JICA and Corridor Development in South Asia

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HARA Shohei
Director General
South Asia Department
Japan International Cooperation Agency (JICA)
JICA Projects in Bangladesh, Bhutan, and the North Eastern Region of India

**JICA Loan Projects**
- "North East Road Network Connectivity Improvement"
  - Dhubri-Phulbari Bridge of NH 127B (Assam and Meghalaya, India)
  - NH 51 (Meghalaya, India)

- "Cross-Border Road Network Improvement Project" and "Western Bangladesh Bridge Improvement Project" on the international corridors.

**JICA Master Plan**
- "Power Systems Master Plan 2040" for optimisation of development plans in hydro power sector.

**JICA Loan Projects**
- "North East Road Network Connectivity Improvement"
  - NH 54 (Mizoram, India)
  - NH 40 (Meghalaya, India)

**The Initiative of BIG-B**
- "The Bay of Bengal Industrial Growth Belt" for industrial agglomeration encompassing over economic infrastructure, improving investment environment and fostering connectivity, including Matabari-Moheshkhali area development.

**JICA Loan Project**
- "Jamuna Bridge Project" and new "Jamuna Railway Bridge Construction Project"

**Kaladan Multi-Modal Transit Transport Project**
Proposed Framework: “FIT-2-DEEDS”
- The Flow of expected results: the chain from corridor to benefits
- The Intervention Design: supporting a fairer distribution of greater benefits
- Typology of impacts: organizing multiple impacts into a hierarchy
- 2 sorts of complementary interventions: policies and institutions
- Deed: devising a viable financing strategy for a given design
- Deed: successfully managing the implementation of the program

Analytical Methodology:
- Network Analysis based on regional data sets, Reduced Form Regressions, Structural General Equilibrium Modelling, Spatial Econometrics, etc)

https://openknowledge.worldbank.org/handle/10986/28882
The WEB of Transport Corridors in South Asia (2018)
Looking back the history…

MAP 1.5  Rail in India, 1909
The WEB of Transport Corridors in South Asia (2018)
a lot of initiatives, old and new, continental and regional...

**MAP 0.1** Many large transport investments are proposed across South Asia

a. The proposed One Road One Belt Initiative by China

b. The possible transport corridor from Mumbai to Shanghai

c. The 19 regional road corridors identified by JICA around Bhutan, Bangladesh, East India, Myanmar, and Nepal

d. The 14 regional railway corridors identified by JICA around Bhutan, Bangladesh, East India, Myanmar, and Nepal

Source: Corridor Study Team.
The WEB of Transport Corridors in South Asia (2018)
Types of Transport Corridors

MAP B0.1.1   Possible types of transport corridors (connections)

Source: Corridor Study Team.
Note: The size of the bubble corresponds to the size of the economy.
The WEB of Transport Corridors in South Asia (2018)
Priorities among various projects and analytical framework

- **Established framework:**
  - Cost benefit analysis of *the projects* based on vehicle operating costs including time and environmental savings, increases in trade, reduction of traffic accidents, etc.

- **Wider Economic Benefits (WEB) of connectivity:**
  - Agglomeration effects, spill over and network effects, or the impacts of connectivity, especially of the group of interventions, are hitherto not well captured.
  - Improved availability of spatial data and spatial econometric methods paves the way for rigorous and comprehensive analysis.
  - Needs for complementary policy interventions, like trade facilitation services, ensuring market mechanisms, improved governance, access to social services, etc.

- **Downsides:**
  - Environmental impacts on health and carbon emissions.
  - Regional inequality. etc.
FIGURE 4.1 The web of WEB: The final outcomes of a corridor intervention are achieved through many transmission channels and various intermediate outcomes

Source: Corridor Study Team.
Note: FDI = foreign direct investment.
The overall balance between beneficial or detrimental impacts of a corridor intervention package depends on a hierarchy of impacts.

- **Multiple wider economic impacts**
  - **Heterogeneous effects**
    - Relative (greater or smaller predisposition)
  - **Impacts across individual WEB**
    - Absolute (winners and losers)
    - Trade-offs (income or environment)
    - Synergies (income and job growth)

*Source: Corridor Study Team.*
*Note: WEB = wider economic benefits.*
The WEB of Transport Corridors in South Asia (2018)
Case studies: Viet Nam NH-5 Corridor

Figure 2.10 The NH-5 Corridor generated many expected and unexpected wider economic impacts

Source: JICA.
Note: NH-5 = National Highway No. 5.
MAP 0.2 The trade-offs generated by the Pacific Ocean Belt in Japan yield valuable lessons

Priority Relief Area designated under Action Compensation, etc. of Pollution-related Health Damage (1973)

Pacific Belt Zone

Source: Corridor Study Team. Photos by World Bank (upper left); Kanagawa Environmental Research Center, Japan (upper right). Used with permission; further permission required for reuse.
FIGURE 3.1 The design of transport corridor projects respects initial conditions and can involve three levels of interventions

- Initial conditions (geography, population, market imperfections)
- Trunk transport corridor (road, rail, waterway)
- Transport and trade facilitation (ports, warehouses, border crossings)
- Soft complementary policies (capital, labor, land, product markets)
“Spotlights”
Short and handy case studies of corridor development and WEB

- “Financing Priority Transport Corridors in South Asia”
- “Private Investment in Corridor Infrastructure”
- “The Role of PPP in Developing South Asia's Corridors”
- “The Impact of Highways on Micro, SMEs: Anecdotal Evidence from Bhutan, Sri Lanka, and India”
- “Do Highways Help Women?”
- “Appraising Proposed Transport Corridors Using Spatial Econometrics”
- “Agriculture Finance and Technical Assistance to Enhance the Wider Economic Benefits of Transport Connectivity for Rural Areas”
- “Cross-Border Infrastructure Projects: Challenges and Lessons Learned from the Unrealized Sava Waterways Rehabilitation Program in Southeast Europe”
- “The Influx of Workers and Followers in a Transport Project: Lessons in Gender Risks from a Road Project in Uganda”
Some take-aways

• Importance of conceptual and analytical framework for corridor development and WEB and trade-offs or downside risks.

  ⇔ Balancing with “geopolitics” or “strategic plans”.

• Fiscal space for infrastructure investment, O&M costs (and rehabilitation and replacement costs), and debt service vs much needed (and complementary) public expenditures for health, education, social safety nets, improved governance, etc.

• Prioritization of plans and initiatives: rigorous appraisal with a view to WEB.

• “Quality” matters a lot especially in:
  • Preparation (Master plans and feasibility studies)
  • Designing (engineering, social considerations and sustainability)
  • Financing (adequate risk allocation between public and private funding)
  • Procurement (transparency, timelines, lifecycle costing)
  • Implementation (timely execution, hands on management for capacity development “Learning by doing”)
  • Operations and maintenance.

→ G20 Principles for Quality Infrastructure Investment
G20 PRINCIPLES FOR QUALITY INFRASTRUCTURE INVESTMENT

• Principle 1: Maximizing the positive impact of infrastructure to achieve sustainable growth and development

• Principle 2: Raising Economic Efficiency in View of Life-Cycle Cost

• Principle 3: Integrating Environmental Considerations in Infrastructure Investments

• Principle 4: Building Resilience against Natural Disasters and Other Risks

• Principle 5: Integrating Social Considerations in Infrastructure Investment

• Principle 6: Strengthening Infrastructure Governance

https://www.mof.go.jp/english/international_policy/convention/g20/annex6_1.pdf