Guide to National Infrastructure Investment Plans

Community of Practice Event
7 December 2022
Objectives of this Session

1. Present a broad overview of the new NIIP Guide;
2. Share some insights from recent NIIPs; and
3. Answer any questions you may have.
## Evolution of NIIPs
### 10 years across 12 countries

<table>
<thead>
<tr>
<th>Phase I</th>
<th>Phase II</th>
<th>Phase III</th>
<th>Phase IV</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tonga</strong> NIIP</td>
<td><strong>Tonga</strong> NIIP Review</td>
<td><strong>Tonga</strong> NIIP Update</td>
<td>A comprehensive Program of NIIPs ongoing:</td>
</tr>
<tr>
<td><strong>Nauru</strong> NEISIP</td>
<td><strong>Nauru</strong> NEISIP Review</td>
<td><strong>Nauru</strong> ISIP Update</td>
<td><strong>Tuvalu</strong></td>
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<td><strong>Samoa</strong> NISP</td>
<td><strong>Samoa</strong> NISP Review</td>
<td><strong>Cook Islands</strong> NIIP Update</td>
<td><strong>Tonga</strong></td>
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<td><strong>Cook Islands</strong> NIIP</td>
<td><strong>Tuvalu</strong> ISIP Update</td>
<td><strong>Palau</strong></td>
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<td><strong>Vanuatu</strong> VISIP</td>
<td><strong>Tuvalu</strong> Asset Management Framework</td>
<td><strong>Cook Islands</strong></td>
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<td></td>
<td><strong>RMI</strong> NIIP Framework</td>
<td><strong>Solomon Is. Public Investment Management Diagnostic</strong></td>
<td><strong>Kiribati</strong></td>
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<td><strong>Samoa</strong> Transport Medium-term Economic Framework</td>
<td><strong>Solomon Is.</strong> Priority Investment Plan</td>
<td><strong>Fiji</strong></td>
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<td><strong>Fiji</strong> Asset Management Framework</td>
<td><strong>Solomon Islands</strong></td>
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<td><strong>Kiribati</strong> Public Investment Management Assessment</td>
<td><strong>Samoa</strong></td>
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<td></td>
<td></td>
<td><strong>Niue</strong> Transport Sector Plan</td>
<td><strong>Vanuatu</strong></td>
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</table>

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Overview of the Guide
**Infrastructure** is fundamental to the **services** governments provide to the public…

- **ROADS**: Efficient transport network to move people and goods
- **WATER**: Safe and reliable access to drinking water and sanitary services
- **ENERGY**: Access to sustainable and reliable energy supply
- **PORTS**: Efficient movement of goods and produce internationally

**Infrastructure agencies are capital intensive entities**

Typically defined as Capital Intensity Ratio > 5 (i.e. fixed assets > 5x revenue)

-> Need for **longer-term planning horizons** and sound **asset management** practices
To assist agencies prepare capital investment plans PRIF has recently released a new Guideline

The target audience for the publication will be PIC governments and their technical advisers, who are looking to develop or improve their multi-sector investment planning through use of this framework.

The publication is intended as a useful reference for those involved in preparing, reviewing or updating capital construction investment programs around the Pacific, as a means of identifying and encouraging recourse to best practice in infrastructure investment planning.
There are 3 Sections to the Publication

**Section I:**
Introduction to Infrastructure Investment Planning

**Section II:**
The Investment Planning Framework

**Section III:**
Best Practice Approach to Developing the Plans
Summary of why infrastructure investment plans are important. Answers to some of the typical questions governments and infrastructure agencies have when embarking on the NIIP development journey. It will provide a resonant case for adoption.
Infrastructure Planning in one Graph

Table III.2. Example of Capital Expenditure Analysis (Historic and Committed)

<table>
<thead>
<tr>
<th>Year</th>
<th>CIG Capital Funding</th>
<th>ODA Project Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>18/19</td>
<td>20</td>
<td>5</td>
</tr>
<tr>
<td>19/20</td>
<td>30</td>
<td>20</td>
</tr>
<tr>
<td>20/21</td>
<td>40</td>
<td>30</td>
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<tr>
<td>21/22</td>
<td>50</td>
<td>40</td>
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<tr>
<td>22/23</td>
<td>60</td>
<td>50</td>
</tr>
<tr>
<td>23/24</td>
<td>70</td>
<td>60</td>
</tr>
<tr>
<td>24/25</td>
<td>80</td>
<td>70</td>
</tr>
</tbody>
</table>

CIG = Cook Islands Government, ODA = Overseas Development Assistance

Forecast threshold for capital construction set in MTFF (top down)

Prioritised pipeline of future investments and funding strategy

‘Funded’ commitments (bottom up)

The Infrastructure (Capital Construction) Investment Planning framework helps us link these things together...
Introduction to **key terms and definitions** and provide a summary of the **core elements** of the multi-sector, multi-year investment planning process to be elaborated on in Section III.
**Typical Sectors and Asset Classes in a NIIP**

<table>
<thead>
<tr>
<th>Sector</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROADS</td>
<td>Earthworks; road pavement; footpaths; traffic signals; guardrails; kerbing; roadside drains; bridges; fords; culverts; retaining walls.</td>
</tr>
<tr>
<td>AIRPORTS</td>
<td>Runways; taxiways; aprons; navigation aids; runway lighting; weather stations; control systems; fuelling systems.</td>
</tr>
<tr>
<td>PORTS</td>
<td>Wharfs; jetties; navigation aids; tugs; container yards; cranes; dredges.</td>
</tr>
<tr>
<td>WATER and SANITATION</td>
<td>Pipelines; boreholes; reservoirs; storage tanks; treatment plants; pumping stations; oxidation ponds; ocean outfalls.</td>
</tr>
<tr>
<td>ENERGY</td>
<td>Diesel engines; hydro turbines; generators; transformers; solar panels; switching equipment; transmission/distribution lines.</td>
</tr>
<tr>
<td>GOV BUILDINGS AND FACILITIES</td>
<td>Schools; hospitals and medical facilities; government administration; justice and corrections.</td>
</tr>
<tr>
<td>SOLID WASTE</td>
<td>Leachate collection/liner; weigh bridges; medical waste incinerators; hazardous waste facilities; refuse collection centres.</td>
</tr>
<tr>
<td>TELECOMMUNICATIONS</td>
<td>Internet cable and landing stations; AM/FM towers</td>
</tr>
<tr>
<td>COASTAL AND WATERWAYS</td>
<td>Seawalls; embankments; levies; river channels</td>
</tr>
<tr>
<td>URBAN DEVELOPMENT</td>
<td>Public parks; commercial districts; retail; markets; city landscaping; pedestrian facilities; tourism</td>
</tr>
</tbody>
</table>
Typical steps to develop a NIIP

1.3 Process Steps for Formulating a NIIP

Based on a review of past efforts, the formulation of a NIIP can be described in eight key steps.

<table>
<thead>
<tr>
<th>Step</th>
<th></th>
</tr>
</thead>
</table>
| **Step 1.** Establish Enabling Environment | - Define role of NIIP in a planned policy regime  
- Establish governance environment |
| **Step 2.** Review Funding and Investment Strategy | - Review socio-economic environment  
- Identify sources of funding  
- Assess fiscal investment needs  
- Determine investment strategy and funding thresholds  
- Establish a budget for the budget cycle |
| **Step 3.** Determine Infrastructure Priorities | - Assess implications of National Development Strategic and macroeconomic goals  
- Assess implications of sectoral, corporate, and social investment needs  
- Identify and address key gaps in coverage by sectors or areas/overhead |
| **Step 4.** Develop Prioritization Framework | - Set up a multi-criteria prioritization framework  
- Identify key assessment criteria, reflect induced developmental objectives, economic, environmental, social, and project readiness |
| **Step 5.** Assemble Long-List of Candidate Projects | - Identify and evaluate candidate projects  
- Develop project assessment matrix  
- Develop a rating scale for project coverage of long list |
| **Step 6.** Develop Concept Notes and Screen Projects | - Conduct project concept notes  
- Develop project concept notes  
- Identify projects with high economic and social benefits |
| **Step 7.** Conduct Multi-Criteria Prioritization | - Formal approval of projects for funding  
- Prioritize the projects for funding  
- Develop criteria for project prioritization  
- Conduct an NIP  
- Develop criteria for project prioritization  
| **Step 8.** Determine Priority Projects for Investment | - Prioritize the projects for funding  
- Develop criteria for project prioritization  
- Conduct an NIP  
- Develop criteria for project prioritization  |

Source: Author

Discussion refers to a practice approach for each step in the process (Bartoš and others included in Section 1.1) along with case examples and results from past efforts.

It is also useful for the reader to understand where the NIIP fits in the overall process of project implementation, from setting the strategic direction for the country’s strategic objectives, through to approving projects for construction.

National Infrastructure Investment Plan (NIIP)
The main knowledge base of ‘best practice’. It provides an explanation and background to each core element of the NIIP process including best-practice examples and recommendations on future development where applicable.
The aim is to strengthen the **Investment Planning Process**

**INITIATE**

**PLAN**

1. APPRAISE

2. BUDGET

How does the NIIP improve infrastructure planning...

- Provides 5-10 year multi-sector pipeline of project level infrastructure investments and funding strategy.
- Implements a transparent, multi-criteria impact assessment and prioritization framework.
- Creates a dossier of investment ready project for budgeting or funding discussion with development partners.

What tools and templates are implemented...

- Gateway 1: Screening Processes Enhanced
- Gateway 2: Improved Appraisal of Projects (developing)

- Project Register (Database)
- Impact Assessment Form
- MCA Analysis Tool
2 insights (5)
We have been able to...  
**Transparencyly screening Investment Ready Projects**

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<table>
<thead>
<tr>
<th>Project</th>
<th>Description</th>
<th>Perf.</th>
<th>Social</th>
<th>Environ.</th>
<th>Economic</th>
<th>Score</th>
<th>NEPO Rank</th>
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</thead>
<tbody>
<tr>
<td>A119</td>
<td>Resurfacing Outer Islands Airfields (Phase 2)</td>
<td>8.2</td>
<td>7.8</td>
<td>4.5</td>
<td>6.9</td>
<td>6.8</td>
<td>A</td>
</tr>
<tr>
<td>W110</td>
<td>Sanitation for all households in Kiribati</td>
<td>7.4</td>
<td>8.5</td>
<td>8.0</td>
<td>4.6</td>
<td>6.8</td>
<td>A</td>
</tr>
<tr>
<td>M115</td>
<td>Bairiki Old Wharf Redevelopment</td>
<td>7.2</td>
<td>6.8</td>
<td>7.0</td>
<td>6.1</td>
<td>6.7</td>
<td>A</td>
</tr>
<tr>
<td>B176</td>
<td>Major Renovation for Southern Kiribati Hospital (SKH)</td>
<td>7.3</td>
<td>7.8</td>
<td>5.5</td>
<td>5.1</td>
<td>6.2</td>
<td>A</td>
</tr>
<tr>
<td>A108</td>
<td>Kanton Airport Terminal and Airport Upgrade</td>
<td>6.5</td>
<td>6.8</td>
<td>4.5</td>
<td>6.8</td>
<td>6.2</td>
<td>A</td>
</tr>
<tr>
<td>W105</td>
<td>Water Tank for Outer Island Households</td>
<td>7.2</td>
<td>9.5</td>
<td>6.0</td>
<td>3.9</td>
<td>6.2</td>
<td>A</td>
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<tr>
<td>T117</td>
<td>Outer Island Mobile Rollout Phase 3</td>
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<td>7.0</td>
<td>3.0</td>
<td>7.4</td>
<td>6.1</td>
<td>A</td>
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<tr>
<td>B156</td>
<td>Upgrading Works to Tungaru Central Hospital</td>
<td>7.0</td>
<td>8.5</td>
<td>6.0</td>
<td>4.4</td>
<td>6.1</td>
<td>A</td>
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<td>T115</td>
<td>Outer Island Network Extension (Submarine Cable)</td>
<td>5.8</td>
<td>10.0</td>
<td>3.3</td>
<td>6.4</td>
<td>6.1</td>
<td>A</td>
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<tr>
<td>R113</td>
<td>Maintenance and Upgrade of all National Roads</td>
<td>7.7</td>
<td>7.0</td>
<td>3.5</td>
<td>5.1</td>
<td>5.7</td>
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<tr>
<td>U103</td>
<td>Bairiki Market II</td>
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<td>5.3</td>
<td>5.5</td>
<td>B</td>
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<tr>
<td>B190</td>
<td>School Multi-purpose Hall (Permanent Maneaba)</td>
<td>5.8</td>
<td>9.5</td>
<td>6.0</td>
<td>2.8</td>
<td>5.4</td>
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<tr>
<td>M122</td>
<td>Replacement of MV Nei Matangare</td>
<td>7.4</td>
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<td>5.5</td>
<td>5.4</td>
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<tr>
<td>M121</td>
<td>Fit-For-Purpose Landing Craft for the Line and Phoenix Group</td>
<td>7.7</td>
<td>9.3</td>
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<td>3.7</td>
<td>5.3</td>
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<tr>
<td>B191</td>
<td>Computer Lab For JSS</td>
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<td>U101</td>
<td>Abatao Agricultural and Livestock Complex</td>
<td>4.5</td>
<td>7.8</td>
<td>1.8</td>
<td>6.7</td>
<td>5.1</td>
<td>A</td>
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<td>B192</td>
<td>Improving Access to JSS Education [Need prodoc]</td>
<td>6.1</td>
<td>10.0</td>
<td>3.3</td>
<td>2.9</td>
<td>5.0</td>
<td>A</td>
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<td>M132</td>
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<td>5.2</td>
<td>4.9</td>
<td>A</td>
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<tr>
<td>U104</td>
<td>Betio Mixed Use Development</td>
<td>5.6</td>
<td>5.5</td>
<td>3.3</td>
<td>4.9</td>
<td>4.8</td>
<td>B</td>
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<tr>
<td>R120</td>
<td>Electric Vehicle Network Development (T11)</td>
<td>6.5</td>
<td>4.0</td>
<td>5.5</td>
<td>3.4</td>
<td>4.8</td>
<td>A</td>
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<tr>
<td>M105</td>
<td>Transhipment hub Kirimitati and Tarawa</td>
<td>7.4</td>
<td>4.5</td>
<td>5.0</td>
<td>2.7</td>
<td>4.8</td>
<td>A</td>
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<tr>
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<td>Butaritari Food Processing Plant</td>
<td>3.7</td>
<td>5.5</td>
<td>2.5</td>
<td>6.2</td>
<td>4.6</td>
<td>A</td>
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</tbody>
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**Average Score (Out of 10)**

**Weighted Score**

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**PROJECT LIST**

- **General**
  - Reliability and quality of services
  - Criticality of the project (urgency)
  - Complexity and sustainable operation

- **Social**
  - Access to improved social services
  - Regional development

- **Environment**
  - Resilient to climate change (adaptation)
  - Impact on the environment

- **Economic**
  - Grow primary industries
  - Infrastructure cost efficiency
  - Grow private sector and local expertise
  - Financial and economic viability

**Identifying PRIORITY Projects**

- 224 projects in database
  - 49 in development budget ($339m)
  - 46 approved by cabinet ($699m)
  - 31 approved by DCC ($723m)
  - 98 planned pipeline ($1.8b)

- 69 pipeline projects > $3m
  - Only pipeline projects > $3m threshold were considered for evaluation in the NIIP. 24/69 were in discussions with Donors.

- 45 for Multi-Criteria Analysis
  - Agencies were asked to then complete benefits assessments for those 'unfunded' > $3m. In total, 30/45 MCA forms were completed.

- 15 priority projects for cabinet
  - The top wave of priority projects was selected by DCC using the MCA, considering economic viability, dependencies and readiness.

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**Average Score (Out of 10)**

**Weighted Score**

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**PRIF**

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**Internal**

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We have been able to…

Raising awareness around whole-of-life costs

Kiribati National Infrastructure Investment Plan (2022)

New 48%

Improve 37%

Renew 15%

$167m p.a. Capital Construction over next 5 years with 48% New

Additional $85m in Recurrent Expenditure over next 5 years

2-8%

Capital Construction

~20% of lifetime cost of asset ownership

Government Finances*

$251m REVENUE

$220m OPERATING

67% Fishing Licenses

40% Wages and Salaries

20% Domestic Taxes

17% Subsidies and Social Benefits

Asset Class

Avg. Annual Maintenance

Avg. Annual Operating

Buildings

0.7-1.5%

7-14%

Aquatic Centre

1.1%

13.9%

Museum

0.6%

9.7%

Commercial

0.8%

7.0%

Roads

2-2.5%

<0.2%

Carparks

2.1%

NR

Bridges

0.5%

NR

Parks and Reserves

5-10%

4%

Plant and Equipment

3-5%

NR

Source: Local Government and Municipal Knowledge Base
Facilitate multi-sector engagement and capacity building

- All infrastructure agencies working together (20 Kiribati, 24 Fiji).
- Local consultants accountable for database, liaison and impact assessment of projects.
- Central planning unit responsible for prioritization (supported by enhanced process).
- Multi-sector steering committee agreeing priority projects.
2.4

Mainstream process improvements

- Review existing project management and budgeting processes.
- Determine how NIIP can help strengthen the early-stage screening of projects.
- Ensure the MCA impact criteria reflect priorities set in government’s strategic plans.
- Ensure we leave behind tools which are used:
  - Projects Pipeline Database
  - Impact Assessment Form
  - MCA Analysis Tool
  - Screening Note template
We have begun to... **Productize the Approach**

Building a *knowledge base and capacity around infrastructure planning* by:

- Publishing a Best-Practice Guideline
- Establishing a core team for delivering NIIPs
- Running Community of Practice Webinars
- Hosting a NIIP Symposium in 2023
  - *Case studies, knowledge sharing, country led*
- Presenting at regional conferences...
Questions / Discussion
Pacific Region Infrastructure Facility

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