



Infrastructure Development and Reforms including Power, Energy and Communication (Transport): Background Study

(THEMATIC GROUP 3, PRSP)

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EXECUTIVE SUMMARY

Infrastructure Sector in I-PRSP

The I-PRSP – in view of the high density of population, low resource base, and high incidence of natural disasters – has emphasised the need for strategic rethinking about economic growth, poverty reduction and social development. I-PRSP envisaged three key tasks to address: task of sustaining the positive gains, task of overcoming the negative tendencies, and the task of addressing new challenges.

The I-PRSP consultation process stressed very strongly the role of infrastructure in accelerating the rate of poverty reduction. In infrastructure-package the following eleven elements emerged prominently: road, bridge, railway, waterway, safe water supply and sanitation, electricity, gas, storage, port, telecommunication, and information. In terms of the subject areas assigned to the Thematic Group-3 – **power, energy, and communication (transport)** – the consultations underscored the need for expanding further the growth impact of electricity; expanding further the network of all-weather feeder roads, development of railways and waterways; sensitiveness to the gender dimension; and promotion of sectoral good governance.

The I-PRSP has proposed a general Matrix to track and monitor the poverty reduction indicators; not for all sectors and sub-sectors. It has outlined a Medium-Term Policy Matrix to implement the poverty reduction agenda; also not for all sectors and sub-sectors. Here lies the key rationale for the accompanying study.

Issues on Methodology

The theme infrastructure involves 18 broad agencies, namely BPDB, REB, DESA, DESCO and PGCB in the Power Sector; Petrobangla (BOGMC) in Energy; BRTC, BIWTA, BIWTC, RHD, LGED, Railway, Biman, Parjatan, BRTA, MPA, CPA and DTCB in the Communications (transport) Sector. Methodologically, it was thought appropriate to collect, for each agency, using a common guideline, the relevant information emphasizing on four broad areas, namely gender dimensions, pro-poor growth, sectoral good governance, and portfolio projects – all in line with the strategic rethinking embodied in the I-PRSP. The agency-specific analysis forms the basis for sub-sector (power, energy, transport) analysis. Each agency-specific output has immense utility in terms of understanding the problems and prospects of the agency in line with the demand posed by I-PRSP methodology. The whole work was a joint effort of the expert team and agency designated officials.

State of Infrastructure Development: An Assessment

Although it is recognized that infrastructure plays pivotal role in economic growth and poverty reduction, infrastructural deficiencies continue to act as a major drag on country's development efforts. Not only in terms of inadequate coverage, but also the poor management and inefficiency of publicly managed infrastructure utilities have created a huge fiscal burden and constrained the much-needed expansion of infrastructure services to meet the growing needs of the economy.

The current state of the **power sector** is not conducive enough to ensure accelerated economic growth, poverty reduction and social development. Only one-third of the population has access to electricity; and such access in the rural areas is low (22%) and declines with the declining economic status. In addition to the low access and low

availability, two major factors inhibiting pro-poor growth attributable to power sector include poor quality (interrupted supply, voltage fluctuations) and deplorable financial performance.

The poor financial performance is evident in three main utilities – the Bangladesh Power Development Board (BPDB), Dhaka Electric Supply Authority (DESA), and the Rural Electrification Board (REB). The public ownership of the power grid with its inadequate planning in priority-setting, sequencing, and insufficient commercial orientation in decision making are the key roots to the sectoral low performance.

The present **gas infrastructure** remains in a poor condition due to lack of commercial orientation and inadequate funding for expansion, and operation and maintenance. The financial performance of the gas sector entities – considering the state monopoly exploiting natural resources – has been well below the potential. This below potential financial performance is largely attributable to the pricing and taxation policies and operational inefficiencies and default by consumers.

The **transport sector**, in general, has expanded rapidly both in terms of passenger and freight movement. Increasing navigability of the inland waterways, improvement in the operational performance of the railway, and inclusion of waterways and railways in the integrated transport network are some of the major problems hindering the process of pro-poor growth in the sectors.

The expansion of **road network** has been most rapid. The critical issue is to maintain and improve the network and address various issues pertaining to efficiency and safety of road operations.

The **inland waterway system** carrying large volumes of total freight is not used to its full potential due to silting waterways, lack of ghat berthing facilities, and obstructions caused by low or narrow road bridges and irrigation channel sluice gates.

The **sea port sector** is known for its low capacity and inefficiency. Much of the inefficiency is centered in Chittagong port, which handles nearly 85 percent of the country's imports and exports.

The **Bangladesh Railway's** role in the economy has been quite limited largely due to the limited infrastructure and low efficiency of services vis-à-vis competing modes of transportation. BR continues to be a losing concern and its operational performance and efficiency of services continue to be unsatisfactory and well below potential

The **Biman Bangladesh Airlines** is a losing concern. The losses are attributable to the payment of interest on loan, depreciation of airbus A310-300, F28-4000, and excessive increase of expenditure for leasing aircrafts.

Rural infrastructure contributes – both directly and indirectly – to poverty reduction. Three components of rural infrastructure namely, roads, markets, and electrification contribute most in the process of growth and poverty reduction.

The rural areas are being served by an extensive **road network**. In addition, 2,100 markets are being developed as growth centres. The rural electrification program covers about 40,000 villages with 4.3 million domestic connections, 121,715 irrigation pumps, 90,921 industries, and 576,842 commercial establishments. Most rural infrastructure were built using labor-intensive technologies under public works programs infrastructure development programs implemented by the LGED, and electrification program by REB.

The rural road network has reached a level where it would be more appropriate to invest in quality rather than network expansion. This will imply putting more emphasis on quality construction using labor-based technologies, maintain and upgrade the existing network, and undertake selective expansion to fill critical gaps to ensure rural-urban linkages.

Rural electricity has immense potential in accelerating the process of economic growth, poverty reduction and human development. Rural electricity reduces both human and knowledge poverty, education, health, and gender divides. Therefore, poor people's access to electricity shall be increased.

The **Urban Transportation** is deteriorating everyday in the large cities, particularly in Dhaka city mainly because of rural-push migration and natural growth of population. Although urban sector accounts for at least 50 percent of the Gross Domestic Product the urban transport has been a subject of neglect. Dhaka city is facing serious transport and traffic problems. The cost of congestion due to acute traffic jam is extremely high. To resolve this problem, government has created the Dhaka Transport Co-ordination Board (DTCB) holding the responsibility to develop strategic transport plan for Dhaka city, which will be the main transport policy document for the next 20 years.

Areas of Critical Concern

In line with the spirit of PRSP, to accelerate the process of infrastructure system's potential high impact on economic growth, poverty reduction and social development, the most critical concerns to be addressed are as follows:

- High system losses due to power pilferage and theft (power sub-sector).
- High account receivables due to poor recovery (power and gas sub-sectors).
- High share in the net loss of state-owned enterprises (power-BPDB, DESA; transport-railway, airlines).
- Negative pre-interest return-on-assets (power-BPDB, DESA; transport-railway, airlines).
- Inadequate tariffs (power and gas sub-sectors).
- Poor investment choices (power sub-sector).
- Relative neglect of some sub-sectors (transport-inland water, urban transportation).
- Operational inefficiencies; unsatisfactory management (gas and power sub-sectors).
- Inadequate linkages and coordination among sub-sectors and agencies (all sub-sector and agency).
- Pricing, taxation and subsidies (power and gas sub-sector).
- Attract private sector on a sustained basis (power, gas and transport sub-sectors).
- Inadequate gas network in the west, north-west and south-west zones of Bangladesh as the root cause of slow industrialization of those areas (gas sub-sector).
- Low rate and improper use of natural resources (gas sub-sector)
- Road transport activities are mostly directed to expansion of the existing networks; maintenance expenditures lag behind and do not match with the size of the network (road transport sub-sector – RHD, LGED).

- Low quality projects retard investment efficiency (road transport sub-sector).
- Fragmented and un-clear administrative responsibilities reduce effectiveness of public investment (road transport sub-sector).
- Low resource mobilization (cost recovery) from users (road transport sub-sector).
- High accident and fatality rates due to lack of enforcement of traffic regulation (road and inland waterway sub-sector).
- Imbalance in transport sector expenditure – increasingly road-focused (transport sector).

Recommendations

Based on the analysis of the sector – recommendations grouped into following five broad areas are forwarded: Rationalization of Sectoral Incentive; Setting Appropriate Pricing Policy; Reduction of System Loss and Improvement in Collection; Sectoral Restructuring; and Instituting Good Governance. The recommendations need to be prioritized and the appropriate time frame for implementation of recommended actions should be worked out.

Towards rationalization of sectoral incentive

The infrastructure sector policies protecting relevant state-owned sector/sub-sector operations or the absence of appropriate regulatory framework discourage efficient performance and private participation in power, energy and transport sub-sectors. Therefore, the incentive policy regimes need rationalization. Policy and regulatory reforms suggested below will help attract private investments, increase competition, enhance financial discipline, and exert greater pressure on the infrastructure sector to perform better. Some of the key suggestions worth considering are:

1. Instituting an independent *energy regulatory body*, following the recent legislation of the Energy Regulatory Commission Act 2003, with required expertise and operational autonomy.
2. Adopting a *power sector reform* including a strategy to attract private capital and know-how into power generation, transmission and urban electricity distribution, including privatization of public sector entities.
3. *Enacting a Gas Act* to ensure value-addition based utilization policies; to set appropriate regulatory framework for fixing tariff, effective participation of private sector and sectoral restructuring.
4. *Taking measures to set up free economic zone at deep seaports* at Moheshkhali and Kutubdia and constructing coastal highway link roads.
5. *Shifting the ICD-Kamlapur to Tongi* to reduce traffic congestion of Dhaka city and to ease goods transportation.
6. *Establishing an ICD at Pangaon-Pagla* to maximize use of safe and smooth, and cost saving transportation of goods through riverine system.
7. Taking steps to allow competitive private participation in *gas distribution* and private financing and management of the *gas transmission* network.
8. *Developing and putting in place a sound investment guarantee policy* to facilitate private sector participation in power, gas, port, shipping and aviation.
9. Pursuing opportunities for privatization through *strategic partnerships* with private investors in aviation, shipping, ports, and urban transportation.
10. *Expanding national gas grid to cover western, north-western and south-western zones* to promote industrialization and to accelerate balanced regional development.

11. Promoting *private participation in railway operations, capacity expansion, freight traffic, and maintenance*, through partnerships and management contracts with private investors.
12. Contracting out cargo and other services at the two sea ports.
13. *Assigning high priority for the promotion of water transportation* in the south and western zones.
14. *Exploring the possibilities of expanded marketing of LNG through conversion of natural gas into LNG and setting-up LNG terminal* (at appropriate locations).
15. *Establishing necessary infrastructure to ensure mass use of CNG* in all motorized vehicles.
16. *Promoting accelerated use of renewable solar energy* as off-grid solution to economic and human development of the grid-inaccessible areas.
17. *Providing rational incentives to explore all gas fields* and to discover new fields.
18. *Facilitating public-private partnerships towards introducing a mass rapid transit system and commuter rail* to minimize traffic congestion in Dhaka city.

Towards conducive pricing policy

The prices of some major power, energy and transport products are significantly divergent from economic or competitive levels or costs of supply. Therefore, it is imperative that a conducive pricing system be instituted to improve cost recovery. In general, the user charges will need to cover operating, maintenance and capital costs of provision of power, energy and other utility services if coverage for the poor is to be increased and quality of services is to be improved. Some of the most practical actions recommended are:

1. Adopting a transparent *power-pricing framework* linked to changes in cost of supplying electricity including cost of generation, power purchased from IPPs, system services, T&D and local cost components.
2. Adopting an appropriate *gas pricing framework* linked to changes in costs of supply including gas purchase, T&D costs, indirect taxes and exchange rate adjustments.

Towards high priority restructuring

Restructuring is of utmost significance given the existing inefficiencies of public provision of services. Too often, public sector infrastructure services fail poor people. A necessary precondition for improving efficiency in all these sectors is to restructure the vertically integrated monopolies and unbundling their operations, say for power, into generation, transmission and distribution. This is also key to rational pricing, efficient competition, and conducive private participation and capital mobilization, and hence improved coverage and quality of services. On sectoral restructuring, the key actions recommended are:

1. Completing the process of *unbundling of power sector operations*, through transfer of remaining distribution lines from BPDB to REB/PBSs and new entities; and unbundling of DESA further.
2. Planning carefully the share of *public sector power generation* in the incremental investment for the next few years, in the context of the projected future demand, options for cost effective power purchase from IPPs, subject to prudent limits, and BPDB's difficult financial state and poor repayment of existing debts to Government.
3. Completing the process of *unbundling and rationalization of gas sector operations*, including the transfer of the remaining transmission lines from the gas transmission

and distribution companies (e.g., Titas, Bakhrabad and Jalalabad Gas T&T Co) to GTCL so as to consolidate all transmission activities into one company.

Towards reduction of system loss and improved collection

High system loss and account receivables have compounded the revenue shortfall of the infrastructure sector. This necessitates adopting and implementing a comprehensive action plan. This problem has been most acute in power and energy. The key recommendations are as follows:

1. Instituting *transparent accounting of system loss* at various levels of operation as part of the process of unbundling and commercialization of power, energy and transport sub-sectors.
2. Implementing an *action program to deal with the system loss* in power and gas distribution through appropriate measures.
3. Enacting *anti-theft legislation* for power, gas and other utilities.
4. Implementing an action plan to address high levels of receivable amount including identifying the largest delinquent customers of BPDB, DESA, BOGMC, BPC, and vigorously pursuing and monitoring the collection drive to recover outstanding dues.
5. Instituting an improved system to deal with the problem of poor *collection of utility charges owed by public sector users* for electricity and gas by enforcing relevant official guidelines, allocating adequate budgetary funds, and monitoring centrally inter-agency arrears for power and gas.
6. Promoting *private participation in distribution, billing and collection* in power and gas.
7. Facilitating take-over of an increasing share of *power distribution by cooperatives, which are effective* in minimizing system loss and improving revenue collection.
8. Installing *Natural Gas Liquid (NGL) fractioning plants* to minimize misuse of gas and maximize use-utility and value-addition.

Towards corporate good governance

A high degree of poor operational performance of power, energy and transport sub-sectors is a reflection of underlying failures in relationships of accountability or governance failures and management weaknesses. The experience of service providers in the public sector shows that their corporate status alone does not guarantee satisfactory outcomes. Corporatization of infrastructure entities would therefore need to be part of broader improvements in governance, with enhanced accountability, incentives and commercialization. Some key recommendations are as follows:

1. Revisiting the *charter and objectives* of the relevant sectors and agencies that are likely to remain in the domain of the public sector and setting clear and attainable commercial goals and guidelines, and instituting a mechanism for making them accountable for meeting these mandates.
2. Reviewing and improving the *rules of business* governing the relationship between Government Ministries, sector corporations/boards and their subsidiary enterprises, so as to enhance sectors/sub-sectors operational autonomy to operate as fully commercial entities.

3. *Establishing a National Highway Authority* – with participation of public and private sectors – to oversee the national highway network and to ensure safe road transportation.
4. *Developing an integrated road master plan* through a joint endeavor of RHD, LGED, DTCEB, City Corporations, and City Development Authorities.
5. Making the *selection process for CEOs, Directors and senior managers* much more competitive and transparent so as to recruit the most competent candidates (including out sourcing), and setting up independent advisory panels to facilitate this process.
6. *Corporatizing and effectively commercializing Bangladesh Railway* to improve its operational autonomy, accountability, management efficiency and commercial orientation, and empowering it to contract out services to the private sector.
7. Commercializing power, gas, port, shipping, aviation, railway and urban transportation, which have not been allowed to operate effectively along commercial lines, and introducing corporate culture, operational autonomy, and accountability for outcomes and incentives for better performance.
8. Improving management and corporate governance through *strategic partnership* with private investors in aviation, ports and shipping.
9. *Corporatizing power generation and distribution entities* to pave the way for improved performance.
10. *Addressing the problems of institutional capacity constraints* in most sub-sectors.
11. Strengthening entities like Hydrocarbon Unit to address *institutional capacity constraints* in vital areas.
12. Reexamining the *project appraisal criteria* to make those uniform by sub-sectors.