Infrastructure Financing for Asia-Pacific LDCs

Gaps, Needs and Recommendations

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ESCAP
The Importance of Infrastructure for the SDGs

Improving Infrastructure is vital for achieving multiple sustainable development goals

- **SDG 7**: Affordable and Clean Energy
- **SDG 8**: Decent Work and Economic Growth
- **SDG 9**: Industry, Innovation and Infrastructure
- **SDG 11**: Sustainable cities and communities
Infrastructure sectors

- ICT
- Energy
- Transport
- Water & Urban Infrastructure
- Social Infrastructure (e.g. schools, hospital)
Asia-Pacific LDCs’ Access to basic infrastructure

<table>
<thead>
<tr>
<th>Country</th>
<th>Electricity access</th>
<th>Water Services</th>
<th>Sanitations Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afghanistan</td>
<td>84,14</td>
<td>62,98</td>
<td>39,22</td>
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<tr>
<td>Bhutan</td>
<td>100,00</td>
<td>97,56</td>
<td>62,87</td>
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<tr>
<td>Bangladesh</td>
<td>75,92</td>
<td>97,33</td>
<td>46,92</td>
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<tr>
<td>Cambodia</td>
<td>49,77</td>
<td>74,97</td>
<td>48,83</td>
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<tr>
<td>Kiribati</td>
<td>84,94</td>
<td>64,39</td>
<td>39,77</td>
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<tr>
<td>Lao PDR</td>
<td>87,10</td>
<td>80,45</td>
<td>72,59</td>
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<tr>
<td>Nepal</td>
<td>90,70</td>
<td>87,75</td>
<td>46,13</td>
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<tr>
<td>Myanmar</td>
<td>57,01</td>
<td>67,54</td>
<td>64,70</td>
</tr>
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<td>Solomon Islands</td>
<td><strong>47,92</strong></td>
<td>64,03</td>
<td><strong>31,27</strong></td>
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<tr>
<td>Timor-Leste</td>
<td>63,39</td>
<td>70,22</td>
<td>44,01</td>
</tr>
<tr>
<td>Tuvalu</td>
<td>99,43</td>
<td>99,26</td>
<td>91,41</td>
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<tr>
<td>Vanuatu</td>
<td>57,82</td>
<td>90,50</td>
<td>53,47</td>
</tr>
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</table>

Source: World Bank
Competitiveness of Infrastructure in Asia-Pacific LDCs

<table>
<thead>
<tr>
<th>Quality of overall infrastructure</th>
<th>Bangladesh</th>
<th>Bhutan</th>
<th>Cambodia</th>
<th>Lao PDR</th>
<th>Myanmar*</th>
<th>Nepal</th>
<th>Timor-Leste**</th>
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<tbody>
<tr>
<td></td>
<td>116</td>
<td>54</td>
<td>99</td>
<td>83</td>
<td>135</td>
<td>117</td>
<td>129</td>
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<tr>
<td>Quality of roads</td>
<td>105</td>
<td>67</td>
<td>99</td>
<td>94</td>
<td>136</td>
<td>118</td>
<td>144</td>
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<tr>
<td>Quality of railroad infrastructure</td>
<td>60</td>
<td>N/A</td>
<td>94</td>
<td>N/A</td>
<td>96</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>Quality of port infrastructure</td>
<td>85</td>
<td>133</td>
<td>81</td>
<td>127</td>
<td>123</td>
<td>135</td>
<td>138</td>
</tr>
<tr>
<td>Quality of air transport infrastructure</td>
<td>115</td>
<td>84</td>
<td>106</td>
<td>101</td>
<td>132</td>
<td>133</td>
<td>143</td>
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<tr>
<td>Available airline seat</td>
<td>57</td>
<td>133</td>
<td>79</td>
<td>113</td>
<td>79</td>
<td>78</td>
<td>140</td>
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<tr>
<td>Quality of electricity supply</td>
<td>101</td>
<td>38</td>
<td>106</td>
<td>75</td>
<td>118</td>
<td>118</td>
<td>109</td>
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<tr>
<td>Mobile telephone subscriptions</td>
<td>121</td>
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<td>52</td>
<td>131</td>
<td>135</td>
<td>81</td>
<td>133</td>
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<tr>
<td>Fixed telephone lines</td>
<td>124</td>
<td>108</td>
<td>115</td>
<td>60</td>
<td>124</td>
<td>107</td>
<td>138</td>
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<tr>
<td>Global Infrastructure Score</td>
<td>111</td>
<td>89</td>
<td>106</td>
<td>102</td>
<td>134</td>
<td>119</td>
<td>133</td>
</tr>
</tbody>
</table>

*: data from 2015-2016; **: data from 2014-2015

Source: World Economic Forum, World Bank
Infrastruc@r funding needs for CSN countries

Large infrastructure funding needs: 10.5% of GDP annually

A major portion is in the transport sector, but needs are growing for ICT and energy.
Closing the Infrastructure Gap for Asia-Pacific LDCs

Investment Needs (% of GDP)

Source: Branchoux, Fang & Tateno (2017)

Composition of financing needs

Source: Branchoux, Fang & Tateno (2017), ESCAP
Sources of Infrastructure Finance

- Public
  - Government budget
  - Public borrowing
  - Development Partners
- Private
  - Corporate Finance
  - Project Finance
Composition of Infrastructure Financing

Asia

- Domestic Public: 70%
- Private: 20%
- Multilateral agencies: 10%

Countries with special needs

- Domestic Public: 65%
- Private: 15%
- ODA: 10%
- MDB: 10%

Source: Deutsche Bank, Asia infrastructure financing 2016
Source: MPFD UN ESCAP, CSN report, Infrastructure financing
Public and private sectors

**Domestic public finance**
- Traditional sources of finance
- Expected to remain a significant source
- Should be used to crowd in private investment

**Private sector participation**
- Concentrated in a few mega energy projects and privatization of ICT infrastructure
- Has potential to play a bigger role but requires a stable “investor-friendly” climate

**PPP, 2006-2015, % of GDP**

- **Energy**
  - LDC: 1.6
  - LLDC: 0.6
  - SIDS: 0.3
  - Non-CSN: 0.6
  - Lao PDR: 3.8
  - Tajikistan: 3.1
  - Cambodia: 2.4
  - Armenia: 1.8
  - Bhutan: 1.4
  - Nepal: 1.3
  - Afghanistan: 0.9
  - Bangladesh: 0.9
  - Uzbekistan: 0.7
  - Vanuatu: 0.7
  - Myanmar: 0.6
  - Fiji: 0.6
  - Kyrgyzstan: 0.6
  - Kazakhstan: 0.5
  - Azerbaijan: 0.5
  - Maldives: 0.3
  - Papua New Guinea: 0.3
  - Tonga: 0.2
  - Turkmenistan: 0.1
  - Mongolia: 0.1
  - Samoa: 0.0

- **ICT**
  - LDC: 0.6
  - LLDC: 0.3
  - SIDS: 0.1
  - Non-CSN: 0.1

- **Transport**
  - LDC: 0.5
  - LLDC: 0.1
  - SIDS: 0.1

- **WSS**
  - LDC: 10.0
  - LLDC: 0.5
  - SIDS: 0.1

ESCAP – Asia-Pacific Countries with Special Needs Development Report 2017
Government Provision

- Capital Recycling
- Public Borrowings and Budget Deficits
- Tax Incomes
- Government Business Enterprises

Revenue for Infrastructure
Public Finance flows in Asia-Pacific LDCs

Tax revenue (% of GDP) 2015

ODA evolution (% of GDP)
A gap between public and private sector financing

Infrastructure investments have traditionally been financed with public funds, given the inherent public good nature of infrastructure.

Currently, the public sector funds 70% of infrastructure development in Asia.

The private sector accounts for 20% of infrastructure financing.

The remaining 10% are provided by multilateral agencies.

Public deficits and increased public debt to GDP ratios have led to reduction in the level of public funds for infrastructure.

As countries develop, official development assistance has less impact.

Private sector needs to step up.

To address infrastructure gaps, it is estimated that private investments should increase from around $63 billion a year to as high as $250 billion over 2016-2020.

Source: ADB Institute
Despite ample available capital...

Global institutional investors currently manage more than US$50 trillion.

Investments in infrastructure assets, with theoretically stable cash yields over time, can often be attractive even to investors with long-term liabilities.

Infrastructure is not attractive in both developed and developing countries.

Infrastructure projects rarely rank as the most attractive option to deploy capital on a risk-adjusted basis. Too much risk and uncertainty over investment returns. Investors have global alternatives which present higher returns in other asset classes for the same level of risk.

55% to 65% of infrastructure projects in emerging markets are fundamentally not bankable without government or multilateral development bank support.
Banking Sector: Declining Involvement in Infrastructure Finance

Banks are challenged by the inherent asset-liability mismatch infrastructure finance generates. Banks typically have substantial short-term liabilities, but infrastructure financing often involves long-term assets.

Currency mismatch—the differences between project revenues generated in local currency for debt payments made in a foreign currency.

New regulations and Trends
- Large international commercial banks, which had previously provided a significant portion of infrastructure financing have been deleveraging since the global financial crisis.
- Provisions in Basel III are limiting the role of Banks in Infrastructure financing. Regulation of banking activities, such as capital requirements or liquidity coverage ratios, significantly affects banking industry’s position on project finance.
Capital Markets and Institutional Investors

Capital markets would reduce the pressure on the banking system while also making available fresh equity to finance/refinance infrastructure projects.

Asia is home to diverse financial systems that vary in depth and sophistication, ranging from developed countries with sophisticated financial markets to emerging markets and low-income economies where markets are still in its infancy.

Much attention is being focused on the institutional investor, given the long-term nature of the liabilities.

The long-term nature of infrastructure projects matches the long-term liabilities of institutional investors.

Most institutional investors, even those with long-term liabilities such as pension funds, life insurance companies continue to invest in liquid assets, often with a short-term investment horizon.

There is a high correlation between the size of the institutional investor base and the size of capital markets.*

Underdeveloped equity and bond markets prevent institutional investors to finance infrastructure investment.

*There is a high correlation between the size of the institutional investor base and the size of capital markets.
PPP definition

"A long-term contract between a private party and a government agency, for providing public services and/or developing public infrastructure, in which the private party bears significant risk and management responsibility, and remuneration is linked to performance."

- Long term relationship beyond construction phase
- Contract Based
- Different from privatization

Mobilize resources
Achieving a long term solutions
Transferring risks to the private sector

Source: PPP Reference Guide 2.0
Why use PPP?

- Access new source of financing for infrastructure
- Equity and Debt financing provided by private partners
- Requires strength in risk accounting
- Risk must be carefully allocated between public and private partners
- Utilize private sector and international expertise
- Private partners bring sophisticated techniques to the projects. Often times partners are international firms
- Enables faster infrastructure build out
- By removing national constraints from infrastructure funding and construction, PPPs enable more projects to be undertaken
- Forces better project planning
- Closing a PPP deal requires meticulous project planning, increasing the probability of success
- Build out the national private sector
- PPP projects result in private firms with relatively secure revenues
PPP Limitations

Usage fees
Must be paid by either tax payers or users to generate revenue

Public guarantees
Fiscal risk has to be properly assessed and monitored

Complex arrangement
High transaction costs / internal capacity constraints / not suitable for all projects (limited flexibility)

Limited local private sector capacity and competition

Possible public resistance
Private Participation in Infrastructure
Least Developed Country Breakdown

Volume of PPI investment since 2002 (in USD Billions)

World Bank PPI Database
PPP Track record in Asia-Pacific LDCs
Sectoral breakdown

Private Participation in Infrastructure, 2002-2018

- Airports
- Electricity
- ICT
- Ports
- Railways
- Roads
- Treatment plant
- Water Utility

80.38%
1.90%
2.53%
3.80%
9.49%
0.63%
0.63%
0.63%

World Bank - PPI Database
PPP Preparation

Good practices

• Assessment of long-term financial implications (prior MoF approval)
• PPP project prioritized along other public investment (planning process)
• Project justified in terms of socioeconomic analysis, market assessment, procurement method, etc. (legal requirements + methodology)
• Standardized contracts / consistency

World Bank – Procuring Infrastructure Public Private Partnerships, 2018
Good practices

- Establishment of a PPP project management team;
- Regulation of contracts modifications;
- Dispute resolution mechanisms in place;
- Ground for termination are well-specified and associated consequences defined.
## PPP Legal Framework in Asia-Pacific LDCs

<table>
<thead>
<tr>
<th>Country</th>
<th>Preparation of PPP</th>
<th>Procurement of PPP</th>
<th>Contract Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afghanistan</td>
<td>45</td>
<td>45</td>
<td>35</td>
</tr>
<tr>
<td>Asia-Pacific (Excluding NZ and Aus)</td>
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<td>58</td>
<td>50</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>51</td>
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<tr>
<td>Cambodia</td>
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<tr>
<td>Lao PDR</td>
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<td>Myanmar</td>
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<tr>
<td>Timor-Leste</td>
<td>33</td>
<td>64</td>
<td>45</td>
</tr>
</tbody>
</table>
Good Practices to ensure transparent & fair competition in procurement include:

- online publication of procurement and award notice,
- evaluation according to the criteria stipulated in the tender documents

Good Practices in contract management:

- Establishment of a PPP project management team,
- Regulation of contracts modifications
- Dispute resolution mechanisms in place
Infrastructure Financing and Public Private Partnership Network

**Experienced PPP Units**
- China PPP Center
- Philippines PPP Center
- Kazakhstan PPP Center

**Development Institutions**
- World Bank
- Asian Development Bank Institute

**United Nations**
- ESCAP
- UN Capital Development Fund
Mission & Activities of the Network

- Capacity Building
- Organization of meetings
- Creation of a knowledge sharing platform
- Support and link the countries and development partners
- Development of knowledge products