



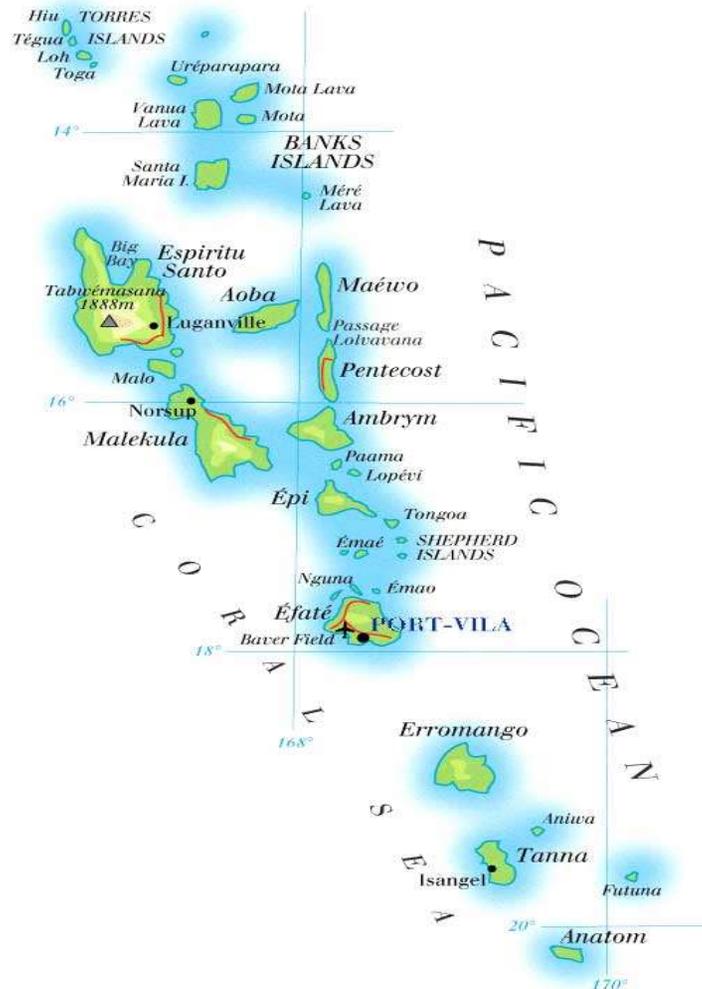
Vanuatu approach to infrastructure
planning and improving sustainability
and resilience

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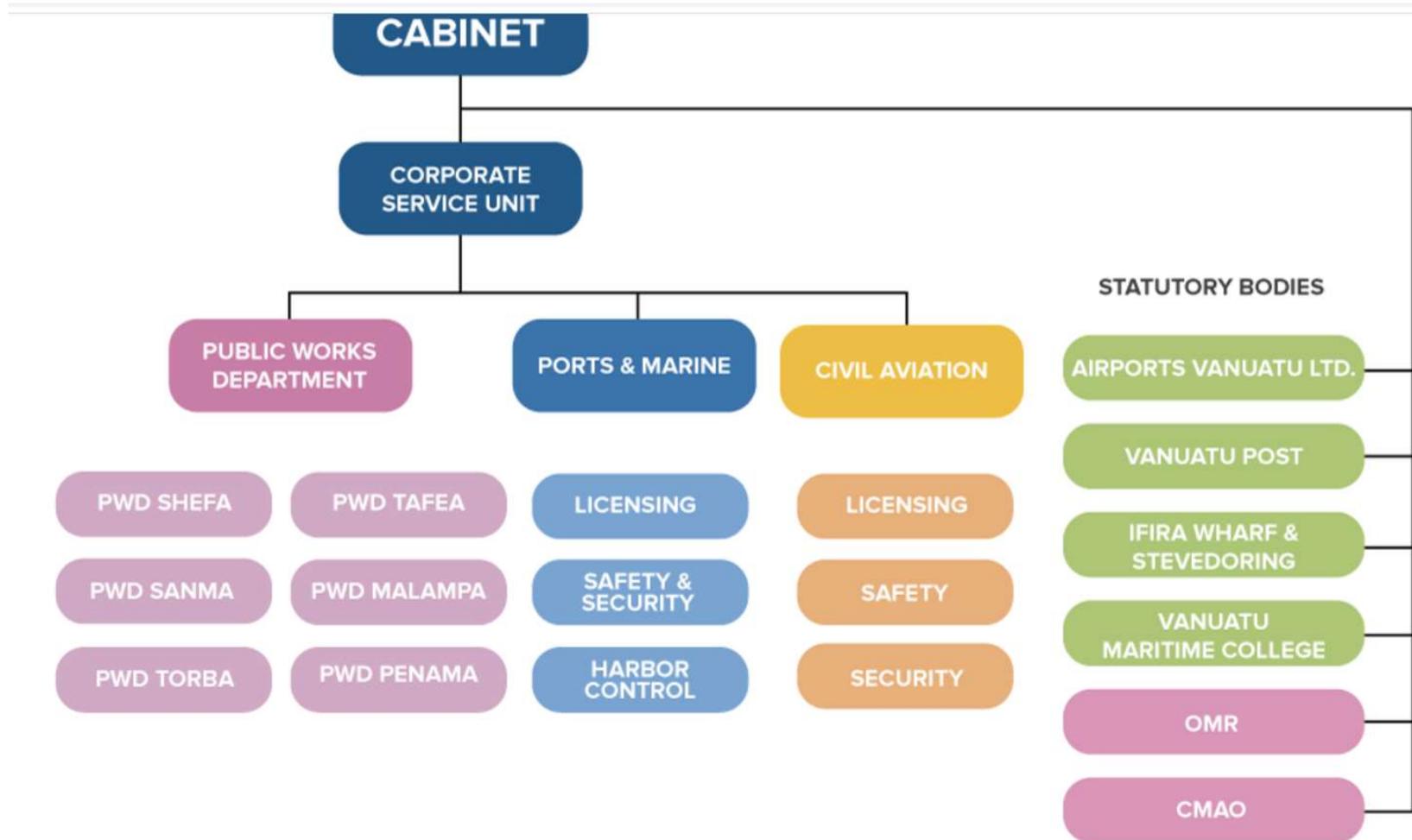
MAP OF VANUATU



BACKGROUND

- ❑ The Republic of Vanuatu is divided into 6 provinces: Malampa, Penama, Sanma, Shefa, Tafea and Torba.
- ❑ Covering a total land area of 12,189 sq.km (4,706 sq miles), Vanuatu is a Melanesian archipelago comprising of 13 larger islands and about 70 smaller islands
- ❑ The terrain of Vanuatu is diverse and is famed for its beautiful islands and active volcanoes.
- ❑ Most islands have rugged mountains and are volcanic in origin (some still active), mainly covered in lush dense rainforests.
- ❑ Many islands are protected by offshore coral reefs. The highest point is Tabwémasana, located on Espiritu Santo – the largest island, at an elevation of 6,165ft (1,879m).

Ministry of Infrastructure and Public Utilities (MIPU)

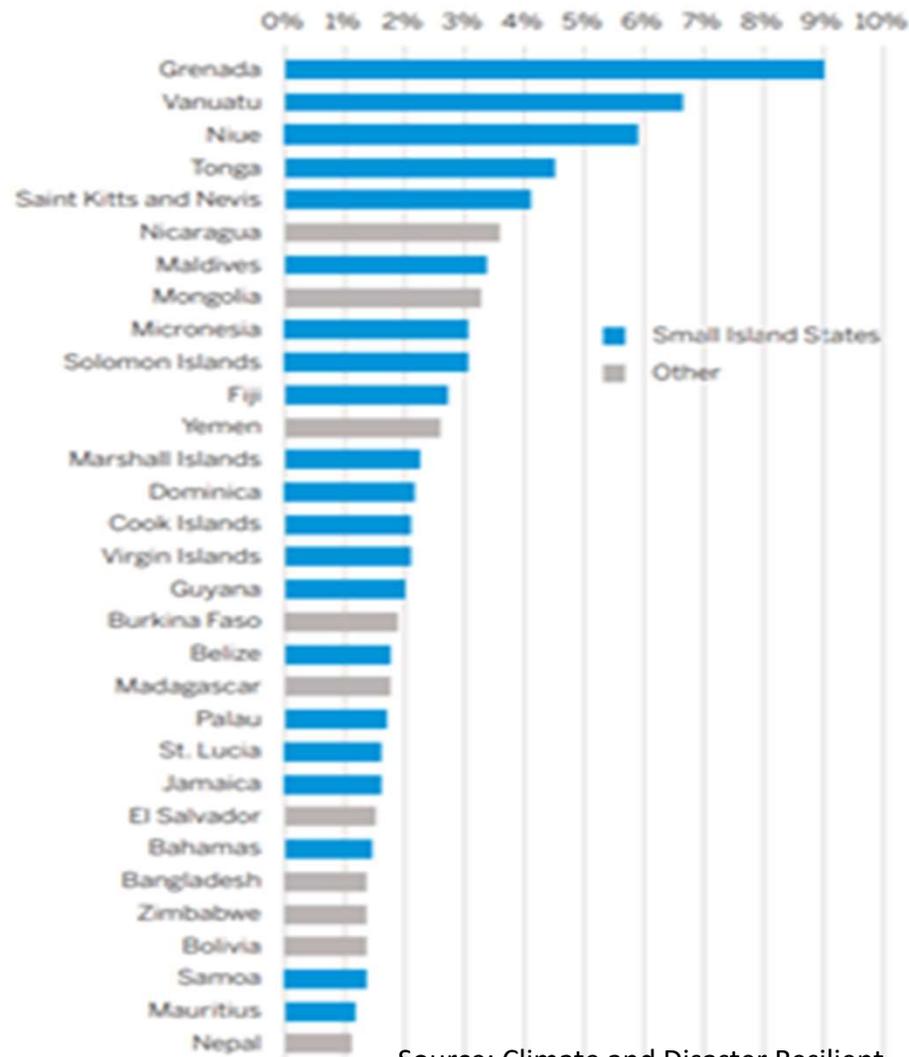


EFFECT OF DISASTERS ON THE ECONOMY

- ❑ Average Annual Loss from Disaster relative to GDP is between 6% to 7%, ranked 2nd among Small Island Developing Countries (SIDS)
- ❑ Damages of infrastructure from Cyclone Pam in 2015 cost almost 60% of GDP
- ❑ Damages of infrastructure from Cyclone Harold in 2020 cost 14% of GDP

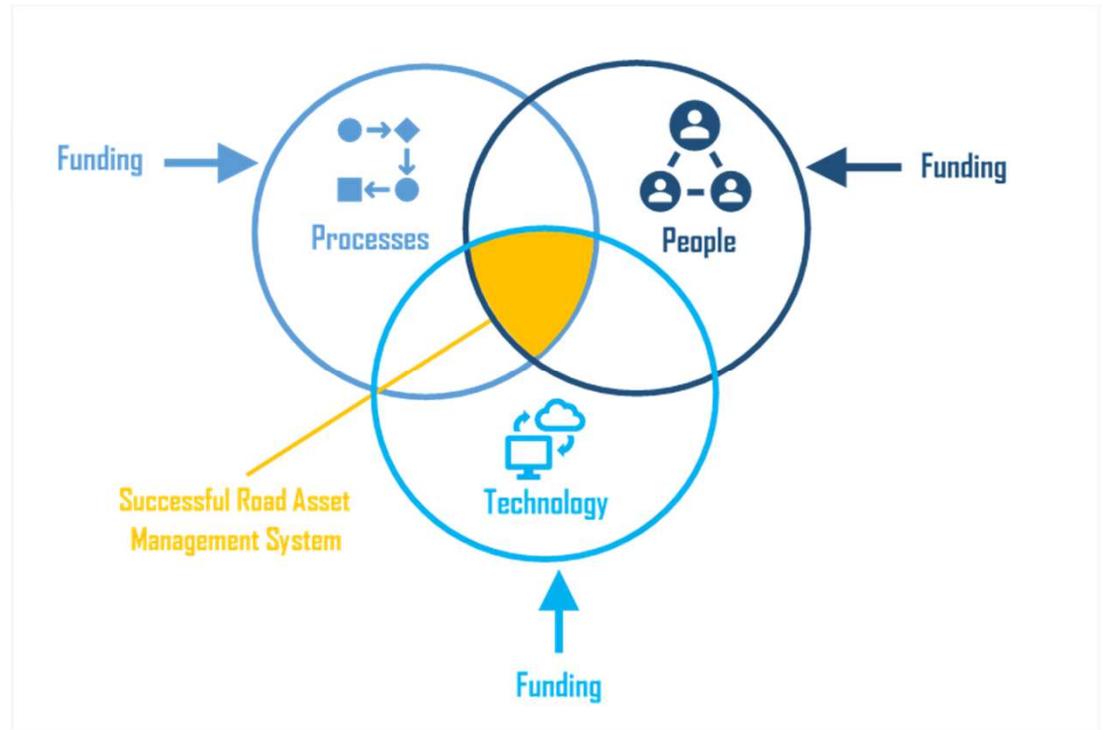


Average Annual Loss from Disasters Relative to GDP



Source: Climate and Disaster Resilient Transport in Small Island Developing States: A Call for Action – World Bank 2017

TRANSITION PLAN TOWARDS RESILIENT INFRASTRUCTURE MANAGEMENT SYSTEM



- **Transition in Processes**: Usually through defining new strategies which realign the institutional structure and operating procedures for business modal.
- **Transition in People**: Usually through defining the skillset and competence needed to perform roles demanded by the business modal, associated with targeted training, capacity building, and staffing upsize;
- **Transition in Technology**: Usually through re-evaluating the data and information needs based on the business modal and investing in upgraded tools and system

Transition Plan towards a Resilient Road Asset Management SYSTEM (RESILIENT-RAMS) at PUBLIC WORKS DEPARTMENT (PWD)

- Principles:
- a. Building on the existing capacities, systems, and skills that PWD/MIPU has established in the past and aim for compatible incremental changes;
- b. Proposing a systematic roadmap to guide actions over short-/mid-/long-term, with most critical and urgently needed actions prioritized; and
- c. Where applicable, specifying areas where a coordinated support from other development partners are required.

| | |
|---|--|
|  <p>Processes</p> | <ul style="list-style-type: none"> ▪ Putting Resilient Road Asset Management at the Core of the Public Road Strategy ▪ Developing clear guidelines in PRS on specific measures to integrate climate and disaster risk management practices throughout road asset management lifecycle |
|  <p>Technology</p> | <ul style="list-style-type: none"> ▪ Developing a Data Requirement Analysis and Data Collection Strategy to identify the right data to collect using the right tools and methods ▪ Developing a Road Asset Management System that forms an IT System-cluster with RIMS and ProMIS in a coherent and complementary manner |
|  <p>People</p> | <ul style="list-style-type: none"> ▪ Realigning the staffing deployment based on the redefined business modal ▪ Defining clear job descriptions that link roles to functions and outputs ▪ Developing a competence framework for capacity development of staff ▪ Conducting a Training Needs Assessment and providing right training opportunities |

Source: Resilient Transport in Small Island Developing States – World Bank 2021

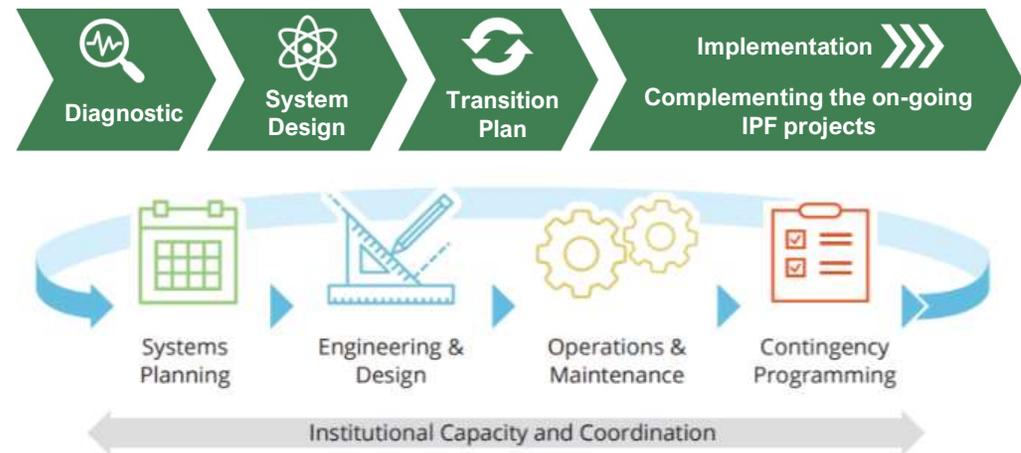
GENERAL APPROACH TO DEVELOP TRANSITION PLAN IN PROCESSES

Vision:

- Resilient Infrastructure
- Sustainable Financing
- Capable Institution (System and Human Resource)

General Approach:

- **Conduct a diagnosis** of the current road asset management process throughout **infrastructure lifecycle** - system planning, engineering design, operations and maintenance, and contingency programming;
- **Understand the 'desired system'** the transport authorities like to establish, particularly of how to integrate resilience into sectoral governance;
- **Develop a Transition Plan** for improving current system and processes to achieve the 'desired outcome' via short-/mid-/long-term interventions;
- **Implement the most critical elements** in the Transition Plan using resources under the grant/ loan from donor-funded projects in country;
- **Take ownership in coordinating among development partners** to implement other identified interventions in the Transition Plan.

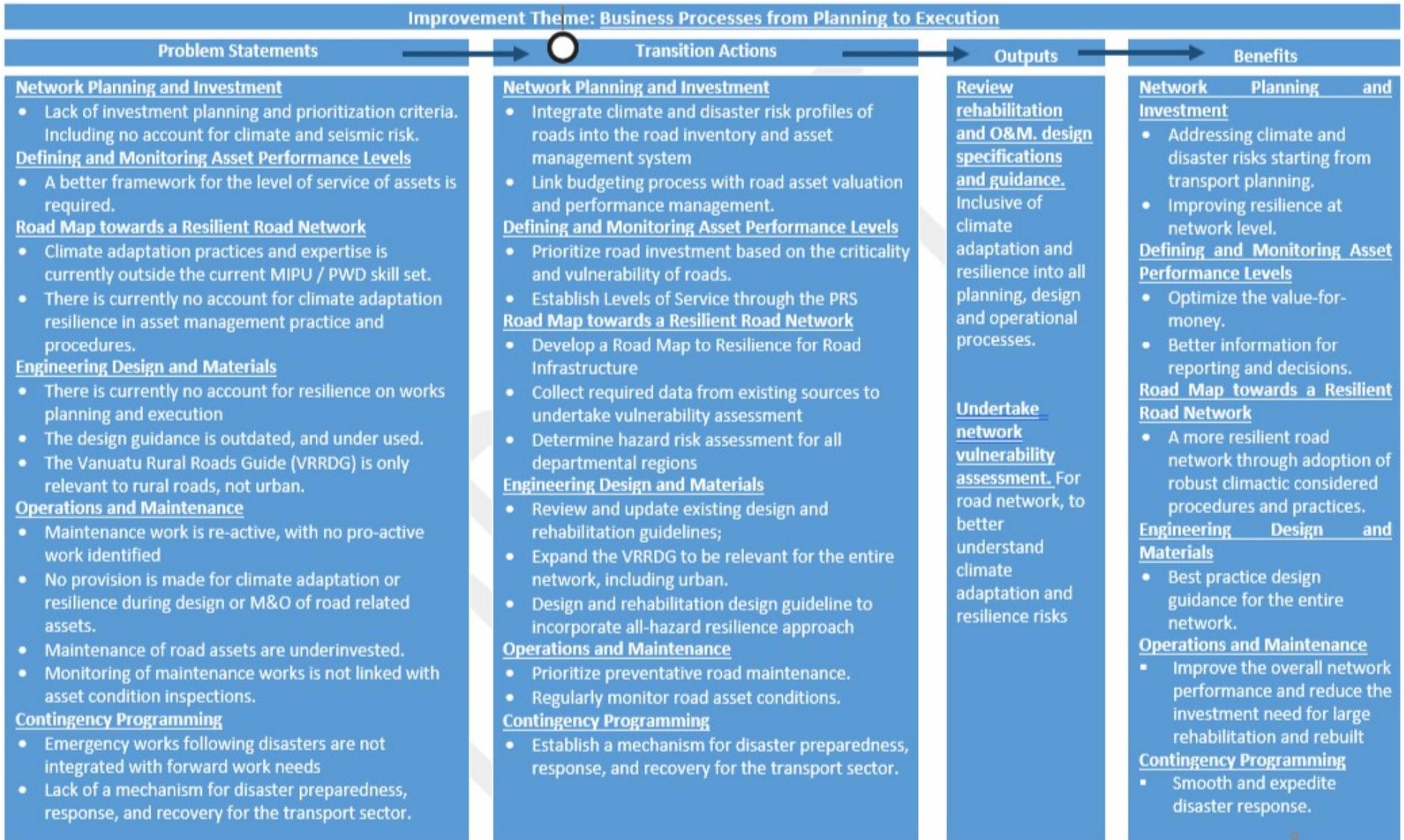


Aim for a 'Leapfrogging' Impact:

The country-specific technical assistance aims to achieve a two-level leapfrog in SIDS:

1. Introducing or enhancing the transport asset management system that either did not exist in the past or underutilized;
2. Integrating climate and disaster resilience function into the transport asset management system

DETAILED INTERVENTIONS UNDER THE DEVELOPED TRANSITION PLAN



| Intervention for Climate Resilient Infrastructure | GOVERNMENT'S RESPONSE |
|--|---|
| <p>SYSTEM PLANNING <i>Enhanced Systems Planning to Better Prepare for and Respond to Natural Disasters and Climate Change Impacts</i></p> | <p><i>Establish Road Asset Management System under Component 1 of the Vanuatu Climate Resilient Transport Project</i></p> |
| <p>ENGINEERING AND DESIGN</p> <ul style="list-style-type: none"> - Climate and Disaster Resilient Roads - Maximize use of local materials for Climate Resilient Coastal Protection - Consider Geosynthetic Reinforced Soils for Rapid and Low Cost Bridges | <p><i>Design and construction of the South Santo Road</i></p> <ul style="list-style-type: none"> - <i>Use material from Navaka river</i> - <i>Already determined that Geosynthetic Reinforced soil doesn't work due to in-situ condition of river embankments</i> |
| <p>OPERATION & MAINTENANCE <i>Development of a Risk-based Infrastructure Asset Management System</i></p> | <p><i>Upgrading existing Road Inventory Management System (RIMS) to set up a Road Asset Management System and transitioning PWD to a Road Asset Manager</i></p> |
| <p>CONTINGENCY PROGRAMMING Using the CERC in Limited Capacity Environments to Reduce Road Network Interruptions following a Disaster</p> | <p><i>Prepare Contingency Emergency Response Component – Operation Manual (CERC-OM) to guide reallocation of funds to finance emergency needs</i></p> |



Tank yu tumas