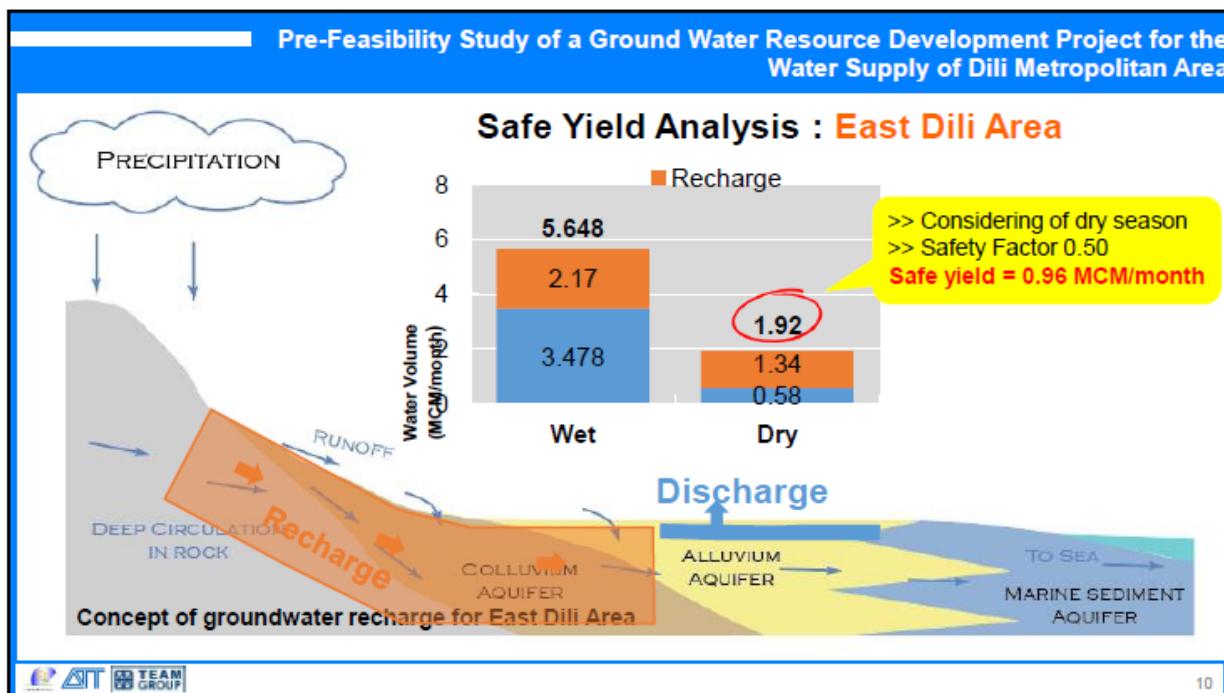
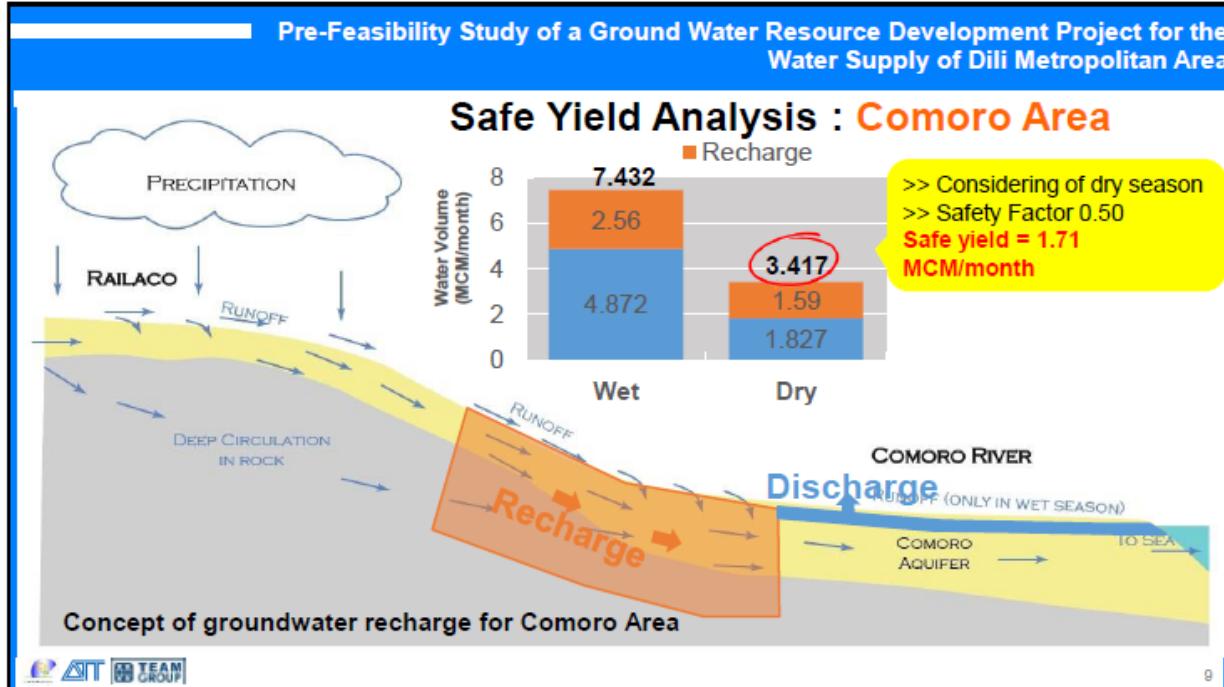


7

Pre-Feasibility Study of a Ground Water Resource Development Project for the Water Supply of Dili Metropolitan Area



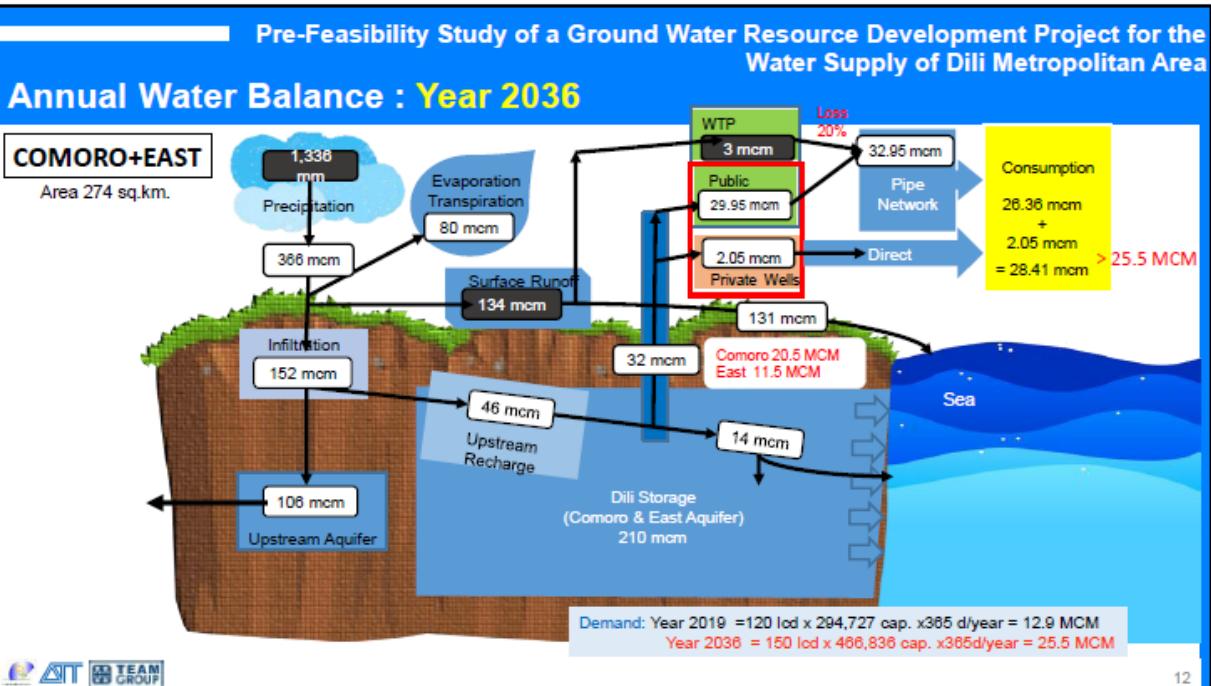
8



Pre-Feasibility Study of a Ground Water Resource Development Project for the Water Supply of Dili Metropolitan Area

Conclusion on the Aquifer Properties and Production

Properties	unit	Comoro		East Dili	
		Wet	Dry	Wet	Dry
Transmissivity	1/1000 m^2/s		22-25		3.2-8.2
Storativity	1/100		6		4.6
Static Water Level	m MSL	10-12	4-5	6.5-9	0.2-5.4
Draw Down	m		0.7- 2.5		1-14
Flow	MCM/6 months	15.36	9.55	13.03	8.05
	MCM/months	2.56	1.59	2.17	1.34
Storage	MCM	4.87	1.83	3.48	0.58
Safe Yield	MCM/Month	7.43	3.42	5.65	1.92
50% of Safe Yield	MCM/Month	3.72	1.71	2.82	0.96
Present Production	MCM/Month	0.40	0.40	0.70	0.70
Recommended Max. Production	MCM/Month	1.7	1.7	0.7	0.7



GIS (Geographic Information System) Supporting Tool for the Infrastructure Fund



Major Project Secretariat
Council of the Administration of the Infrastructure Fund (CAFI)
Dili, 5 March 2020

Content

- Introduction to GIS
 - Components
 - Process
- GIS Database System for the Infrastructure Fund
 - Purpose
 - Logical Design
 - Enabling System Set-up
 - IF Geo-Database
- GIS Utilization and Application for the Infrastructure Fund
 - Mapping
 - (Spatial) Analyses
 - Support IF Project Implementation
- Plan for the future
 - Online Geo-Portal
 - Interactive Mapping
 - E-Governance
 - Spatial Data Infrastructure

Introduction to GIS

■ What is GIS?

"a system designed to capture, store, analyze, manage, and present all types of geographical data" (Research Guides).

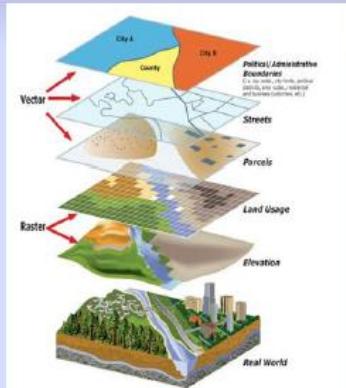
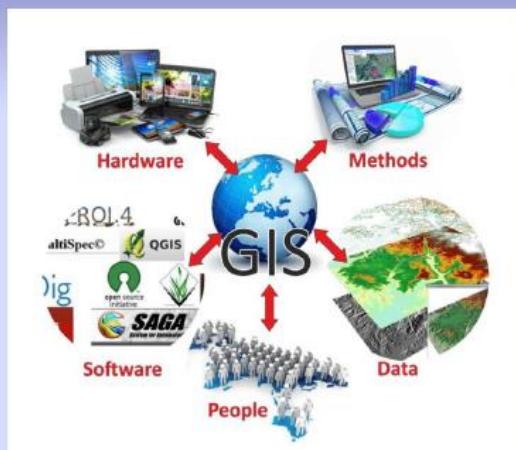


Figure 2: An example of map layers used together in GIS
San Bernardino County GIS Dept., 2012. Used for educational purposes only. <http://gis.sbcounty.gov/>

■ GIS Components

Integrated and interconnection of:

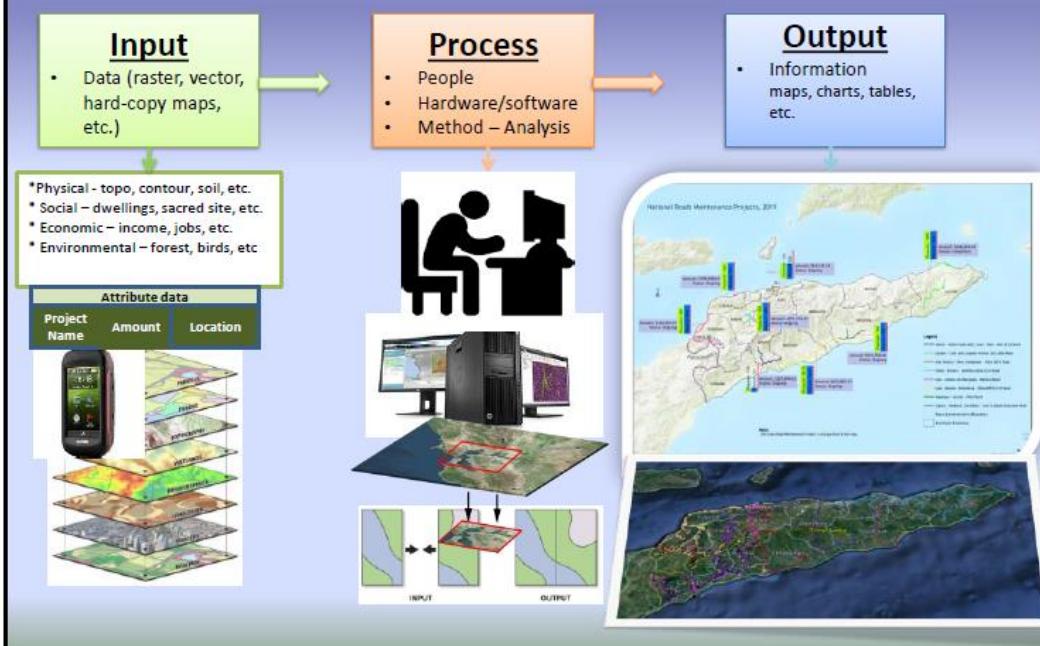


https://www.researchgate.net/figure/Elements-of-Geographic-Information-Systems-own-elaboration_fig1_332655885

<https://myo-monowater.org/resources/giswhat/layers/>

GIS Process

A proactive and constant application of:



GIS Database System for the Infrastructure Fund

▪ Purpose

Developing a geographic database system:

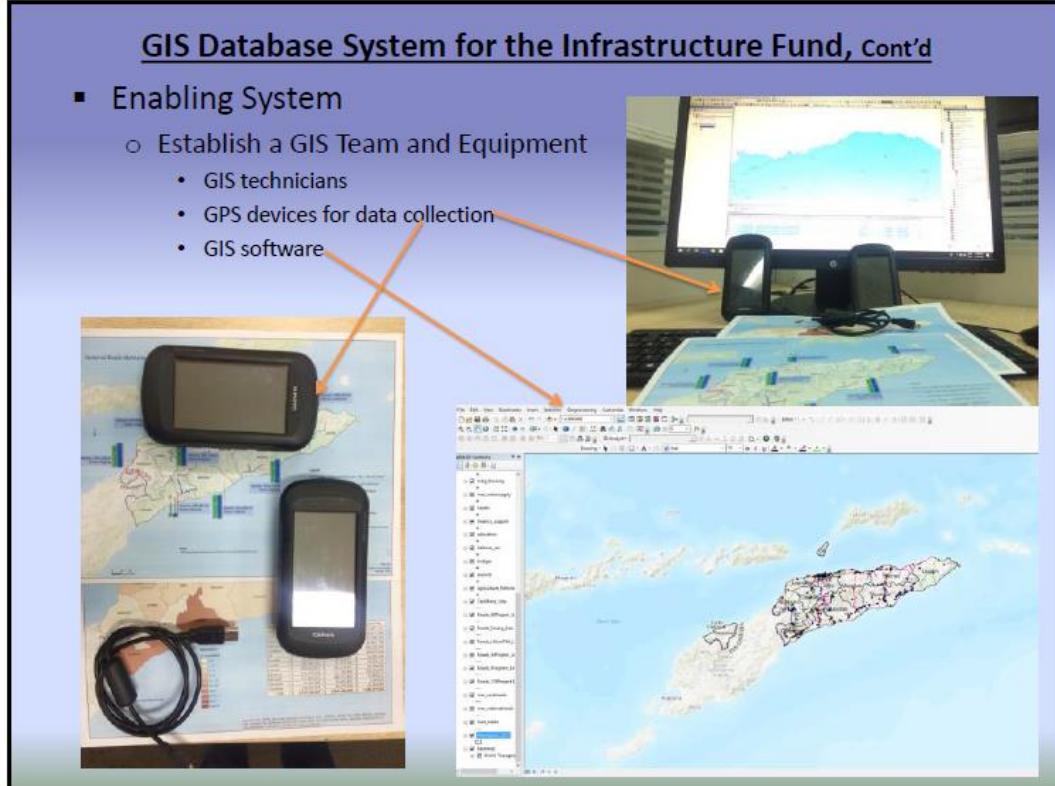
- To have record of exact spatial locations and information of projects that are funded through the IF;
- To improve organization of data in proper format for easy access, management, analyses, and sharing of information;
- To support CAFI in planning, monitoring, and evaluation of IF-funded infrastructure projects; and
- To promote interlink-age of infrastructure data to other external data for broader application.



GIS Database System for the Infrastructure Fund, Cont'd

▪ Enabling System

- Establish a GIS Team and Equipment
 - GIS technicians
 - GPS devices for data collection
 - GIS software



GIS Database System for the Infrastructure Fund, Cont'd

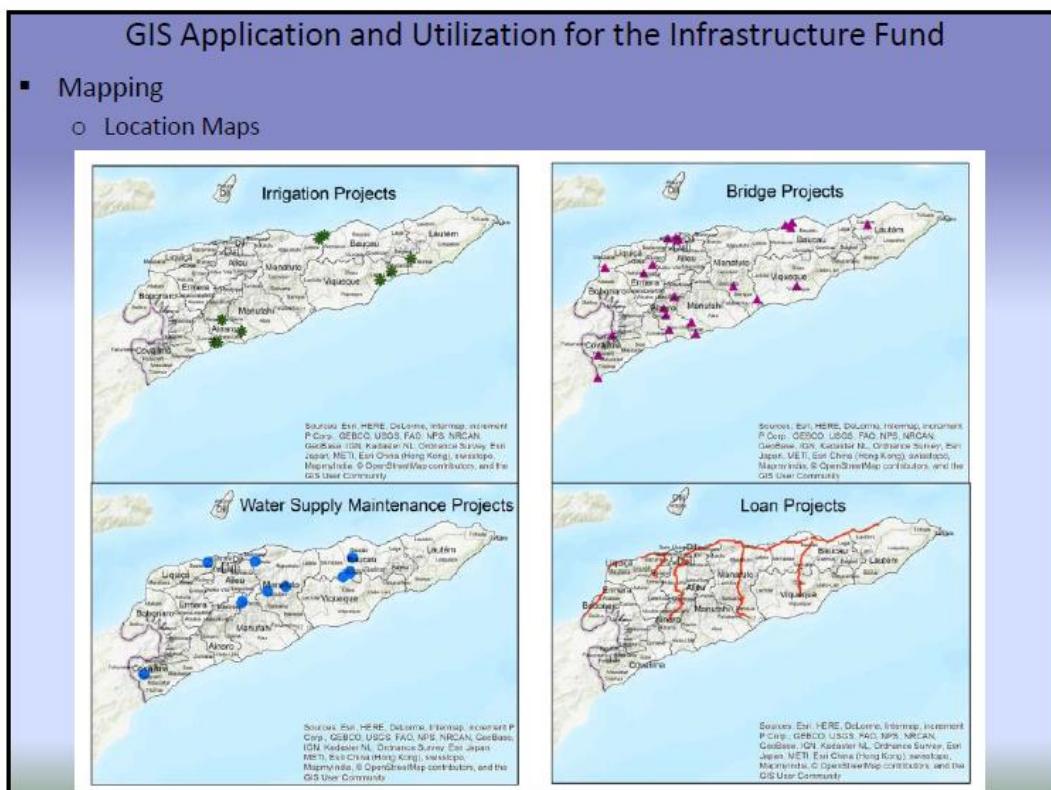
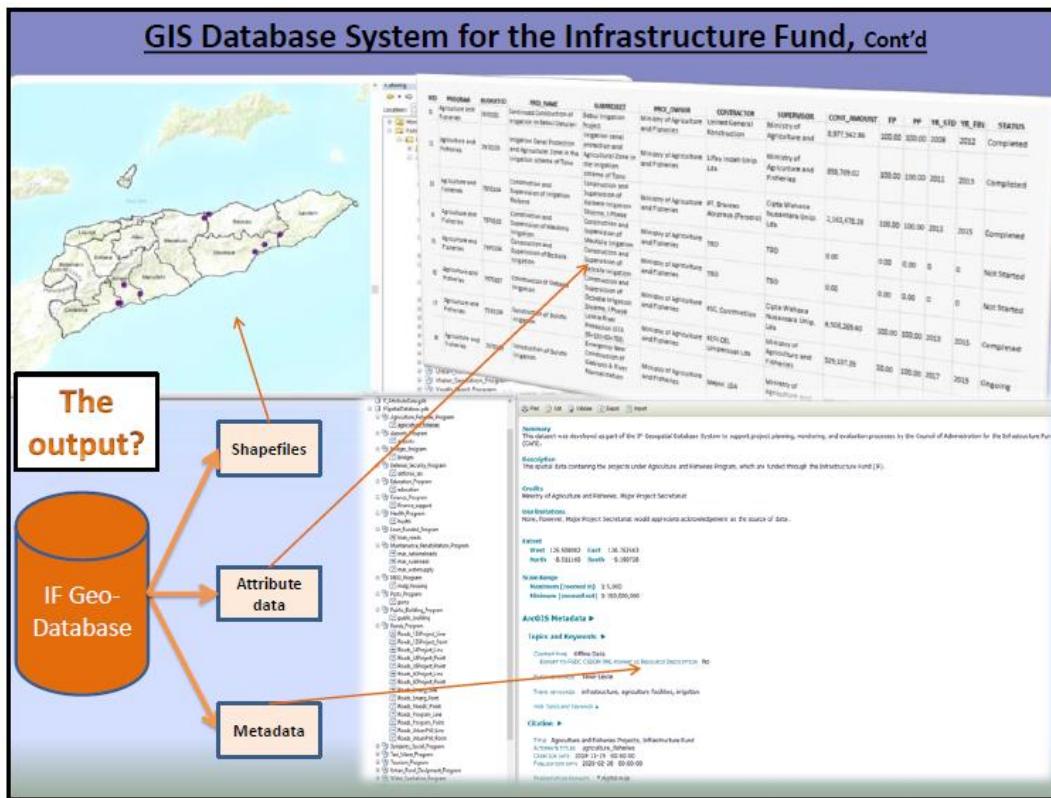
- Enabling System - Data Collection and Editing



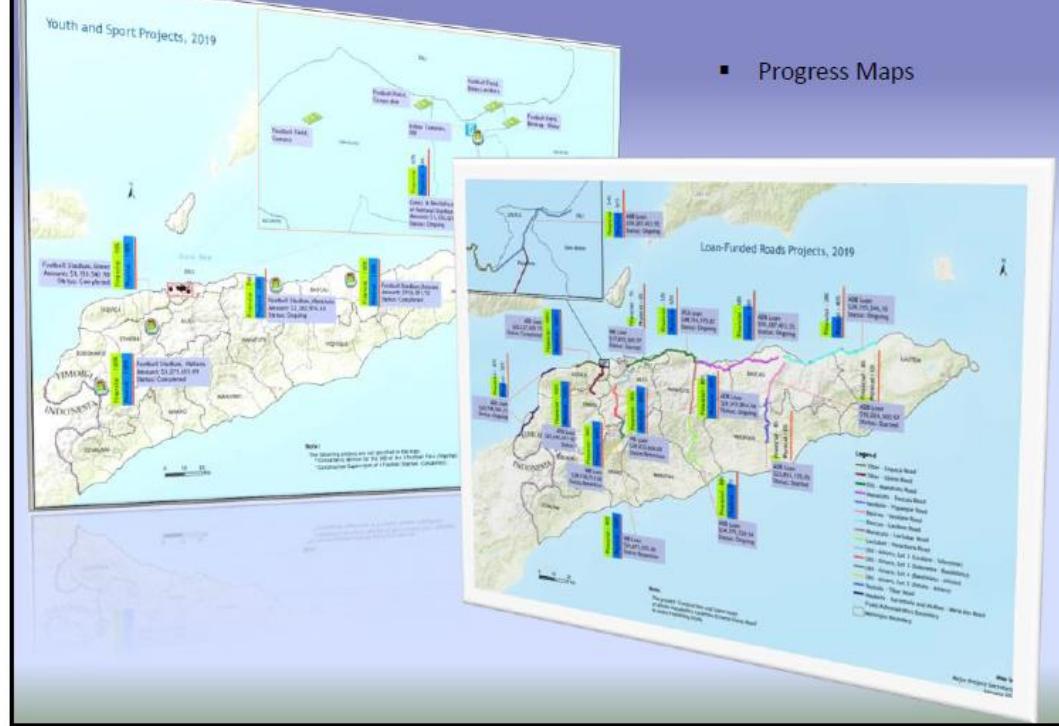
GIS Database System for the Infrastructure Fund, Cont'd

- Enabling System
 - Data Collection & Editing - "IF Projects"





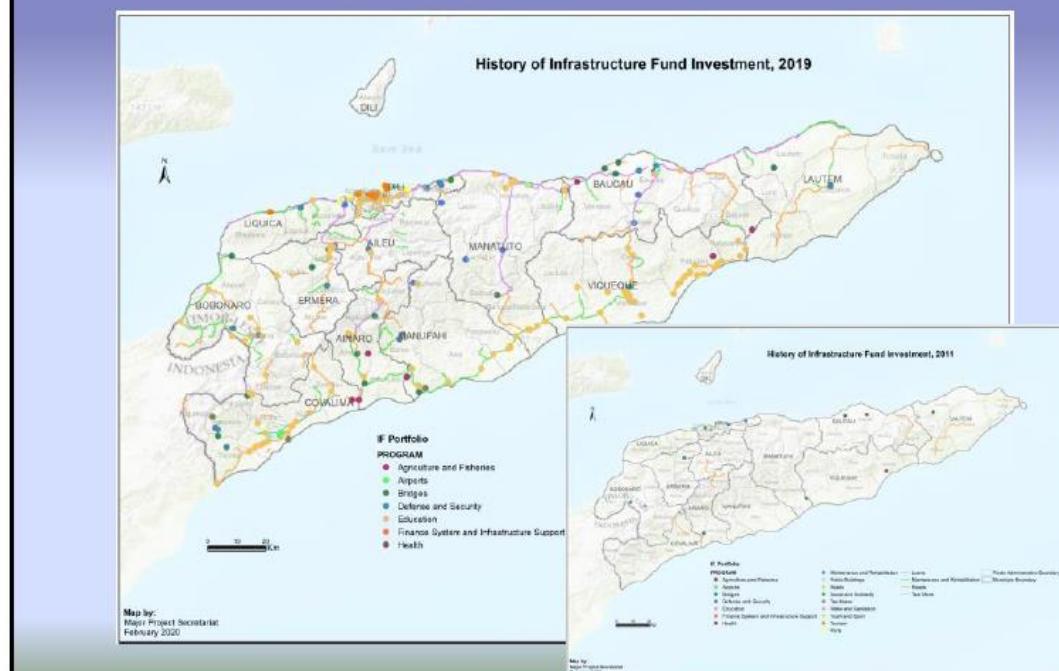
GIS Database System for the Infrastructure Fund, Cont'd



■ Progress Maps

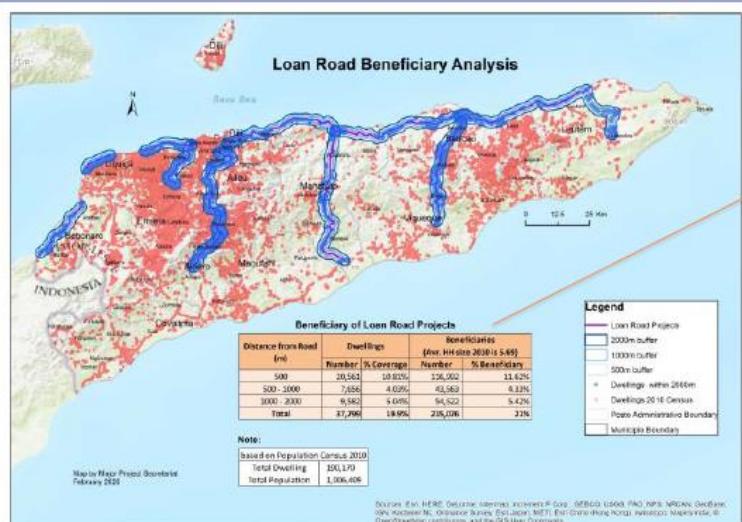
GIS Application and Utilization for the Infrastructure Fund, Cont'd

■ IF Historical Map – Time Series



GIS Application & Utilization for the Infrastructure Fund, Cont'd

- (Spatial) Analyses
 - Supporting tool for Beneficiary Analysis

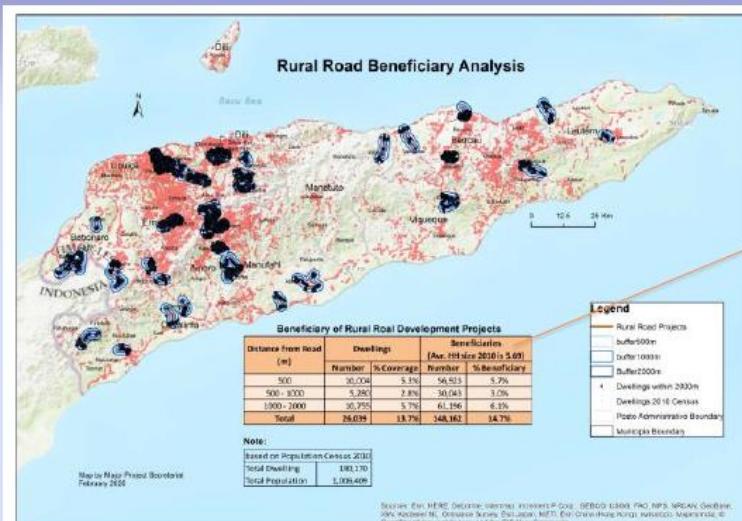


Benefits:

- ✓ 37,799 hh or 19.9%
- ✓ 215,076 people or 21%

GIS Application & Utilization for the Infrastructure Fund, Cont'd

- (Spatial) Analyses
 - Supporting tool for Beneficiary Analysis



Benefits:

- ✓ 26,039 hh or 13.7%
- ✓ 148,162 people or 14.7%

GIS Application and Utilization for the Infrastructure Fund – Cont'd

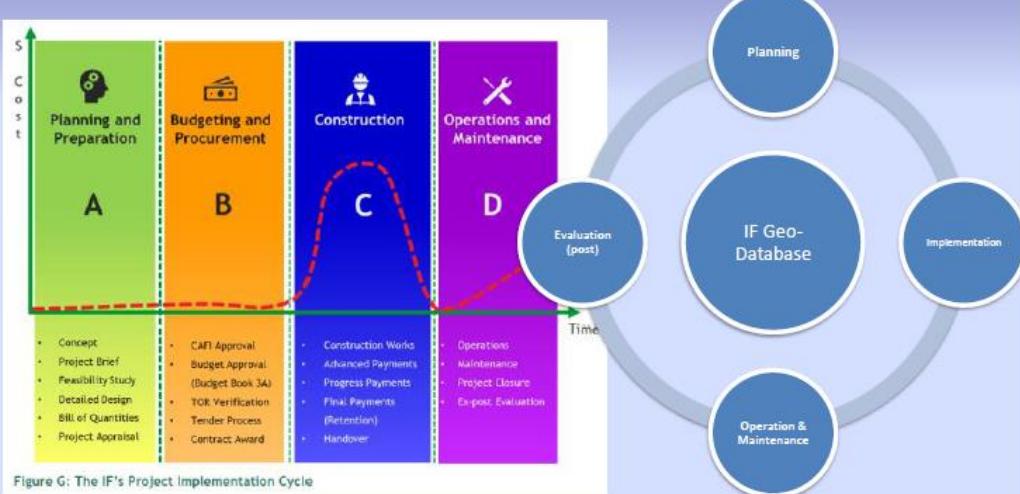
- (Spatial) Analyses: Feasibility Study
 - Result verification, 3-D application



GIS Application and Utilization for the Infrastructure Fund – Cont'd

- Mapping & Analyses to support:

IF Project Implementation



What are the plans for the future?

Online Geo-Portal

- Data storage, sharing and utilization
 - policies on level of access, level of information, etc.

Interactive Mapping

- Dynamic – updated

E-Governance

- Program Budgeting

Spatial Data Infrastructure

- Regulations
- Standardization
- Specifications (data quality, sharing)
- Institutional arrangements
- Financing mechanisms

OBRIGADO
Thank You



Integrated Road Infrastructure Monitoring (IRIM) System using Artificial Intelligent Method and Low Cost Technology

Mariano Renato M. da Cruz, Frederico Soares Cabral, Vosco Pereira,
HIDEKAZU Fukai, NAKASHIMA Shinichiro

Contents

Artificial Intelligence (AI) at Glance

Penetration of Artificial Intelligence (AI) in Timor - Leste

Artificial Intelligence in Engineering Sector

Background

System Framework

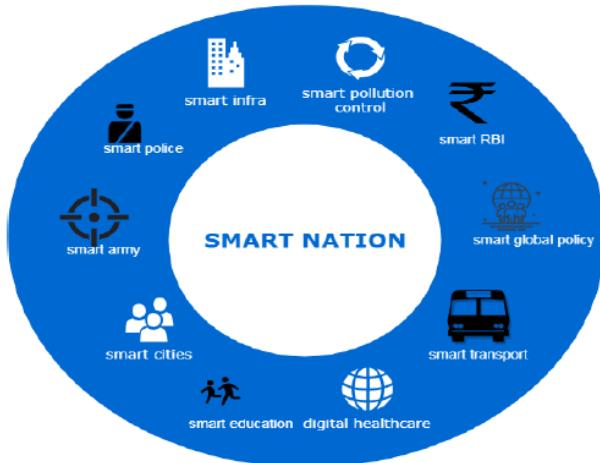
Process and Result

Conclusion

Future Work

3/5/2020

Role of Artificial Intelligence for a Nation

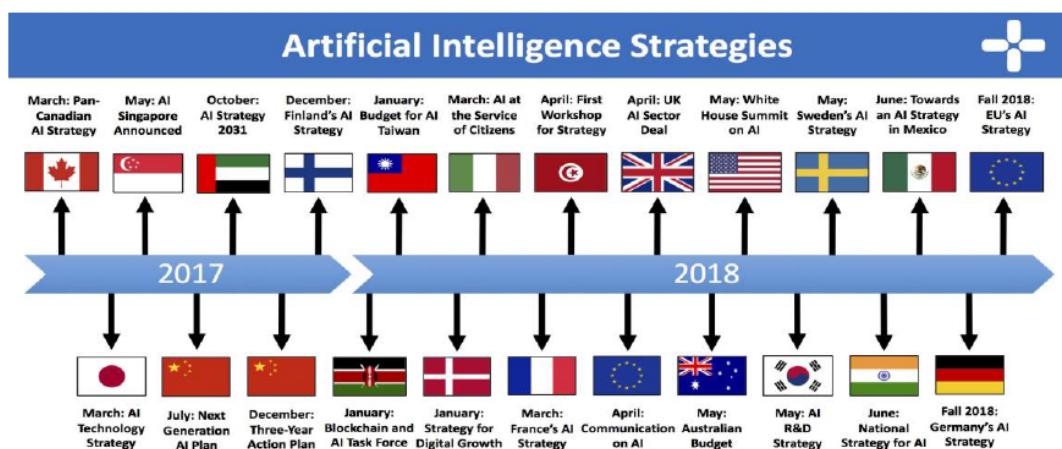


<https://medium.com/datadriveninvestor/role-of-artificial-intelligence-for-a-nation-fe94e76a79da>

3/5/2020

Artificial Intelligence (AI) has become a revolution in the world. It has gone beyond IT and expanded to health, education, defense, art, and social sector.

National AI Strategies in Several Countries



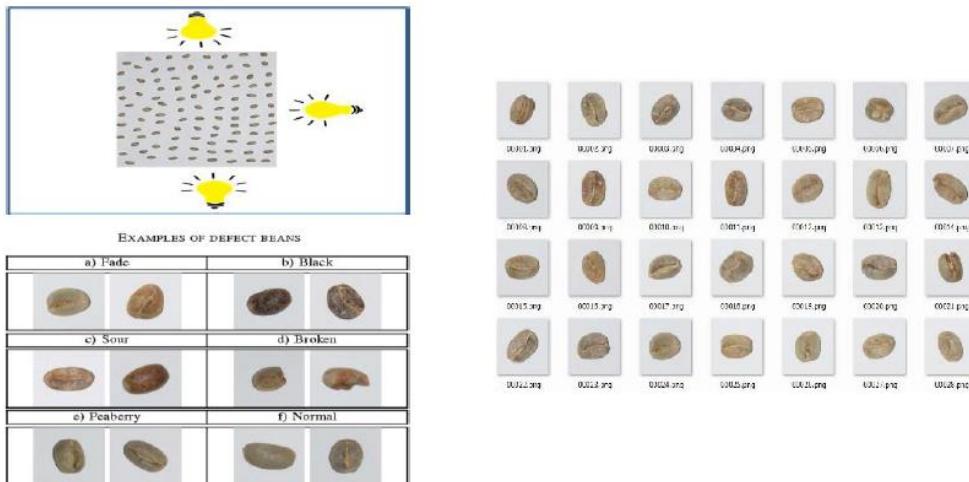
The race to become the global leader in artificial intelligence (AI)

3/5/2020

<https://medium.com/politics-ai/an-overview-of-national-ai-strategies-2a70ec6edfd>

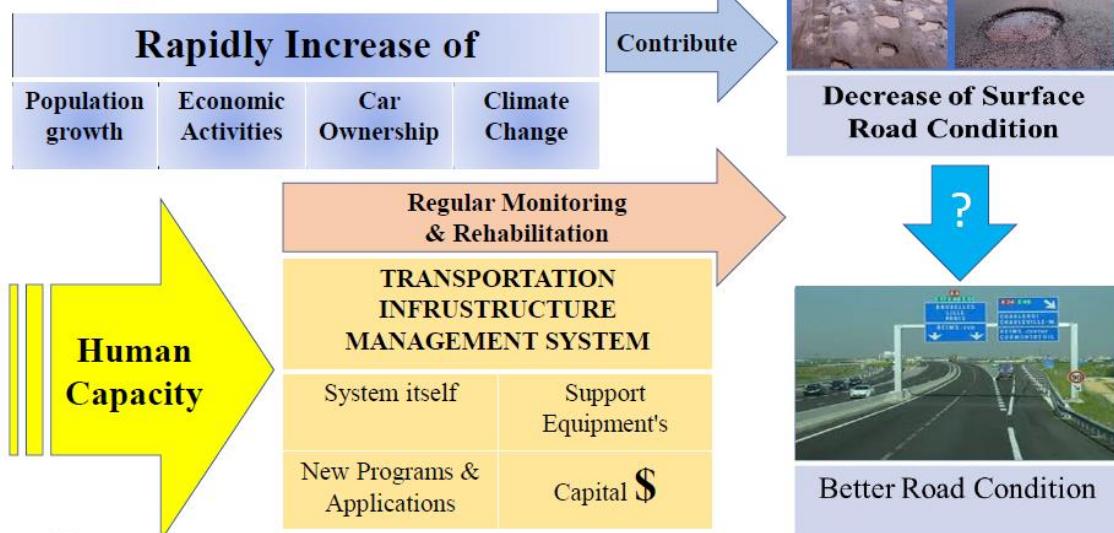
Utilization of Artificial Intelligence in Timor-Leste

Coffee beans Classification (Agriculture Sector)



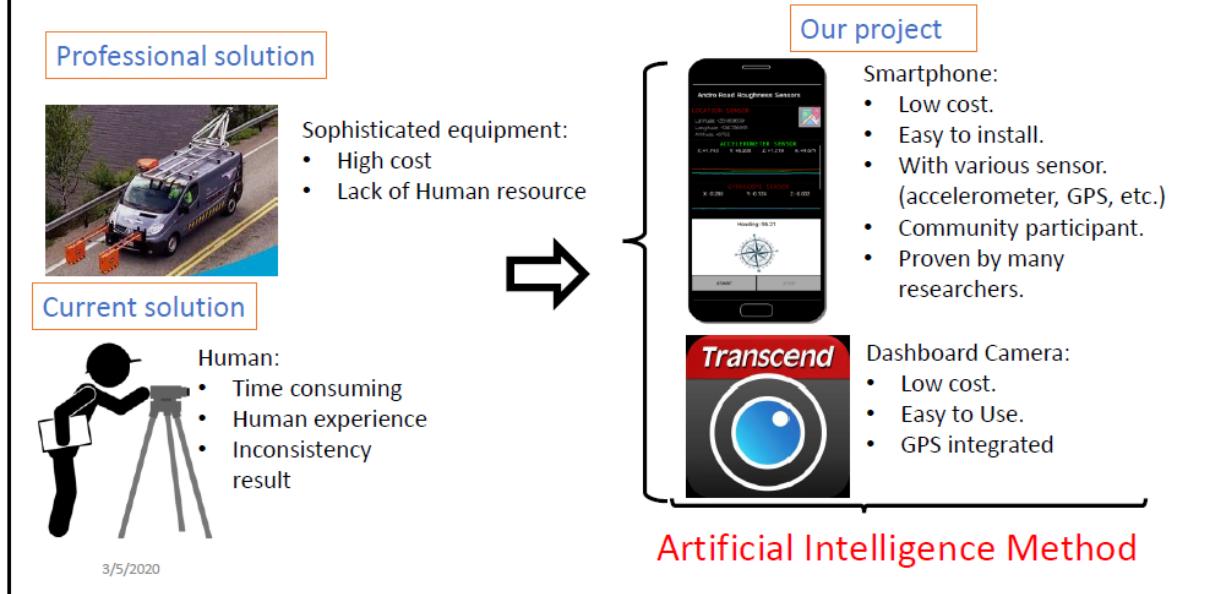
3/5/2020

A.I. in Civil Engineering ➔ (Roads Sector) Background

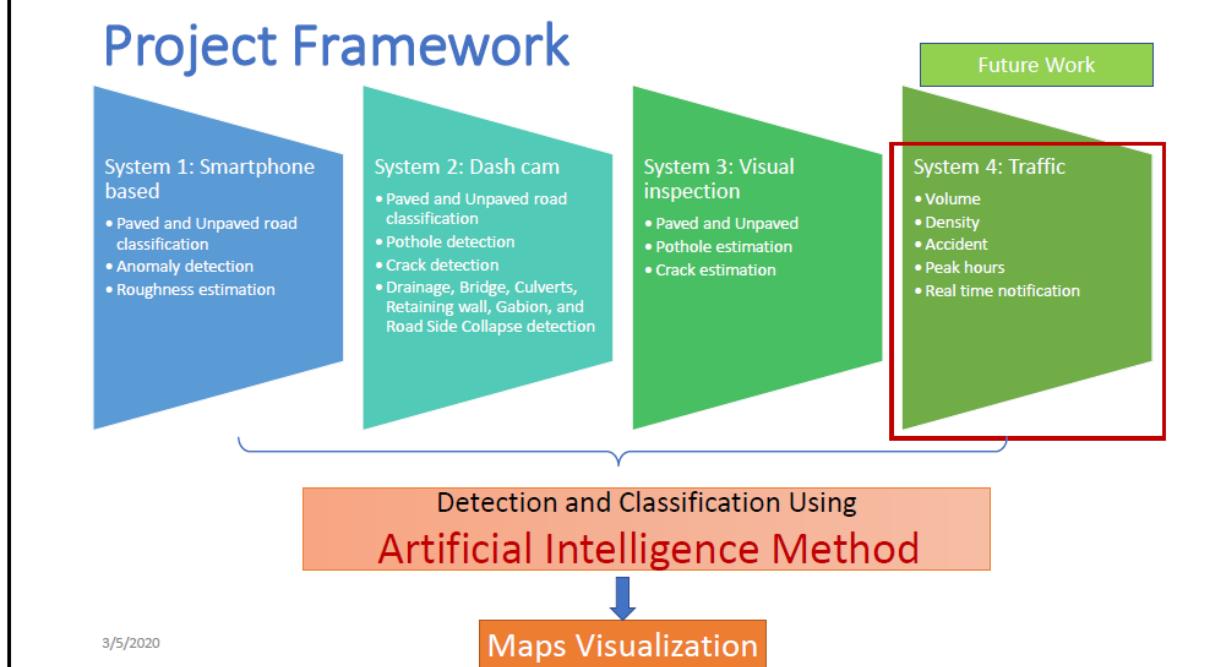


3/5/2020

Types of Data Collection



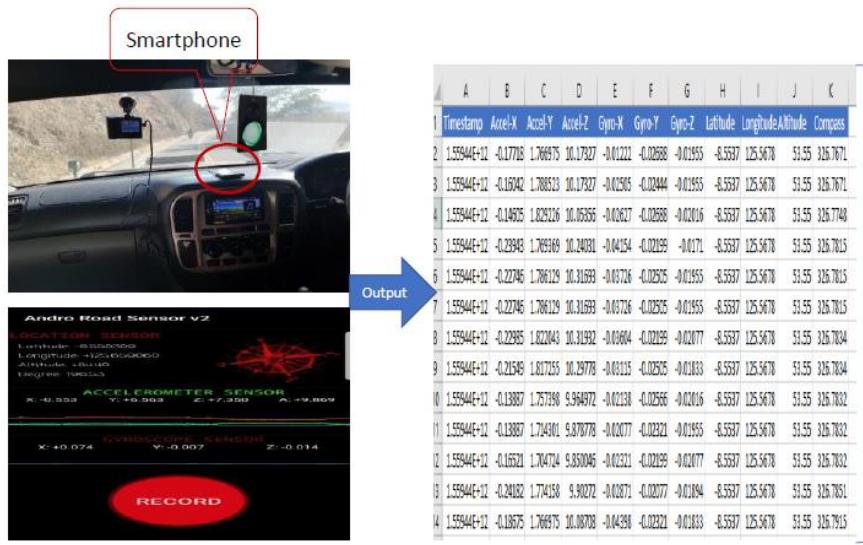
Project Framework



Data Collection Process

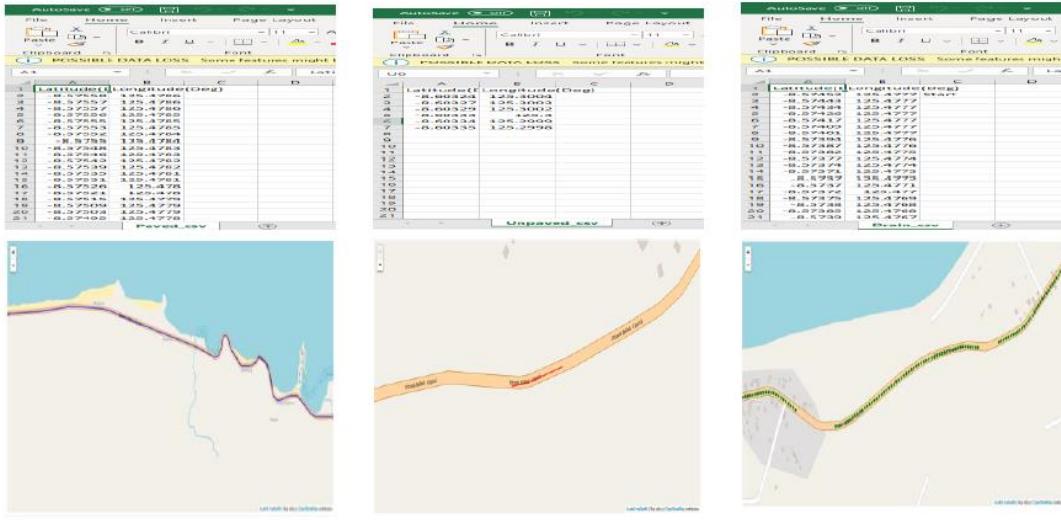
3/5/2020

System 1: Data Collection Process



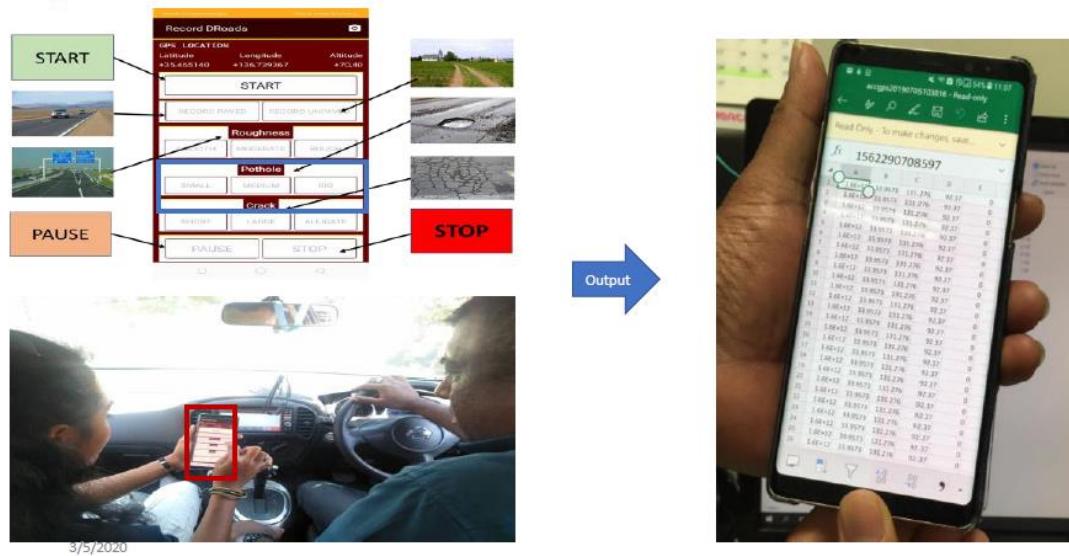
3/5/2020

System 2: Result (Paved, Unpaved, Drainage)



3/5/2020

System 3: Data Collection Process



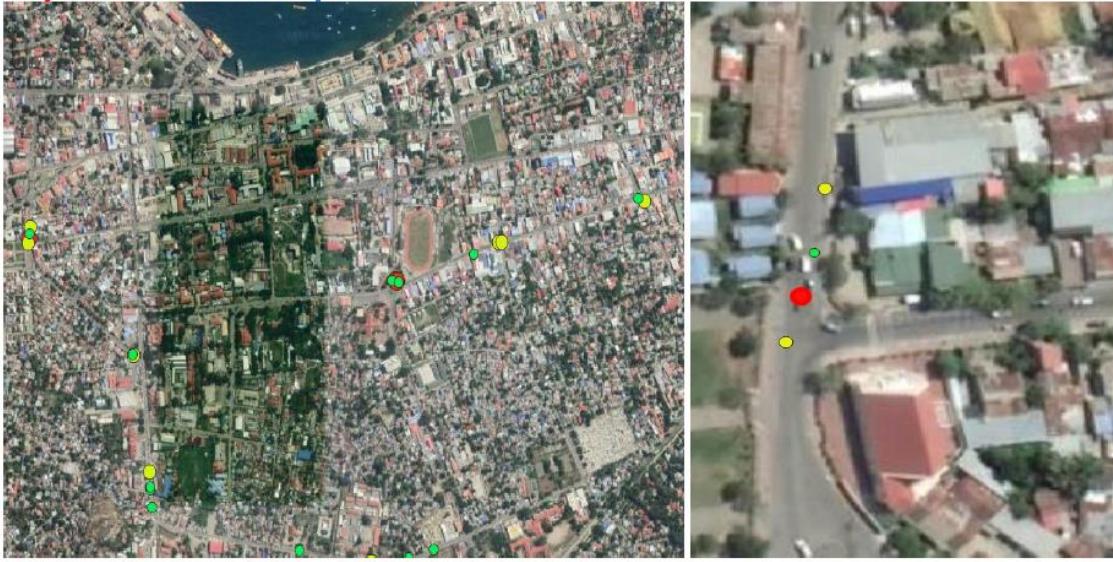
3/5/2020

System 3: Size Identification

List of Anomalies

Latitude	Longitude	small D	Latitude	Longitude	Big P	Latitude	Longitude	small P
-8.5579161	125.568782	3	-8.5662874	125.579139	2	-8.5659884	125.581034	1
-8.5590165	125.579858	3	-8.5639633	125.572426	2	-8.5661919	125.580288	1
-8.5590347	125.57991	3	-8.5609403	125.571952	2	-8.5662724	125.580119	1
		3	-8.5580415	125.568748	2	-8.5662901	125.580069	1
			-8.557619	125.568837	2	-8.5663553	125.579578	1
			-8.5580117	125.582986	2	-8.566004	125.576962	1
			-8.5580069	125.583077	2	-8.564891	125.57251	1
			-8.5569529	125.58737	2	-8.5644229	125.572454	1
					9	-8.5643678	125.572451	1
						-8.5609134	125.571915	1
						-8.5577945	125.568814	1
						-8.5590181	125.579783	1
						-8.5590666	125.57997	1
						-8.5583393	125.582236	1
						-8.5568781	125.587183	1
								15

System 3: Map Visualizations



3/5/2020

System 3: Cross Check on Site

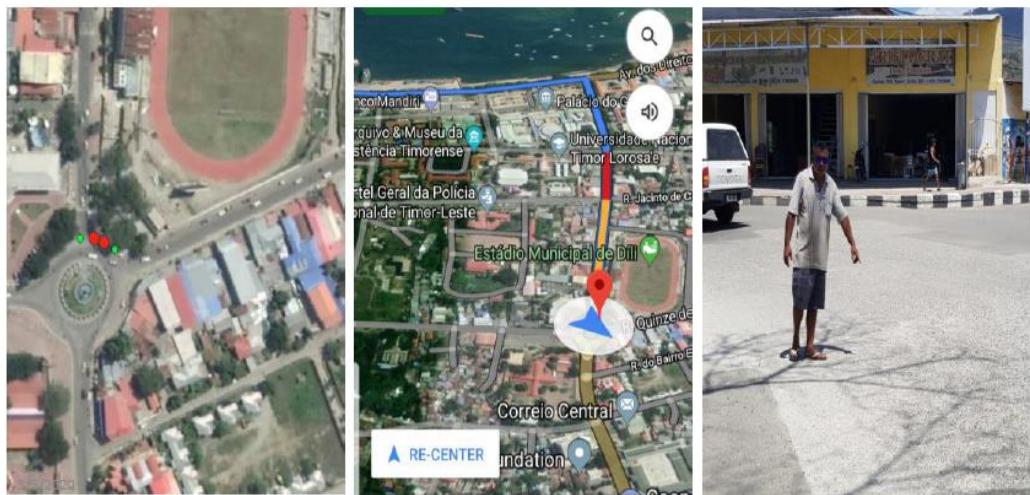


Table 1. Classification of Damage

Descriptions	Size	Small	Medium	Big	Small Damage	Big Damage	Total Rehabilitation
Damage	Grate than 5 m						
	2,5 m to 5 m					●	
	1 m to 2,5 m				●		
Pothole	50 cm to 1 m			●			
	20 cm to 50 cm	●					
	Less than 20 cm	●					

3/5/2020

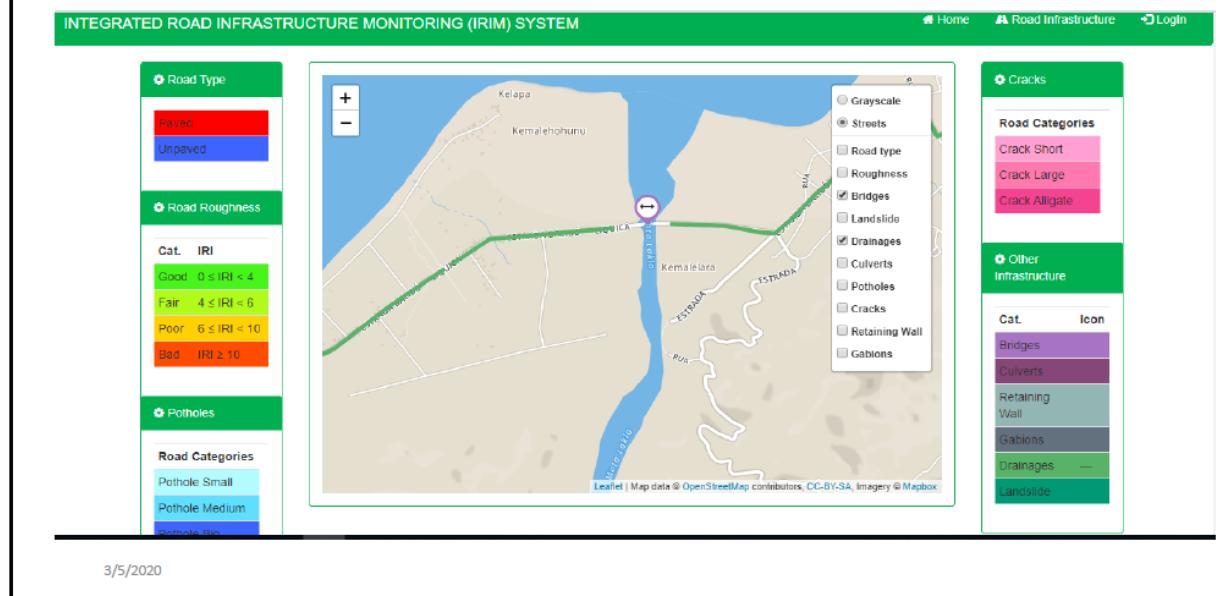
Table 2. Budget Estimation

No.	Descriptions	Code	Units	Locations	Area/Volume	Unit Rate USD	Amounts USD	Remarks
A	Surface Course							
1	Big Damage	●	m ²					
2	Small Damage	●	m ²	3	2.5	\$ 40.00	\$ 300.00	
3	Big P.	●	m ²	9	0.5	\$ 40.00	\$ 180.00	
4	Medium P.	●	m ²					
5	Small P.	●	m ²	15	0.04	\$ 40.00	\$ 24.00	
Sub Total A							\$ 504.00	
B	Base Course							
1	Big Damage	●	m ³					
2	Small Damage	●	m ³					
3	Big P.	●	m ³					
4	Medium P.	●	m ³					
5	Small P.	●	m ³					
Sub Total B							\$ -	
C	SuBase Course							
1	Big Damage	●	m ³					
2	Small Damage	●	m ³					
3	Big P.	●	m ³					
4	Medium P.	●	m ³					
5	Small P.	●	m ³					
Sub Total C							\$ -	
Grand Total A+B+C							\$ 504.00	

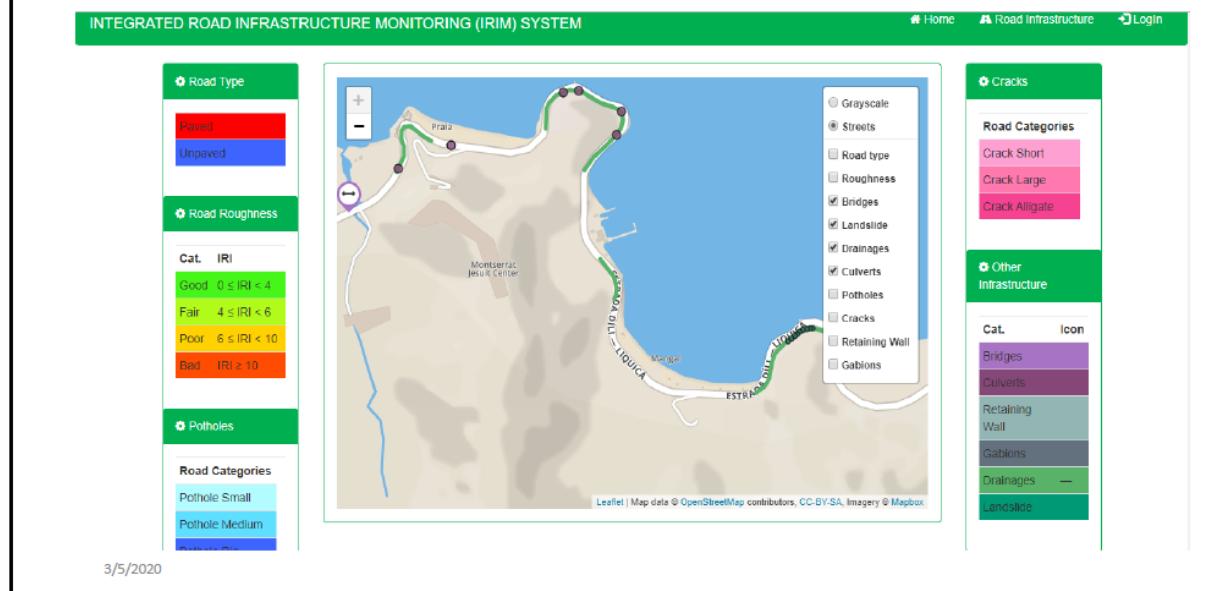
Map Visualization

3/5/2020

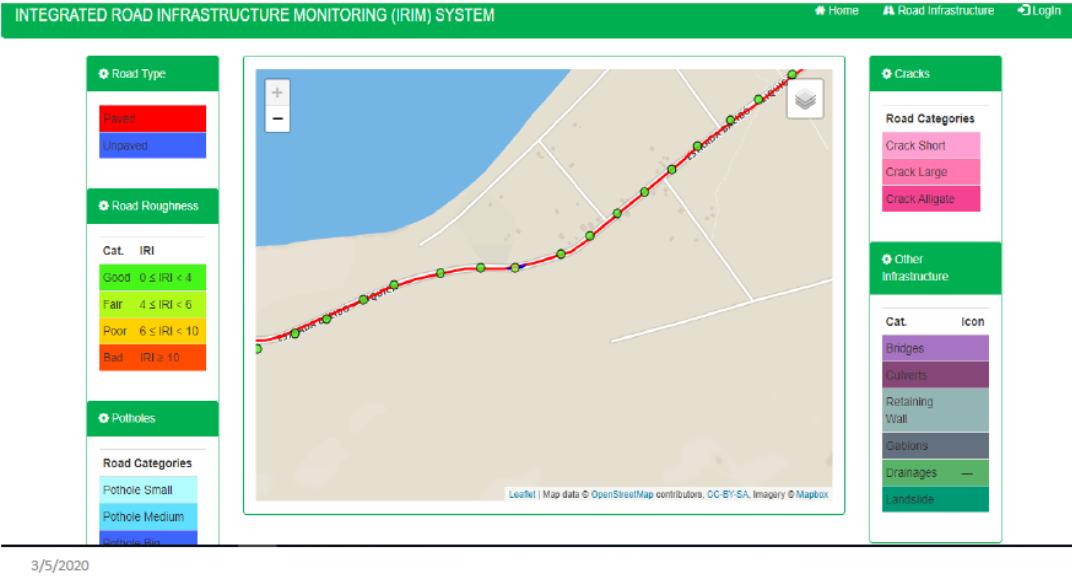
IRIM-System Final Result



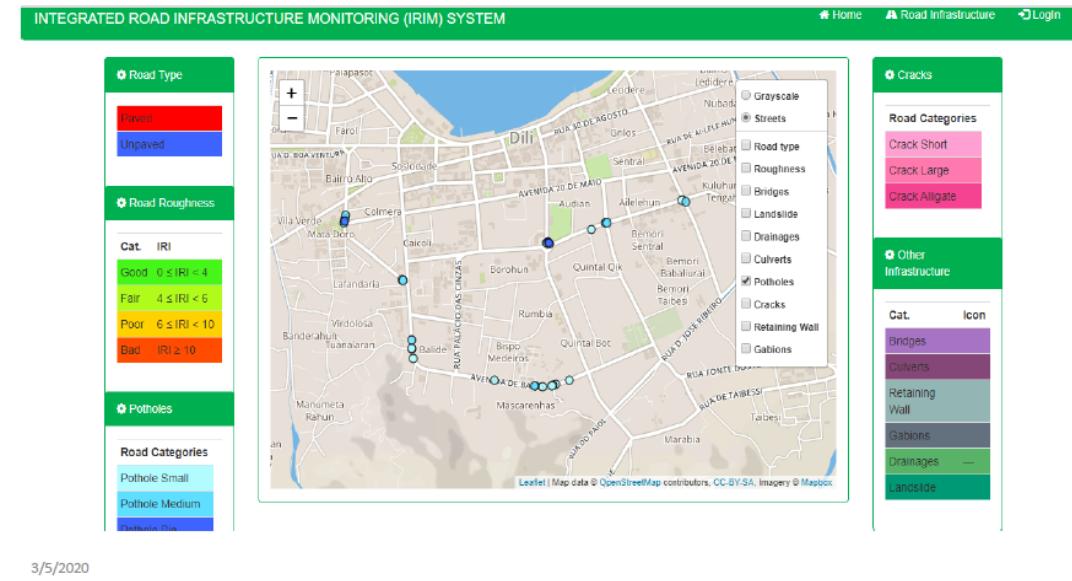
IRIM-System Final Result



IRIM-System Final Result



IRIM-System Final Result



IRIM-System Final Result



3/5/2020

Conclusion

- The **smartphone** device and **dash camera** can be used to monitor road surface conditions.
- This technique can become **an alternative tool** for road condition monitoring in Timor-Leste.
- The application of smartphone **is easy and suitable** for collecting road infrastructure data.
- From these systems, we can easily identify the location of anomalies and also **estimate roughness** the **volume and cost for repair**.
- The result suggest **the priority** for rehabilitation and maintenance.

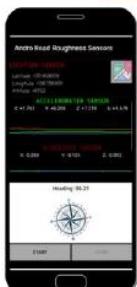
3/5/2020

ROMDAS and Smartphone Comparison



10/23/2019

Our project



Smartphone:

- Low cost.
- Easy to install.
- With various sensor. (accelerometer, GPS, etc.)
- Community participant.
- Proven by many researchers.

Dashboard Camera:

- Low cost.
- Easy to Use.
- GPS integrated

27

ROMDAS and Smartphone Comparison



ROMDAS

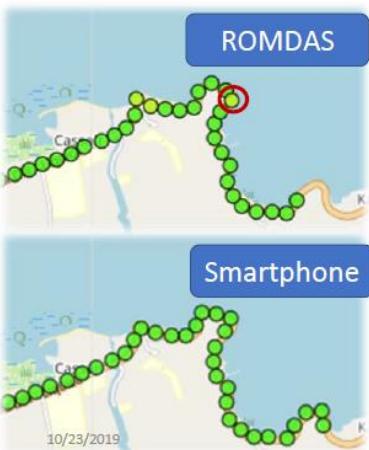


Smartphone

10/23/2019

28

ROMDAS and Smartphone Comparison



ROMDAS and Smartphone Comparison

- Visual Inspection



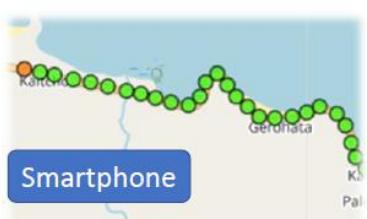
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ROMDAS and Smartphone Comparison



ROMDAS



Smartphone



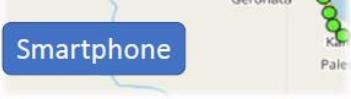
10/23/2019

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ROMDAS and Smartphone Comparison



ROMDAS



Smartphone

10/23/2019

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VII. GUIDELINES



Feasibility Study Guideline (FSG)

Major Projects Secretariat
Infrastructure Fund, TL



Agriculture
and Fisheries



Water and
Sanitation



Public Buildings



Electricity



Roads



Flood control



Telecom



Airports



Ports



Chapter I
GUIDELINE FOR FS IMPLEMENTATION



Chapter II
**GUIDELINE FOR ECONOMIC
& FINANCIAL ANALYSIS**



Chapter III
**SAMPLE FORMS BY SECTORS
FOR THE FEASIBILITY STUDY**



Chapter IV
**EVALUATION OF THE
FEASIBILITY STUDY REPORT**

March 2020

INTRODUCTION & PURPOSE OF THE GUIDELINE

Timor-Leste acknowledges an importance of infrastructure development of the country and emphasis a high priority of infrastructure projects according to the Strategic Development Plan 2011 – 2030 (SDP). The Infrastructure Fund is one of the special funds which was established according to the Law No 1/2011 of February 14, 2011. The Decree Law № 8/2011 established the regulation of the Infrastructure Fund and defined the Fund's purpose and objectives. During the implementation of the Infrastructure Fund in 2011-2015 there were some functional limitations for long-term projects that affected to implementation, such as budget rollover of unspent budget at the end of each fiscal year and related project delay. By the end of 2015 the Government transformed the Infrastructure Fund into autonomous fund with the main intention to eliminate above mentioned functional limitations.

The legal framework of the Infrastructure Fund as the autonomous agency is based on the State Budget Law No. 1/2016 and the Decree Law No.13/2016 as the substitution of Decree Law № 8/2011. The transformation of the Infrastructure Fund into Autonomous Fund has an intention to alleviate functional challenges existed during the implementation since its establishment. Now it is possible to retain unspent funds each year which transfer to a succeeding year. These changes enable to reallocate IF resources in a more efficient, transparent and accountable manner.

As a result of IF programs and projects implementation since 2011 up to the end of 2019 a total amount of 4.628 billion has been approved and allocated to the Infrastructure Fund to finance IF programs, including Public Private Partnership and External Loan financed programs. This approved budget has already being utilized to finance the total IF projects of 1614, where 867 projects (50%) have already been completed and another 50% of projects are ongoing or under the preparation and to be started once the budget shall be approved.

Instead of it many projects have DED, which is required for the construction of the infrastructure. Most of the projects that have been implemented did not have a proper feasibility study documents.

1. Most of the project proposals have only idea or a concept from SDP or sector plan;
2. Very few projects have a proper feasibility study;
3. Many projects go directly from concept design/idea to DED and then to construction.

However, there is a significant difference between DED and Feasibility Study stages for project implementation. It is important to focus on a project status, considering readiness of DED and Feasibility study as all projects will have DED prior to construction stage. DED does not contain such information about the project as legal regulation, social and economic impact (including benefits, employment, and cost-benefit analysis), land acquisition and environmental study etc.

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Council for Administration of the Infrastructure Fund

Major Projects Secretariat
Infrastructure Fund, TL

EVALUATION GUIDELINE FOR IF PROJECTS

- Pre-Evaluation
- Ongoing Evaluation
- Ex-post Evaluation

Timor-Leste
March 2020

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VIII. INVITATION LETTERS



VIII GOVERNO CONSTITUCIONAL
FUNDO DAS INFRAESTRUTURAS

Conselho de
Administração

N.º Ref. 7 /CA/II/2020

Díli, 13 Fevereiro 2020

S.Exa. Sr/Sra. Memburu VIII Governo Konstitusional

Assantu: Konvite 2º Semináriu Nacional kona ba Mata Dalan Estudu Viabilidade ba Projeto Fundo Infraestrutura

Excelénsia,

Ministériu Planeamentu no Investimento Estratégiku no Konsellu Administrasaun Fundo Infraestrutura (CAFI) liu husi Sekretariadu Grande Projeto (SGP) sei organiza semináriu ho título: "2º Semináriu Nacional kona ba Mata Dalan Estudu Viabilidade ba Projeto Fundo Infraestrutura". Objetivu husi semináriu ne'e atu atualiza progressu implementasaun matadalan Estudu Viabilidade ne'be dezenvolve no apresenta ona iha semináriu dahuluk nian iha tinan 2017 nune'e mos deskute revizaun sira ne'be precisa atu halo ajustamento bazeia ba implementasaun projetu pilotu sira durante'e tinan ida husi 2018 to'o 2019.

Ho ida ne'e, apresia tebes excelénsia sira atu bele nomeia Diretor Jeral no Nacional hirak ne'be assume knaar no responsabilidade iha area kapital dezenvolvimentu espesifikamente iha area Infraestrutura nian hodi bele partisipa iha iventu importante ida ne'e. Tuir planu semináriu ne'e be sei halao iha:

Loron : 05 Marsu, 2020

Horas : 08:30-13:00

Fatin : Salaun Auditório Xanana Gusmão, Ministériu Finansas, Aitarak Laran

Arni hein prezensa no partisipasaun ativa husi ekipa tekniku sira atu fo hanoin hamutuk no produz mata dalan Estudo Viabilidade ho kualidade ne'be ikus mai sei fasilita servisu tekniku no politiku sira iha prosesu preparasaun planeamentu no foti desizaun ba projeto infraestrutura iha Timor-Leste.

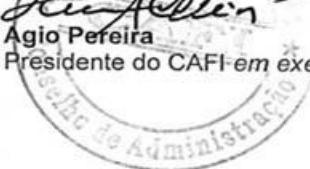
Ajenda detallu bele hare iha anexu. Karik iha klarifikasiun ruma bele kontaktu direta ba SGP liu husi sgpinfo@sgp.tl ou telefone ba numeru +670 3311001 / +670 77346963.

Ba excelénsia sira nia konsiderasaun no kolaborasaun la haluha hato'o obrigadu wain

Mellor Kumprimentus

Agio Pereira

Presidente do CAFI-em exercício



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VIII GOVERNO CONSTITUCIONAL
FUNDO DAS INFRAESTRUTURAS



Secretariado dos
Grandes Projetos

N.º Ref. 47 /SGP/II/2020

Díli, 18th of February 2020

To: Development Partners

Subject: Invitation for the 2nd National Seminar on the Feasibility Study Guideline

The Major Project Secretariat (MPS) would like to invite you to attend the Second seminar on the Feasibility Study Guideline for the Infrastructure Projects in Timor-Leste. The purpose of this seminar is to present the updated Feasibility Studies Guideline and to get a feedback from the government institution, agencies and development partners as part of the consultation prior to the document approval as the national standard.

We look forward to welcoming you to the event:

Date : 5th of March 2020

Time : 08:30-13:00

Venue : Xanana Gusmao Conference Room, Ministry of Finance, Aitarak Laran

Should you require any information, please do not hesitate to contact the MPS via email (sgpinfo@sgp.tl) or telephone +670 3311001 / +670 77346963.

Yours sincerely,

Krispin Fernandes
Director of MPS

Signature of Krispin Fernandes



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29.	Manel Pinto	DP	<i>Manel</i>	
30.	João M. T. da Silva	MACLA / DNGPR	<i>João</i>	

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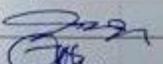
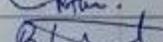
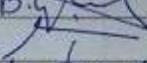
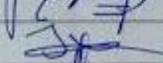
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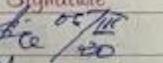
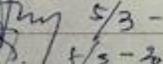
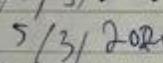
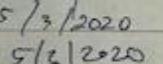
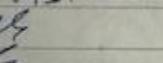
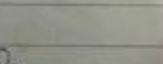
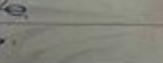
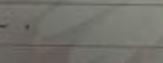
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SOMETHING WONDERFUL HAPPENED TODAY...

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67	Marcos Pinto	Pancamouth / MRC	
68	Jacinta Segundo	STL	
69	Cipriano Mr. Pinto	SECOMS	
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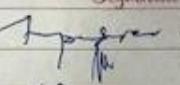
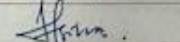
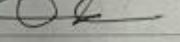
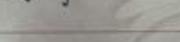


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No	Name	Address	Signature
15	Graça e Amor	MTC	<i>Graça Amor</i>
16	Joaquim C. de Araújo	MAECLN	<i>Joaquim C. de Araújo</i>
17	José cornélio Amaral	MAECLN	
18	Satoko Maruyama	TIA	<i>Satoko Maruyama</i>
19.	Almena N. Ferreira	MNEC	<i>Almena N. Ferreira</i>
20	Francisco do Roso	MNEC	<i>Francisco do Roso</i>
21	Fátonia Sousa	ANPM	<i>Fátonia Sousa</i>
22.	Ermelinda Lay	MTCI	<i>Ermelinda Lay</i>
23	Joel dos Santos	MTCI	<i>Joel dos Santos</i>
24	Eustáquio Ximenes	MD	<i>Eustáquio Ximenes</i>
25	Krispin Fernandes	ICB	<i>Krispin Fernandes</i>
26.	Gustavo da Cunha	MOP - DODS	<i>Gustavo da Cunha</i>
27	Adylson da Costa	MOS	<i>Adylson da Costa</i>
28.	Marco Xavier	MPS	<i>Marco Xavier</i>

No	Name	Address	Signature
29	Domingos Marques	DNCRGPA - MF	<i>Domingos Marques</i>
30	Quente Acujo	HNOV	<i>Quente Acujo</i>
31	Dr. Carl Susmacker	IANAU	<i>Dr. Carl Susmacker</i>
32	JOSE GONCALVES	PDHJ	<i>JOSE GONCALVES</i>
33	Franca da Silva	MOT	<i>Franca da Silva</i>
34	Cleóz Belo	MOT	<i>Cleóz Belo</i>
35	Anais Correia	DE - HNAP	<i>Anais Correia</i>
36	Juviana Jerônimo	DNORA - DGAS / MOP	<i>Juviana Jerônimo</i>
37.	Isolino Marques	MJ	<i>Isolino Marques</i>
38	Herdeiro dos Santos	CNA	<i>Herdeiro dos Santos</i>
39	Luis Coutinho	TMUR CAP - MPH	<i>Luis Coutinho</i>
40	Mariano Carvalho	CDE - IC	<i>Mariano Carvalho</i>
41	Joanito S. C. Barros	ALFAESA, I.P	<i>Joanito S. C. Barros</i>
42	ANTONIO Lelo TATI	SEA	<i>ANTONIO Lelo TATI</i>

No	Name	Address	Signature
33	José Pedro da Cunha	DN-MOU / MAE	
34	José G. Belo	DESC / MDR / DNA LP	
35	Jeaninha Conceição de Sáia	Mds / DESC / DNA LP	
36	Gilmar Ferreira	MEP	
37	Helio Topor	MEPD	
38	Pedro M. Soares	MEPD	
39	Antônio de Oliveira	DN-TPN - MOP	
40	Cândido Soárez	MEPD	
41	José DLF Abel	MOP	
42	Antônio T. da C. de Oliveira	ANAL. E.P.	
43	Aníbal Donati	PTTLEP	



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