THE PAKISTAN INFRASTRUCTURE REPORT

BY

STATE BANK OF PAKISTAN

INFRASTRUCTURE TASKFORCE

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1. INTRODUCTION

Infrastructure is the fundamental requirement in the functioning of any country. In today's modern era, we need electricity to power our homes and industry. We need roads to transport goods from one place to the other and then ports and airports to export our industrial products to foreign trade partners. Similarly, a modern nation requires effective water and sanitation to improve and sustain the health and cleanliness of its people. In all situations, infrastructure is such a necessity that it affects the lives of every single individual on this planet. Lack of proper infrastructure causes chaos and havoc in our lives. It also causes bottlenecks in the smooth functioning of the economy.

Pakistan's infrastructural situation is relatively poor by international standards and this has an acute effect on the lives of every Pakistani in the country. Everyone suffers from electricity shortages and the lack of proper water and sanitation provisions. Also as the population increases our problems have gotten worse. The Government of Pakistan and its people face an uphill battle against poor infrastructure and it seems like the latter is winning.

The improvement and expansion of infrastructure is a pre-requisite for sustaining and accelerating economic growth and social development in a country. Improving quality and service coverage in power, water supply and sewerage treatment, transport and logistics is crucial for Pakistan's economy and to improve the quality of life.

It is estimated that due to insufficiency, Pakistan looses about 4 to 6 percent of its GDP (approximately $6 billion). Logistical bottlenecks increase the cost of production of our goods by about 30 percent. This has a significant impact as Pakistan is facing stiff competition from the likes of India and China in the export markets. To improve and expand infrastructure, Pakistan's needs are massive and its resources are limited. Not only is there limited fiscal space, there are also huge gaps in public sector capacity to build and operate infrastructure. Tight fiscal indicators such as fiscal deficit of 4.2 per cent, trade deficit of around $ 10 billion and current account deficit of 4.4 percent of GDP does not permit to spare public sector resources for infrastructure development. As the economy is growing at the average rate of 7 percent per annum, it requires investment on infrastructure at around 7 to 9 percent of GDP.

Table 5: Pakistan's Infrastructure Requirements

	TARGETS		FINANCING (US$ bn)		
		By 2010	**Govt. (13.9)**	**Private (11.6)**	**Total (25.5)**
Power	New Generation	+8,000 MW	9.6	8.8	18.4
Roads	Improvements	14,000 kms	3.1	1.0	4.1
	Additions	7,000 Kms			
Rail	Passenger	+3.3% p.a.	1.0	0	1.0
	Freight	+12% p.a.			
Port	Cargo	+10% p.a.	0.0	1.8	2.0
	Containers	+12% p.a.			

Source: MTDF

Historically infrastructure projects have been mainly in the government domain. Governments have managed, financed, owned and operated these projects. However given the budgetary pressures on the governments, and an inability to manage these projects efficiently, governments are now encouraging the private sector to play a greater role in building and managing infrastructure projects.

The government estimated that less than half of the infrastructure investment can only be covered by the public funds under the Medium Term Development Framework (MTDF). The rest of the investment can be attracted from the private sector by providing a combination of policy reforms, institutional support, incentives and financing modalities. In order to fill the investment gap for infrastructure development, the best available option is *public private partnership (PPP)*. PPP is a contractual arrangement under which a private party agreed to finance, construct and operate a facility for an agreed period of time and transfer the facility to a government or other concerned public agency on expiry of the stipulated period[1].

The difference between PPP and privatization is that privatization takes over a publicly owned entity while PPPs are more like a merger, with private and public sector sharing risks and benefits. For the public sector, the main incentive is that the private sector is also sharing funds and risks. Since the private sector is considered more efficient than the state in running entities and is also likely to charge actual costs of services from customers, the burden of subsidies can be minimized. The other advantage is that the public funds can be freed for other social economic projects to improve the socio economic conditions in the country. PPP can bring new technology and provide a better allocation of resources with less fiscal burden on the government.

[1]**For different types of PPP arrangements see Annexure IIA & IIB**

Private sector participation adds new complexities and risks to these projects. For lenders the risks are no longer sovereign or government guaranteed but become project related risks. For the private sector project sponsors, what matters is the availability of a clear and judicious regulatory framework; a fair return on the project; viability gap funding; subsidies or revenue guarantee mechanisms to ensure a minimum return and risk sharing arrangements. The government instead of executing projects are now required to conceive them; develop frameworks; establish service standards; award contracts and monitor performance.

The transition to a more private sector oriented infrastructure is not always smooth, rapid, or easy. While governments may want the private sector to play a major role in developing and managing infrastructure projects, they cannot step out of the equation. As they shift from being a provider of infrastructure to being a facilitator, they take on a more complex role. They now need to ensure that a proper regulatory framework is in place, an independent regulator is appointed, workable model concession agreements and fair contracts are drawn up, supply and off take guarantees may be required and the necessary financial support and minimum guarantees are available. Success depends on a government's ability to provide the strong broad based support that such a transition requires. Most importantly they need to be responsive to the needs of the key players involved in different aspects of the projects. This would include the project sponsors, the lenders, investors, and the ultimate end users.

Tackling the issues outlined above requires strong institutional support and innovative solutions. For most countries the process has been slow and evolutionary. Fortunately most countries that have embarked on this process have stayed on course and have managed to create institutions and solutions to foster such partnerships and make them workable.

In Pakistan, PPP is a viable option with a great potential which by combining skills, expertise and other resources from different entities can help to achieve outcomes that are unattainable by independent action. Recently, public and private sectors are realizing about the significance of such partnership. The reason for such partnership is that the government is facing scarcity of public funds to finance the infrastructure projects. Other elements include efficiency improvements, reforms and modernization of public services.
In order to have successful PPPs, Pakistan needs:

- Commitment and participation at the highest levels within the government;
- A conducive policy framework;
- An institutional setup containing expertise to coordinate and promote PPP activities;
- A policy on targeted subsidies and availability of long term fixed rate financing in local currency.

Outside power generation, Pakistan has not yet developed policy frameworks for progressive PPPs in Infrastructure sectors. It would hence be useful to review the evolving international background of PPPs in Infrastructure, to identify guidelines for creating sustainable private investor, operator and financier interest.

While Privatization and PPPs in Infrastructure are relatively recent in origin, starting in much of the Developed world only in the 1980s, the developing world followed suit almost

simultaneously (e.g., Chile).

In the developed world, opening infrastructure to the private sector had resulted in progressively better service and more options for users, without price pressures through competitive, cost cutting and better risk management capacity of the Private sector. As infrastructure was already both adequate and commercially viable, the developed world could move directly to Privatization, instead of PPP, for most part.

In the developing world, the move to PPPs was primarily financial. Countries faced severe funding constraints against very substantial needs to upgrade and expand quite inadequate and inefficient infrastructure, operated with inadequate maintenance capacity and suffered heavy revenue losses through under-cost tariffs, theft and distribution losses.

Except for telecoms, cost-covering tariffs in infrastructure sectors are not practically viable and PPP models have to be supported with credit enhancement and Government subsidies into the foreseeable future. The level of subsidy given is secondary to the need that it's quantum decreases over time (better service should allow increasing tariffs, raising cost coverage).

The challenge PPP arrangements face therefore is to serve public interest goals, i.e. meet standards for price, availability and quality of the service, while leaving the Private sector the profit incentive necessary for sustainable new investment flows. Policy success would demonstrate that service availability and quality improvements over time, enable higher tariffs to be set with corresponding decrease in levels of required subsidies from Government.

The global experience with both privatization and PPPs has been generally favorable. However, there are several instances of flaws in the design of PPP contracts, as a result of which a trend to rising subsidies appears to become entrenched, negating any long term benefit to public finances or public reaction to too early tariff adjustments leads to the cancellation of privatization and PPP programmes. Such outcomes have been seen in both the developed and in developing countries.

In the US, 'market rigging' scandals in the Power sector led to a rollback in industry privatization. In Georgia, the Atlanta municipality reversed the privatization of the city's water services, after public protest at too fast tariff increases. In Texas, there is a vigorous debate whether a recent policy to toll public roads should be extended. In the UK, Railtrack has been taken back by the Government after Privatization, as has Wales Water supply. In the developing world, both Power and in particular, water, have had patchy records. Some countries have seen cancellation of water PPPs, while in others there has been extensive renegotiation of the original Power contracts at the Government's behest.

2. INFRASTRUCTURE DEVELOPMENT FINANCIAL INSTITUTION

2.1 BACKGROUND

Most Emerging Market countries have created national organizations dedicated to developing PPP projects and enabling their commercial financing through appropriate credit enhancement techniques[2].

An institution can provide the entire spectrum of a PPP project requirements, i.e. originate, evaluate and structure (i.e. identify and negotiate the cost coverage- viability gap shortfall, for) the project; then proceed through to raising the financing consortium, where it may take a debt and/or debt and equity position in the transaction for its own account. It may continue association in an advisory role thereafter, in smoothening start-up issues and helping with regulatory fine tuning as the project evolves.

Most often the institution plays a Financing role only. Some institution's limit themselves to a secondary role, by refinancing lending banks, which provides the Banks with liquidity and a fixed lending spread but the credit risk remains entirely with the Bank.

India has three institution's at the federal level, besides a variety of them set up by individual States. Two at the Federal level, IDFC and IL&FS, are listed public companies that provide the entire range of services described above, sometimes initiating and managing projects as sponsor and key investor.

The role required of an Infrastructure Development Financial Institution very much depends on the stage and momentum of infrastructure development in a country. Where the backlog is significant, where the 'originating' capacity within the public sector is absent, where commercial or development banks have not developed models and practices suitable to raising the substantial and long term funding needed, it would be most desirable to have institutions that could both originate and finance projects, as described above.

2.2 INFRASTRUCTURE PROJECT DEVELOPMENT FACILITY (IPDF)

In May 2006, the Ministry of Finance, established the IPDF to facilitate the origination, preparation and closure of PPP projects and to determine and meet the funding gap necessary for making PPP transactions commercially viable. The IPDF will act as a catalyst in the development of PPP projects to assure value for money to the beneficiaries and to ensure that the private sector makes adequate returns and provide quality service.

2.2.1 The IPDF's Objective is to:

i. facilitate the preparation and improvement of PPP proposals submitted by public implementing agencies to ensure that the project is viable;

[2]**Annexure III - Functions of some of the largest Infrastructures Development Financial Institutions in the Developing world.**

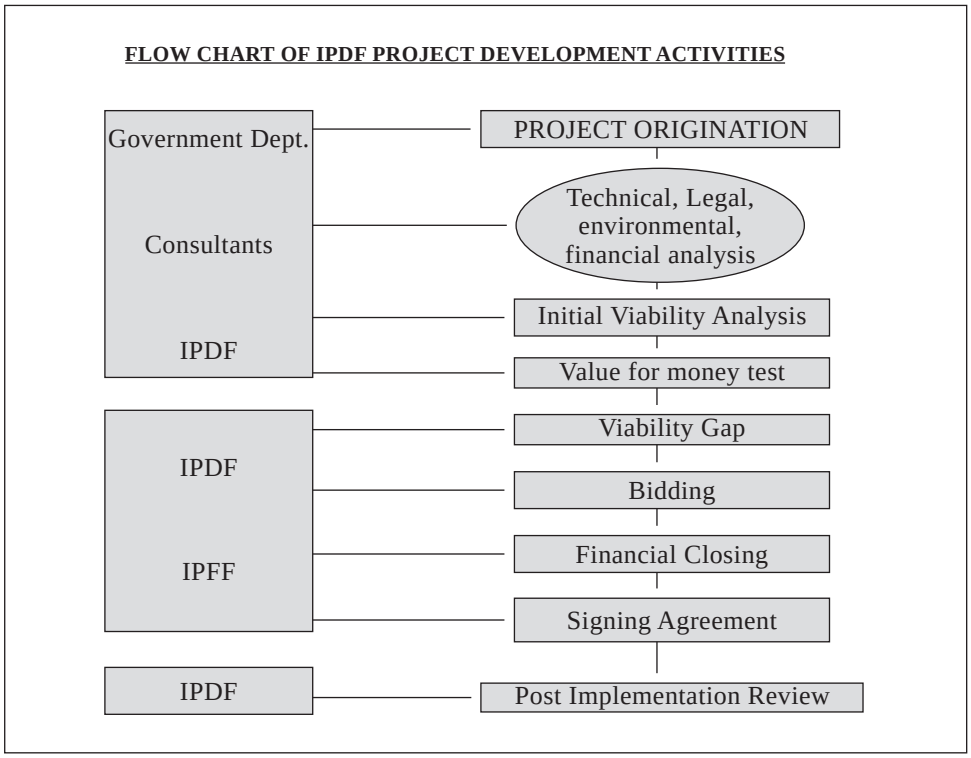
ii. oversee the preparation and implementation of PPP projects consistent with prudent financial, environmental and social safeguards;
iii. build on the job experience of implementing agencies and private partners; and
iv. provide the secretariat to the PPP Task Force and coordinate with other agencies and public and private stakeholders.

2.2.2 Sectors that the IPDF Plans to Focus are

- Transport and Logistics;
- Mass Urban Public Transport;
- Municipal Services – Water and Sanitation, solid waste management, low cost housing, health and education facilities; and
- Small Scale and Rural Energy Projects.

2.2.3 Project Development at IPDF

The way in which IPDF will perform its role is highlighted by the flow chart below.



The project originates from the local municipal and Government departments and is submitted to IPDF, which appoints consultants to analyze the project's technical, legal and financial issues. Once the consultants refine the technicalities of the project IPDF will identify the funding gap required and determine if the project provides adequate value. IPDF, along with its financing arm IPFF, will then decide on ways to meet the viability gap, initiate and oversee the bidding process. Once the bidding is complete and the project is awarded to the most competitive bidder, IPDF and IPFF will monitor and assist the financial closure of the project and finalize all issues relating to service and tariff. IPDF will then carry out post implementation reviews periodically.

2.3 INFRASTRUCTURE PROJECT FINANCE FACILITY (IPFF)

IPFF has been created by the Ministry of Finance as a complementary organization to the IPDF, purely to assist in the financial aspect of PPP development.

IPFF will collaborate with the IPDF and will also develop essential links with commercial and financial institutions, multilateral banks and the wider investment community. IPFF will independently evaluate PPP projects and provide all financial support that is required for the project to be commercially acceptable. This support can be in various forms, namely:

i. **Loans** – Senior and subordinated loans tailored to individual project requirements designed to meet initial funding needs or 'seed capital' to enhance the feasibility of the project.

ii. **Grants** – To meet the revenue gap where the commercial revenues do not entirely cover the cost of the PPP.

The GoP will provide endowments for the initial years of IPFF to allow a smooth transition into a regulated body that has commercial viability and the ability to function independently as a viable source of PPP financing. IPFF will also promote awareness of PPP potentials and encourage wider participation from the private financial institutions.

3.0 PROPOSED NIDFI IN PAKISTAN

3.1 BACKGROUND

Pakistan has a large and accumulating Infrastructure backlog, across all sectors. Infrastructure financing models based on commercializing risk do not exist (IPPs are essentially guaranteed, further enhanced for selective risk by the IBRD.)

The IPDF is the GoP's first step towards institutionalizing the development framework. Given the scale and urgency faced, a new Infrastructure Development & Financial Institution would be warranted, that supplemented and did not replicate the work of the IPDF. Given IPDF's mandate and its proposed modus operandi, this would be possible, as discussed below.

The IPFF could be a common financing facilitator, to both the IPDF and NIDFI.

3.2 NIDFIs CORE BUSINESS OBJECTIVES

NIDFI will be established with investment from MLBs, Banks in Pakistan and/or abroad, and regional entities investing in Pakistan.

Well structured PPPs, with identifiable sources for debt servicing assigned to the lenders, besides pre-packaged credit enhancements and viability gap cover, would allow a project to be financed without additional Central Government guarantees. This would mitigate the burden of indirect budgetary obligations, such as represented by the IPP payment arrangements that would accumulate with Infrastructure project proliferation

NIDFI will be set up as a commercial venture, with the aim of listing itself on the domestic Stock market within a couple of years of commencing operations.

3.2.1 Scope of Business

NIDFI will originate and help structure viable projects in a variety of Infrastructural sectors not covered by the IPDF's mandate, such as Power generation and distribution. Also, while the IPDF will originate projects from within Government to be offered to the Private sector, NIDFI can proceed from the other direction, by originating projects on behalf of the Private sector and intermediate their closure with the respective Government agency.

NIDFI will use traditional lending structures, as well as mobilize new sources of international debt/equity funding, such as international Institutions, specialized Investment banks and private equity players. NIDFI would thus develop Infrastructure as an asset class available in the form of Equity and/or Bonds as appropriate to investor demand. It would also help create/deepen long term local currency fixed Income markets, a critical requirement for sustaining Infrastructure finance.

3.2.2 Sectors where the Private Sector may initiate PPPs include

- The entire power sector, including new areas such as Wind energy.
- Upgrading national industrial and commercial Logistics: Industrial parks, Industrial and commercial warehousing; Port/airport management; etc.
- Air transport; private mass transit initiatives, Rail freight privatization etc;
- Commercial real estate development in partnership with Government agencies: e.g. Hotels, with Railways and Ministry of Tourism; restructuring and consolidation of Government property portfolio to release, refurbish and market commercially valuable space, etc.

3.3 NIDFI'S ROLE IN POLICY DEVELOPMENT

Given a transparent process for awarding projects and a sound contractual system to protect investor interest, PPP projects will attract investors.

IPDF has greatly facilitated future work by preparing formal documentation, approved by the Ministry of Law, for what feasibility studies prepared by Government should evince; key features that need to be addressed in contractual documentation and model contractual documentation.

Ideally, Government bodies should be generating PPP projects, freely and progressively. IPDF's guidance in time should not be necessary. Already in Health and Real Estate, there are operative PPP programmes at local, provincial and central levels.

The main contribution of Government policy is to facilitate and accelerate the implementation of projects, by simplifying approval processes, and by ensuring consents, clearances and land allocation processes that involve several Ministries, are available through a central agency.

Government policy has to be developed after scrutiny of suitability for what segments of the entire chain in an Infrastructure sector will be considered for PPP. For example, Water and sanitation cover Bulk water; water Distribution; Sewerage; and water Recycling plants. What will be opened to PPP and what are the 'best practice' models available globally? How will progressive PPPs in respective sectors be sequenced? Lack of follow up with privatization of Power distribution has resulted in a costly generation sector, with no willingness for new bidders to require less than the Government guaranteed cost-plus return. Latin America did not open Power generation to PPPs, until the power distribution had been commercialized, so that the generator took his risk on the distribution company. Pakistan's power policy, through inadequate attention to the importance of the right sequencing, has resulted in more expensive but still non-commercial PPP arrangements.

4.0 NIDFI: OUTLINE

Purpose: Foster and promote PPPs in Infrastructure to meet the growing needs of Pakistan and to encourage private sector participation in Infrastructure development.

Organized As
- Advisory Division
- Financing Division
- Capital Markets Division

Initial Capital $200 million

Sponsors

- MLBs	40 %
- Individuals/ Private institutions (Foreign & Local)	25 %
- Pakistani Financial Institutions	25 %
- Others, e.g.	10 %

- Regional Investment Authorities (AIDA; ODA etc)
- Global Infrastructure Funds (ACTIS; Macquarie)

Investment Sectors
- Power (Generation, Distribution and Renewable Energy production)
- Agribusiness (associated infrastructure e.g. warehousing, cold chains etc; logistical infrastructure e.g. farm to market roads etc)
- Real Estate (Commercial property development; mass housing schemes; sale & leaseback of GoP property; hotels and hospitals)
- Special Economic Zones and Agricultural Export Zones
- Water and Sewage treatment infrastructure (e.g. effluent treatment plants and desalination plants)
- Roads and related infrastructure (highways, bridges, underpasses etc)

Staff 30 – 50 people

5.0 POWER SECTOR

5.1 RECOMMENDATIONS

1. Privatization of Distribution companies

- Tariff setting is long overdue. Distribution companies should be given tariffs that progressively close the viability gap between subsidised and commercially viable operations.

- Government can consider privatising key GENCOs & DISCOs even in substantial loss making stage by subsidising losses on a step down basis, with the achievement over the step down shared as an incentive for the operator. This has been done successfully in New Delhi.

- Distribution companies have to invest US$ 20 million per year. Therefore, transmission and distribution policy should provide more incentives to attract the private investment in this sector.

- Problems in the collection of bills and connections should be removed. This will encourage the potential investors of distribution companies.

2. Issues relating to NEPRA

- NEPRA causes unnecessary delays by revisiting the technical details that have already been worked out and agreed between the power producer and WAPDA. WAPDA has the technical expertise in this field therefore their evaluation should be sufficient. Delays cause unnecessary increases in cost and time for the investors.

- NEPRA should introduce measures to improve the efficiency of the sector using good service standards. These standards should be realistic, affordable, easily monitored and be enforced properly to impose the service quality in the power sector.

- NEPRA should have provincial level offices which deals with the small project established under the provincial government. It will reduce the time and cost for the producer in case of tariff dispute.

- NEPRA should finalize the Tariff which should be strictly set for a specific time period on the basis of benchmarks and should not change unilaterally.

3. Diversifying the use of fuel and energy mix

- There is need to diversify our energy mix as oil and gas consumption is 80 percent of total energy consumption.

- On an actuarial basis, probability of new gas discoveries in Pakistan is quite high. However exploration is not taking place at the required pace due to the price cap placed by the GoP for gas purchases. GoP should pay international prices for the purchase of gas.

- Use of coal to produce power needs to be encouraged. For this coal handling infrastructure needs to be developed to enable import of coal to be used in power plants. Furthermore, Government should keep its focus on the development of Thar coal fields that can be utilised in the future.

- The overall share of renewable energy needs to be increased. Pakistan's potential capacity of over 1 GW of wind power is not being realized due to a mixture of tariff disputes between the AEDB and the investors and the non-availability of turbines. Once again a flexible formula based tariff, based on some international benchmark that is acceptable to all, should be used.

4. Tariff Issues

- Tariff disputes should be avoided and a tariff should be set after proper consultations with all parties involved. Tariff structure should contain incentives for achieving greater operational efficiencies.

5.2 BACKGROUND

Power sector in Pakistan is characterized as semi-public and semi privatized vertically integrated sector. The main players of the sector are: WAPDA, KESC, NEPRA, PPIB and the Ministry of Water and Power.

In case of electricity generation WAPDA produces 66.5 per cent electricity with 13,083 MW installed capacity and has 100 percent share in the distribution sector. There are 13 million customers out of an estimated 22 million households. About 55 percent of the total population is estimated to have access to the electricity. Rest of the population is using alternative sources of power as oil and so on.

In the private sector IPPs have 30 percent share with 6,005 MW installed capacity in the total installed capacity of 19,550 MW while the share of nuclear capacity is around 4 percent (462 MW).

Currently energy demand is increasing at the rate of 7.4 per cent per annum which created shortage of around 2,000 MW of electricity. Energy consumption increase in 2005 was 5 per cent higher than the real GDP growth rate which indicates that the energy consumption is significantly higher than the real GDP growth. Table 6 also confirms that power consumption by economics group is increasing since FY91. The highest increase was in domestic and commercial consumption. To maintain the high economic growth rate in the country, Pakistan needs policy reforms and restructuring of the sector to attract investment in the generation and the distribution sector.

Table 6: Consumption of Energy by Economic Group (000Gwh)

Year	Domestic	Commercial	Industrial	Agriculture	Public Lighting	Bulk Supply	Traction	Supply to KESC	Total
FY91	8,618	1,152	9,114	5,595	178	1,701	33	194	26,585
FY92	9,691	1,192	10,213	5,823	228	1,799	29	292	29,267
FY93	11,220	1,303	10,912	5,595	195	1,926	27	94	31,272
FY94	11,964	1,318	10,532	5,742	216	1,964	27	368	32,131
FY95	13,448	1,490	10,603	6,220	252	2,113	22	884	35,032
FY96	14,792	1,653	10,329	6,658	301	2,377	20	795	36,925
FY97	15,593	1,757	10,116	7,019	308	2,484	19	1,233	38,529
FY98	16,366	1,767	10,238	6,956	540	2,394	16	1,145	39,422
FY99	16,957	1,825	9,945	5,576	159	2,615	15	1,808	38,900
FY00	18,943	2,003	10,772	4,512	150	2,675	15	1,840	40,910
FY01	20,018	2,121	11,744	4,896	147	2,633	14	1,811	43,384
FY02	20,548	2,285	12,637	5,581	149	2,663	12	1,329	45,204
FY03	20,855	2,516	13,462	5,986	166	2,625	10	1,801	47,421
FY04	22,668	2,884	14,476	6,625	1,992	2,795	9	1,843	51,492
FY05	24,051	3,191	15,567	6,922	227	2,861	12	2,511	55,342
FY06	27,009	3,768	16,595	7,873	279	3,032	13	3,836	62,405

Source: WAPDA Power System Statistics 2006

5.3 LESSONS FROM THE POWER POLICIES

The following are some of the lessons learned from the power policies in Pakistan.

5.3.1 Power Policy 1994

The policy was formulated with a premise that the success in ensuring financing of the power projects would ultimately depend upon offering proper incentives to investors coupled with risk mitigation measures. Moreover, the policy also aimed to attract a large volume of investment in the power sector in a short period of time to meet the projected demand. Features such as bulk tariff rate, a guaranteed fixed capacity payment irrespective of actual plant utilization, premium on tariff for projects operational by end of 1997, inflation and foreign exchange indexation were terms considered necessary to achieve these objectives.

Judging by the level of response of the private sector, the 1994 policy can be termed as a success as it met its primary objective of attracting private sector particularly in the form of foreign investment in a short period. GoP issued Letters of Support to 34 projects for more than 9,000 MW under the expectation that less than 50 percent of the projects would make it to financial closure. Including Hubco (which was not built under the power policy), 20 IPPs with a total installed capacity of about 4,500 MW made significant progress, of which four totaling 435 MW were later terminated on account of various issues prior to financial closing. The total investment was about US$5.3 billion, of which approximately 25 percent was financed as equity, mostly by foreign investors. An estimated US$3 billion was financed with foreign debt with an average maturity of 10 years. Roughly 85 percent of the foreign debt or 66 percent of total capital was from official sources. Although the 1994 policy was a success in achieving its objective of rapid capacity enhancement, there were several inherent problems in it which subsequently became the basis for the disputes between the government and IPPs.

First of all, it can be argued with some justification, that Pakistan's decision to set a bulk tariff (instead of competitive bidding process), while enabling it to achieve rapid capacity enhancement in short time, put more focus on quick implementation in exchange for the cheapest possible price, thus leading to cost inefficiencies. Decision of not adopting the bidding process also meant that the tariff could be somewhat out of line with the then prevailing international competitive prices, although not by a distinct margin. This fact became prominent when the dispute erupted between the IPPs and the GoP.

Secondly, there was no clear and transparent mechanism through which the projects were prioritized. This lack of clarity led to subsequent allegations of foul play when the government changed and the projected increase in demand did not fully materialize because of economic downturn. This resulted in an arm-twisting exercise by WAPDA to delay completion of projects when IPPs started to become a financial burden on account of oversupply. Thirdly, a strong argument can also be made that the pace of capacity enhancement should have been staged in line with the realistic future demand projections. Instead too many projects came on stream at the same time, while the actual demand took a while to grow. This started to create real problems due to features such as fixed monthly payments based on a

notional 60 percent plant capacity because WAPDA was paying fixed charges and not being able to resell the full capacity other than at peak times. Moreover, depreciation of rupee due to
weakening economy and rising external balances together with low collection rates of WAPDA and high widening tariff cross subsidies also compounded the problems. The impact on WAPDA's finances was severe in the late 1990s which contributed towards the government's fall out with the IPPs on account of economic prerogatives.

However, despite the fallout and the controversy the fact remains that the problem was not in the rate but primarily the "staging" of the projects. In fact when the rates were renegotiated downwards subsequently, the difference between the original and new rates was very small in most cases. The primary benefit achieved by WAPDA was a forced delay in projects by 2-3 years, which allowed the demand to catch up.

5.3.2 Power Policy 2002

To a large extent the 2002 power policy evolved out of the experience which GoP gained from both Hub power project and 1994 policy. The present structure is "cost" based but fixed after approval, thereby shifting the risk of cost increases to the sponsors. However, the "costs" presented by the investors are not accepted as such but are "determined" by the regulator. In that sense, the regulator has become the price determining body and may or may not be in line with rapidly changing market forces.

The Policy provides two parallel methods for the government to procure more capacity: (a) International tenders soliciting lowest tariffs, for projects where the government has essentially completed all the basic development work for a project, and (b) unsolicited projects, where the sponsors have to do a feasibility study to set a base-line of costs and then negotiate with WAPDA followed by "tariff determination" by NEPRA. Since the unveiling of the Policy in 2002, not a single project has been packaged by the government to a point of tendering it. All projects have been individually submitted and evaluated on case to case basis. In each case, the investor has given his proposal and shown his cost calculations but the regulator has reduced the tariff proposed. This case to case based approach is time consuming and has often resulted in disagreements between the investor and the regulator at various points.

The tariff is calculated by NEPRA after giving a haircut on the estimates and fixed thereafter, other than specified pass through items like fuel price and interest rate benchmarks. Therefore the investor bears the risk of feasibility stage estimates being off the target. In this tariff structure, return on equity is capped at 15 percent assuming the costs are exactly what NEPRA approves. However, on the other side there are no limits on the downside as the return can even become negative or the project can be abandoned if the international market conditions change for equipment supply and construction services. Moreover, the tariff structure penalizes the investor by passing the benefit of achieving higher than agreed output to the purchaser while disallowing the costs to the investor in case output is lower than contracted. Moreover, the time between approval and closure is often very long and therefore costs fixed at the time of the approval invariably increase. The process therefore, effectively forces the investor to either build a "margin of error" in the costs or first sign a contract for

equipment/construction with the price remaining fixed for 6-12 months, even before coming to NEPRA. The first option puts more risk on the investor, while the second increases the cost of construction (on account of fixing the equipment/construction price for 6-12 months). In either case, the system promotes inefficiencies.

5.4 ISSUES FACING THE SECTOR

5.4.1 Capacity Issue

Out of installed capacity of 19,550 MW the available capacity is less as some of the plants are old and hydro projects also unable to operate at full capacity due to water release issue with IRSA. As a result, there are more break downs/ interruptions, T & D losses are abnormally high (transmission, distribution and system losses are 7.10, 14.79 and 24.10 percent respectively). NEPRA should force WAPDA and KESC to reduce losses and to improve the efficiency.

Due to lack of available capacity utilization, customers are complaining of not getting connections, unreliable supply and frequent load shedding. These problems are caused by many factors. Under investment in transmission and distribution network, poor capacity utilization, inadequate billing, poor financial health of WAPDA and KESC are the primary difficulties.

5.4.2 Investment and Public- Private Partnership (PPP)

Power projects are normally capital intensive with significant gestation periods and adverse political risks that make the viability of project difficult to come by. Though, Pakistan has been successful in attracting private investment in the power generation sector. The share of private investment in the power generation is the highest in the region. There was US$ 6,536 million investment up to 2005 and US$ 12,847 million are in the pipeline for 50 new projects and some new wind and solar energy projects are also under construction.

As discussed in the earlier section, currently there is a huge shortage of power capacity during peak season. The gap between demand and supply is increasing every year as the economy is growing. This gap can be reduced in the short run by three possible ways. Firstly, by providing some fiscal and financial incentives to the existing plants for increasing their installed capacity. Secondly, we need to develop an energy conservation culture in the sector. Third, revive already shut down power plants by providing some financial and fiscal incentives. As the demand for energy is increasing rapidly, reflecting the expansion in business activities. Table 7 indicates real GDP growth and the pattern of energy consumption. There is a positive correlation between the maximum demand for energy and real GDP growth. Moreover, both recent data and international experience suggests that power demand is likely to grow rapidly than the economy. Growth in energy demand needs new investment to maintain the growth momentum. Pakistan's Medium Term Development Framework envisages a GDP growth rate of 7.6 percent per annum between 2005 and 2010. To achieve this growth rate needs extra generation capacity of 7,880 MW over that period (over 1,500 MW per annum). This targeted generation capacity can only be achieved by new investment in the generation sector, reducing power losses and using full available capacity.

Without strong and reliable transmission and distribution system, generation capacity cannot work properly. Week distribution network leads to high power losses. WAPDA reported 24.10 percent system losses in FY06 which are estimated higher by other sources. Most of the system losses are due to poor distribution network. In this regard, NTDC needs almost 26 billion rupees (US$ 50 million a year) and KESC needs over 14 billion rupees (US$ 23 million a year) to improve the distribution system.

Table 7: Growth Rate (GDP) Vs. Electricity Demand Growth

Year	Real GDP Growth	Maximum Hydel	Demand Thermal	Total	Change %	Energy Consumption (GWh)	Energy Sold % Increase
1991	5.6	3,154	3,758	6,912	9.25	26,585	10.22
1992	7.7	3,145	3,823	6,968	0.81	29,267	10.09
1993	2.3	3,174	3,785	6,959	-0.31	31,272	6.85
1994	4.5	3,443	3,961	7,404	6.39	32,131	2.75
1995	4.1	3,524	4,464	7,988	7.89	35,032	9.03
1996	6.6	3,564	4,766	8,330	4.28	36,925	5.4
1997	4.7	5,141	4,224	9,365	12.42	38,529	4.34
1998	3.5	5,090	4,234	9,324	-0.44	39,422	2.32
1999	4.2	5,128	3,641	8,769	-5.95	38,900	-1.32
2000	3.9	5,134	3,785	8,919	1.71	40,910	5.17
2001	1.8	5,154	3,751	8,905	-0.16	43,384	6.05
2002	3.1	5,344	3,611	8,955	0.56	45,204	4.2
2003	4.8	5,332	3,830	9,162	2.31	47,421	4.9
2004	6.4	6,792	4,037	10,829	18.19	51,492	8.58
2005	8.4	6,579	4,025	10,604	-2.08	55,342	7.48
2006	7.0	6,768	4,065	10,833	2.16	62,405	12.76

Source: WAPDA Power System Statistics 2006, Distribution

Distribution companies have to invest US$ 200 million per year to improve their distribution network. It is estimated that around US$ 350 million per year has invested in the transmission and distribution network.

By looking the experiences of 1994 power policy, the successful PPP model is Built Own and Operate (BOO) model. This model may be continuing for future investment in this sector. Regarding the selection of the project, oil based projects should be discouraged. There should be serious efforts to encourage the use of indigenous resources such as coal and gas. Similarly, alternative sources of energy have huge potential in the country, especially solar and wind. These energy projects can play an important role in reducing dependency on oil and gas. It will also help us in diversifying our energy mix.

The key points that have emerged from experiences of successful implementation of PPPs include the following:

i. High level political and institutional support for PPPs is crucial.
ii. Government has a central role in defining what are its expectations and as the regulator.
iii. Good PPPs involve optional risk allocation, demonstrable value for money, clarity of affordability and certainty of public service payment obligations based on delivery of outputs.
iv. Private sector supply side issue should be addressed including availability of long term local currency finance, PPP bid capacity and financing skills and building capacity of local skills.
v. Early identification of projects and pre-feasibility studies for prospective investors is important.
vi. A strong well developed legal and regulatory framework should be established for dispute settlement and renegotiations.

5.4.3 Tariff Issue

Power tariff is the most controversial issue of the power sector in Pakistan. None of the economic agent is satisfied with the current structure of the tariff. Currently NEPRA has tariff disputes with existing power generators, distributors, potential investors and even customers. Therefore, it requires to review the process to establish fair, equitable and transparent mechanism for tariff setting. This mechanism not only allows for full cost recovery but should also set efficiency targets for the companies. Tariff rates should be considered at several levels, including tariff for bulk power supply and tariff levels for various consumers categories.

Currently NEPRA is using 'cost plus' or rate on return approach. This approach has failed to satisfy not only the investors but the consumers as well. As the actual cost of the production involves in determining the tariffs, private producers are reluctant to provide such information which creates asymmetric information problem for the regulator. It is also generally assumed that the private producer always hide actual cost and shows high cost to get the higher return on the investment and as a result NEPRA uses the policy of 'hair cut' which is not acceptable to the private producers. All this lead to tariff dispute and increases uncertainty.

As an alternative option, NEPRA should use international competitive bidding for new projects and incentive based regulation approach for the ongoing projects. Under the incentive based regulation approach, only the efficient companies will get the higher tariff margin and low efficiency targets, while inefficient companies will get the low tariff margin but high efficiency targets. To get the maximum tariff margin, companies will improve their performance and will reduce the cost of production.

Saleem (2007) suggested that during 1982 to 1997 power tariffs increased by 645 percent for the domestic customers, 633 percent for the industrial and 910 percent for the commercial customers. This increase in power tariff is the highest in the region.

All this suggests that NEPRA should review its tariff setting mechanism. The alternative option is incentive based approach (price cap regulation) as mentioned above.

5.4.4 Fuel Supply

Another core issue together with the pricing mechanism is one of supply of fuels. The 2002 Policy was originally designed to promote local fuels and discourage imported fuel projects. As such the target was to develop gas, coal and hydel plants. However, gas supply is facing severe shortages, coal from Thar Desert will take at least 5-7 years to extract and hydel stations continue to face policy and pricing issues. On an overall basis, the government needs to rebalance it energy mix and work on diversifying its fuel base for power generation by working on coal, hydel and possibly nuclear plants for the long term.

Only a limited number of projects can be provided gas in the near term. As a result, near term capacity can only be supplemented by imported oil projects. While the tax incentives have now been equalized between gas and oil projects, the price of oil fired generation is very high given today's oil prices. This creates a natural tension between the regulator and the investors.

A lot of resistance to commercially viable arrangements necessary for new oil-fired projects is based on misconceptions about pricing. As an example, a statement by the regulator that the a new oil based IPP wanting a price of 12 cents/kwhr is "padded up" or "double of what was approved in 1994" is misleading and counterproductive. Out of this 12 cent/kwh, 9.5 c/kWh is the cost of fuel, which is set by the GoP itself. The remaining amount being asked for by investors is often less than what has previously been allowed many times. Hence perceptions get in the way of agreeing to commercially reasonable rates.

Given that the oil and gas sector is heavily regulated and as such the supply of fuels is not free, government cannot get out of assuring fuels supply on the pretext of pending privatizations until privatizations actually take place and the privatized entities become creditworthy in the context of commitments needed of them. In absence of the assurances, investors will price in higher risks and the rates will be higher. Once again, if these "market clearing" rates are not offered, NEPRA may approve projects at rates it feels comfortable with but very few projects, if any, will actually materialize. The market forces will almost always override mismatched risk-return equations. In the exceptional cases, where this does not happen, the projects may actually reach financial closure but would have financial problems during operations.

At the same time, the government needs to focus on developing local coal supplies, even if it has to be done by public resources. In absence of such effort, coal based generation will not materialize. Coal based technology starts becoming feasible with large plants and the current production of coal in Pakistan, which is almost all low quality, manually extracted coal, cannot support such projects. As for hydel generation, the pricing issues initially faced by the first few thermal projects with NEPRA are resurfacing again with the few hydel projects in development.

As for renewable resources, a clear recognition has to be made that these projects do not provide available "capacity" much of the time. As a nation which is capital starved, we need to decide whether we spend $100 million on a wind project that will deliver energy 30 percent of the time or on an equivalent amount of thermal generation that will be available 90 percent of the time. Such an analysis then has to be balanced with a "life-cycle cost" analysis to account for the viability of the projects after their debts are paid off. This would tend to show that even though renewable-based generation may be more expensive in the near term, it is cheaper than thermal generation in the long term, thereby justifying a portion of new capacity being sourced from renewable resources. The regulator, therefore, has to take a long term view on these projects.

5.4.5 Efficiency and Performance Issue

The issue of efficiency is one that is considered highly important in the power sector. This is seen in the fact that the objective of the reform was to improve the performance of the sector to provide cheap and reliable power to the consumers. Reforms in the sector since it started in 1982 was good decision but still remains unsuccessful in achieving the objectives.

i. PERFORMANCE OF THE GENERATION SECTOR

As a result of Pakistan's first power policy in 1994, private power generation was allowed. Most of the private plants started their production after 1995 and were quite new in the technology and experience as compared to the public plants.

Saleem (2006) estimated the technical efficiency of the power plants on the basis of private and public ownership. This study concluded that mean efficiency of the sector is 76 percent which implies that the sector is 24 percent inefficient. There is 73 percent efficiency (27 per cent inefficiency) for the public power plants and 79 percent efficiency (21 percent inefficiency) for the private plants. It also indicates 30 percent scale inefficiency in the sector. It is interesting to note that the private plants have more scale inefficiency than the public plants. The reason is the WAPDA's power purchasing policy. The first preference is given to the public plants, as these plants are relatively cheaper. Some private plants only operate at their full capacity during the peak season. All this prove that there is a significant technical and scale inefficiency in the power generation sector. In the current situation of power shortage, there is a need to address the issue of inefficiency. The power plant should utilize their full installed capacity and attempts are required to increase the plant factor of the power plants.

ii. DISTRIBUTION SECTOR EFFICIENCY

The performance of the distribution sector is poorer than the generation sector. One of the major factors behind the poor performance of the sector is high power losses. Other reasons are power theft and poor collection of bills. According to KESC's annual report, transmission and distribution losses rose steadily from 27 percent of supply in 1993/4 to 41.1 percent in 2001/02. Though these losses are declining but still are very high as compared to other developing countries. Another issue is financial position of WAPDA, KESC and NTDC. WAPDA and NTDC are making losses. This problem is due to poor financial position of

distribution companies. The issue is how these companies can mange the risks associated being the single distributor in the Pakistan's power system. This role carries significant risks if one retailer
defaults and this is likely to happen in the future due to poor financial position of distribution companies.

These problems can be solved either by increasing public private partnership or providing subsidy to the single buyer (WAPDA). Government needs to address these issues of poor performance and poor financial problems of the companies to avoid any further deteriorating situation of the sector. Table 8 presents company wise power losses during FY03 to FY06. The table does not include KESC power losses[3].

Table 8: Disco Wise Losses

	FY03	FY04	FY05	FY06
Company	**% age Losses**	**% age Losses**	**% age Losses**	**% age Losses**
LESCO	*14.7*	*14.1*	*13.2*	*13.1*
GEPCO	*13.0*	*11.9*	*10.6*	*10.5*
FESCO	*11.2*	*10.4*	*10.1*	*9.9*
IESCO	*10.9*	*10.9*	*9.9*	*9.4*
MEPCO	*17.5*	*16.9*	*16.0*	*15.3*
PUNJAB	*13.9*	*13.3*	*12.4*	*12.1*
PESCO	*32.0*	*31.4*	*30.7*	*30.8*
FATA	*13.2*	*25.0*	*24.8*	*24.5*
NWFP	*27.6*	*29.8*	*29.2*	*29.3*
HESCO	*34.9*	*35.3*	*34.6*	*34.2*
Export(KESC)	*0.0*	*0.0*	*0.0*	*0.0*
QUESCO	*18.1*	*16.0*	*15.3*	*14.6*
IPPs	*0.0*	*0.0*	*0.0*	*0.0*
Total	*17.9*	*17.8*	*16.9*	*16.3*

Source: WAPDA Power System Statistics 2006

5.4.6 The Role of NEPRA

One of the major factors for the slow progress is the role of the power sector regulator. Part of the delay is on account of the process and part of it relates to the principles applied by NEPRA to approve the pricing of a project. The delay aspect of the process has been steadily improving. The first "tariff determination" took more than 8 months by the time everything was finalized, although signing contracts with the government took another one year after that. Today, NEPRA is completing its process in 3-4 months, potentially followed by 6 months of dealings on contracts and consents. However, the pricing issues and the precise role of NEPRA remain a problem area. A few specific issues encountered by sponsors are:

[3] **Total power losses after adding KESC power losses are provided in the Annexure -IV.**

i. The level of documentation required by NEPRA is very large as it requires even the minutest details. Heavy documentation slows the process time.

ii. Moreover in its approval process, NEPRA scrutinizes every piece of information including that which may have little relevance for example even the purchase of land or the particular type of machines being bought is questioned. This results in "second guessing" on technical details that have already been worked out between the sponsor and the buyer.

iii. Due to cost based tariff determination, NEPRA even questions the rate at which the financing is obtained without having the financial expertise to evaluate the same. Initially, NEPRA independently decided that the debt rate should be KIBOR plus 1.5 percent; based on arguments that were against basic financial principal (NEPRA argued that longer term finance should have a lower rate and larger loans should have cheaper terms). Subsequently, this was revised to KIBOR plus 3 percent, which was perhaps appropriate for first few projects. However, over-time the rates may come down and NEPRA mandating the debt pricing goes against the basic precepts of financial markets determining the equilibrium pricing. This structure provides no reason for banks to agree to anything less than KIBOR plus 3 percent. Similarly, if the spreads go up over time, projects may die at the development stage because they may not be able to carry the negative arbitrage. NEPRA does not consult the financial experts in this regard.

iv. The cost based rate proposed by the investor, even if justified to NEPRA, is given a "haircut" on the premise that rates have to be reduced for consumer protection.The viewpoint of NEPRA is often that it cannot agree to what the investors are asking, as due to profit motive they will always be seeking higher than appropriate profits. Consequently, NEPRA always "determines" a lower rate. This practice pushes the investors not to go down to the lowest possible rates, knowing that NEPRA will invariably scale down whatever tariff is asked for the result in exactly contrary to what NEPRA is trying to achieve.

v. NEPRA has a tendency to assume the role of the counter party itself. For example, the power purchase agreement is between WAPDA and the investor. Technical details for the proposal such as configuration, size of the plant, its make and technical aspects should not be the headache of the regulator and if it wants to assess the suitability it should rely upon the technical evaluation of WAPDA. There is sufficient technical expertise existing in the WAPDA system but NEPRA does not fully utilize it under the false premise that WAPDA can be in collusion with the investor.

vi. NEPRA as a regulator is overzealous towards customer protection and from the beginning harbors misperception about the intentions of the investor as well as WAPDA. By tilting too much towards the objective of consumer protection, NEPRA is compromising on its true role which is to look after the interests of all the stakeholders in a balanced manner. Ensuring sufficient new generation is equally important, or perhaps even more important, than getting the last paisa out of the investors. The cost to the consumer and the economy, of delays in projects implementations and lack of sufficient capacity being put in place, far outweighs the savings that NEPRA may notionally make in lowering tariffs below the market clearing rates.

vii. The act under which NEPRA has been created gives NERPA sweeping judicial powers. As an example, NEPRA can even revoke the license of an operator in case of change in the ownership of more than 10 percent. These excessive powers have so far proven detrimental mainly due to NEPRA's tendency to overstep its role as a regulator. A long term solution is to curtail its role in pricing matters and clearly define the scope of NEPRA's authority in relation to that of the executive branch of the government. The rules which are being followed by NEPRA were formulated during the time Pakistan did not have an operative power policy. Also, NEPRA was not involved in the formulation of the 2002 power policy and as such these rules and modus operandi are at time divergent to the 2002 power policy.

viii. Regulator can play a more meaningful role in a free and competitive market where supply and demand are interacting freely. In such conditions regulator acts like a watchdog to ensure fair play between, and amongst, public and private entities as well and to maintain stability in the system. However in Pakistan's scenario the demand and supply are not freely interacting as the supply is controlled by the Government whereas demand is consistently increasing. Such circumstances coupled with the fact that NEPRA's rules and Power Policy are at times conflicting will continuously pose the problem of conflict between the regulator and the executive. If this situation is not resolved, it would either lead to the regulator becoming overly strong or it would weaken it to such an extent that it becomes a mere rubber stamp for the executive branch.

5.4.7 Effective Regulation

Effective regulation is a key to promote investment, competition and welfare of the consumers. There are six aspects of effective regulation. These aspects are as follows;

i. Clarity of role and objectives
ii. Autonomy
iii. Participation
iv. Accountability
v. Transparency
vi. Predictability

If we analyze NEPRA as an effective regulator as per mentioned aspects, it could only qualify for autonomy given in the NEPRA ACT 1997. Physically, there is less accountability, transparency and predictability of NEPRA. To make NEPRA as an effective regulator, following proposals are recommended:

- NEPRA should have full power to decide and implement its decision. Federal government should not intervene in the process of tariff determinations.
- NEPRA should have its own data base to analyze the cost comparison with other regional countries.
- NEPRA should have provincial level offices which deals with the small project established under the provincial government. It will reduce the time and cost for the producer in case of tariff dispute.

- NEPRA should finalize the service standards. These standards should be realistic, affordable, easily monitored and enforced properly to improve the service quality in the power sector.
- NEPRA should follow benchmarks on the basis of scientific study rather just relying on cost information of the company.
- Tariff should be strictly set for a specific time period on the basis of benchmarks and should not change unilaterally.

5.4.8 Subsidy Issue

Subsidy in broader term is defined as price received by the producer is increased above what it would otherwise have been in the absence of the policy or, in the case of the consumer, the price paid is lower than what it would otherwise have been in the absence of the policy. A subsidy can be viewed as a negative tax as there is a payment from the government to the individual customer or firm.

The issue of subsidy is attracting increasing attention from international donor agencies. These agencies are arguing for the removal of all subsidies in the power sector to make the sector more competitive and market oriented. As a result, the prices tend to move towards their marginal cost thus reducing any subsidy element that may have been present. Moreover, these agencies are also in favor of reducing burden on the government budget and promoting economic efficiency.

Pakistan's power sector was used to be heavily subsidized by providing direct and indirect subsidies before 1995. Since the liberalization of power generation and the establishment of NEPRA, the government removed all direct subsidies from the power sector. Indirect subsidies are still available despite the pressure from the international donor agencies to remove them as well. The available indirect subsidies are as follows:

i. TAX EXEMPTIONS

In 1994 power policy, the government of Pakistan offered several incentives consisting of exemptions from corporate income tax, custom duties, sales tax, other surcharges on imported equipments. All this comes under indirect subsidy under tax exemptions scheme. The private power producers are enjoying this subsidy.

ii. FUEL SUBSIDY

The government committed to provide a guaranteed fuel supply at agreed fixed prices to the private power producers under the power policies. This guaranteed fuel supply at fixed prices may lead to loss to the government in case of high fuel prices.

iii. INTEREST SUBSIDY

There are some implicit subsidies in the form of financing of capital expenditures program. The government is providing loans to the power plants. A project can be financed

from PSDF up to 40 percent. Moreover, the government provided financial incentives to facilitate the creation of a corporate securities market in the country including permission for power generation companies to issue corporate bonds and shares at discounted prices and establishment of an independent rating agency. All this amounts to an implicit subsidy given by the government to the private plants as an incentive to reduce the cost of production.

iv. ENVIRONMENTAL SUBSIDY

The generation of electricity from thermal plants results in the emission of greenhouse and other undesirable gases. Hydro generation often results in water diversion and land erosion and land acquired for the right of way of transmission projects. The production has significant environmental costs. However, in rare cases these costs are reflected in the tariff. As the power is produced by thermal and hydro resources and in Pakistan, the environmental cost is not included in the tariff. The absence of this environmental cost in the design of tariffs is in an implicit subsidy by the government.

v. CROSS SUBSIDY

Cross subsidies are defined as one group of consumers paying a higher price for same goods or services so that another group of consumers may be charged a lower price. The most common way of cross subsidy is the different tariff for the domestic, commercial and industrial consumers. Normally, commercial and industrial consumers pay higher tariff than the domestic customers. In this regard, there is a cross subsidy to the power sector of Pakistan. The usual reason given for the cross subsidy is social and political considerations. The government is interested to provide cheaper electricity to the domestic consumers.

vi. IMPACT OF POWER SECTOR SUBSIDIES

Though the government is not providing direct financial subsidies to the power producers or distributors but this is evident from the above discussion that there are indirect subsidies available to the customers and the producers. Subsidies have negative and positive impacts on the different factors.

Subsidies have substantial impacts on the economy in terms of welfare. A subsidy to the consumer or the producer lowers the price of electricity, increase demand and subsequently changes the allocation of resources in the economy. A subsidy also has significant welfare impacts. As more than 25 percent of the population lives below the poverty line and 45 percent of the population don't have access to the electricity. In this situation a subsidy to the poor customers significantly will increase their welfare level and quality of life.

The macroeconomic effects of subsidy may also be substantial. Subsidies affect the fiscal performance of the government through its expenditure, taxation functions and budget deficit. The fiscal and tax incentives committed in power policies increased the demand for imported machinery, foreign currency and imported fuels. This may have effected trade balances, tax forgone and budget deficit. The government had forgone a significant amount of tax and revenues in this regard. The situation is that still electricity is very expensive in the consumer's perspective.

5.5 IMPEDIMENTS TO THE DEVELOPMENT OF THE SECTOR

5.5.1 Tenor of Planning

i. While the GoP talks about vision 2025, the planning in the power sector remains focused on the next 5 years.
ii. Planning remains reactive as opposed to proactive and therefore remains ad hoc.
iii. Unless the policy is developed, and manpower dedicated with the GoP, to implement plans that would mature in medium term (5-10 years) and long term (after 10 years), side by side with addressing the immediate needs, we will always be making costly and sub-optimal decisions, and we will always remain short of targets.
iv. Planning must take into account an overall balanced system from the point of view of fuels, technology, and intended usage of plants.

5.5.2 Role of Regulator

i. Different parties view the role of Regulator differently; sometimes it is in conflict with the GoP Policies.
ii. The Regulator so far has only looked after the interest of the consumers and not the industry as a whole.
iii. The Regulator often borders on the role of the executive and gets into policy and rule making.
iv. The Regulator needs to get out of technical details, while are better handled by experts at WAPDA/KESC.
v. The Regulator's role is not to define what are acceptable terms for capital providers; let the market forces define the equilibrium.

5.5.3 Supply of Fuel

i. For as long as the government remains in control of pricing and supply of fuels, it needs to ensure supply and delivery of fuels if it wants to have power.
ii. Government needs to come up with a long term vision on what is the right mix of energy supply for Pakistan (coal, gas, oil, nuclear, hydel, renewable) over the long term.
iii. Government cannot get out of assuring fuels supply on the pretext of pending privatizations, until privatizations actually take place and the privatized entities become creditworthy in the context of commitments needed of them.
iv. If it wishes to make the cost of electricity lower, it needs to consider reducing the taxes on fuels, and balance that by reducing the subsidy it gives to WAPDA. Theround-tripping of this cash results in unnecessary losses and financial strain on all participants in the industry, and in the ends costs more.

5.5.4 Eliminating Misconceptions

i. A lot of resistance to commercially viable arrangements necessary for new projects is based on misconceptions about pricing; this affects even the regulators and GoP people themselves.

ii. As an example, a statement that the a new oil based IPP wanting a price of 12 cents/kwhr is "padded up" or " obscenely high" is counterproductive unless it comes along with a statement that "out of this 12 cent/kwh, the cost of fuel, which is set by the GoP itself is about 9.5c/kwhr". Hence unless the GoP, the regulators, the utility and the public at large is aware that what the sponsors are asking for is 2 -3 cent, exclusive of government controlled fuel and regardless of technology, the perceptions get in the way of agreeing to commercially reasonable rates.
iii. There are also a lot of misconceptions about renewable energy sources and their true costs, given their lack availability all the time i.e., a wind plant may cost the same as a thermal plant, but is available only one third of the time.
iv. GoP, the regulator and the utility is often six to twelve months behind in information on world markets. So, there are misperceptions about cost of putting up plants whereby the policy makers operate on data that was provided to them six months ago or a year ago, and it just takes them that long to get to decisions, by which time that data (or costs) are not longer applicable. The world market does not wait for Pakistan to decide what it wants.

5.5.5 Associated Infrastructure

i. There is not enough focus on associated infrastructure needed to support rapid development of power generation.
ii. New transmission line are needed to balance the grid and take the power from new plants.
iii. Additions to gas pipelines are needed.

6.0 ROADS

6.1 RECOMMENDATIONS

- Provincial Governments should establish a policy framework for PPPs in roads. Special cell should be created to handle BOT projects and to provide a 'one window operation'. Members should be drawn from relevant Departments and should be headed by a secretary level person.

- Land Acquisition Act should be amended to streamline the procedure of value assessment and quick dispersal of compensation. In case of litigation the Government council to plead the case and not leave the concessionaire alone.

- Necessity of notification by the Government for annual increase be dispensed with and due amendments in the Highway Act should be carried out to make the concession agreement clauses binding on all concerned.

- Regulatory body to be set up to investigate the loss of cash flow for investors due to adverse Government actions like opening up of alternative routes, not building connecting roads.

- Alternative sources of revenues need to be explored. One example of this is to allow the use of land on the sides of the road to be used as commercial property. In this way the developer makes up for the loss of income due to lower toll charges. This scheme has been hugely successful in India.

- A special portfolio to be assigned to the banks for financing BOT projects. Banks should be mandated to disperse the loan, once found feasible, at a mark up decided by the State Bank and should be linked with their Annual performance.

6.2 BACKGROUND

Presently Pakistan has 259,197 km of roads, of which 67 percent are paved. The share of paved roads has increased over the years which reveals improving road quality. However, Pakistan does not fare very well in road density as it is only 0.32 km /sq.km, compared to the regional average of 0.5km/sq.km.

Pakistan's inland freight and passenger traffic has been growing at an average annual rate of 10.6 percent and 4.4 percent respectively. Presently the road freight can at times take 4-6 days from ports to the north of the country, which is twice the equivalent time in Europe / East Asia. There are delays in connectivity which are causing inefficiencies and losses to the economy.

The National Highway Authority (NHA) is the main Federal body responsible for all National Highways, Motorways and Strategic Roads. NHA has about 12,000 kms of road network under its jurisdiction, which is only about 4.6 percent of the total road network but carries about 80 percent of the country's traffic.

For road improvement/construction in the period 2005-10, MTDF plans improvement in 14,100 km of the existing roads and construction of 7,000 km of new roads[4]. For this purpose, estimated allocation for the total program over the next 5 years is around Rs.248 billion including Rs.217 billion under the public sector and around Rs.31 billion under the private sector/public private partnership financing This represents allocation in lieu of roads only. The overall allocation to transport is higher. . This represents an increase of 125 percent compared to expenditure incurred in the previous five year plan.

6.3 IMPEDIMENTS TO PRIVATE SECTOR PARTICIPATION

In power sector despite its problems, operates in a policy framework for private sector investment and participation. However this is not the case in roads where no such framework exists. The lack of such a framework along with other problems is a major stumbling block in private sector participation. In MTDF only Rs. 31 billion (out of Rs. 248 billion) have been planned to be contributed by private sector underlining the impediments.

Historically, Pakistan has had very few examples of private public partnership. In fact, the only highway project executed on BOT regime by the government has been Lahore-Faisalabad 4 lane divided expressway, with a project cost of Rs. 6.1 billion on a 25 year concession agreement.

However, the Lahore-Faisalabad expressway has enabled stakeholders to understand and learn about the problems encountered in implementing and executing BOT projects. This serves as a good starting point in our journey for efficient and effective PPP in the Roads sector.

~~The majo~~r problems identified are given below:

[4] **Annexure V**

6.3.1 Built Operate Transfer (BOT) Regime

Presently, only one road built on BOT by Government of Punjab through the concessionaire, LAFCO. Other competing roads being upgraded and built by Government are toll free. This is in conflict with the Government plan to build roads via PPP and is therefore damaging to the whole PPP concept. Furthermore, it is causing financial loss to the BOT operator by giving alternative routes thus reducing the traffic on the expressway. This is against the spirit of the agreement signed with the BOT operator and causes a loss of confidence in Government policy.

6.3.2 Authority Handling Built Operate Transfer (BOT)

The handling of the BOT project from project initiation to development to implementation by the relevant authorities has been quite 'poor'. A BOT project sponsor has to deal with many different Government departments. All these departments have their own bureaucratic systems and procedures.

Government officials are reluctant to take simple decisions and refer even the petty issues to the higher authorities. Approvals of project designs are delayed and Environmental Agencies also delay the clearance of the project. All these issues cause unnecessary delays which cause problems and loss for the BOT operator. Delays during construction and development of the project can be very financially damaging for the developer and can make the vital difference between the profitability and un profitability of the project.

A BOT authority comprising the necessary technical, financial and legal expertise should be able to handle all the issues expeditiously and provide a 'One window operation'.

6.3.3 Law and Order Issues

Transfers of powers at grass root level are still at infancy stage. TMAs (Tehsil Municipal Authority) generally do not cooperate in urban areas and even levy illegal taxes to generate revenue. This results in many law and order violations as it the responsibility of these TMAs to promote law and order. The police do not help to remove illegal encroachments, illegal parking and vendors. Also the traffic police are not very keen to take appropriate measures for traffic congestion and for implementing safe traffic rules.

On top of all that, there are demands of unauthorized cuts and illegal U turns in the median by the MPAs, MNAs and other big officials causing further problems.

Law and order issues need to be resolved as it causes financial loss to the BOT operator. It also creates a bad image of the Government.

6.3.4 Tolling Issues

There is a huge resentment in paying toll taxes at prescribed rates. This, however is a common problem observed by all toll road operators. However, in Pakistan alternate routes are developed which adversely affects the financial model although levy of toll at alternate

routes is covered. The rates are generally at par with alternate routes like the M-2. The NHA is not increasing toll rates in view of the expected agitation from commuters. This compels concessionaire to keep the lower rates to avoid diversion of the vehicles to alternate routes.

Generally, Government recovers maintenance charges through tolling over bridges or motorways over prolonged periods thus less rates are charged. Whereas in BOT the capital cost and maintenance costs are to be recovered during the concession period thus the rates are generally high which are difficult to be implemented.

Government has to issue notification or the toll rates with formula for yearly increase and leasing of the rights for levy and collection of the toll by the BOT operators. Agreement in the Concession Agreement (CA) is not taken valid by the courts on the pleas that departments can enter in the agreement with any party but a notification is required for each rate and its increase.

6.3.5 Financial / Legal Impediments

The culture of BOT projects has not taken root and is a new phenomenon for many investors/construction companies. This has caused concern amongst investors when raising equity for a BOT project. Because there are no major successful examples of BOT projects the investor community is a bit weary of such projects. Also there are no proper laws or regulations regarding BOT financing. All this causes an issue when raising equity because the investor is unwilling to invest and requires a more than high rate of return as the risk borne by the investor is considered very high.

To further complicate the issue the documentation for securing loans is very complicated. Lenders are reluctant to offer debt on revenue securitization without significant collateral. As there is no established financing mechanism, Lenders / Commercial banks become reluctant in release of next installment when there is an increase in interest rates.

6.3.6 Land Acquisition Issues

Existing procedures are too lengthy and time consuming. They need to be streamlined for PPP projects.

Acquired land is mutated in the name of sponsors (This rule cannot be changed).

Payments made in advance to Government out of the project fund are not distributed by the revenue department to the owners in time, resulting in levy of 15 percent compound interest as per rules in vogue from the date of occupation.

Cost of land to be acquired and accordingly built in the project by the sponsor later escalates when the actual acquisition commences and the extra cost is passed on to the concessionaire upsetting the budget.

7.0 WATER & SANITATION

7.1 RECOMMENDATIONS

- PPP in water and sanitation is not just for reducing the cost burden on the Government. There needs to be a strong emphasis on creation of a system which ensures that coverage and service levels are improved and customer needs are fulfilled.

- Educate the government bodies, municipalities and the general public on the benefits of good water and sanitation provisions and its impact on health. Water conservation needs to be encouraged.

- Feasibility in Water & Sanitation falls in spectrum from projects that are commercially viable (effluent plants in industrial areas) and projects that are unlikely to be commercially viable in the near future (e.g. drinking water distribution). Government should commence PPPs for commercially viable projects first.

- PPP projects should be awarded via International Competitive Bidding as it enables the choice of the best and least cost operator. The process needs to be transparent to avoid future complications.

- As oppose to BOT or BOOT, management contracts should be awarded for projects not commercially viable at the moment. The contract will need to focus on improving service quality and delivery levels. Incentives also need to be provided.

- Pooling of marginal projects by separate municipalities into a large project improves the capacity for finance of the project, e.g. Tamil Nadu.

- Involve the local community as much as possible (See Orangi Project – Box 1)

7.2 BACKGROUND

Water is a basic necessity of life with 70 percent of the human body consisting of water. Clean water and sanitation facilities not only highlight a degree of development but also serve the objectives of improving public health by curtailing the spread of diseases.

Clean and drinkable water is a scarce resource all over the world and the people that suffer most due to this scarcity are the poor. Poor households are often excluded from public service and have to resort to unsafe and other costlier alternatives. Continuous urbanization and industrialization has increased water usage and consumption and has put an increased burden on the providers of water and sanitation services. In addition, utilities are under stress having to manage old and decaying infrastructure with limited human and financial resources.

Water and sanitation is characterized by a high degree of natural monopoly and competition in this area is very limited. Hence, Governments have to rely on little competitive forces to improve efficiencies and have to devise sound regulatory systems to ensure compliance and safeguard the interest of all stakeholders, especially customers. Many of the assets of the system are buried, therefore obtaining precise information is always very costly. This increases the cost of private participation. Water and sanitation is a local issue and there are complex jurisdiction issues that need to be resolved before private partners can be brought in.

Furthermore, water and sanitation has a strong link with health and environment so Government involvement can never diminish totally, even after the project is handed over to private ownership.

7.3 SITUATION IN PAKISTAN

The Water and Sanitation situation in Pakistan is not very good. Presently, irrigation uses about 93 percent of water available in Pakistan. The remaining 7 percent is available for supplies to urban and rural populations and industry. Most of the urban water is supplied from groundwater sources via tube wells except for the cities of Karachi, Hyderabad and part of Islamabad. Rural water supply is mostly from groundwater and irrigation canals.

According to the MTDF, about 65 percent of the total population in Pakistan has access to safe drinking water. Inadequate and irregular water supply due to low pressure has forced people to install electric pumps, bore holes, dig wells and build large storage tanks to increase the water supply thus causing inequitable distribution.

Table 9: Sanitation Situation in Pakistan

Sanitation Facilities available	Access to Latrines	Connected to Drainage	Connected to Open Drainage	Connected to Underground Sewerage	Garbage Collection
42%	55%	51%	35%	16%	50%

Source: MTDF

There is no proper waste collection system and no controlled landfill sites. Pakistan spends around 0.1 percent of its GDP on water supply and sanitation. Also people are not aware of the relationship between ways of disposing off waste and the resulting environment and health problems. Lack of long term plans, ad-hoc and counter productive policies add to the problems.

The MTDF envisages that by 2010, access to clean water in Pakistan will be increased from 65 to 76 percent and access to sanitation will be increased from 42 percent to 50 percent. This means that Pakistan will have to spend around 1.3 percent of GDP on Water and Sanitation or around Rs. 120 billion. The Government expects private sector to contribute around 50 percent of this amount. This is shown in the table below:

Table 10: Water and Sanitation Programs (2005 – 2010)

S. NO	Description	Allocation (Rs. In billion)		
		Total	Federal	Provincial
A	**PUBLIC SECTOR (FEDERAL AND PROVINCIAL)**	**60**	**22**	**38**
1.	Construction of new Rural Water Supply Schemes (in villages / Provinces)	10	-	10
2.	Rehabilitation and Augmentation of Existing Rural Water Supply Schemes in Provinces	6	-	6
3.	Completion of Ongoing Mega Water Supply Projects in Karachi, Quetta etc.	10	10	-
4.	New Urban Water supply and sanitation/ Sewerage Projects in Provincial Capitals	10	-	10
5.	Urban Water Supply Projects with Sources Development for Metropolitan Cities.	10	2	8
6.	P.I of Sewage Treatment Plants in Provincial Capitals.	6	-	6
7.	Water Supply and Sewerage Schemes in other Towns and Cities.	6	-	6
8.	Pilot Projects of Water Conservation and Waste Water Recycling	2	-	2
B	**PRIVATE SECTOR**	**60**		
1.	Development of internal water supply systems and source development in private housing schemes (secondary and tertiary level)	35		
1.	Development of sewerage networks and sewage treatments in private housing schemes	25		
	TOTAL WATER SUPPLY AND SANITATION	**120**		

Source: MTDF 2005-2010, Planning Commission of Pakistan

BOX 1: THE ORANGI PILOT PROJECT

One of the most successful low cost sanitation programmes is the Orangi Pilot Project in Karachi. Established in 1980, the objective of the programme was to address the problems faced by the people of Orangi Town and provide technical and managerial assistance in the solving the problems. The OPP-RTI (Orangi Pilot Project – Research and Training Institute), identified four major areas of concern which were Sanitation, housing, employment, health and education.

To solve the issue of poor sanitation, the OPP-RTI team met the residents of Orangi and asked them to assign lane managers who would represent a lane of about 20 to 40 houses. OPP-RTI staff provided technical assistance to the people. They surveyed the area, established the benchmarks and made plans and estimates for the work needed. After that the lane manager collected the money from the people and organized the work under the supervision of OPP-RTI.

The programme was a great success primarily due to the fact that the size of the community was small and people were keen to solve their sanitation problem. Also the cost of the whole project of Rs. 900 per household was affordable.

There are 7,256 lanes in Orangi comprising 104,917 houses. Of these 6,134 lanes containing 92,184 houses have built their sewerage systems. The houses have also built their latrines and 411 collector sewers. People invested Rs. 82.141 million in this effort.

The same sanitation programmed was replicated in various parts of the country and achieved mixed results. The UNICEF's Urban Basic Services Programmes in Sukkur and the World Bank-Swiss Development Cooperation programme in Hyderabad also adopted the OPP-RTI sanitation programme. These programmes were failures in terms that the complete objectives were not met. The reasons for these failures are listed as follows:

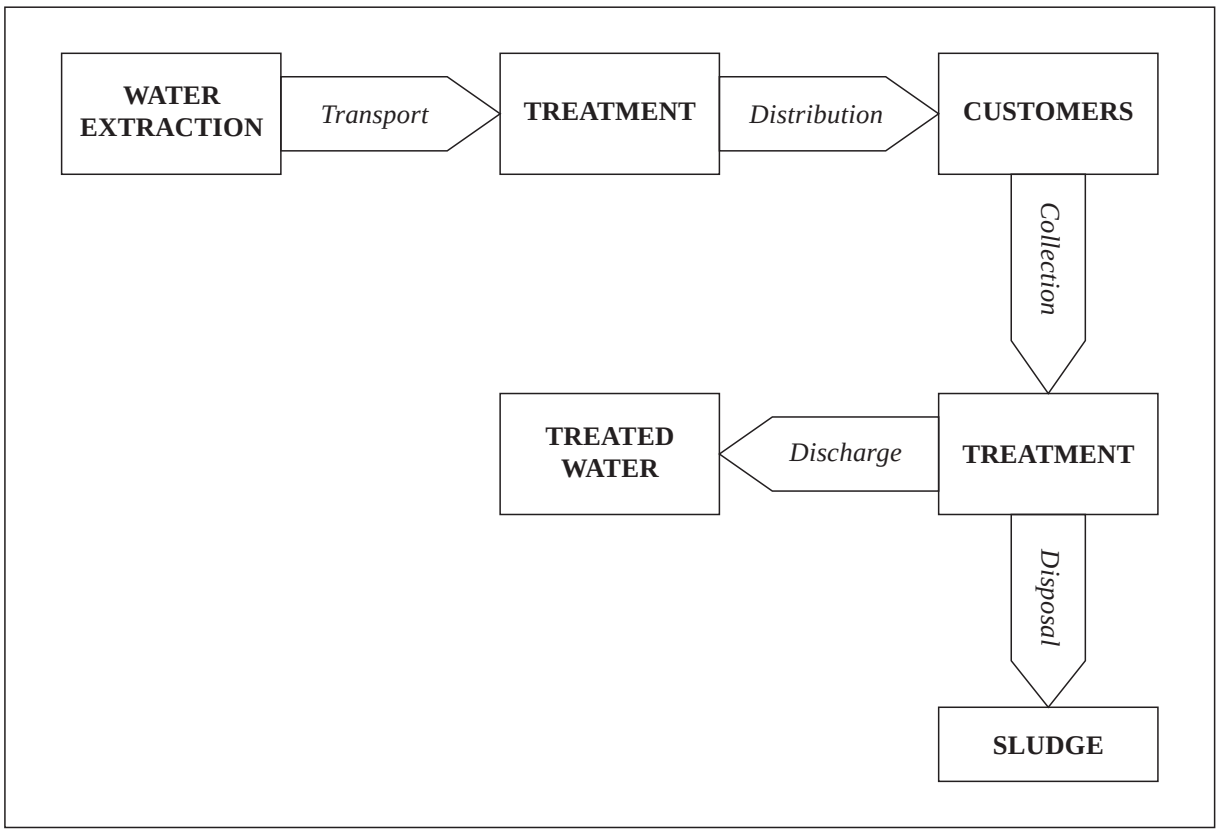
- Local government departments that were to design and manage the projects were not consulted.
- Proper training did not take place at the initial stages.
- Before designing the institutional arrangements for the project, internal politics, organizational culture, technical capability and financial aspects were not taken into consideration. This lead to incorrect administrative decisions.

This example clearly shows that water and sanitation is a local subject and therefore the local community needs to be involved as much as possible. At the very least, local people need to be consulted and taken into confidence to ensure that the project is successful.

Reliance on local operators has a number of advantages. A local entrepreneur is known locally and has a good network and credibility with the local people. Locals of an area know what is required and the best way to meet these requirements considering the history and culture of the area and the attitudes of people towards PPPs. It also compels the locals to build an information system to monitor the private operator's performance. It could help in capacity building of the local community and utilities as they have to set the objectives of the private operator and hence the emergence of a qualified local operator familiar with incentive based contracts and institutional arrangements is enabled.

7.4 WATER AND SANITATION ACTIVITIES

Value Chain for Water and Sanitation



The activities of urban water and sanitation starts from extracting, storing and treating raw water, to distributing water and then collecting sewage, to treating sewage. Looking at the value chain above and studying various successful models around the world has shown that it is extremely difficult to privatize the whole system due to the colossal investment required.

There are some aspects of the value chain that only a Government entity can manage e.g. bulk storage (dams and reservoirs). However some areas like Water distribution, collection and treatment of sewerage and recycling plants can be privatized. What needs to be achieved is a balance between public and private involvement to create an environment where the public sector is responsible for huge infrastructure investments and the private sector is involved in the maintenance and improvement of the existing system with a small contribution in infrastructure development.

Private sector involvement creates a scenario where there is an operator that is independent and has a strong incentive to make a profit. In case of Pakistan this will mean improving collection of water charges, reducing theft and reducing line losses.

7.5 PROBLEMS WITH PPPs IN PAKISTAN

Water and sanitation services have to be provided to all individuals regardless of their social status as everyone in the country has the right to adequate supply and service levels. However, the problem facing the Government which restricts the involvement of the private sector in these sectors is mainly the huge level of investment required to provide satisfactory levels of service.

Governments face strong pressure to keep prices below cost leaving them too low to cover costs of infrastructure, maintenance and service provision. In this case, if a private enterprise does get involved in providing Water & Sanitation services in the form of a PPP, the Government has to make up the losses borne by the private operator and to make sure that an adequate return is provided to that private operator. Unless the Government make up the difference between prices and costs there will be no investment.

Unlike Electricity and Telecom, Water is perceived as a gift of nature, hence user acceptance of commercial tariff is low. However, surveys and experiences of private involvement on Water and Sanitation have shown that people are willing to pay if the service is reliable and of a good quality. This compared with the fact that households pay a large amount of money in 'coping strategies' i.e. digging wells, building storage tanks and installing pumps shows that households are better off paying for a reliable and adequate service.

According to the constitution of Pakistan, water and sanitation is a provincial subject. The GoP has some responsibilities mostly relating to inter-provincial matters. However in Pakistan, provinces and local municipalities are not financially stable and depend very much on the provision of funds from the Federal Government. This causes problems as no private operator is willing to sign a contract with a Government body that is not financially stable and independent. Therefore in case of Pakistan, the federal government has to be involved at all levels to achieve PPPs. Apart from this, local government/ municipalities lack the technical and operational resources to originate and design a project. There is a lack of knowledge regarding PPPs; structuring transactions and maintaining and regulating the service.

The water and sanitation system is decades old and decaying. Also the temporary fixes made to the system have resulted in deteriorating the overall system. It is difficult to quantify the required measures needed to bring the system up to date and without a competent system, efficiency gains will not be realized.

7.6 INTERNATIONAL EXPERIENCE

The role of private operators in water and sanitation is relatively new. Most countries have only recently begun to consider privatization of their water utilities. The experience of these countries has been varied in terms of objectives achieved and the privatization story is mixed with successes and failures.

The table shown in Annexure 6 summarizes some major privatizations that took place in the 1990s and highlights the experiences of Amman, Cartegena, Cochabamba, Manila,

Gdansk and Senegal. The growth in access to water supply was substantial in Cartegena and Senegal, where it was supported by incentives for the private operators and adequate investment by the public sector when required. Also access to water grew among the poor households. Water supply improved along with the quality of water supplied.

Under private ownership water utilities obtained greater commercial independence and achieved higher operational and technical efficiencies. This has resulted in a reduction in tariffs especially in Amman (7 percent) and Cartegena (46 percent). Proportion of water revenue lost due to non payment and line losses also decreased significantly.

On the other hand it is observed that the experience of Cochabamba and Manila has not been as expected. In Cochabamba the terms negotiated were very imposing and within months the whole arrangement was in jeopardy. Water tariff increased by 100 to 200 percent and in a country where the minimum wage is less that $100 a year, it placed a huge burden on ordinary citizen. Hence the citizens marched out in protest and after days of civil unrest the Government took the concession back.

In Manila, Maynilad Water threatened to terminate their contract after their request for tariff increase was not approved by the regulator. The company's operating costs were higher than projected and the Asian crisis exposed them to higher foreign currency risks. The Government of Manila tried hard to make the arrangement work and the contract terms were re-negotiated many times. However, finally the Government decided not to give in to the utility company.

Another interesting case was that of the largest water privatization in the USA – United Water in the city of Atlanta. Water privatization in Atlanta ended up in a complete disaster and serves as a model for what to avoid in PPPs. In 1998, the city of Atlanta signed a 20 year, $248 million contract with United Water.

United Water underestimated its cost of running and maintaining the system and severely overstated the amount of money it could save the city. Hence almost from the start the whole arrangement was in serious trouble with disputes arising between United Water and the Atlanta Water Commission. There were also instances of fraud and corruption. United Water was improperly billing the city for work it did not perform and neglected crucial infrastructure investments. They cut their workforce by half, desperately trying to save costs but to no avail. All these issues spiraling out of control resulted in tariff hikes of around 12 percent annually.

Finally in January 2003, after ongoing contention city officials decided that it was time to terminate the largest water privatization contract in the USA.

7.7 LESSONS LEARNT

Lesson learnt from the international experience are important to determine how the PPP process should be conducted for the best possible effect and to avoid future conflict and problems.

In nearly all of the water privatizations, the operator was selected through a competitive bidding process. It is essential that the bidding process is unbiased and transparent to obtain the best operator. This will avoid future complications. In many cases the contract was awarded by the local Government.

The terms and conditions of the contract were negotiated extensively and there has been a strong focus on improving coverage, efficiency and reduction in tariffs. The whole idea of privatization has been not only to save Government resources but also to improve the overall situation for the common citizens.

In achieving these objectives the contract has been designed, having a clear distribution of role and responsibilities, incentives for performing well and meeting set targets and penalties for poor performance. The targets set have been discussed to make sure they are realistic and can be accomplished in the current environment. Also an active and competent regulator is essential for the process.

From the international examples of PPPs, it is noted that majority of the arrangement have been concessions and leases for 20 – 40 years. As Pakistan is still in its infancy of PPP development especially in the water and sanitation sector, it is recommended that a management contract should be awarded. Management contracts are generally for a period of 3 – 5 years and will give time to the Government and operators to develop and improve the PPP model. This is the case in India where according to the Indian Infrastructure Report 2006. It has been experienced that management contract are the best way for initiating PPPs and once satisfactory levels of service are established those management contracts have been extended in the form of a lease or concession.

8 FINANCING INFRASTRUCTURE

8.1 RECOMMENDATIONS

- Government to provide a 'get out' mechanism in the form of a put option.
- Develop local Interest rate Swap market.
- Review rules and regulations governing local capital markets.
- Encourage the development of the local debt market.
- Government to develop a long term yield curve.
- Create an environment which is conducive to the growth of the financial advisory services in Pakistan.
- Pension funds and Insurance Companies need to be encouraged to allow investment in TFCs and Sukuks originating from the public sector.
- Enhance private investment in public sector issuances by making them SLR eligible.
- Building capacity and skills in banks to handle infrastructure finance.

8.2 BACKGROUND

The economic growth of a country is contingent on the development of its infrastructure. Historically, infrastructure projects in Pakistan have been financed through a mixture of both public financing and private investment; the bulk of this funding has been met through government resources. The current MTDF anticipates funding requirements for infrastructure development in Pakistan for the period 2005 – 2010 at approximately US$ 40 billion. The government has already committed to fund US$ 22 billion through its own sources, the remaining amount of roughly US$ 18 billion needs to be met through a combination of foreign aid/loans and private investment.

Pakistan's balance of trade deficit has been steadily rising over the years due to the increasing propensity to import and the devaluation of the Pak Rupee continues to be persistent talking point. In such an environment, it would be highly inadvisable to burden the economy with a high foreign debt quotient and put further destabilizing pressures on the country's economy. The natural solution therefore presents itself in the form of bridging the required gap in Pakistan's infrastructure funding through the local capital markets. There have been numerous examples of private investment being raised in this manner to fund infrastructure projects from both developed countries and the so-called developing nations. However, it also remains true that what may work in one economy doesn't necessarily work in ours and therefore a more thorough analysis of the local markets is warranted in order to better understand how to best approach this funding dilemma.

The Pakistani economy has grown at an average of 7 percent over the last four years. Furthermore, the stock market of Pakistan is one of the fastest growing markets in Asia, boosting both local and foreign investor confidence and accelerating the growth of capital inflows. The country's capital markets have also grown at a phenomenal rate, with both institutional and private investors willing to dig deeper into their pockets then they have at any point in the past.

Total financing raised via the syndications market rose steeply from PKR 19,750 million in 2005 to PKR 51,800 million in 2006. However, it is in the local debt capital markets where the most growth has taken place and where there continues to be boundless potential for further growth. Although the domestic debt capital market is still in its infancy, already a wide spectrum of fixed income instruments have been introduced into the market including numerous variations of Term Finance Certificates (TFCs), Sukuks and Commercial Paper (CP), as banks structure products that best address their clients needs and capabilities. Total fixed income issuance has grown from PKR 16,825 million in 2005 to PKR 33,070 million in 2006; this year already PKR 27,075 million worth of debt capital market instruments have been issued in the local markets. The opening of Islamic banks, Islamic windows of conventional banks and a growing preference for Islamic products has meant that there is a large demand for Islamic capital market instruments in Pakistan. Sukuk issuance in 2006 totalled PKR 10,300 million in 2006 and stands at PKR 13,475 million in 2007 YTD. Despite the growth seen in Pakistan's capital markets, private investment continues to account for only a small proportion of overall infrastructure funding.

8.3 ISSUES WITH SOLICITING PRIVATE INVESTMENT THROUGH THE LOCAL CAPITAL MARKETS

There are certain factors inherent in both infrastructure project financing and the domestic capital markets that hinder/limit the private participation in such endeavours. The very nature of infrastructure project financing, where funding is required for long tenors and cash flows only start to materialize after a certain time and thereafter revenues are limited due to sale arrangements (e.g. PPAs), make the idea of investing in such projects a very tough sell. The market demand for both loans and debt capital market products in Pakistan is generally restricted to tenors of between 5 – 7 years and investors are highly reluctant to lend money for longer periods. Thus the issuer/borrower will need to provide highly attractive returns and/or airtight security in order to successfully solicit private investment for tenors above 7 years.

Another problem that needs to be addressed is the markets inability to provide infrastructure projects with fixed rate lending. The recent past has seen high levels of volatility in interest rates, with the discount rate rising from 2 percent to its current level of around 10 percent. Under such an uncertain interest rate environment, lenders are highly hesitant lending at a fixed rate over a long period of time, especially given the limited appetite in the Interest Rate Swaps (IRS) market and thus their limited ability to swap their exposures from fixed to floating. The problem is further complicated by the short term nature of deposits held by banks, which act as an impediment to lending the long tenors required in infrastructure financing.

A large number of the infrastructure projects are being streamlined by various municipalities/public sector enterprises across the country. In the past, guarantees given by these institutions while soliciting investment from the private sector in these projects have not been fully adhered, which has led to a certain reluctance to lend to these parties especially given the limited recourse the investors have on these institutions under the current legal and political framework.

The successful and timely completion of infrastructure projects is extremely important, as any delays would usually lead to cost overruns and push back the cash flows from the project which would be used to repay any borrowings. Thus lenders/investors put a high emphasis on the managements' credentials in their decisions to lend to such undertakings. Unfortunately, there is a lack of credible project management expertise in Pakistan which further adds to the hesitation of private investors to fund infrastructure projects.

8.4 REMEDIES

At present the most common approach to encouraging private investment in local infrastructure financings have been unconditional guarantees from the GoP. From the view of the investors/lenders, this removes any credit risks associated with the project/project sponsors and makes lending to any infrastructure projects covered by such guarantees a direct credit risk on the GoP. The government prefers this route as opposed to direct funding from its own resources, as the guarantee represents a contingent liability that may or may not

materialize (but should be adequately provisioned for), thus allowing the government to divert its resources to other projects that require its consideration. However, this does not represent an end all solution to address Pakistan's infrastructure funding requirements as the government cannot guarantee every project and a government guarantee doesn't necessarily imply private investment in these projects.

We must explore means to address some of the problems highlighted with attracting private investment in infrastructure in order to fully meet the anticipated funding requirement. A key issue is the tenor of infrastructure financings. A way around the tenor problem is to provide investors in such issues/facilities "a get-out" mechanism in the form of a put option i.e. an investor in an infrastructure facility that has a tenor of over 7 years, will have the option but not an obligation to sell its share in the facility to a government institution (could also be a supra or public-private entity), which would then be obligated to take over the investors position for the remaining duration of the facility/issue.

In order to increase the willingness to lend at fixed rates to infrastructure projects there is a need to develop the local IRS market. At the moment there is both a limited demand for large IRS exposures in excess of US$ 50 million, as well as a general reluctance to enter into swap transactions for tenors over 5 – 7 years. In the initial stages, a government body like the SBP treasury must take the lead and show a willingness to both take positions on swaps for tenors over 7 years as well as bring a large appetite for transactions where the underlying exposure is on infrastructure facilities/issues. The idea is to kick start the market so that once the relevant structure is in place, market dynamics take over with the government (or government sponsored entity) playing less and less of a role in the IRS market.

There is also a need to review rules and regulations governing the capital markets. Instead of facilitating growth these often hinder/restrict the development of these markets. Infrastructure projects with identifiable cash flows are increasingly being financed via securitization, however, due to very narrowly defined and rigid regulations governing securitization in Pakistan, to date no transactions structured under even the most conventional forms of securitization have materialized. The current securitization guidelines also prohibit Sharia compliant securitization structures. In addition, current prudential regulations prohibit banks from issuing secured notes which in essence restricts the banks' ability to raise funds and hence limits their potential balance sheet size. SECP & KSE/LSE listing requirements often act as a deterrent to listed issuances as they are commonly thought to be unnecessarily cumbersome and again limit to potential investor base. Therefore, there is clearly a strong case to review/redefine the rules and regulations governing the capital markets and its participants in order to better facilitate its growth.

As deposits with banks are mostly short-term in nature, whereas infrastructure lending is generally for extended periods of time, there is a large issue of an asset-liability maturities mismatch. In context of the fact that there has been a sustained period of relative stability in the country over the last few years, the current nature of the majority of deposits is a rather perplexing behavioural characteristic of the Pakistan market that may be attributable to irrational exuberance and/or asymmetric information. This is a problem faced by most

developing countries which continue to show large and relatively stable current account balances. However, the same problem does not exist in the mature markets and this could be pinned down to the relatively large size of their financial advisory industry. Hence, we need to create an environment which is conducive to the growth of financial advisory services in Pakistan.

There are a large number of NBFIs in Pakistan, whose charters dictate that they primarily exist as entities to facilitate/fund investment in development projects. However, a close examination of their balance sheets shows that most of these institutions have drifted away from their conventional roles and have started functioning more as commercial banks while continuing to enjoy the advantages of an NBFI. Strict measures must be taken to ensure that NBFIs continues to play the important part in country's development for which they were originally envisioned.

Across the world, insurance companies and pension funds are increasingly becoming important players in the debt capital markets. However, in Pakistan their involvement is largely restricted to PIBs, T-bills and positions in the equities market. Often the reason given for the reluctance to invest in the debt capital markets is the narrow definition of investments allowed under their charters/trust deeds. Measures must be taken to encourage these institutions to modify their trust deeds etc to allow for investments in TFCs, Sukuks and CPs originating from the private sector.

A popular mechanism being used in the local market today to encourage private investment in public sector issuances is to make them SLR eligible. Not only does this encourage banks to invest in these instruments to meet their reserve requirements but it also allows them to be issued at extremely competitive pricing levels. A potential means of encouraging private participation in infrastructure financing could be to give such issues SLR eligibility.

A regulated body, comprising of project management experts set up to provide advice and oversee infrastructure undertakings, would provide additional creditability to these projects and encourage greater private participation. A revision in the rules & regulations governing municipalities/public sector enterprises, which allows them greater autonomy and calls for more accountability, will go a long way in increasing investor confidence in infrastructure projects being undertaken by these entities.

As mentioned earlier government guarantees have become a popular means of providing credit enhancements. The possibility of having projects guaranteed from NBFIs and Supras needs to be explored, as they carry substantial appetite for infrastructure projects. In addition, Supras can be encouraged to raise local currency funding and then lend this onwards to infrastructure projects. The cash flows from these loads will finance the bonds, with Supras essentially functioning as intermediaries and not committing their balance sheet.

Above are just some of the measures that can be taken in order to facilitate private participation in local infrastructure funding. The means and capability to finance the sector's funding requirements already exists in the local capital markets, all that is needed is to create an atmosphere that is conducive to private participation in such undertakings.

9 ROLE OF RATING AGENCIES

9.1 BACKGROUND

Infrastructure is the backbone for development of any economy. In all developing countries, infrastructure development is the most critical step in putting the economy on the right track. In the Pakistani context, successive governments have worked on infrastructure development to some extent, however, with limitations of funding and resources, much progress has not been made.

The entry of the private sector into infrastructure developmental activities, e.g. power projects, has resulted in a faster development pace. However, it still remains the duty of the state to ensure that proper studies are conducted for infrastructure requirements not only in the short term context but with a view of the long term requirements. Proper planning needs to be done to ensure whether the government itself can initiate these projects or whether private sector participation is required. For any substantial private sector participation, availability and consistency of government incentives and systems for subsequent monitoring is vital.

Irrespective of the infrastructure developer status i.e. public or private, any kind of development needs funding. If sufficient funding is already present with the developer, the issue of raising outside debt does not arise. However, due to the colossal level of investments needed, project financing to a certain extent will normally be required. This financing may be in form of loans to be repaid by revenue of individual project facilities or through the cash inflows of the developer from the total portfolio of projects being handled by them.

In terms of development and progress of infrastructure projects there will always be a range of risks involved, irrespective of the area of development. The broad risk categories include industry, business, management, governance and financial risks. These risks will affect an entity's credit rating; however, certain credit enhancements may also be available.

9.2 POWER PROJECTS

Power is the basic prerequisite for industrial development. The country's current power demand is more than the power production capacity, which results in frequent power cuts. The industrial sector to ensure consistent power supply for their production needs has stopped relying on the public sector providers for their energy requirements and has mostly shifted towards self power generation. Moreover, the recently privatized power generation and supply company for Karachi, the biggest metropolis of the country, is also feeling the need for expansion in their production capacity to be able to fulfill the requirements of the citizen of this metropolis.

The funds available with the government are not sufficient to undertake major expansions in all segments of our growing economy. In order to ensure that the current gap between power supply and demand requirements is reduced or turned into surplus, it is essential that incentives in the form of tax breaks etc. are given to prospective investors from the private sector.

The major processes for power generation include hydro, nuclear, coal, oil, gas and wind based power plants. The country is not new to any of these other than power generation through wind farms. However, with adequate funding and proper business planning, this should not be a hindrance in developmental activities. Government policies for Independent Power Producers (IPP) can play a role in the growth of this sector, especially if continuation of regulatory support can be assured. The applicable covenants in power purchase agreement entered into by the producer with the government/ utility company will also have an impact on the financial strength of the investor, especially future cash flows.

Pakistan is fortunate to have a big river system flowing from the north of the country down to its southern region i.e. the coast line. However, unfortunately due to no recent major development undertaken to trap this water till recently, with the exception of Diamer-Bhasha, the flooding season results in major water losses which creates problems during the draught season. More demand can also translate into larger power production capacity. The existing plans to capitalize on our water resources will ensure some improvement in the power as well as water supply dynamics. However, the historic rain/ flooding patterns will be important to ensure continued power production.

The untapped coal reserves of the country, if exploited can resolve raw material supply issues for any proposed coal based power plant. The local availability of this raw material will not only reduce the raw material cost, it will also have an impact on the import bill through substitution of imported coal with the locally available reserves. However, transportation, timely delivery and quality of raw material issues will still exist which may be mitigated by the location of the coal based power plant and quality and reserves and mining status of nearby coal fields.

For all oil based power plants, the high global oil prices and low reserve position of the country will create both pricing and supply risks. However, for gas fired power plants, another issue is the continued availability of natural gas in view of the depleting reserve position of the country. In the absence of any new major gas reserve discoveries in the near future, assurance and pricing of fuel supply may become a major issue.

In nuclear based power plants, the availability of production technology as well as nuclear fuel is a major concern. The presence of technically competent staff in the country and their availability of a specific project are also of prime importance in order to ensure risk free operations. Plant decommissioning and spent fuel storage are also areas of concern as any non-compliance with regulations may result in heavy monetary penalties.

Wind based power plants are dependant on wind availability. Hence, the location and predictability of wind pattern in the long run will play a major role. The technical specifications of the wind mill as well as the strength of the technology provider will also be of prime importance.

For majority of the power plants, environmental issues will arise and it will have to be ensured that they are in compliance with the local and international clean air requirements as well as other environmental bodies' standards.

Irrespective of the kind of technology being used for power production, there will always exist construction, operations, and demand and supply risks. Moreover, these risks will magnify in case of a green field project. Operational risk can be somewhat mitigated if the power producer is utilizing a mix of technologies to produce power.

9.2.1 Construction Risk

Any project whether being put up by an existing player or a new entrant cannot mitigate cost overruns or construction delays. The strength of the construction contractor and the kind of technology being implemented may reduce risk to a certain extent but the risk still remains. Any guarantees given by the construction contractor or the technology supplier can provide added strength to the project, nevertheless, the overall risk cannot be completely mitigated. Any delay in completion may result in penalty payments and loss of revenue which will impact the financial position of the company depending on the level of penalties and the revenue loss due to delay in commercial production.

The cost of connection from the power producer to the national grid also has an impact on the profitability position of a company. The power producer will have to ensure a best location which will improve its margins both in terms of saving cost for supply of raw material as well as distribution cost for the power produced.

9.2.2 Operations Risk

Any technical support or operations agreement with the technology provider can to an extent mitigate the operations risk. However, the financial health of the operator will need to be assessed in order to ensure that the liquidated damages for performance guarantee can be serviced in case of under performance. The insurance coverage obtained and the strength of the insurer is also important.

9.2.3 Demand Risk

Demand risk is mitigated by the presence of guaranteed off-take agreements with the buyers. However, the strength of the buyer as well as diversity of customers can have an impact on the overall risk. The regional power supply situation will have to be closely assessed to ensure supply and demand forecasts are in line with the business model. Capacity additions by competitors, fuel price forecasts, transmission costs and similar factors can also affect demand risk.

9.2.4 Management & Governance Risk

In terms of management and governance risk, the track record and financial strength of project sponsors as well as their experience in that specific industry is of prime importance. The shareholding structure and the quality of corporate governance principles being followed by the management are also important in assessing the risk profile.

9.2.5 Financial Risk

The overall financial risk will involve assessment of various factors impacting the profitability and financial stability of the company in short as well as long run. The existence of Power Purchase Agreements can mitigate off-take and demand risk and any fixed capacity payment can help cover the debt-servicing obligations. Actual fuel cost pass-through structures to the customer will help mitigate fuel cost fluctuations on profit margins. The presence of various debt covenants like legal protection to bond holders, restriction on additional borrowing, establishment of debt service reserve fund, minimum debt service coverage ratio etc. also adds strength to the company.

9.3 TOLL ROAD PROJECTS

The government has the responsibility for devising a specific road infrastructure policy. In this regard long term planning and design of road network has to be made with specific identification of toll road locations. However, other policies impacting vehicle prices, public transport system and fuel price fluctuations can also impact vehicular traffic on the roads.

An entity entering into a toll road project has to ensure presence of provisions for compensation in the event of adverse statutory or regulatory actions. Any change in toll policy or the competing infrastructure can adversely impact existing toll road projects. Moreover, the payment mode adopted for using the toll roads i.e. direct user-paid tolls or payment by a third party, e.g. government, based on road availability or a shadow toll based on actual usage.

The economic rationale of each project has to be ascertained specially in light of levels of economic and population growth in the vicinity of the project. Any dependency of a project on the developmental activities in the vicinity of the toll road to meet the projected traffic and revenue generating capability is a major risk area.

A stand-alone toll road project can expose the entity to potential disruption in event of a significant decline in performance specific to that particular asset. However, presence of toll assets at various locations can mitigate this problem. Location of toll road – in high traffic corridors for congestion relief as well as providing meaningful levels of travel time savings, adds to the strength of the project.

In most Greenfield Projects, patronage and construction risks are common throughout the world, whereas for mature toll roads the risk is substantially lower, although some risk is still evident in the long term growth forecasts. However, well established and mature traffic histories will ensure stable and relatively predictable revenues. Traffic Volume Risks are significant in view of actual traffic volumes being lower in comparison to forecasts. The quality of the traffic volume data, motorization rates (i.e. the number of licensed drivers and motor vehicles), vehicle mix, traffic leakage, alternates/competition are some of the many key inputs in assessing the traffic profile for toll facilities.

The Concession Agreement entered into by the toll road company with the Government establishes the authority under which the facility can be constructed, operated, tolled and

the operating and financial performance requirements placed on the operator. The concession agreement will be viewed more positively if it is granted at the highest sovereign level possible, such as a state or provincial government in the case of a local or regional toll facility or the central government in the case of a national roadway. The length of the concession agreement and grounds for extension of concession period are also important. Concession agreements will also be viewed in terms of compensation for non-revision of toll rates, sharing of excess toll revenue, termination clauses, protection from competing road provisions which could potentially impact future growth as well as guarantee on traffic volumes.

9.3.1 Construction Risk

Construction risk often constitutes the greatest risk in the credit quality chain of a stand-alone toll road project, as completion of the toll road within time, budget and up to the required performance standards is very essential. Contractor's track record, expertise, financial capacity and equipment as well as independent engineer's report on completion time frame, site risk, design plans and costing are also very important.

9.3.2 Public vs. Private Sector

Track record and financial strength of project sponsors and their expertise in toll road projects is also an area given consideration. The shareholding structure i.e. whether public, private or a public-private partnership is also important. In a public sector toll road project, management's independence, ability and willingness to act or maintain fiscal balance in challenging economic times are key rating considerations. For privately managed toll facilities concession certainty, the independence to set toll rates within a clearly defined toll-setting framework, the strength and expertise of the sponsor, the maintenance of adequate levels of equity in the credit structure and financial flexibility to withstand reasonable downside stress events are important.

9.3.3 Financing Structures

Large Greenfield projects with higher risk profiles may not be ideally suited for capital markets financing and may be better suited to more flexible bank financing structures. There are numerous limitations and strengths in relation to various financing structures – with the ideal structure likely to be dependent upon market conditions and the specific circumstances of each project. The mature operating toll roads have established levels of traffic, hence, providing a high level of certainty with respect to projected cash flow and debt service coverage. High leverage reduces financial flexibility and exposes debt-holders to potential downside scenarios.

9.3.4 Other Considerations

Financial strength of sponsors and their commitment is important while some projects may include government grants, which may be awarded to make the project economical. For Greenfield projects, debt structuring to a worst case scenario in the first 10 years may be advisable, moreover, a comfortable ramp-up period prior to start of debt repayment is also essential.

Non-core business revenues like interest earnings, rentals and violation fees tend to compound the downside risk if they are not realized because volumes are lower than expected. Moreover, insurance arrangements, both pre and post operations are also critical.

Credit enhancements both through internal and external mechanisms can be achieved. Internally though subordination and over-collateralization while externally through bank, Parental or Government guarantees, back-loading of debt, financial covenants, reserves etc.

10 LEGAL ISSUES

10.1 BACKGROUND

Pakistan needs to improve its legal environment in order to facilitate PPPs in infrastructure. We need to modernize and up date our legal system in light of new developments and economic needs. With the objective of improving the viability of infrastructure project, the following issues need to be looked at.

10.2 STAMP DUTY

10.2.1 Medium/Long Term Recommendation

We are still saddled with the Stamp Act framed in 1899 causing enormous complications in commercial transactions. We believe it is time to all together repeal the Stamp Act and replace it with a revenue neutral Provincial statute. Currently, lawyers are forced to devise ways to avoid stamp duty but structuring a transaction to achieve the same often compromises the quality of the collateral and/or the enforceability of contractual rights. Two examples illustrating the same are as under:

(i) Stamp duty is payable on instruments executed in or brought into Pakistan. There have been several transactions where security documents are executed and kept outside Pakistan to avoid stamp duty. As of yet it is untested whether the security documents would need to be brought into Pakistan for enforcement.

(ii) To avoid attraction of stamp duty applicable on a conveyance, movable properties are sold by delivery which delivery is subsequently recorded in writing. An instrument in writing that itself conveys movable property would attract stamp duty at 3 percent of the amount of conveyance in the Province of Sindh. Inability to create such an instrument often creates complications. We are also not aware of a single case where such an instrument has been created and stamp duty paid. (Immovable properties cannot be transferred by delivery).

The ideal solution would be to repeal the Stamp Act all together and replace it with a Provincial law that levies transfer taxes on sale and purchase of immovable properties only. While we are not aware of any Government statistics in this regard, a very significant amount of stamp duty collected (some say in excess of 90 percent) is on account of sale and purchase of immovable properties. Moreover, it is common knowledge that to evade (not avoid) stamp duty, the conveyance deed is based on grossly under valued amount.

Thus, if the new law: (a) can build a mechanism whereby evasion of stamp duty is curtailed; and (b) the application of such law is restricted to immovable properties, not only will it have the effect of enhancing Provincial revenues but will also get rid of a quagmire of stamp duty issues affecting commercial/financial documentation. (One such mechanism would be to enable the Provincial Government to mandatory acquire immovable properties at a specified premium over the amount of consideration disclosed in the conveyance deed).

10.2.2 Recommendation Achievable by a Notification from Provincial Governments

Currently in the Province of Sindh, security documents with respect to interest based facilities attract stamp duty at 1percent of the amount of the facility. In other Provinces also there are various concerns with the level of stamp duty in respect of certain crucial security documents.

Draft of a notification that may be issued to exempt application of ad valorem stamp duty in respect of infrastructure projects in Sindh is as under (which draft notification can be used as a model for other Provinces as well):

"GOVERNMENT OF SINDH

FINANCE DEPARTMENT

Notification No. [•] Karachi, [•], 2007

In exercise of powers conferred by sub-section (a) of Section 9 of Stamp Act, 1899, the Government of Sindh is pleased to reduce stamp duty chargeable on, or in respect of, the following instrument to a consolidated duty of [Rs.100, 000/- (Rupees One Hundred Thousand)]:

DESCRIPTION OF INSTRUMENT

Mortgage Deeds securing funded and unfunded financial facilities of every description in respect of infrastructure projects.

EXPLANATION:

"infrastructure projects" means infrastructure projects approved, either generally or specifically, by the Federal Government, the State Bank of Pakistan or the Government of Sindh for the purposes of this notification."

10.3 FOREIGN LOANS

When a Pakistani company procures foreign loans there are various concerns from a lender's angle under our foreign exchange laws. At least in respect of infrastructure projects, such concerns should be addressed.

Under the Foreign Exchange Regulation Act, 1947 borrowing from abroad without the general or special permission of the State Bank of Pakistan ("SBP") is prohibited. The general permissions are contained in Chapter XIX of the Foreign Exchange Manual.

Generally stated, under Para 8 of Chapter XIX of Foreign Exchange Manual SBP has given general permission to obtain foreign loans for financing foreign currency costs of projects covered by the government's industrial/investment policies. The repayment period must not be less than 5 years.

Notwithstanding the above general permission, without the specific approval of SBP (which can be difficult to obtain upfront) the following will not be allowed:

i. Use of proceeds for anything other than import of plant and machinery (even refinancing of plant and machinery, already imported, is not allowed).
ii. Prepayment.
iii. Payment of default interest.
iv. Assignment of loan.
v. Amendments to the loan agreement.

Without the specific approval of SBP on a case to case basis (which can be difficult to procure), the following is also restricted:

i. Repatriability of dividends and disinvestment proceeds issued to or on behalf of the foreign lender in satisfaction of loans.
ii. Payments of various fees and expenses.
iii. Retention of any debt service or debt payment accounts of the borrower outside Pakistan (for power projects only a general permission exists with respect to maintenance of the following accounts abroad, Special Foreign Currency Account, Special Foreign Currency Insurance Account, Off-Shore Foreign Currency Control Account, Off-Shore Foreign Currency Operating Account, Off-Shore Disputed Payment Escrow Account, Off-Shore Foreign Currency Foreign Currency Debt Payment Account, Off-Shore Debt Service Reserve Account, Off-Shore Foreign Currency Maintenance Reserve Account and Off-Shore Foreign Currency Dividend Account).

Assuming that from a policy perspective any of the above concerns of foreign lenders can be addressed, the same can be achieved by issuance of a circular by SBP.

10.4 PROPOSED UMBRELLA LEGISLATION

We think it would be quite beneficial if legislation at the Federal level is passed in respect of infrastructure projects. Such legislation would list specific concessions and provide legal cover to concessions or incentives agreed to between the Government and the project company (the "Concession Agreement") in terms of any concession/implementation agreement executed between them. In preparing this legislation care will need to be taken to address constitutional issues that may arise.

Presently, a similar legislation is in force in respect of providing incentives and legal cover to petroleum exploration companies, vide the Regulation of Mines and Oil-Fields and Mineral Development (Government Control) (Amendment) Act, 1976. Under this Act, for

example, if a certain income tax rate is fixed by the Government in the Concession Agreement the same will have affect notwithstanding anything to the contrary under the income tax laws. Similarly, "no customs duty or sales-tax shall be levied on the import of machinery and equipment specified in the agreement for the purpose of exploration and drilling prior to commercial discovery."

The above proposed legislation can also go a long way in addressing concerns of investors that policies of the Government are not often backed by legal cover. With such legislation, the Concession Agreement can itself provide the requisite legal cover.

10.5 DISPUTE RESOLUTION

The delays in our court system particularly in respect of enforcing contractual rights are endemic -- though there appear to be signs of some improvement and numerous reforms have been tabled to improve the judicial system.

In respect of cross border disputes Pakistan has already signed and ratified the "International Convention on the Settlement of Investment Disputes between States and Nationals of Other States". Further, to provide legal cover to the convention the "Arbitration (International Investment Disputes) Ordinance, 2006" has been passed as a Presidential ordinance, which lapses unless enacted by the National Assembly. Till date, to our knowledge, the Ordinance has not been so enacted. If and when the Ordinance is enacted it should provide considerable comfort to cross border investors.

In respect of arbitration proceedings between local parties, resolution of disputes in terms of the Arbitration Act, 1940 is often very protracted. A principal reason for the same is that the courts (of Pakistan and India) based on their interpretation of the Arbitration Act, 1940 often set aside the arbitrator's award. To partly address this issue, in India the Arbitration and Conciliation Act, 1996 was adopted based on UNCITRAL Model Law on International Commercial Arbitration, 1985. While this Indian Act applies to both domestic and international arbitration, the Act may serve as a basis to improve the efficiency of domestic arbitration in Pakistan (international arbitration in Pakistan is covered by the Ordinance discussed in the above Para). Adoption of a similar Act in Pakistan may lessen the likelihood of an arbitrator's award being successfully challenged in a court of law.

However, the taskforce is inclined to think that establishment of a commercial court similar to a banking court pursuant to a carefully drafted enactment can prove more beneficial than any other suggestion presently under consideration.

10.6 CAVEAT

Ingenuities of businessmen and legal advisers are limitless. Consequently, no legal reforms, by themselves, can be expected to rectify impediments that exist for speedy resolution of commercial disputes.

11 SUCCESSFUL INTERNATIONAL MODELS

11.1 BACKGROUND

The following section cites four models of success. Each one has had a significant impact on the development of infrastructure in their countries or regions. The examples indicate that the transition to PPP is a journey and an evolutionary process. It requires strong commitment from the government to stay in the game and provide the necessary support wherever required and be responsive to the needs of the stakeholders. It also demonstrates that process works better when it is managed by the private sector, even though the initial sponsors may be public institutions. It also requires substantial commitment and persistence on the part of the intermediary institutions which become the key players in playing a catalyst role from project identification and conception to the financial close.

11.2 INFRASTRUCTURE LEASING & FINANCIAL SERVICES LIMITED (IL&FS)

KEY LESSONS

- IL&FS is an example of an institution which has proactively involved itself in working with governments to originate and conceive projects.
- It has demonstrated great commitment in hand holding these entities to develop, bid, implement projects and bring them to an operating level.
- It has also sponsored projects itself rather than always waiting to find a sponsoring entity.
- It has shared its expertise and skills in removing regulatory and other obstacles and found solutions to move the projects forward.
- Instead of confining itself to financing and financial structuring, IL&FS has played a wide encompassing role in the infrastructure development arena.
- It is just the kind of institution that is required to build the public private partnerships in infrastructure.

IL&FS is one of India's leading infrastructure development and finance companies. Established in 1987, it was originally promoted by the Central Bank of India, Housing Development Finance Corporation and the Unit Trust of India. However over the years it has widened its share holding to include the State Bank of India, ORIX of Japan, IFC, Credit Commercial de France, HSBC Group and Indivest Pte a subsidiary of the Government of Singapore. IL&FS is now widely recognized as the pioneer of Public Private Partnerships in India.

11.2.1 Key Roles

IL&FS plays at least three distinct roles interfacing with different stake holders in the process:

I. PARTNERSHIP WITH GOVERNMENT – PROJECT IDENTIFICATION & CONCEPTUALIZATION

Need driven project identification is one of the key functions that governments be it federal, state or local need to perform. Projects often do not get off the ground because these entities do not have the capability or the commitment to perform this task. IL&FS has been instrumental in working with the government in conceptualizing need driven projects (roads, bridges, power, ports, water supply, etc), transforming these projects into reality and making them commercially viable. Their activities in working with the governments include project conceptualization, project structuring and development, contractual documentation, bid process management, project implementation facilitation, quality assurance and oversight, merchant banking and funds mobilization. IL&FS acts as the main catalyst in this process, using its expertise to bridge the knowledge and skills gap within the government and motivating them towards action.

II. PROJECT DEVELOPER/ SPONSOR

Many times IL&FS acts as a catalyst in helping conceptualizing projects, providing the seed initiatives and uses its expertise and resources to move the projects to completion. It takes on projects on its own and also develops projects in conjunction with governments, private sector partners, financing entities and local communities. IL&FS has developed strong core skills - key to successful project development and project financing across sectors. These have aided IL&FS in spreading its expertise across a variety of sectors, nationwide.

III. SECTOR SPECIALIZATION

IL&FS activity encompasses transportation, area and cluster development, finance, power, ports, water and waste water, urban infrastructure, environment, education and tourism. IL&FS now operates on a much broader scale having established group companies to cover the major sectors.

IV. ADVISORY ACTIVITIES

IL&FS IDC is the advisory and project development wing of IL&FS. Through IL&FS IDC it provides integrated and comprehensive professional services towards development of infrastructure projects and related components from project conceptualization to project implementation.

V. FINANCING

IL&FS plays a key role in developing the financial structure of the projects in order to make them bankable. It arranges finance as well as participates in the financing. IL&FS has assets of over a $ 1 billion with a net worth of more than $ 160 million. It manages approximately $ 200 million on behalf of leading Indian and international institutions and has developed infrastructure projects exceeding a total value of $ 2.5 billion.

11.3 DEVELOPING TOLL ROADS—THE CHILEAN EXPERIENCE

KEY LESSONS

Some of the key factors of success included:

- Providing a practical, judicious and comprehensive framework.
- Creating and adequately staffing an organization to support each aspect of the concession.
- Designating and giving authority to a single entity – the Ministry of Public Works (MPW) – to manage the entire process end to end.
- Initiating a process of consultations with stake holders and incorporating their feedback in engineering designs and bidding documents.
- Bringing consistency to the bidding process and shortening the bidding cycle by including engineering studies and designs with the bidding documents.
- Bringing transparency to the bid evaluation process by including the bid evaluation criteria with the RFPs.
- Sensibly implementing the program through a process of pilot testing; continuously adjusting and improving the program with each learning experience.
- Getting ministry of finance to joint sign off on the concession award.
- Giving the concession strong legal support by making the awards through presidential decrees.
- Aggressively marketing this program to attract investors.

11.3.1 Background

In the 1990s, the Chilean government made a policy decision to seek private capital to replace a deteriorating and antiquated road infrastructure. Under spending in the 1980s on the highways had resulted in huge investment requirements in the 1990s putting a heavy burden on the national budget. The government responded by launching a program under which concessionaires would finance highways in the private capital markets. The program was designed to boost investment in the country's infrastructure without raising taxes and to increase efficiency and productivity. This program attracted private sector investment of over $ 3.3 billion, with 12 concessions being granted and over 2,000 km of roads built/upgraded.

11.3.2 Developing a Practical and Comprehensive Framework

The Chilean government developed and managed this program in a very methodical and equitable manner. It established a practical framework which provided for a fair and transparent bidding process; it clearly outlined the rights and obligations of the respective parties and set up conflict resolution procedures; it created a system of incentives and government guarantees to promote private investment; it enabled a security structure for lenders to use the public works as security in financing concessions. It housed the entire responsibility of managing all aspects these projects in one entity — the Ministry of Public Works (MPW). The ministry of finance and the office of the controller were required to jointly sign off on the concession award.

11.3.3 The Bidding Process

i. Transparency in bid Evaluations:

The criteria for evaluating bids were clearly laid out in the bidding documents, with the relevant scores attached to each criterion. The criteria included items such as rates structure, period of concession, subsidy, minimum revenue guarantees, risk allocation etc.

ii. Bid Request were accompanies by Engineering Studies

The RFPs were accompanied with detailed engineering studies and designs. This eliminated the costs to the bidders to prepare these studies and considerably reduced the life cycle of the bidding process.

iii. Technical Evaluation

Pre-qualified bidders had to first qualify the technical evaluation, after which the financial bids were unsealed. The lowest cost bids were accepted.

iv. Awards signed by the President

The awards, counter signed by the MOF and the controller were awarded in the form of a decree signed by the President and published in the official gazette.

11.3.4 Project Management—End to End

A strong institutional framework was established within the MPW to handle each aspect of the concessions.

i. The Projects Department:

Identified projects and handled them right up to the bid award stage.

ii. The Construction Department:

Managed the concession contracts during the construction phase, approved the final designs, monitored quality of construction, coordinated expropriation and helped resolve community conflicts.

iii. The Operation Department

Managed the concession post construction with special emphasis on quality of service to users and maintenance of infrastructure. It ensured that the concessionaires met their contractual obligations and approved payment of subsidies and minimum income guarantees.

11.3.5 Building in Sponsor Safeguards

Adequate protection was provided to the concessionaires for subsequent changes or delays. Any modification of the concession contract by the ministry required the concessionaire to be compensated through changes in the rate structure, the concession period, subsidies or other mechanisms. Additional investments required from the concessionaire due to a unilateral modification were capped at 15 percent of the initial amount of the project. All unilateral amendments were subject to appeal to the conciliation commission. Delays resulting from difficulties in land expropriation required that the concessionaire be given additional time to complete the project. Concessionaires had some freedom in setting and adjusting rates within limits. Rates were automatically adjusted once a year for changes in the CPI or sooner if prices rose by more than 15 percent. Bidders risks associated with traffic projections were addressed by offering them minimum revenue guarantees

11.3.6 Managing the Viability Gap

The minimum revenue guarantee was an essential element of the success of this process. The guarantee was based on traffic projections and capped at 80 percent of projected yearly revenue. Bidders could choose the guarantee duration from a range specified in the bidding document — with the overriding constraint that annual payments could not exceed 70 percent of the annual official

budget of the project—linking it to the 70:30 required project debt equity ratio The minimum revenue guarantee was linked to a revenue sharing mechanism which required the concessionaire to share 50 percent of collected revenues beyond a threshold level set for the concession. Typically the thresh hold was the level beyond which the concessionaire's ROI would exceed 15 per cent. Both the minimum revenue guarantee and the revenue schemes were optional — however all concessions opted to use them.

11.3.7 Financing & Lender Safeguards

i. Lender Security

An innovative feature in the law allowed the concessionaire to pledge to the creditors the rights granted under the contract, payments it received from the state and all direct revenues it received from the concession. It could also pledge the shares of the concession company.

ii. Contract Termination

Lenders had special safeguards under the conciliation, bankruptcy and contract termination situations. In situations where the contract was terminated due to a serious breach by the concessionaire, the secured lenders could be paid out of the proceeds of the re-bid on which they were granted a first lien. In the event of a bankruptcy, the creditors could decide whether to auction off the remaining period of the concession or to continue the operation of the company and appoint new management. In case of an auction the minimum bid price had to be at least two thirds of the total outstanding debt contracted by the concession.

iii. Other Incentives

The minimum revenue guarantee was the first and most important instrument for attracting investors and facilitating the structuring of financing arrangements. The government mandated a minimum 30 percent sponsor equity for the project. Banking prudential regulations were amended to increase bank infrastructure lending limits from 5 to 15 percent of their capital and reserves. Non bank institutions such as insurance companies and pension funds were allowed to invest in "infrastructure bonds" denominated in inflation adjusted monetary units. These bonds were rated by reputable local agencies. The key to the bond issues were the insurance provided by international insurance agencies such as MBIA and XL Capital Insurance Limited. A mechanism to provide exchange rate insurance for foreign debt was established at a premium of 1 percent of value covered. It covered situations in which the value of the inflation adjusted monetary depreciated by 10 percent against the value of the dollar when the coverage began.

Despite these it was difficult to obtain longer term financing at the project inception stage. Most concessions had to rely on bridging arrangements during the construction period followed by long term financing. Financial markets were reluctant to use non-recourse financing and required sponsor support during the construction period. Lenders relied heavily on the minimum revenue guarantees and subsidies associated with each concession.

11.3.8 Bidding Premium

The concession program evoked tremendous interest and competition among the bidders. This led to lower expected returns on investments and raised concerns on potential financial viability of projects. Hence, the government imposed a special payment on bidders as a premium for the right to enter the business. The qualified firm that offered the highest payment won the concession. Proceeds which were close to $ 150 million for four concessions went to an infrastructure fund managed by the Ministry of Finance. These proceeds were used to subsidize other projects, and to pay minimum revenue guarantees.

11.3.9 Toll Setting

The concession law allowed the concessionaires to set and adjust rates within limits set for each concession. They could charge different rates by type of vehicle, vary rates depending on time or day of week and enter into volume discounts or prepaid discount arrangements with firms or individuals. Toll rates were automatically adjusted once a year for changes in the consumer price index or sooner if prices rose by more that 15 percent since the last adjustment. Toll setting was dissociated from the financial needs of the concessionaire. Tolls were set according to traffic allocation criteria, with special transfers and subsidies being used as incentives to even out the financial returns of projects. This policy ensured that high tolls were not imposed on roads with low traffic volumes and vice versa. Risks associated with traffic projections were covered through an option of minimum revenue guarantees

11.3.10 Government Approach

The government adopted a sensible and practical approach in implementing this program. The first phase of the intercity concession program began in 1992. Three low priority projects were selected to test the regulatory, framework, contract forms and bidding system. The governments approach was to start the program by improving and upgrading existing highways, rather than building new projects. After the pilot phase, the concession program focused on a set of existing roads with high impact on the export sector of the economy. This included roads that provided access to ports in the south-central regions of the country and a critical link to Argentina. Another project included a 1,500 km north –south highway. Instead of a single concession, this was divided into eight sections to avoid creation of a monopoly. An extensive scheme for consultations with the main stakeholders was introduced. This process started early on, with stakeholder's inputs being sought for features such as intersections designs, pedestrian crossings, bus stops etc. Additional consultations were held with municipal authorities, local leaders and communities at large to further identify interests, concerns and potential impacts

11.4 TAMIL NADU URBAN DEVELOPMENT FUND

KEY LESSONS

- With the local governments increasingly taking on projects within their jurisdictions they will need to find mechanisms to raise finances on their own strength and revenue base.
- Provincial level entities similar to TNUDF will need to be created to support this effort.
- Like TNUDF this entity will need to combine the role of a direct lender, an intermediary, and an adviser.
- Direct lending can be replaced through refinancing once the project enters the operational phase and risks are reduced.
- This entity can help improve the financial management of the local bodies, and raise funds from the private capital markets.
- The entity will need to be a partnership between the provincial government, multilateral institutions, and private sector financial institutions.
- Strong legal mechanisms will need to be evolved to develop effective revenue intercept mechanisms to support the financing of local bodies.
- Tax incentives will be required to attract investors.
- Pooling mechanisms and credit enhancements can be used to make the financing bankable.

Tamil Nadu in South East India is one of the most heavily urbanized states in the country. Its urban financing needs are substantial, with the local bodies unable to meet these needs from their revenue sources. In 1988, the Government of Tamil Nadu (GoTN) launched the Municipal Urban Development Fund. This fund provided municipalities with subsidized loans and grants. It performed well, disbursing funds to over 500 sub-projects, while maintaining a 90 percent recovery rate. In 1996, MUDF was converted to an autonomous financial intermediary—the TNUDF. TNUDF was established as a trust fund, outside the government. It is 49 percent GoTN owned with the balance 51 percent owned by three financial institutions. It is administered by a board of trustees nominated by the owners.

11.4.1 Goals:

i. To finance urban infrastructure projects that improve living standards;
ii. To facilitate private participation in infrastructure through public-private partnerships and joint ventures;
iii. To operate a complementary window, a grant fund, to finance poverty alleviation projects; and
iv. To improve the financial management of urban local bodies so as to enable them to access capital markets.

11.4.2 Direct Lending

TNUDF has succeeded in financing and supporting the development of urban infrastructure by lending directly to projects. Its lending is conditional on local bodies limiting their total annual debt service payments to below 30 percent of total revenues. Loan agreements also contain various security measures such as the ability to tap into the GoTN's grant fund to cover shortfalls in loan repayments.

11.4.3 Arranging Refinancing

The Fund performs the key role of becoming the initial lender to projects and takes on the up-front construction risk which the private lenders are unwilling to take. However, once the projects are running and generating cash flow, they become candidates for refinancing. In this case, TNUDF provides financial advice and helps refinance these loans in the capital markets.

11.4.4 Credit pooling

This is a mechanism offered by TNUDF to the smaller local bodies which experience much of the shortfall in urban infrastructure. TNUDF uses a project-specific pool where several projects are pooled and lumped together in a bond issuance, reducing transactions costs, diversifying the risks and improving pricing. The pooling transactions are supported by USAID guarantees which help to lengthen bond maturities from 7 to 15 years with possible put/call options. The pooled transactions also employ safety nets which include escrow accounts where property tax and other revenues are deposited and the special reserve fund set up by the GoTN to support shortfalls. In terms of performance it has technically approved 181 projects at a total cost of $ 151 million and sanctioned financings of $ 95 million for 174 of these projects.

11.5 POWER PRIVATISATION IN LATIN AMERICA AND THE CARIBBEAN

KEY LESSONS

- Different countries have tried varied ways and procedures for restructuring and have achieved mixed results.
- Latin America and Caribbean countries privatized the bulk of their transmission and distribution systems as well as generation facilities.
- Investors will pay more for generation assets when they see good prospects for selling their outputs to solvent off takers.
- Cost of privatizing generation will be greater as IPP will have to be paid a higher return. This is because the absence of a competent and financially stable off taker subjects IPPs to greater risks for which they have to be compensated for.
- Increased investment in the distribution sub sector has resulted in improvements in service quality.
- Major efficiency is lost at the distribution stage due to technical and non-technical losses. This is addressed by privatizing the distribution networks.
- Key feature of the Latin American power sector is the large number of divestitures.

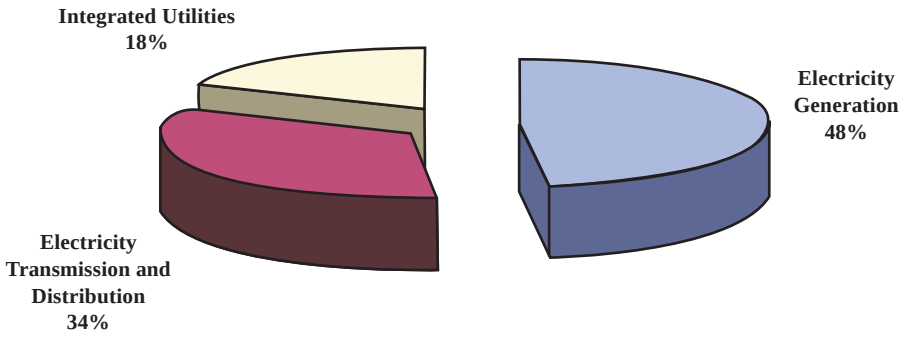
11.5.1 Background

Latin America and the Caribbean has been the hot bed of power privatizations since the early 1980s. By the end of the 1990s, this region had the largest share of private electricity projects amongst the developing regions of the world receiving around 38 percent of total investment destined for the developing world.

11.5.2 Differences with Pakistan

The case of Latin America is worth noting because of two main differences it has with the power privatization in Pakistan. Firstly in Latin America and the Caribbean a large proportion of private investment was made in the Transmission and Distribution sub sectors. Secondly majority of the investment in the power sector was in the form of divestitures.

ANNUAL PRIVATE INVESTMENT IN LATIN AMERICAN AND CARIBBEAN POWER SECTOR BY SUB SECTORS (1990 - 2002 CUMULATED)



The bulk of privatizations in the electricity distribution business worldwide happened in Latin America. In the years from 1990 to 2002, more than $30 billion worth of divestitures were undertaken in the Latin American and Caribbean distribution sub sector alone.

Increased investment in the distribution sub sector has resulted in improvements in service quality. Labour productivity has improved substantially as customers have increased and the number of workers has fallen. Also non-technical losses like non payments and theft have been reduced by the private operators.

The following table highlights a high proportion of ownership in transmission and distribution assets in various countries in the region:

Table 11: Private Participation In The Power Sector (2001 Estimate)

	Generation (%)	Transmission (%)	Distribution (%)
Argentina	60	100	70
Bolivia	90	90	90
Brazil	30	10	60
Chile	90	90	90
Colombia	70	10	50
Costa Rica	10	0	10
Dominican Republic	60	0	50
El Salvador	40	0	100
Guatemala	50	0	100
Mexico	10	0	0
Peru	60	20	80
Venezuela	20	10	40

Source: ESMAP Technical Paper 089, 'Study on Investment and Private Sector Participation in Power Distribution in Latin America And the Caribbean Region' December 2005.

The proportion of high private ownership in Transmission and Distribution sector and less in the Generation sector is owed to the fact that many Latin American countries like Brazil, Peru and Colombia had and still have large shares of hydropower in their energy generation mix. It is very difficult to transfer hydropower projects in private hands due to various social, political and regulatory reasons. Also due to the social and especially environmental implications of hydro projects like large dams, private operators are reluctant to get into this business.

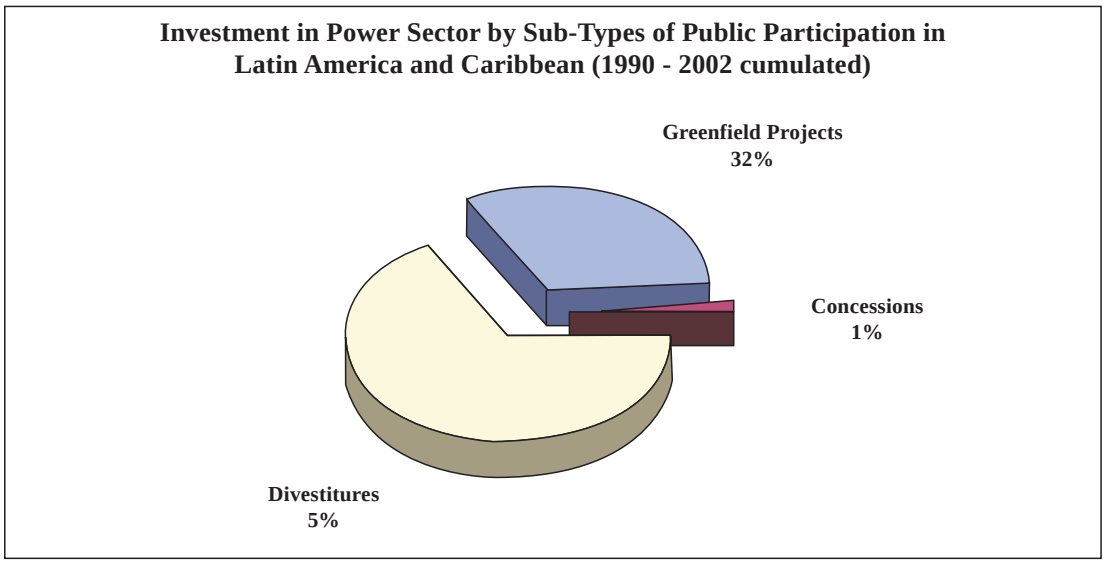
Table 12 shows the proportion of hydropower in the various Latin American countries. One thing to note here is that this table is a 2002 estimate after major privatization of the power sector. The privatization increased the proportion of thermoelectric capacity and hence reduced the share of hydropower which would have been higher pre privatizations.

Table 12: Ownership Of Generation Capacity (2002 Estimate)

	Total Generation Capacity(MW)	% Private Ownership	% Hydro
Argentina	27,039	63	35
Bolivia	1,227	75	30
Brazil	76,139	29	83
Chile	10,269	61	40
Colombia	13,141	58	63
Costa Rica	1,715	13	72
Dominican Republic	3,081	72	13
El Salvador	1,134	46	36
Guatemala	1,697	52	32
Mexico	42,484	15	23
Peru	5,906	38	50
Venezuela	21,226	1	62

Source: ESMAP Technical Paper 089, 'Study on Investment and Private Sector Participation in Power Distribution in Latin America and the Caribbean Region' December 2005.

Another key feature of the Latin American power sector is the large number of divestitures and Greenfield projects. In the power sector, divestitures have been a very common feature with about 144 divestitures attracting 67 percent of the total investment in private electricity projects. With the introduction by Chile in the early 1980s, major generation and distribution divestitures have taken place notably in Argentina, Brazil, Colombia and Peru.



Greenfield projects and concessions like management or lease contracts have attracted about 32 percent and 1 percent of the investment respectively as shown above. In the years from 1990 to 2002 there were about 167 Greenfield projects and only 5 concessions.

The use of divestitures and Greenfield projects showed investor confidence in the Latin American Governments and their approach and commitment to the power sector reform.

MESSAGE FROM THE GOVERNOR

PREAMBLE

The Draft report attached covers the mandate given to the Task Force, i.e.

- examine Pakistan's requirements in different Infrastructure sectors;
- review current progress against the MTDF Road map, with respect to pace of implementation in key Infrastructure sectors;
- evaluate Government policy and planning parameters against the standards of transparency and clarity required to escalate project development;
- review the goals and operational status of Government's Infrastructure development organizations;
- Finally, make recommendations for how Pakistan's current capabilities against its quite challenging goals can be escalated through policy and Institution building.

The Task force report addresses all the above, dealing with the issues sector by sector, looking at the current challenges and suggesting improvements based on best international practices.

It is the aim of GoP to make extensive use of PPP structures to deal with escalating infrastructural backlog.

However, except for the Power generation sector, Pakistan does not have formal rules or standards for projects in any infrastructural sector. Projects in the same sector are executed at the local, provincial and central Government levels, without common yardsticks for evaluation and procurement procedures, contract documentation, legal dispute resolution or contract enforcement issues, supervision and maintenance arrangements etc.

A range of developed and developing countries have preceded Pakistan down the PPP route.

They have had to develop institutional policy and legal frameworks to optimize the use of PPPs in different infrastructural sectors. This implementation framework for PPPs involves the drafting of rules and standards and also the creation of an authority that can develop and manage the process.

The value added contribution of PPPs is not just the substitution of private funds for public funding but the better balance in efficient service and customer satisfaction and lower life cycle costs.

PPP projects have thus to be measured against common standards of design, public-private risk allocation, affordability of service and value for money identification. The form of public participation (or viability gap cover) would also need to be ascertained, as it can be made in the form of subsidy, tax breaks, capital contribution in kind (e.g. land or cash) or bearing of financial or contractual risk overruns.

Without the use of these common screens, it would not be possible for the GoP to prioritize particular projects for funding allocations or guarantees to mitigate the impact of particular risk-bearing events.

The corollary to this would be a central administration via a single, cross cutting national authority - across Government ministries, and central/provincial governments. Such an Authority can act simply as an advisor to a Government agency developing a PPP project, or go further, to approve and oversee its implementation.

GoP has created the cornerstone for such a (overall rules and administration) process in the establishment of IPDF, a GoP owned company under the Ministry of Finance, which has the capacity, in financial and in technical skills, to help Government agencies with PPP project evaluation, procurement and documentation processes. A parallel company, IPFF, will play a cornerstone role in raising finance for PPP projects.

However, IPDF's progress to date has been slow. In the two years of its existence, it has been directly involved with two projects only. The primary reason is that Government agencies proceed with their own projects under the old PC-1, Planning Commission approval system.

Therefore it is felt by the taskforce that another Infrastructure Development organization to support the projects initiated by the Private sector is both viable and necessary. We believe that such an organization in Pakistan would be well poised to galvanize its role quickly against the country's mounting infrastructure requirements.

However, without the rigor of a PPP alternative to evaluate their projects against and with no requirement to do so in the absence of a PPP policy at the GoP level, we can safely note that any infrastructure organization, public or private, will remain underutilized.

LIST OF ACRONYMS

AEDB	–	Alternate Energy Development Board
BOO	–	Build Own Operate
BOOT	–	Build Own Operate Transfer
BOT	–	Build Operate Transfer
CA	–	Concession Agreement
FDI	–	Foreign Direct Investment
GDP	–	Gross Domestic Product
GoP	–	Government of Pakistan
GW	–	Giga Watts
IBRD	–	International Bank for Reconstruction and Development
IDFC	–	Infrastructure Development Finance Company Limited
IL&FS	–	Infrastructure Leasing & Financial Services Limited
IPDF	–	Infrastructure Project Development Facility
IPFF	–	Infrastructure Project Financing Facility
IPP	–	Independent Power Projects
IRS	–	Interest Rate Swaps
LAFCO	–	Lahore –Faisalabad Construction Company
MLBs	–	Multilateral Banks
MPW	–	Ministry of Public Works
MTDF	–	Medium Term Development Framework
MW	–	Mega Watts
NBFI	–	Non-Banking Financial Institution
NEPRA	–	National Electric and Power Regulatory Authority
NHA	–	National Highway Authority
NIDFI	–	New Infrastructure Development Finance Facility
NTDC	–	National Transmission and Distribution Company
OPP-RTI	–	Orangi Pilot Project – Research and Training Institute
PPP	–	Public Private Partnership
SLR	–	Statutory Liquidity Requirement
TNUDF	–	Tamil Nadu Urban Development Fund

EXECUTIVE SUMMARY

1. INTRODUCTION

Infrastructure has to continuously develop and up grade in order to accommodate growth and development. A study suggests that a 7 percent GDP growth would result in increased demand for infrastructure services that in turn would require investment in infrastructure amounting to about 7 percent of GDP[1]. Good quality physical infrastructure improves the investment climate for Foreign Direct Investment (FDI) by reducing the cost of total investment by foreign investors and thus raising their rate of return. Surveys of prospective foreign investors over a wide range of countries show that the quality of infrastructure is an important factor in ranking potential destinations for direct investments[2]. Quality of physical infrastructure is an important consideration for Multinational Companies (MNCs) in their location choices for FDI in general, and for efficiency-seeking production in particular. Infrastructure quality is also important for establishing production linkages where different parts of a single product are manufactured in various countries.

Thus it becomes imperative for any country and particularly an emerging economy like Pakistan to invest heavily in infrastructure. In recent times, Pakistan has witnessed high growth rates of above 6 percent. In order to sustain such growth rates and to improve prospects of FDI, infrastructure needs to be enhanced. Realizing the importance of infrastructure for economic development, increase in industrial and export competitiveness, and improvement in industrial climate, Pakistan intends to invest heavily in all the sub components of infrastructure such as roads, railways, ports, aviation, energy resources, water reservoirs etc.

Investment magnitude is staggering, both in the medium as well as long run. Around Rs 2,338 billion (approximately US $ 39 billion) have been envisaged under the Medium Term Development Framework (MTDF) for physical projects falling under the major groups and out of which Rs 1.4 trillion will be provided from the government budget whereas the rest, around Rs 970 billion, will be from non budgetary sources such as Private/Public partnerships, self financing from the corporations and the private sector etc. A substantial portion of non budgetary allocation would have to be raised from additional domestic and foreign sources such as bank loans, capital markets etc. High reliance on the non budgetary sources (private sector, self finance and private public partnership) and modes of raising finance, such as banking sector and capital markets, is extremely necessary given the enormous infrastructure demands and public sector constraints to meet all of these requirements. However, so far we have fallen short.

[1] **"Estimation of Infrastructure Investment Needs In The South Asia Region", Isabel Chatterton and Olga Susana Puerto**

[2] **Source: World Development Report, 1994**

MTDF only covers plans and amounts for the period 2005-10. In the longer run, far more would be required for infrastructure development and moreover an increasing portion will be non budgetary. For example, in the power sector alone, the additional power generation requirement will be around 143,310 MW during 2005-2030 and to meet this requirement an investment of $ 150 billion would be required. The average Government investment per year is planned at $ 2.0 billion, with balance requirement of $ 4 billion per year met through the private sector Private-Public Partnership (PPP) modes.

Private sector participation and PPPs become a dominant priority in the light of limited fiscal space and huge gaps in public sector capacity to build and operate infrastructure. Tight fiscal indicators such as fiscal deficit of 4.2 percent , trade deficit of around $ 10 billion and current account deficit of 4.4 percent of GDP does not allow public sector resources for infrastructure development. As the economy is growing at the rate of 7 percent on average per annum, investment on infrastructure around 7 to 9 percent of GDP would be needed, which cannot give the above constraints, be undertaken entirely by the public sector. Growing demand for infrastructure development needs innovative approaches, away from the traditional role of the government as the service provider and a principle investor.

There is a strong case for optimizing of local currency financing due to the fact that revenue generation from infrastructure is rupee denominated. Past experience with IPPs also supports the case for local currency financing. As a result of the 1994 power policy, WAPDA had huge financial liabilities because of problems with foreign currency indexation, devaluation of local currency or FX hedges and payment in dollars. As a result of all these problems of foreign currency, WAPDA was on the edge of financial collapse due to huge financial liabilities. This problem still exists and need not be repeated for new projects in future.

However, private sector participation, though critical is constrained by both policy as well as financial impediments. Given the higher risks associated with infrastructure projects and the availability of other commercial financing opportunities there is little appetite in the private sector. Likewise, due to rather low banking sector depth, high dominance of short tenor deposits and most importantly highly underdeveloped debt markets, local currency financing will not be easy to generate and would require innovative solutions.

Given the importance of these two major factors, this taskforce constituting of prominent professionals from various fields has been set up[3]. The objective of the Task Force is to identify what changes or improvements are necessary in the regulatory, legal, fiscal, capital markets and other relevant areas. The taskforce has deliberated for many months and has come out with this report containing recommendations.

This report contains detailed analysis of the power, roads and water and sanitation sectors in Pakistan. It has looked into the factors hampering private sector participation in these sectors and has come out with the appropriate recommendations.

[3]**See Annexure I for the names and relevant details.**

The report also contains recommendations for infrastructure financing both in local and foreign currency.

A key recommendation which the report has made is regarding the establishment of a separate entity with the capacity to help originate infrastructure development projects as well as finance them. For this purpose, the taskforce has studied international models already in existence in countries such as India, Columbia, Chile and South Africa. A separate chapter on international successful models and credit enhancement mechanisms has also been included. The last chapter contains the details of the proposed infrastructure institution.

2. INFRASTRUCTURE DEVELOPMENT FINANCIAL INSTITUTION

2.1 INFRASTRUCTURE PROJECT DEVELOPMENT FACILITY (IPDF)

Given Pakistan's underdeveloped debt markets and short tenor of banking deposits, a specialized institution becomes a pressing need. In this regard, Pakistan has already taken some important steps. First of all, in order to facilitate private investment, the Ministry of Finance, Government of Pakistan, established the Infrastructure Project Development Facility (IPDF) in May 2006, to facilitate the preparation and closure of PPP transactions between public sponsors and private investors and to determine the funding gap for public funding for making transactions viable while minimizing the cost for the public through competitive bidding. IPDF will provide expertise and hands on support to Implementing Agencies (line ministries, provincial Governments, local bodies, and state owned enterprises) in improving their PPP proposals, preparing them for tendering and supervising the bidding process without becoming a contract signatory to a transaction.

Sectors that the IPDF plans to focus are:

- Transport and Logistics;
- Mass Urban Public Transport;
- Municipal Services – Water and Sanitation, solid waste management, low cost housing, health and education facilities;
- Small Scale and Rural Energy Projects.

2.2 INFRASTRUCTURE PROJECT FINANCE FACILITY (IPFF)

IPFF has been created by the Ministry of Finance as a complementary organization to the IPDF, purely to assist in the financial aspect of PPP development. IPFF will collaborate with the IPDF and will also develop essential links with commercial and financial institutions, multilateral banks and the wider investment community. IPFF will independently evaluate PPP projects and provide all financial support that is required for the project to be commercially acceptable. This support can be in various forms, namely:

I. **Loans** – Senior and subordinated loans tailored to individual project requirements designed to meet initial funding needs or 'seed capital' to enhance the feasibility of the project.

I I. **Grants** – To meet the revenue gap where the commercial revenues do not entirely cover the cost of the PPP.

The GoP will provide endowments for the initial years of IPFF to allow a smooth transition into a regulated body that has commercial viability and the ability to function independently as a viable source of PPP financing. IPFF will also promote awareness of PPP potentials and encourage wider participation from the private financial institutions.

2.3 PROPOSED NEW INFRASTRUCTURE DEVELOPMENT FINANCIAL INSTITUTION (NIDFI)

Pakistan has a large and accumulating Infrastructure backlog, across all sectors. Infrastructure financing models based on commercializing risk do not exist (IPPs are essentially Government guaranteed, further enhanced for selective risk by the IBRD.)

The IPDF is the GoP's first step towards institutionalizing the development framework. Given the scale and urgency faced, a New Infrastructure Development Financial Institution (NIDFI) would be warranted, that supplemented and did not replicate the work of the IPDF. Given IPDF's mandate and its proposed modus operandi, this would be possible, as discussed in the report.

The IPFF could be a common financing facilitator, to both the IPDF and NIDFI.

2.4 NIDFI CORE BUSINESS OBJECTIVES

NIDFI will be established with investment from MLBs (Multilateral Banks), Banks in Pakistan and/or abroad, and regional entities investing in Pakistan.

Well structured PPPs, with identifiable sources for debt servicing assigned to the lenders, besides pre-packaged credit enhancements and viability gap cover, would allow a project to be financed without additional Central Government guarantees. This would mitigate the burden of indirect budgetary obligations, such as represented by the IPP payment arrangements that would accumulate with Infrastructure project proliferation

NIDFI will be set up as a commercial venture, with the aim of listing itself on the domestic Stock market within a couple of years of commencing operations.

2.5 SCOPE OF BUSINESS

NIDFI will originate and help structure viable projects in a variety of Infrastructural sectors not covered by the IPDF's mandate, such as Power generation and distribution. Also, while the IPDF will originate projects from within Government to be offered to the Private sector, NIDFI can proceed from the other direction, by originating projects on behalf of the Private sector and intermediate their closure with the respective Government agency.

NIDFI will use traditional lending structures, as well as mobilize new sources of international debt/equity funding, such as International Institutions, Specialized Investment Banks and Private Equity players. NIDFI would thus develop Infrastructure as an asset class available in the form of Equity and/or Bonds as appropriate to investor demand. It would also help create/deepen long term local currency Fixed Income markets, a critical requirement for sustaining Infrastructure Finance.

2.6 SECTORS WHERE THE PRIVATE SECTOR MAY INITIATE PPPs

- The entire power sector, including new areas such as Wind energy;
- Upgrading national industrial and commercial Logistics, Industrial parks, Industrial and commercial warehousing, Port/airport management etc;
- Air transport, private mass transit initiatives , Rail freight privatization etc;
- Commercial real estate development in partnership with Government agencies, e.g. Hotels, with Railways and Ministry of Tourism; restructuring and consolidation of Government property portfolio to release, refurbish and market commercially valuable space, etc.

2.7 NIDFI's ROLE IN POLICY DEVELOPMENT

Given a transparent process for awarding projects and a sound contractual system to protect investor interest, PPP projects will attract investors.

IPDF has greatly facilitated future work by preparing formal documentation approved by the Ministry of Law, for what feasibility studies prepared by Government should evince; key features that need to be addressed in contractual documentation and model contractual documentation.

Ideally, Government bodies should be generating PPP projects freely and progressively. IDPF's guidance in time should not be necessary. Already in Health and Real Estate, there are operative PPP programmes at local, provincial and central levels.

3. POWER SECTOR ISSUES

3.1 CURRENT STATUS

The current state of infrastructure in Pakistan will curtail investment and not be able to sustain high growth rates. According to the survey results of World Development Indicators 2006, 39 percent of the top executives consider electricity problems as the major constraint towards growth in investment in Pakistan (almost at par with indicators such as political uncertainty). Likewise, according to an estimate by Planning Commission, inadequate powers and energy supplies may force the firms to generate their own power which can tie up as much as 12 percent of their capital. Power shortages are estimated to cost as much as 6 percent of the annual production. Moreover, power shortages hurt the export competitiveness of Pakistan, due to higher costs and delays production which becomes costly due to the time bound nature of international orders.

Pakistan, despite possessing adequate resources, has been lacking in optimizing utilization. The reserve to production ratio is quite high in Pakistan.

Table 1: Underutilization Of Potential Power Resources In The Country

Fuel	Annual Production	Reserves to Production Ratio
Oil	23.94 million bbl	14
Gas	1.40 tcf @ 900 btu/scf	21
Coal	4.59 million tons	678

Power	
Installed Hydel	6,600 MW
Potential Hydel	46,000 MW
Utilization %	14.3%

Source: Pakistan Energy Year Book 2006

Currently energy demand is increasing at the rate of 7.4 per cent per annum which has created shortage of around 2,000 MW of electricity. Energy consumption increase in 2005 was 5 per cent higher than the real GDP growth rate which indicates that the energy consumption is significantly higher than the real GDP growth.

Weak distribution network leads to high power losses. WAPDA reported 24.10 percent system losses in FY06 which are estimated higher by other sources. Most of the system losses are due to poor distribution network. In this regard, NTDC needs almost 26 billion rupees (US$ 400 million a year) and KESC needs over 14 billion rupees (US$ 230 million a year) to improve the distribution system.

By 2010, Pakistan needs to add around 8,000 MW of capacity which would require at least US $ 18 billion of investment and a significant part, around US $ 9 billion, has to come from non budgetary sources. However, the progress so far has been rather slow and by all accounts will fall short of this target. As already stated the longer term requirements are much higher, as by 2030 additional capacity of 143,310 MW is planned.

Private sector participation is being planned to play a major role in future. However, in order to ensure its participation various policy impediments have to be removed.

3.2 IMPEDIMENTS TO PRIVATE SECTOR PARTICIPATION

The present price structure is "cost" based but fixed after approval, thereby shifting the risk of cost increases to the sponsors. However, the "costs" presented by the investors are not accepted as such but are "determined" by the regulator. In that sense, the regulator has become the price determining body, and may or may not be in line with rapidly changing market forces.

The tariff is calculated by NEPRA after giving a haircut on the estimates and fixed thereafter, other than specified pass through items like fuel price and interest rate benchmarks. Therefore, the investor bears the risk of feasibility stage estimates being off the target. In this tariff structure, return on equity is capped at 15 percent assuming the costs are exactly what NEPRA approves. However, on the other side there are no limits on the downside as the return can even become negative, or the project can be abandoned, if international market conditions change for equipment supply and construction services. Moreover, the tariff structure penalizes the investor by passing the benefit of achieving higher than agreed output to the purchaser, while disallowing the costs to the investor in case output is lower than contracted. Moreover, the time between approval and closure is often very long and therefore costs fixed at the time of the approval invariably increase. The process therefore, effectively forces the investor to either build a "margin of error" in the costs or first sign a contract for equipment/construction with the price remaining fixed for 6-12 months, even before coming to NEPRA. The first option puts more risk on the investor, while the second increases the cost of construction (on account of fixing the equipment/construction price for 6-12 months). In either case, the system promotes inefficiency.

The level of documentation required by NEPRA is very large as it requires even the minutest of details. Heavy documentation slows the process time. Moreover in its approval process, NEPRA scrutinizes every piece of information including that which may have little relevance; for example even the purchase of land or the particular type of machines being bought is questioned. This results in "second guessing" on technical details that have already been worked out between the sponsor and the buyer. Due to cost based tariff determination, NEPRA even questions the rate at which the financing is obtained without having the financial expertise to evaluate the same.

Another core issue together with the pricing mechanism is one of supply of fuels. The 2002 Policy was originally designed to promote local fuels and discourage imported fuel projects. As such the target was to develop gas, coal and hydel plants. However, gas supply is facing severe shortages; coal from Thar Desert will take at least 5-7 years to extract; and hydel stations continue to face policy and pricing issues. On an overall basis, the government needs to rebalance its energy mix and work on diversifying its fuel base for power generation by working on coal, hydel and possibly nuclear plants for the long term. Only a limited

number of projects can be provided gas in the near term. As a result, near term capacity can only be supplemented by imported oil projects. While the tax incentives have now been equalized between gas and oil projects, the price of oil fired generation is very high given today's oil prices. This creates a natural tension between the regulator and the investors.

Given that the oil and gas sector is heavily regulated and as such the supply of fuels is not free, government cannot get out of assuring fuel supply on the pretext of pending privatizations until privatizations actually take place and the privatized entities become creditworthy in the context of commitments needed of them. In absence of the assurances, investors will price in higher risks and the rates will be higher. Once again, if these "market clearing" rates are not offered, NEPRA may approve projects at rates it feels comfortable with, but very few projects, if any, will actually materialize. The market forces will almost always override mismatched risk-return equations. In exceptional cases, where this does not happen, the projects may actually reach financial closure but would have financial problems during operations.

RECOMMENDATIONS

- Tariff setting is long overdue. Distribution companies should be given tariffs that progressively close the viability gap between subsidised and commercially viable operations.

- Government can consider privatising key GENCOs & DISCOs even in substantial loss making stage by subsidising losses on a step down basis, with the achievement over the step down shared as an incentive for the operator. This has been done successfully in New Delhi.

- NEPRA causes unnecessary delays by revisiting the technical details that have already been worked out and agreed between the power producer and WAPDA. WAPDA has the technical expertise in this field therefore their evaluation should be sufficient. Delays cause unnecessary increases in cost and time for the investors.

- NEPRA should have provincial level offices with the authority to deal with approval and tariff issues for small project established under the provincial government.

- On an actuarial basis, probability of new gas discoveries in Pakistan is quite high. However exploration is not taking place at the required pace due to the price cap placed by the GoP for gas purchases. GoP should pay international prices for the purchase of gas.

- Use of coal to produce power needs to be encouraged. For this coal handling infrastructure needs to be developed to enable import of coal to be used in power plants. Furthermore, Government should keep its focus on the development of Thar coal fields that can be utilised in the future.

- The overall share of renewable energy needs to be increased. Pakistan's potential capacity of over 1 GW of wind power is not being realized due to a mixture of tariff disputes, between the AEDB and the investors, and the non-availability of turbines. Once again a flexible formula based tariff, based on some international benchmark that is acceptable to all, should be used.

- Tariff disputes should be avoided and a tariff should be set after proper consultations with all parties involved. Tariff structure should contain incentives for achieving greater operational efficiencies.

4. ROADS SECTOR

4.1 CURRENT STATUS AND FUTURE PLANS

Presently Pakistan has 259,197 km of roads, of which 67 percent are paved. The share of paved roads has increased over the years which reveals improving road quality. However, Pakistan does not fare very well in road density as it is only 0.32 km /sq.km, compared to the regional average of 0.5km/sq.km. Presently, road freight can at times take 4-6 days from the ports in the south to the north of the country, which is twice the equivalent time in Europe / East Asia. There are delays in connectivity which are causing inefficiencies and losses to the economy.

For road improvement/construction in the period 2005-10, MTDF plans improvement in 14,100 km of the existing roads and construction of 7,000 km of new roads. For this purpose, estimated allocation for the total program over the next 5 years is around Rs.248 billion including Rs.217 billion under the public sector and around Rs.31 billion under the private sector/public private partnership financing[4]. This represents an increase of 125 percent compared to expenditure incurred in the previous five year plan.

4.2 IMPEDIMENTS TO PRIVATE SECTOR PARTICIPATION

The power sector despite it's problems, operates in a policy framework for private sector investment and participation. However, with roads no such framework exists. This, along with other issues, is a major stumbling block in private sector participation. In MTDF only Rs. 31 billion (out of Rs. 248 billion) have been planned to be contributed by private sector underlining the impediments.

Historically, Pakistan has had very few examples of private public partnership. In fact, the only highway project executed on Built Operate Transfer regime by the government has been Lahore-Faisalabad 4 lane divided expressway, with a project cost of Rs. 6.1 billion on a 25 year concession agreement.

Following are the major problems faced by the private sector.

4.2.1 BOT Regime is not Respected

Presently, only one road has been built on BOT by Government of Punjab through the concessionaire, Lahore - Faisalabad Construction Company (LAFCO). Here, competing roads that have been upgraded and built by Government are toll free, hence against the spirit of the LAFCO Agreement signed. This has caused revenue losses to the operator and does not set a good example for the future projects.

[4]**This represents allocation in lieu of roads only. The overall allocation to transport is higher.**

4.2.2 BOT Authority Unclear

Government officials are reluctant to take simple decisions and refer insignificant matters to most senior levels to avoid responsibility, delaying project progress. Also there is considerable opposition from Government Authorities / Agencies who may be reluctant for projects to be executed on BOT. Furthermore, there are delays in the approval of designs and in the clearance of the project by the Environment Agencies.

In this regards a separate BOT authority / entity comprising technical, financial and legal members are needed to address issues expeditiously.

4.2.3 Financial / Legal Impediments

BOT laws on financing are not drawn up yet and lenders reluctant to offer debt on revenue securitization alone. They require tangible assets as collateral. The documentation is complicated and bank charges are quite high. Lenders are reluctant to reschedule payments to off-set interest rate rises.

For litigation cases during construction, no help or guidelines are provided by the Government.

4.2.4 Land Acquisition

Land acquisition is a very lengthy procedure. The acquired land is mutated in the name of sponsors but payments made to Government are distributed to the owners with delays. All while 15 percent compound interest is paid by client from the date of site occupation.

4.2.5 Political and Economic Stability

Transfers of powers at grass root level are still at infancy stage. TMAs (Tehsil Municipal Authority) generally do not cooperate in urban areas and even levy illegal taxes to generate revenue.

Demands for unauthorized cuts and U Turns in median by MNAs, MPAs and TMAs creates traffic problems and design violations.

Removal efforts for illegal encroachments, construction of roads, illegal parking and venders do not get police assistance and traffic police are generally reluctant in solving traffic congestions.

4.2.6 O& M Phase

Generally, the Government recovers maintenance charges through tolling over bridges or motorways over prolonged periods with low rates charged. In BOT, capital and maintenance costs are to be recovered during the concession period, thus the rates need to be generally high which is difficult to implement.

Court cases by industries and transport sector have been brought to challenge authority for levy of taxes, due to non existence of BOT laws in the country.

4.2.7 Tolling

Government needs to issue notification for the toll rates with formula for yearly increase and for leasing of the rights for levy and collection of the toll to the BOT operators. Agreement in the CA is not taken valid by Courts on the pleas that notification is required for each rate and its increase.

Rates are generally at par with alternate routes like M-2, though the NHA is not increasing toll rates in view of the expected commuter objections. This compels BOT concessionaire to keep lower rates, to avoid diversion of the vehicles to alternate routes.

RECOMMENDATIONS

- Provincial Governments should establish a policy framework for PPPs in roads. Special cell should be created to handle BOT projects and to provide a 'one window operation'. Members should be drawn from relevant Departments and should be headed by a secretary level person.

- Land Acquisition Act should be amended to streamline the procedure of value assessment and quick dispersal of compensation. In case of litigation the Government council to plead the case and not leave the concessionaire alone.

- Necessity of notification by the Government for annual increase be dispensed with and due amendments in the Highway Act should be carried out to make the concession agreement clauses binding on all concerned.

- Regulatory body to be set up to investigate the loss of cash flow for investors due to adverse Government actions like opening up of alternative routes and not building connecting roads.

- Alternative sources of revenues need to be explored. One example of this is to allow the use of land on the sides of the road to be used as commercial property. In this way the developer makes up for the loss of income due to lower toll charges. This scheme has been hugely successful in India.

5. WATER AND SANITATION SECTOR

5.1 CURRENT STATUS

The Water and Sanitation situation in Pakistan is quite undeveloped. Presently, irrigation uses about 93 percent of water available in Pakistan. The remaining 7 percent is available for supplies to urban and rural populations and industry.

According to the MTDF, about 65 percent of the total population in Pakistan has access to safe drinking water. Inadequate and irregular water supply due to low pressure has forced people to install electric pumps, bore holes, dig wells and build large storage tanks to increase the water supply thus causing inequitable distribution.

Table 2: Sanitation situation in Pakistan

Sanitation facilities available	Access to Latrines	Connected to Drainage	Connected to Open Drainage	Connected to Underground Sewerage	Garbage Collection
42%	55%	51%	35%	16%	50%

Sources: MDTF

There is no proper waste collection system and no controlled landfill sites. Pakistan spends around 0.1 percent of its GDP on water supply and sanitation. Lack of long term plans, ad-hoc and counter productive policies add to the problems.

The MTDF envisages that by 2010, access to clean water in Pakistan will be increased from 65 to 76 percent and access to sanitation will be increased from 42 to 50 percent. This means that Pakistan will have to spend around 1.3 percent of GDP on Water and Sanitation.

5.2 IMPEDIMENTS TO PRIVATE PARTICIPATION

According to the constitution of Pakistan, water and sanitation is a provincial subject. The GoP has some responsibilities mostly relating to inter-provincial matters. However in Pakistan, provinces and local municipalities are not financially stable and depend very much on the provision of funds from the Federal Government. This causes problems as no private operator is willing to sign a contract with a Government body that is not financially stable and independent. Therefore in case of Pakistan, the federal government has to be involved at all levels to achieve PPPs. Apart from this, local government/ municipalities lack the technical and operational resources to originate and design a project. There is a lack of knowledge regarding PPPs, structuring transactions and maintaining and regulating the service.

The water and sanitation system is decades old and decaying. Also the temporary fixes made to the system have resulted in deterioration of the overall system. It is difficult to quantify

the required measures needed to bring the system up to date and without a competent system, efficiency gains will not be realized.

Unlike Electricity and Telecom, Water is perceived as a gift of nature; hence user acceptance of commercial tariff is low. However, surveys and experiences of private involvement on Water and Sanitation have shown that people are willing to pay if the service is reliable and of good quality. This, compared with the fact that households pay a large amount of money in 'coping strategies', i.e. digging wells, building storage tanks and installing pumps show that households are better off paying for a reliable and adequate service.

RECOMMENDATIONS

- Feasibility in Water & Sanitation falls in spectrum from projects that are commercially viable (effluent plants in industrial areas) and projects that are unlikely to be commercially viable in the near future (e.g. drinking water distribution). Government should commence PPPs for commercially viable projects first.
- PPP projects should be awarded via International Competitive Bidding as it enables the choice of the best and least cost operator. The process needs to be transparent to avoid future complications.
- As oppose to BOT or BOOT, management contracts should be awarded for projects not commercially viable at the moment. The contract will need to focus on improving service quality and delivery levels. Incentives also need to be provided.
- Pooling of marginal projects by separate municipalities into a large project improves the capacity for finance of the project. Eg. Tamil Nadu.

6. FINANCING INFRASTRUCTURE

6.1 CURRENT STATUS

As already mentioned Pakistan needs huge amounts of investment in infrastructure development. A substantial portion of non budgetary allocation would have to be raised from additional domestic and foreign sources such as bank loans, capital markets etc. High reliance on the non budgetary sources (private sector, self finance and private public partnership) and modes of raising finance, such as banking sector and capital markets, is hardly surprising given the enormous infrastructure demands and public sector constraints to meet all of these requirements.

Historically, infrastructure projects in Pakistan have been financed through a mixture of both public financing and private investment (the bulk of this funding has been met through government resources). As mentioned in the beginning, current MTDF anticipates funding requirements for infrastructure development in Pakistan for the period 2005 – 2010 at approximately US$ 40 billion. The government has already committed to fund US$ 22 billion

through its own sources; the remaining amount of roughly US$ 18 billion needs to be met through a combination of foreign aid/loans and private investment.

6.2 CURRENT IMPEDIMENTS

There are certain factors inherent in both infrastructure project financing and the domestic capital markets that hinder/limit private participation in such endeavours.

Infrastructure finance is of a typical nature as it is characterized by long construction periods, delayed returns and non recourse financing. Even after revenues begin to materialize these are limited due to sale arrangements (e.g. PPAs). The market demand for both loans and debt capital market products in Pakistan is generally restricted to tenors of between 5 – 7 years and investors are highly reluctant to lend money for longer periods. Moreover, Pakistan's debt markets as well as capital markets are not developed. The debt market is hardly 5 percent of GDP and moreover is highly illiquid. The banking sector which dominates the financial sector in Pakistan though relatively developed still compares poorly with the rest of the world in terms of Bank Assets to GDP ratio which is quite low compared to its regional peers. In June 2007, Bank Assets as a percentage of GDP was 51.8 percent and Equity market capitalization as of GDP was 46.1 percent only. Thus the issuer/borrower will need to provide highly attractive returns and/or airtight security in order to successfully solicit private investment for tenors above 7 years.

Table 3: Structure of the financial systems in the Asian countries

Economy		**Bank Assets**		**Equity market capitalization**			**Bonds outstanding**		
	% of GDP			% of GDP			% of GDP		
	1997	**2004**	**2005**	**1997**	**2004**	**2005**	**1997**	**2004**	**2005**
China	124.	207.4	191.6	11.2	27.1	20.9	12.9	29.3	28.6
India[6]	**n/a**	**78**	**79**	**n/a**	**56**	**70**	**n/a**	**36**	
Korea	67.7	118.0	91.9	14.5	51.8	89.6	45.0	75.6	74.9
Malaysia	100.6	170.0	162.5	93.0	154.2	140.6	56.9	90.5	89.7
Pakistan*	**49.1**	**53.9**	**55.6**	**16.8**	**25.2**	**41**	**5.4**	**7.1**	**5.5**
Philippines	76.5	68.4	61.3	51.4	34.0	39.3	30.5	29.7	35.6
Thailand	79.7	127.4	102.1	15.1	70.6	69.7	7.1	40.7	40.2
Hong Kong	208.2	343.3	443.3	238.0	528.5	591.9	26.4	47.1	46.5
Singapore	122.7	178.0	185.3	111.5	203.7	220.3	24.8	73.6	68.2

Source: IFS, BIS ADB Asian Bonds Online , Mckinsey SBP and RBI websites
**Pakistan's outstanding bonds do not include T-bills.*

Moreover banking sector is also constrained by short tenor deposit structure. In fact, Pakistan is rather a unique case as most of its deposits are of shorter tenor.

[6] **These figures are approximate figures computed from RBI's report. Mckinsey gives deposit/GDP ratio of India at 68percent**

Table 4: Composition of Bank Deposits				
Country	Month	Demand Deposits	Savings Deposits	Time Deposits
		(as percent of total deposits)		
Pakistan	**2006M6**	**28.5**	**47.3**	**24.2**
United States		7.0	57.0	36.0
Korea	2005M12	9.8	...	90.2
Thailand	2006M5	3.4	36.1	60.4
India	2006M9	15.5	0.2	84.3
China	2006M8	30.1	52.3	17.6
Philippines	2006M9	13.1	53.8	33.1
Australia	2006M9	23.1	33.2	43.7
Sri Lanka	2006M6	15.4	44.5	40.2
Sources: IFS and Central Banks' websites.				

This deposit structure severely constraints banking sector's ability to finance infrastructure which by its very nature requires long term financing. A major step needed would be to increase the tenor as well as the depth.

Financing infrastructure would require development of credit enhancement mechanisms and effective and increased utilization of both banking and non banking sources. Non banking sources such as bond market needs to be developed and Pakistan would also need to establish specialized institutions housing infrastructure development and financing facilities that can also lend long term.

While taking large foreign currency loans to fund infrastructure development is a popular approach in developing countries such as Pakistan, there are numerous risks involved. For example, excessive borrowing of foreign loans may in fact deteriorate the balance of payments deficit. Furthermore, the risk of a possible devaluation of the local currency and the consequent effects on the economy may restrict development and growth of the local financial market. To avoid this, countries like Pakistan should preferably meet their infrastructural financing needs through local capital markets. This is also necessitated by the growing trade deficit which has reached over US $9.5 billion in FY07.

Another problem that needs to be addressed is the markets inability to provide infrastructure projects with fixed rate lending. The recent past has seen high levels of volatility in interest rates, with the discount rate rising from 2 percent to its current level of around 10 percent. Under such an uncertain interest rate environment, lenders are highly hesitant lending at a fixed rate over a long period of time, especially given the limited appetite in the Interest Rate Swaps (IRS) market and thus their limited ability to swap their exposures from fixed to floating. The problem is further complicated by the short term nature of deposits held by banks, which act as an impediment to lending the long tenors required in infrastructure financing.

A large number of the infrastructure projects are being streamlined by various municipalities/public sector enterprises across the country. In the past, guarantees given by these institutions while soliciting investment from the private sector in these projects have not been fully adhered, which has led to a certain reluctance to lend to these parties, especially given the limited recourse the investors have on these institutions under the current legal and political framework.

The successful and timely completion of infrastructure projects is extremely important, as any delays would usually lead to cost overruns and push back the cashflows from the project which would be used to repay any borrowings. Thus lenders/investors put a high emphasis on the managements' credentials in their decisions to lend to such undertakings. Unfortunately, there is a lack of credible project management expertise in Pakistan which further adds to the hesitation of private investors to fund infrastructure projects.

RECOMMENDATIONS

- Government to provide a '*get out*' mechanism in the form of a put option.
- Develop local Interest rate Swap market.
- Encourage the development of the local debt market.
- Pension funds and Insurance Companies need to be encouraged to allow investment in TFCs and Sukuks originating from the public sector.
- Enhance private investment in public sector issuances by making them SLR eligible.
- Building capacity and skills in banks to handle infrastructure finance.

7. LEGAL IMPEDIMENTS

We are still saddled with the Stamp Act framed in 1899 causing enormous complications in commercial transactions. Currently, lawyers are forced to devise ways to avoid stamp duty but structuring a transaction to achieve the same often compromises the quality of the collateral and/or the enforceability of contractual rights.

The ideal solution would be to repeal the Stamp Act all together and replace it with a Provincial law that levies transfer taxes on sale and purchase of immovable properties only.

We think it would be quite beneficial if legislation at the Federal level is passed in respect of infrastructure projects. Such legislation would list specific concessions and provide legal cover to concessions or incentives agreed to between the Government and the project company (the "Concession Agreement") in terms of any concession/implementation agreement executed between them. In preparing this legislation, care will need to be taken to address constitutional issues that may arise.

The delays in our court system particularly in respect of enforcing contractual rights are endemic - though there appear to be signs of some improvement and numerous reforms have been tabled to improve the judicial system.

In respect of cross border disputes, Pakistan has already signed and ratified the "International Convention on the Settlement of Investment Disputes between States and Nationals of Other States". Also establishment of a commercial court similar to a banking court pursuant to a carefully drafted enactment can prove more beneficial than any other suggestion presently under consideration.

Ingenuities of businessmen and legal advisers are limitless. Consequently, no legal reforms by themselves, can be expected to rectify impediments that exist for speedy resolution of commercial disputes.

8. SUCCESSFUL INTERNATIONAL MODELS

The taskforce studied various international models and initiatives taken in this area to draw some useful lessons from those experiences. The main ones that have been included in this study are:

8.1 INFRASTRUCTURE LEASING AND FINANCIAL SERVICES LIMITED (IL&FS)

IL&FS is India's leading infrastructure development company providing a broad array of services in the infrastructure sector. It provides for project identification, to project development, advisory and finance. IL&FS consists of professionals with a lot of experience in the infrastructure sector and is a vital catalyst in the growth of Indian infrastructure.

The taskforce feels that Pakistan will benefit from an institution like IL&FS.

8.2 DEVELOPING TOLL ROADS – THE CHILEAN EXPERIENCE

The Chilean Government initiated a programme of private sector involvement for construction of their highway system. The Chilean Government developed and managed this program in a very methodical and equitable manner. It established a practical framework which provided for a fair and transparent bidding process; it clearly outlined the rights and obligations of the respective parties and set up conflict resolution procedures; it created a system of incentives and government guarantees to promote private investment; it enabled a security structure for lenders to use the public works as security in financing concessions. It housed the entire responsibility of managing all aspects of these projects under one entity – The Ministry of Public Works (MPW). The ministry of finance and the office of the controller were required to jointly sign off on the concession award.

The Chilean program was a great success. It attracted over $ 3 billion in investments from sponsors in Europe and Latin America. At least 12 projects were completed covering 2,000 km of commercially important roads.

The Chilean experience taught us that PPP in Infrastructure requires a clear policy that is carefully implemented and followed. Issues of transparency, role and responsibilities of both parties and dispute resolution processes are key to maintaining investor confidence.

8.3 TAMIL NADU URBAN DEVELOPMENT FUND

In 1988, the Government of Tamil Nadu (GoTN) launched the Municipal Urban Development Fund. This fund provided municipalities with subsidized loans and grants. It performed well, disbursing funds to over 500 sub-projects, while maintaining a 90 percent recovery rate. In 1996, MUDF was converted to an autonomous financial intermediary—the TNUDF. TNUDF was established as a trust fund, outside the government. It is 49 percent GoTN owned with the balance 51 percent owned by three financial institutions.

The Tamil Nadu case highlights the importance of local Government/ municipalities' participation in Infrastructure development. Infrastructure is a local subject and local municipalities should take charge of the development of infrastructure in their own areas. In Pakistan this is not the trend as infrastructure is still considered to be a Central government subject. Our local bodies should take a proactive role in Infrastructure Development.

8.4 POWER PRIVATIZATION IN LATIN AMERICA AND THE CARIBBEAN

Latin America and the Caribbean attracted the bulk of privatizations in the world during the 1980s and 1990s. Major generation, transmission and distribution assets were sold by the Governments of the countries in this region. The majority of the investment was in Divestitures and Greenfield projects.

The Latin America case highlights the importance of privatizing the entire value chain of the power sector as opposed to just generating assets as has been done in Pakistan.

ANNEXURES

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Annexure II(A)	Summary of different types of PPPs.
Annexure II(B)	Summary of contractual agreements under PPPs.
Annexure III	List of functions and ownership structures of various Infrastructure Development institutions.
Annexure IV	Power indicators in Pakistan.
Annexure V	Road Targets 2010.
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Annexure I

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Annexure II(A)

Summary of the different Types of PPPs

Option	Asset ownership	Operations and maintenance	Capital investment	Commercial risk	Duration	Examples
Service contract	Public	Public and private	Public	Public	1-3 years	Bill collection; facility repairs and maintenance
Management contract	Public	Private	Public	Public	3-5 years	Regional water supply management; airports and ports
Lease	Public	Private	Public	Shared	5-15 years	
Build-operate-transfer variants	Private	Private	Private	Private	15-30 years	Power Plants: toll roads
Concession	Public	Private	Private	Private	15-30 years	toll roads

Annexure II(B)

Summary of Contractual Arrangements under PPPs

Type of contract	What the Private Party usually receives	Nature of Private Party performance	Examples
Service contract	A fee from the CA for performing the service	A definitive, often technical type of service	Bill collection; facility repairs and maintenance
Management contract	A fee from the CA for the service and a performance-based incentive	Manage the operation of a CA service	Regional water supply management
Lease	All revenues, fees or charges from consumers for the provision of the service; the service provider pays the CA rent for the facility	Manage the operation of a CA service	Regional water supply management
Build-operate-transfer	The CA mostly pays the service provider on a unit basis	Construct and operate, to specified standards and outputs, the facilities necessary to provide the service	Building, construction and maintenance of regional schools, prisons or hospitals
Concession	All revenues from consumers for the provision of the service; the service provider pays a concession fee to the CA and may assume existing debt	Manage, operate, repair, maintain and invest in public service infrastructure to specified standards and outputs	New airport or seaport facilities, toll road or bridge

ANNEXURE III

INSTITUTIONAL FUNCTIONS

INSTITUTIONS	ORIGINATE	STRUCTURE	FINANCE		IMPLEMENT	OWNERSHIP		
			Primary	Secondary		Govt.	Mixed	PVT
INDIA								
• INST. ROLE (E.G.)		•	•	•	•			•
• Tamil Nadu		•	•	•			•	
• IL&FS	•	•	•		•		•	
• IIFCL			•	•			•	
COLUMBIA								
• FINDETER								
PAKISTAN								
• IPDF/IPFF	•	•	•		•	•		•
SOUTH AFRICA								
• INCA			•	•				•
	- Identify Projects - Assess PPP potential - Appoint consultants	Viability Gap - Tariff/ Tax Balance - Government Commitment - Project Design	- Syndication Role - Core lender - Equity Position	- Refinance - Credit Enhancement	- Monitoring Performance Review - Balancing Contractual Obligations			

Annexure IV

Power indicators in Pakistan

	FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06
Installed Capacity (MW)										
Hydel WAPDA	4,825	4,825	4,825	4,825	5,009	5,009	5,009	6,463	6,463	6,463
Hydel IPP	0	0	0	0	30	30	30	.30	30	30
Thermal GENCOs	6,595	6,826	6,826	6,627	6,496	6,496	6,496	6,590	6,590	6,590
Thermal IPP	3,061	4,050	4,167	5,010	5,692	5,977	5,977	5,977	6,015	6,005
Nuclear (PAEC)	137	137	137	137	462	462	462	462	462	462
Total	14,618	15,838	15,955	16,599	17,689	17,974	17,974	19,522	19,560	19,550
Addition this year	1,680	1,220	117	644	1,090	285	0	1,548	38	-10
Energy Generation (GWh)*										
Hydel WAPDA	20,858	22,060	22,448	19,288	17,196	18,941	22,253	27,372	25,588	30,751
Hydel IPP	0	0	0	0	63	115	97	105	83	104
Thermal GENCOs	28,511	24,937	26,529	30,603	28,535	30,799	32,262	34,446	35,805	37,019
Thermal IPP	10,740	13,580	25,326	17,418	21,722	20,043	18,731	16,582	21,512	24,760
Nuclear (PAEC)	0	0	0	10	2,616	3,077	3,313	3,980	4,125	4,091
Total	60,109	60,577	64,303	67,319	70,132	72,875	76,656	82,485	87,113	96,725
After Adjustment M&X to KESC	58,967	59,593	62,511	65,493	68,340	71,664	74,917	80,679	84,709	92,892
Units Generated (GWh)	50,782	53,259	53,683	55,873	58,455	60,860	64,040	69,094	73,520	82,225
Max Demand (MW)										
Undiversified	10,081	10,762	10,804	11,411	11,893	12,243	12,885	13,600	14,582	15,289
Diversified	9,883	10,551	10,592	11,187	11,660	12,003	12,632	13,333	14,296	14,989
Energy Sales	43,027	44,823	43,239	45,514	48,515	50,611	52,658	57,503	61,354	66,988
No of Consumers (000)	11,206	11,605	12,248	13,193	13,836	14,361	15,003	15,841	16,714	17,793
Villages Electrified	64,568	65,951	67,183	68,292	69,887	71,561	73,807	81,000	90,467	103,231
Losses (GWh)										
Auxiliary	1,222	1,071	935	1,200	1,173	1,318	1,346	1,397	1,464	1,821
Transmission	4,169	4,470	4,181	4,017	4,594	4,600	4,908	5,054	5,467	5,839
Distribution	6,862	8,296	9,447	9,746	9,304	9,738	10,365	1,151	11,247	12,160
System Losses	12,253	13,837	14,783	14,963	15,071	15,656	16,619	17,602	18,178	19,820
Losses %										
Auxiliary	2.41	2.01	1.74	2.15	2.01	2.17	2.10	2.02	1.99	2.21
Transmission	8.21	8.39	7.79	7.19	7.86	7.56	7.66	7.31	7.44	7.10
Distribution	13.51	15.58	18.01	17.44	15.92	16.00	16.19	1.67	15.30	14.79
System Losses	24.13	25.98	27.54	26.78	25.78	25.72	25.95	25.48	24.73	24.10
*Export by KESC to WAPDA excluded & included import from KESC	1,142	984	1,792	1,826	1,792	1,311	1,739	1,807	2,404	3,833

Source: WAPDA Power System Statistics 2006

Annexure V

Roads Target 2010

Sr. No.	Description	Improvements (km)	Construction (km)
1	National Highways	6,500	2,500
2	Provincial Roads	6,600	4,000
3	Special Area Roads	1,000	500
	TOTAL	**14,100**	**7,000**

Source: MTDF - 2005-10

Annexure VI

Examples of PPP in Water and Sanitation

Country/ City	Type of Contract	Contracting Authority	Method of choosing Operator	Obligations	Current Status/ Achievements
Amman	Performance based management contract (1995)	Central Government (Water Authority of Jordan)	Competitive Bidding	-Meet & improve Quality Standards -Achieve constant water supply -Repair and Replace faulty meters -Reduce no. of water facility breakdowns -Improve customer bill collection	-Water supply increased from 4 hrs a day to 9 hrs a day -Household with piped water connections increased from 90% to 100% -Tariff reduced by 7% due to efficiency gains
Cartagena (Colombia)	Affermage lease contract with joint ownership arrangements (1995)	Local Government (Municipality of Cartegena)	Competitive Bidding	-Increase no. of connections -Improve bill collection -Improve operating efficiency of the network -Improve internal utility management and administration	-Supply increased to nearly 24hrs a day -Connection rate in poor areas risen from 35% in 1995 to 60% in 2005 -Tariff reduced by 46% due to efficiency gains
Cochabamba (Bolivia)	Concession (1999)	Central Government	Competitive Bidding and then negotiations	-Meet 5 year moving coverage targets until 100% water and waste water network coverage was achieved in the year 2034.	Terms and conditions were very draconian -Water rates increased immediately by 100% to 200% in some cases -Due to civil disobedience and protests the concession was terminated
Metro Manila	Concession (1997) Awarded to 2 companies: Maynilad Water Services and Manila Water Co. Inc	National Government	Competitive Bidding	-Achieve annually increasing coverage targets -Achieve targets for percentage of water treated (water and wastewater) -Achieve continuity of supply and pressure -Improve customer services	-Supply increased to nearly 24hrs a day in many areas -Water connection increased from 7.3 million to 10 million households -Maynilad lost lots of money and give the concession back
Gdansk (Poland)	Affermage Lease (1992)	Local Government	Direct negotiation process	-Maintain continuity of service and quality of water and sewage -Reduce operating costs and water losses -Modernize management systems -Improve customer service quality	-Tariff reduced by 150% due to efficiency gains -No other significiant gain as service was of high quality even before the PPP -However, the system was maintained
Senegal	Affermage Lease (1996)	Central Government	Competitive Bidding	-Achieve network targets as specified in the contract -Achieve leakage reduction, water quality improvements, bill collection and customer services	-Supply increased to nearly 24hrs a day -Water connection increased from 59% to 73% -Connection rate for poor households increased from 22% in 1996 to 60% in 2005

Source: Approaches to Private Participation in Water Services-A Toolkit: The World Bank