Infrastructure Maintenance in the Pacific

Matthew Dornan
Development Policy Centre, ANU

Based on a PRIF Office report co-authored with Corazon Alejandrino-Yap and Kerry McGovern, under the guidance of John Austin
The maintenance challenge

• “Poor maintenance limits the capacity of the region’s assets to provide the sustained services for which (they) were designed.”
  – ADB, 2007

• “In the Pacific, governments have often focused on building new infrastructure, rather than investing in sustainable infrastructure operations and maintenance”
  – World Bank, 2006

• “... O&M expenditures have a low priority in government budgets as they are less appealing and visible than new investment projects... Moreover, donors have facilitated ... investment projects while providing little support for recurrent costs ...”
  – IMF, 1991
The impact of limited maintenance

Generator Maintenance at the Public Utilities Board affects:

• Generation outages

• Fuel efficiency
Costs of Maintaining a Sealed Section of National Road in PNG in Service
Reasons for poor maintenance

Incentives
- Moral hazard arising from development assistance
- Political incentives lead to prioritisation of new infrastructure
- No culture of maintenance
- Service not valued by customer

Lack of Infrastructure Maintenance

Organisational Capabilities
- Lack of required information
- Lack of required skills
- Roles and responsibilities not clear
- Lack of accountability
- Limited private sector capacity

Resource Constraints
- Inadequate government budgeting for maintenance due to lack of revenue or other priorities
- SOEs may not have resources for maintenance, given pricing regimes
Resource Constraints

Funding gap (five-year period)

- **Funding required to address backlog and meet MTDP targets**
- **Total funding available, DoW budget allocations and NRA committed funding**
- **Total expenditure on road upgrading, rehabilitation and maintenance, DoW and NRA**
Regulation

Technical losses

Financial performance
Addressing the problem

A. Addressing Resource Constraints
B. Establishing Accountability and Appropriate Incentives
C. Building Organisational Capacity for Asset Management Planning and Implementation
D. Development Assistance
The need to consider life-cycle costs

Future liabilities generated by planned infrastructure investments (AUD million)

<table>
<thead>
<tr>
<th></th>
<th>Nauru</th>
<th>Samoa</th>
<th>Tonga</th>
<th>Tuvalu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital cost</td>
<td>73.11</td>
<td>246.27</td>
<td>84.62</td>
<td>71.29</td>
</tr>
<tr>
<td>Total life-cycle cost</td>
<td>198.97</td>
<td>446.78</td>
<td>140.65</td>
<td>377.87</td>
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<tr>
<td>Estimated annual operation &amp; maintenance costs</td>
<td>6.293</td>
<td>6.864</td>
<td>6.612</td>
<td>7.78</td>
</tr>
<tr>
<td>Annual government revenue *</td>
<td>18.66</td>
<td>101.47</td>
<td>49.50</td>
<td>19.44</td>
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<tr>
<td>Est. annual operating + maintenance costs as a % of govt revenue (%)</td>
<td>33.72</td>
<td>6.76</td>
<td>13.36</td>
<td>40.02</td>
</tr>
</tbody>
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Source: Based on data in various national infrastructure investment plans