Accelerating Road Development through Innovative Financing and PPP: Case Study from Karnataka (India) State Highway Improvement Project

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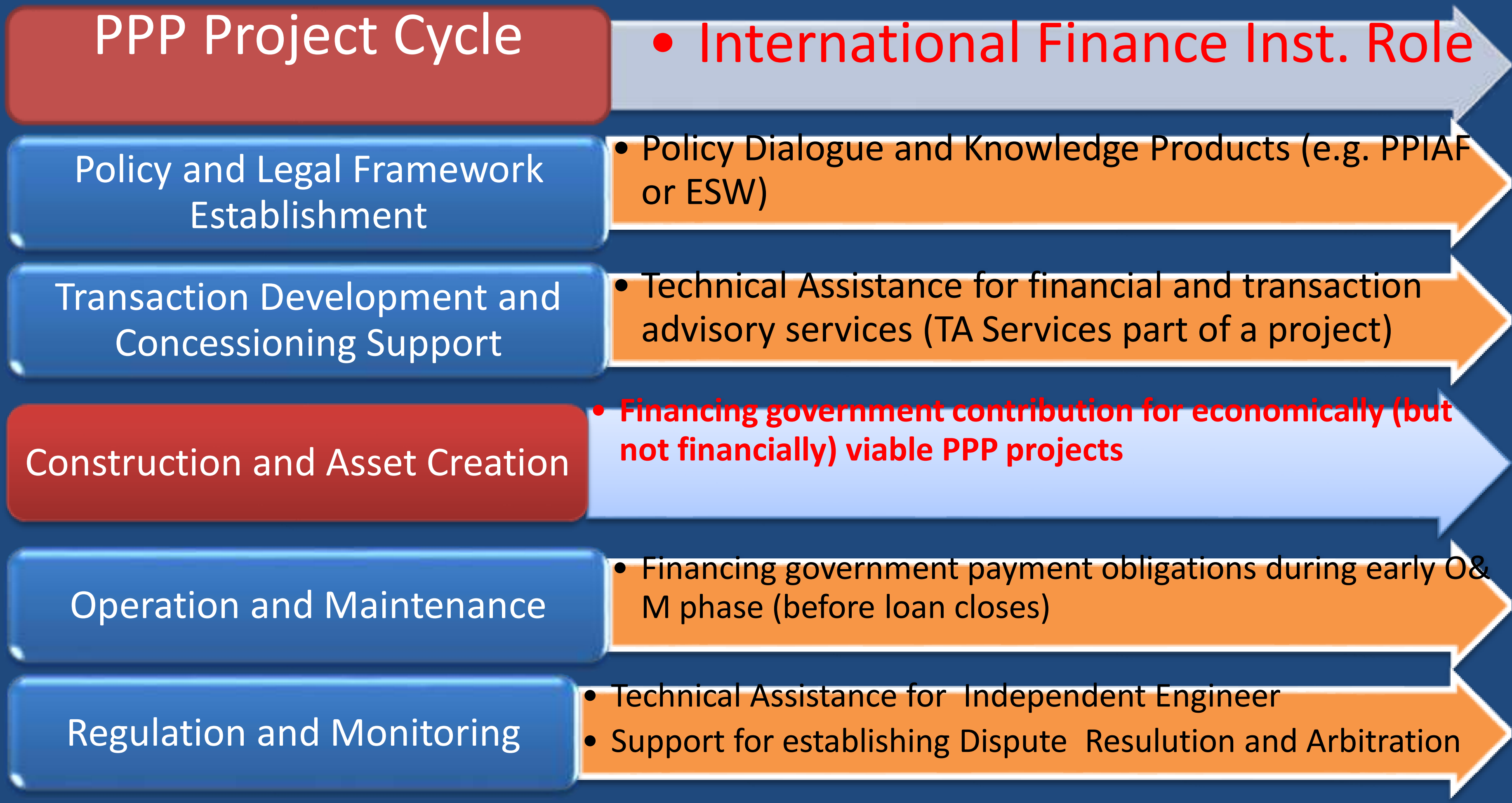
PPP Project Cycle and World Bank Role



PPP Project Cycle	International Finance Inst. Role
Policy and Legal Framework Establishment	• Policy Dialogue and Knowledge Products (e.g. PPIAF or ESW)
Transaction Development and Concessioning Support	• Technical Assistance for financial and transaction advisory services (TA Services part of a project)
Construction and Asset Creation	• **Financing government contribution for economically (but not financially) viable PPP projects**
Operation and Maintenance	• Financing government payment obligations during early O&M phase (before loan closes)
Regulation and Monitoring	• Technical Assistance for Independent Engineer • Support for establishing Dispute Resulution and Arbitration

Why Support PPP Projects in India?

- Infrastructure investment demand is high
  - US$1,000 Billion investment for infrastructure (12th Plan (2012-17))
    - By Comparisons IBRD's Single Borrower Limit for India is US$17.5 billion
- Cost of providing infrastructure has increased -- 75% increase in unit cost in the last five years
  - Purchasing power of WB funds has decreased significantly
    - KSHIP I – Loan – US$360 Million (implemented 2001-2007)
      - Unit Construction Cost – US$350,000 per km
    - KSHIP II – Loan – US$350 Million, Approved March 24, 2011
      - Unit Construction Cost – US$620,000 (for traditional construction contract, PPP contracts cost more)
  - Government of India actively promotes PPP as the preferred mode
  - Private sector expected to provide 50% of the 12 FYP.
- World Bank needs to leverage resources
- The presentation is an example on how the World Bank supports PPP programs for client governments, like the State of Karnataka in India in attracting private sector financing and commercial borrowing

Background on Karnataka

- State Government of Karnataka (GOK) successfully completed KSHIP I
  - US$360 million IBRD Loan
  - Implemented between 2001-2007
- **GOK requests a second IBRD loan for US$1.6 billion, but DEA/Bank endorse/approve only US$350 million**
- Government Plans **US$10 Billion investment** to upgrade the CRN (20,000 km)
- Financing is Limited– Only **US$360 million** annual road budget (for the entire state)
  - At this rate, it will take more than **28 years** to complete the upgrading of the CRN

Current financing framework a constraint for accelerating road development

- **Pay-as-you-go Funding Approach**
  - **Road sector expenditure funded from government taxes, revenues and central grant transfers (Consolidated Fund)**
- **Weaknesses in the Pay-as-you-go approach**
  - Volatile, depends on cyclical and unpredictable government revenue stream, Political appropriation
  - Not suitable to fund large projects, as the available annual revenue is inadequate
  - Projects have to be curtailed in size to fit into annual budget
  - **Contracting method is generally item-rate-contract, has inefficiencies and does not consider the lifetime cost of road**
  - Long-term contract creates uncertainties as revenues are unpredictable and budget has to be voted every year

Current Government Borrowing: Poorly Structured and Unsustainable

- **Debt Financing is done on Government Balance Sheet**
  - Sovereign international borrowing (WB/ADB/JICA)
  - State-owned Development Banks (limited)
  - Government deficit capped at 3% of GDP by Fiscal Responsibility Act
- **Current borrowing does not link revenue stream to repayment of debt – paid from budget revenues**
- **Commercial banks do not lend to government for a specific projects without a specific revenue stream**
- **Commercial,** revenue-backed **debt financing limited**
- Government is always playing catch up on road expenditure – rehabilitation/reconstruction, neglect, rehabilitation/reconstruction

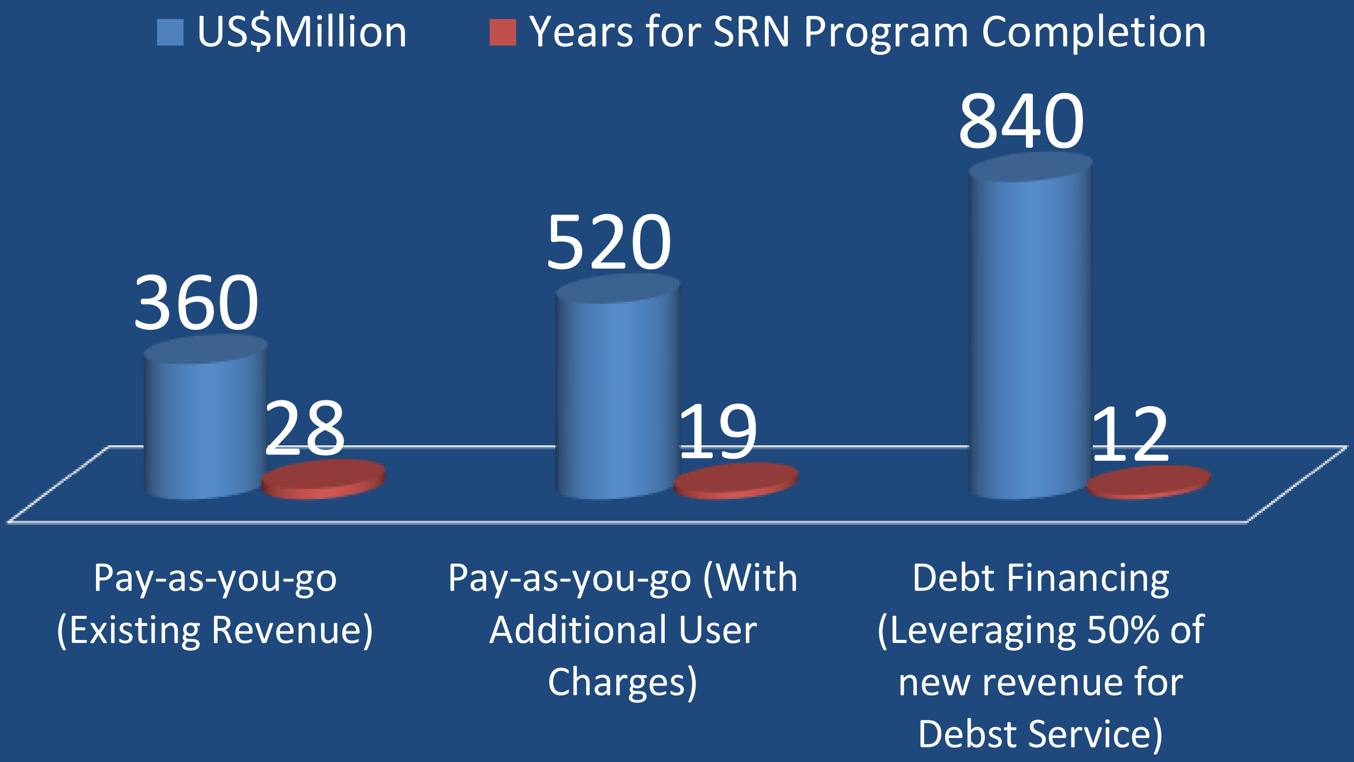
The Project Road Financing Reform Approach

- Move away from pay-as-you go funding approach based on Consolidated Fund and on-budget borrowing to revenue-backed long-term debt and PPP
- Simultaneously solve investment and maintenance problem by combining capital investment and maintenance expenditure into a Design-Build-Finance-Operate-Maintain-Transfer (DBFOMT) Concession
- At the same time, improve contract management efficiency by moving away from input-based BoQ contracts to output-based DBFO Concessions
- Establish Road Development Financing Facility (Road Fund) to pool user revenues
  - To be funded initially by tolls on existing and recently improved highways
  - Followed by vehicle licensing fees, fuel levies, and other related charges
- **Securitize Road User Revenues to Pledge for PPP Concession Obligations and Debt Services**

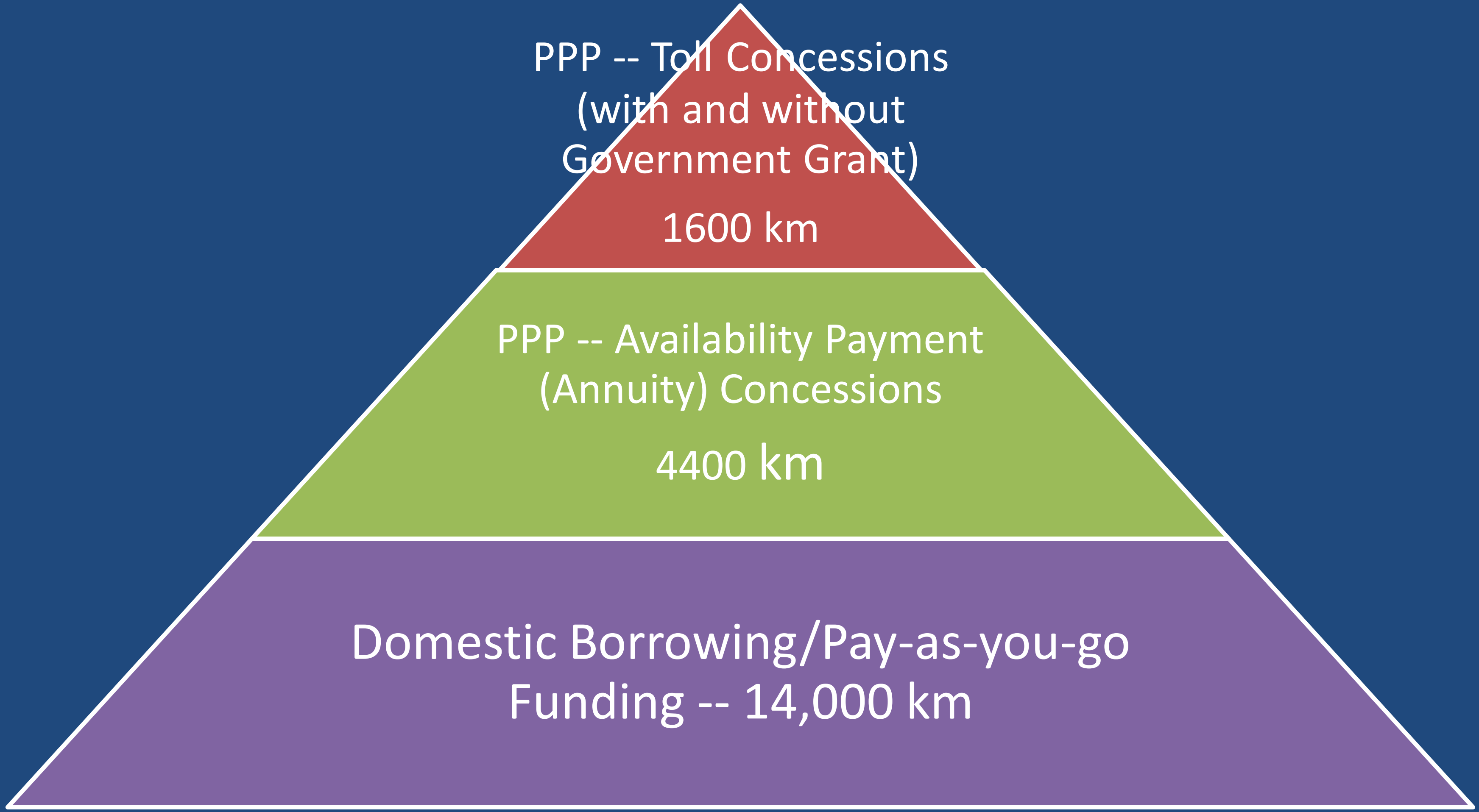
Benefits of Debt Financing and PPP Approach

- **Complements Current Expenditure, not Replace it**
  - Expands fiscal space, without necessarily harming the government budget
  - New revenue sources to be raised from users
  - Can accommodate large, multi-year projects
- **Improve efficiency of implementation**
  - Encourages new contracting methods
  - Banks and concessionaires provide additional oversight
- Commercialization of the road sector, taking it out the budget
- **Fast and effective implementation can expedite economic development**
- **Deepens the domestic financial sector**

Benefits of PPP and Debt Financing Approach: Accelerated Development



Options for Leveraging Road Sector Revenue: Financing Strategy for SRN



PPP -- Toll Concessions (with and without Government Grant)

1600 km

PPP -- Availability Payment (Annuity) Concessions

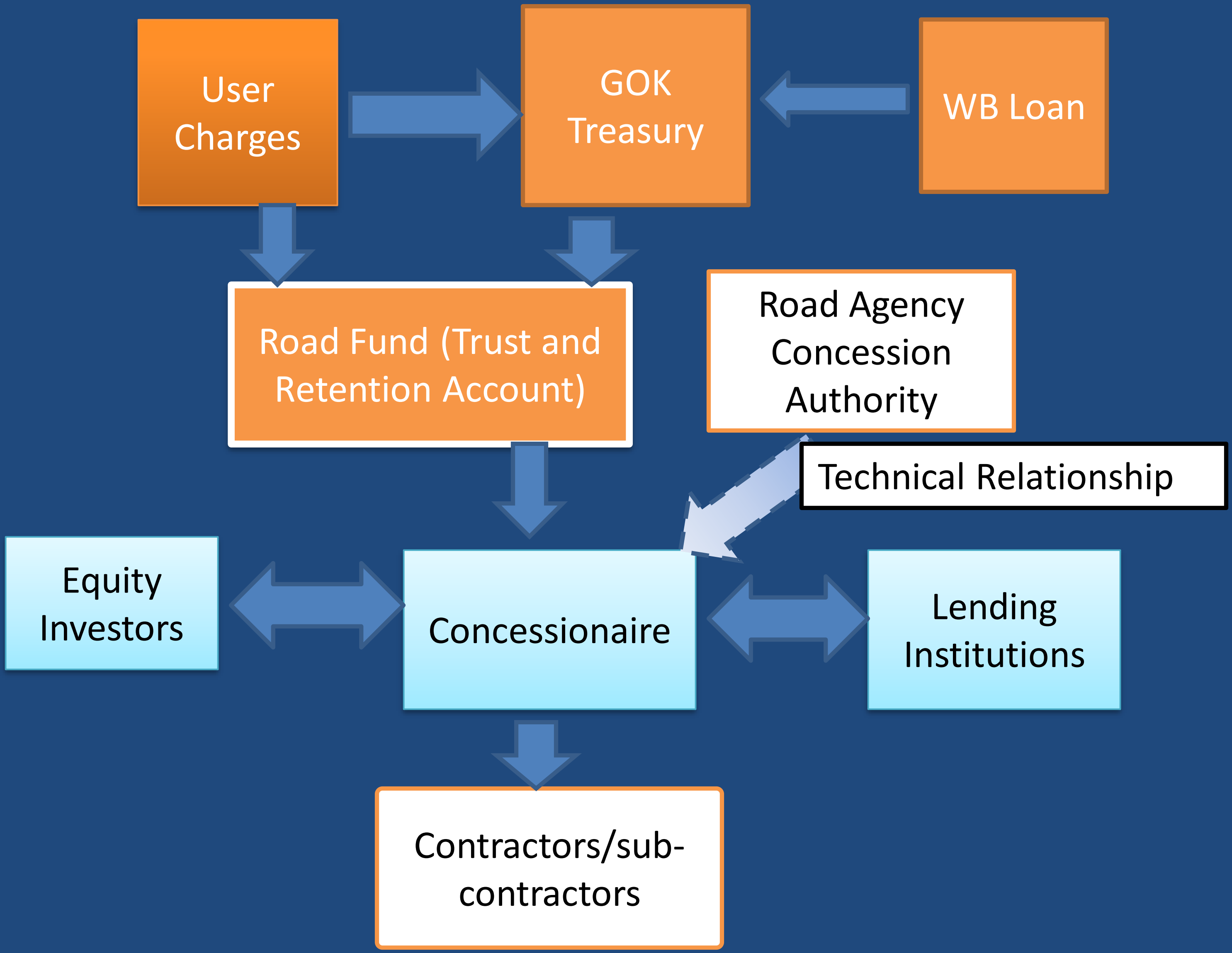
4400 km

Domestic Borrowing/Pay-as-you-go Funding -- 14,000 km

Availability Payment (Annuity) PPP Concession

- Design-Build-Finance-Operate-Maintain-Transfer (DBFOMT) Contract
- Road Agency engages Concessionaire through Competitive Bidding
- Concessionaire borrows from financial institutions against annuity payment
- Road Fund revenues pays Concessionaire for constructing the highway available and maintaining agreed performance level

Availability Payment Structure



User Charges

GOK Treasury

WB Loan

Road Fund (Trust and Retention Account)

Road Agency Concession Authority

Technical Relationship

Equity Investors

Concessionaire

Lending Institutions

Contractors/sub-contractors

Project Summary

- Objective –Accelerate Road Development by Leveraging Private Sector Financing
- **Four Components:**
- **Component 1: Road Improvement Works**
  - *Capital improvement and maintenance works through traditional contracts and DBFO Concessions*
- **Component 2: Highway Financing Modernization**
  - Provide technical and financial assistance to Karnataka Road Development Corporation to co-finance IBRD loan with commercial banks and infrastructure finance institutions
- **Component 3: Road Safety Improvement**
- **Component 4: Road Sector Policy and Institutional Development**

Key Features of the DBFO Concession

- Four Road Corridors – 562 km
- Concession Period – 10 years, including 2 years for construction period
- Total Project Cost – US$437 million
  - IBRD – US$140 million
  - Private Developer – US$250 million
  - GOK – US$47 million (mostly for land acquisition and R&R support)
- IBRD Finances 50% of estimated Construction Cost during construction period
- Government pays concessionaire semi-annual payments for the remaining construction costs plus O&M and other costs
- Bidding parameter is the lowest annuity payment request
  - It includes amortized construction cost, O&M, financing cost, and any other costs the concessionaire includes
  - Amount of upfront grant will be disclosed during bidding
  - Concessionaire would raise financing based on promised grant and projected semi-annual payment

Payment Structure

- During Construction Period
  - 50 % of the Estimated Construction Cost Financed by IBRD paid in two installments
  - First Installment
    - 50% percent completion of road length
    - 50% draw down on equity required for project implementation
  - Second Installment on Commercial Operation Day
- Payment During Operation Phase
  - Semi-annual payment (annuity payment)
  - Concessionaire required to meet maintenance and performance criteria
    - Penalties for not meeting the performance criteria
- Tolling is not part of the concession, but the authority may toll the roads separately and the revenues would be pooled together with other tolls and user charges
- Independent Engineer monitors compliance with Concession Agreement during construction and operation, and certifies payment (including any penalty/bonus)

BUILDING BLOCKS FOR INNOVATIVE FINANCING AND IMPLICATIONS FOR CHINA: AREAS FOR INTERNATIONAL COOPERATION

Legal and policy framework

- Enabling Legislation
- Clear risk sharing arrangement
- Tolling and pricing policy
- Policy should emphasis value-for-money, protecting public interest, and providing conducive environment for private investment
- Establish a unit to coordinate and lead PPP program in nation/province/Sector
- Clear dispute resolution and contract enforcement mechanism

Transaction Development Support

- PPP programs should be part of a sector development strategy, not just isolated transactions
- Sector-wide economic and financial screening should be done to develop robust PPP program before moving to transactions
  - Only economically viable projects should be considered for PPP
  - Determine which projects will be done under PPP and which ones under traditional contracting
  - Determine which projects will require financial support from government, which ones will be fully financially viable from revenues
- Develop Model Documents for Procurement and Bidding
  - India has a range of Model Concession Agreements for different sub-sectors
  - Transparent rules for procurement will improve competitition
- PPP capacity development and skills training
  - PPPs require specialized skills in contract development, transactions, and enforcement
  - Training and knowledge exchange among practitioners key

Financing and Funding Support

- PPPs are done through Project Finance
  - Limited recourse off balance sheet financing to a special purpose vehicle project company (SPV) relying primarily on future cash flow of the project (or government payment) for repayment
- Availability of long-term financing in the country is key
  - Most commercial banks have short-term loans, which is not appropriate for infrastructure financing
  - Financial sector should be developed to provide long-term financing for PPP
- Some economically feasible projects may not be financial viable. In this case,
  - Government can provide additional funding support to make the project financially viable
  - Good example is the India Viability Gap Funding (VGF) scheme

Lessons for China

- How can China scale up PPP in Infrastructure?
  - Develop contractual framework governing PPP contracts
    - Contracts between private and public sectors in China are often governed by what cane be called "relational contracting", which relies for enforcement on the relationship of the parties rather than on the contract terms
      - Disputes are resolved by the parties themselves
    - PPPs are long-term contracts and would require detailed specific contacts,
    - Long-term contract period means unforeseen circumstance will emerge that require adaptation and resolution
    - Conflict with the parties can emerge
    - Third party resolution is needed
  - Long-term financing to support PPP deals will be essential
  - Government's clear policy and funding support will be required