

Keynote Paper

GLOBALISATION, IPP'S, ENERGY SECTOR AND CHALLENGES TO THE DEVELOPING NATIONS

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Abstract A free electricity market with no single firm controlling the entire process from generation to distribution is an attractive possibility, now put forward during the present era of economic globalization by the donors and aid giving agencies to the developing nations. Some time this being considered as a precondition for loan negotiation. Such approach has already been adopted by some nations and others are also considering them actively. Developing countries are currently attempting to privatize and unbundled their electrical utility industries or to adopt a mix of private (local + IPPs) and public. This presents 'once in a life time' opportunities to approach the complex issues associated with restructuring a key sector of the economies with a clean slate before political pressure get in the way. Such reform and restructuring process is a very complex task. The interface period of such reform process is very painful. The forecasted success is yet to be achieved, it is risky & it varies from country to country. The paper will analyse the experiences and the mistakes faced by the industrialise & developing economics and put forward the strategies to be followed by the developing countries to get the process right.

INTRODUCTION

To meet high economic growth, the demand of electricity in developing economics has been growing at a remarkably high rate and this growth rate is expected to continue in future. To develop an infrastructure that can meet this high demand has been a challenging task for the planners and decision makers. As observed during the recent years, electric power infrastructure of developing countries including Bangladesh has been lagging behind the high power demand driven by economic development. Often, the supply of adequate and reliable power supply has been a bottleneck in the development effort.

Financing is a formidable issue that has consistently plagued the infrastructure development effort. The availability of funds from World Bank, IMF, Asian Development Bank etc. donors agencies are not readily available. They came forward with conditionalities for power sector reform and restructuring as a prerequisite of loan agreement. They sometime advocated for private sector participation in power sector and to look for FDI (foreign direct investment). But for such funding the conditionalities remains the same where most of the cases negotiation are being organised by the donor agencies like WB, IMF, ADB etc. For attracting FDI the developing countries are also ensuring all types of VAT, TAX exemption for the project & for the personnel associated to the project.

THE PROBLEM OF RESTRUCTURING

To meet the Donors conditionalities, developing countries are currently attempting to privatise their electric utility industries. Those represents a 'once in a life time' opportunity to approach the complex issues

associated with restructuring a key issue of their economics with a clean slate before political pressures get in the way.

There are many different theories on the specifics of restructuring, one point is absolute the end goal of any restructuring effort must be to maximise the consumer's welfare. That is to say, public policies should scale to promote good market performance. Good market performance is usually characterized by the presence of static economic efficiencies (declining prices), dynamic economic efficiencies (innovation in new services or technologies), or a combination of both.

If a market is performing well, then consumers enjoys other benefits such as full employment and the long time growth of real income per person. Therefore, the developed & industrialized economy for ensuring competition and deregulation the need for to formulate policy paradigms designed to establish a structured framework conducive to competitive rivalry, under which firms could be unable to engage in strategic, and competitive conduct, even they tried.

CONCEPT OF TRANSACTION COST ECONOMICS

Transaction cost economics attempts to determine the optimal organisational arrangement that minimizes transaction cost. under different sets of circumstances. According to Lawrence J Spiwak President of the Phoenix Centre for Advanced legal and Economic public policy studies of Washington D.C. transaction cost economics is based on the assumption of "bounded rationality" i.e. economic actors are assumed to be rational, but only to a limited extent. For example, a vertically integrated utility has the incentive to engage

in strategic anti-competitive conduct by foreclosing rivals access to transmission to protect its sunk generation investments. In contrast, a firm that is in the exclusive business of selling transmission has the incentive to sell as much transmission as possible because as more firms use its grid, the more profitable its business becomes.

Transaction cost economics also suggests that corporate internal governance (a firm) and markets are attractive methods of resource allocation. Therefore the most efficient organisation of a business is either to enter the market and contract with other business for goods and services on a transaction specific basis, or to bring transaction 'out of the market' and into a firm.

The transaction can be viewed in respect of three criteria.

(i) Frequency of transaction – How often it is to be carried out. If the Transaction is to be carried out with greater frequency, then perhaps it is better to bring the transaction into the firm.

Alternatively, if the transaction is infrequent (New plant construction) then the most efficient allocation of resources would be to go into the market and to complete the transaction by contract.

(ii) Asset specificity – how unique is the asset in facilitating a particular transaction? again more specific the asset (for example sunk generation facilities, bulk power lines) the more sense it makes to bring, the asset out of the market and into the firm. Conversely, the less asset specificity required (for example, emergency power), the more efficient it is for a firm to transaction to open market.

(iii) Degree of uncertainty – how big is the risk? If the risk is large, then vertical integration into a firm is the more efficient organization of the business. If the product is easily replicated, however, then the more efficient organization of the business is to conduct transaction on the open market.

Given the severe repercussion of failing to meet stringent, 'obligation to serve' mandates it is more efficient for utilities to ensure reliable power either via integration or by long term contract, rather than by purchasing the majority of their base-load power on an hourly or daily basis.

Conversely, if a utility has conducted its load forecasts accurately, then the risk that it will have insufficient power to meet demand will be small, and therefore, it will be more efficient for the utility to purchase emergency power on an individual, case by case basis.

Contrary to economic literature, the Federal Energy Regulatory Commission (FERC) of USA believes that all vertical integration is unlawful. It is attempting to turn electricity into a commodity so that firms, will find it more efficient to contract for power on the open market rather than on a vertically integrated basis.

As a Uni-polar world, USA being the country directly or indirectly dictating the developing countries through WB, IMF, ADB and its donors, irrespective of their size and capabilities to unbundled the utilities. Giant multinationals like AES, Enron etc. are now in the market of developing countries as IPP's and Transco, Market Co etc. name.

Under such an environment the experience of IPP'S, the restructuring & reforming of the power sector in Bangladesh & India is given below.

REFORMING THE POWER SECTOR OF BANGLADESH

Today, the country Bangladesh is at a very low level of electrification with 4.35 million out of 130 million consumers (over 50 per cent belong to REB/PBS) having the privilege of electricity use. Scarcity of funds has been one of the major constraints impeding faster development of the power infrastructure in the country. Nevertheless, the unmet need is considerable. One of the major factors constraining economic growth of the country as indeed some other South Asian economies, has been, inter alia, the management strategy, while the East Asian countries pursued an outward looking strategy, Bangladesh pursued, for a prolonged period of time, inward policies. Thus, the government played the key role in administration monitoring and regulating the utilities with minimal autonomy operations management. These policies, amongst others, inefficiencies in management and development of institutions dealing with the power sector. It was only in the early 1990s that Bangladesh began to change its power sector development strategy.

An inter-ministerial working group was constituted in February 1993 to review the necessity and feasibility of reforming the power sector with the objective of attracting private investment into this sector. The working group reviewed the operational, structural and other deficiencies of the sector, examined various options with regard to reforms and emphasized the necessity for private investment and participation on an equal footing with the public sector. Power generation and its supply, however, remained a state monopoly. The government continued to own, operate and regulate the power sector entities, which sometimes resulted in overlapping and undemarcated responsibilities with lack of accountability in terms of sector entities, operational performance and service standards.

It may be noted that, reform action in the power sector was initiated as far back as the late 1980's under pressure of the World Bank's program loan designed to instigate energy sector reforms. The original agenda for reforms were very extensive in their scope and was implemented slowly and reluctantly. Thus, the more difficult areas of the restructuring program were not initiated till 1996.

TARIFF

In FY 1998, BPDB's (Bangladesh Power Development Board) average retail tariff for its ultimate consumers was Tk. 2.61/kWh (US \$0.055/kWh), DESA's (Dhaka Electric Supply Authority) was Tk. 2.63/kWh (US\$0.0554/kWh), and PBS's (Palli Bidyut Shamity) Tk. 3.30/kWh (US \$0.07/kWh), leading to a weighted average tariff of Tk. 2.76/kWh (US \$0.058/kWh), as compared with the estimated long-run marginal cost (LRMC) for supply of power of Tk. 3.86/kWh (US \$0.078/kWh). The LRMC may decline sharply due to the lower cost of production from the IPPs (Haripur and Meghnaghat). However, the tariff levels of the BPDB were always low in relation to its costs as well as financial requirements of its operating units. BPDB's average tariff was only about 16 per cent of its long run marginal cost (LRMC). In a sense, both BPDB and DESA provided implicit subsidies to the PBS's through a bulk supply tariff which is 52 per cent of the LRMC. In the last three years, however, the government has adopted a electricity tariff formula and the tariffs have been revised on that basis twice a year for the last two years (almost 25 per cent in four installments).

THE REGULATORY COMMISSION

With the strong donor prescription GOB has initiated an action to form the independent regulatory body. The draft has been approved by the Ministry of Energy & Mineral Resources (MEMR) and it will be placed to the parliament for approval. Once approved such commission will be responsible for tariff fixation. But being appointed by the Government & government being the budget approving authority the autonomy of such commission is questioned in the developing countries.

UNBUNDLING AND RESTRUCTURING

Although it was not initially so conceived, the process of unbundling of the power sector had already been but into motion, when REB was established in 1977/78 accelerate the process of rural electrification programmes. However it was really the phase of high system loss from among the countries (Table 1- 3), with very low revenue collection from the mid to late 80s when the GOB came under severe pressure from the donor community to further unbundle BPDB. Under the provisions of the 1989 Energy Sector loan of the World Bank, DESA was created in 1991. the third phase came in the mid to late 90s, when the process of unbundling moved beyond the distribution component, to the transmission component of BPDB. A new corporate entity under the Company Law 1994 was created, namely, Power Grid Company of Bangladesh (PGCB). Meanwhile the PBDB took the initiative to create a fair and competitive basis for providing access to IPPs to participate in the enhancement of power generating capacity in Bangladesh by providing them with a competitive environment to market their power.

In late '90s, Dhaka Electric Supply Company (DESCO), an independent power distribution company was created in 1990 through unbundling of DESA under the Company's Act. It may be noted that while the REB model has worked reasonably well in extending access to power in the rural areas. But once it was given with the distribution in the urban & industrial areas, its losses were increased from 14% to around 19%. DESA has largely failed to show any improvement and DESCO also failing to show improvement. The initial signs for DESCO were not very positive due to management mishandling and the perpetuation of the same DESA culture into DESCO. Under the BPDB, outsourcing of commercial services through contracting out meter reading and billing to the private sector were practiced but the result is frustrating. In 1999 BPDB started "Consumer Service Samity" in its Chittagong both for developing a good culture between the consumer and the BPDB. The initial signals are positive. Table-5 gives the present state of system loss of BPDB.

Table 5 : BPDB'S System Loss

FY	As % of gross generation (including station use)	As % of gross generation (excluding station use)
1975	36.83	31.44
1978	40.24	35.33
1985	37.27	32.82
1988	42.33	36.20
1992	41.33	35.70
1996	35.04	29.45
2000	34.50	29.02

The Government through effective implementation of the reform measures intends to achieve the objectives set out by the government within a reasonable time frame. The main components of the proposed reforms are :

- separation of generation, transmission and distribution functions into separate services;
- corporatization and commercialization of power sector entities;
- private sector participation in both generation and distribution;
- introducing cost effective tariffs;
- attaining financial viability of the utilities and promoting efficient use of electricity;
- developing demand and supply management; and
- ensuring energy efficiency measures to conserve energy.

Very recently, the government has taken a decision to corporatize one of the major (BPDB's) publicly owned power generation stations at Ashuganj.

REFORM PROPOSAL BY INTER-MINISTERIAL GROUP AND CREATION OF POWER CELL

The last reform practice, by restructuring BPDB and DESA, taken in hand by GOB is being implemented presently. A London based consulting firm namely London Economics (LE), was appointed by Power Cell (PC), as per terms of reference; made elaborate recommendations on:-

- i) the strategic framework for reform,
- ii) retail, bulk supply and transmission tariffs; and
- iii) design of regulatory framework.

Restructuring of utilities, rationalization of distribution system and preparation of power tariff on Long Run Marginal economic Cost (LRMC) basis to help concentration of private investment; creation of PGCB and implementation of Independent Power Producers' (IPP) scheme under guidance of BPDB and PC were set under strategic reform.

Preparation of basic proposal of above reform, by appointing consultant, under the supervision of Power Cell (to be created new under MEMR), was proposed by an eight-member inter-ministerial group, constituted by GOB.

For about last two decades power sector of Bangladesh has been facing challenges. Its coverage is low, reliability and quality is not up to the mark. The sector needs to mobilize around \$6.6 billion in funds within 2005 to meet up growing demand. Traditional sources of investment funds will be insufficient. Major sector reforms and increased private participation, will be required to mobilize the investment. The eight-member inter-ministerial group took it to be latest basis to get prepared recommendations on reforms by London Economics (LE).

CREATION OF POWER GRID COMPANY OF BANGLADESH (PGCB)

The most talked of item of present reform proposal now, is PGCB. It is designed that when it would be in operation, in its full compass, it would bridge the generation companies and IPP's with distribution companies. It would purchase power from generation companies and IPP's and sell it to the distribution companies. This is called a vertical separation of BPDB. The consultant LE also made some other modes of restructuring. Each of the companies would perform as a profit center at any cost. It is expected that there would be some ways, which in turn make the companies profit center. A confirmed system yet, in the bud, to make companies profitable.

As mentioned earlier a reform project APPI (Action Plan for Performance Improvement) created DESA to make it a profit center. It is presently functioning like a distribution company, but DESA would still be a profit center, as per the expectation. Creation of some more companies in the name of reform nothing but would

give birth to some more companies like that of DESA. There is no calculated out come that can be achieved from the creation of PGCB.

ACHIEVEMENTS FROM REFORM

After a twenty years' reform practice it is seen that present national system loss is about 30% - 35%, accumulated accounts receivables equivalent to over 7 months electricity bills, sale-generation ratio 65% etc. Almost same figures had been prevailing in and around 1980. So, the reasonable investment made in, so-called, reform might, of course, help to do something if spent the same to improve efficiency and system reliability.

ACTIVITIES OF EMPLOYEES AND OFFICERS IN THE EVENT OF RESTRUCTURING OF BPDB

The employees and officers are in worries to lose their jobs due to restructuring of BPDB under present reform program. Different associations of engineers, officers and employees are under same banner to stop restructuring. They are aware that restructuring is due to irregular and inefficient performances of BPDB.

ACTIVITIES OF MEMR AND ITS SUITABILITY TO BPDB

What MEMR (Ministry of Energy & Mineral Resources) plans, rarely found to be good, for the utility and the country. MEMR always want to be supreme authority of the utility. To do this it is continuing its effort with multifarious efforts. Persons from administration cadres, police cadres and some other cadres were appointed in the last decade as chief executive of BPDB. It has been observed that they would run the organization by force and were maintaining close relationship with MEMR and other irrelevant sources. Team work with the deserving and appropriate technical persons were absent. In most of the cases the autonomy of the BPDB was tarnish. There was direct interference from the powerful secretaries of the ministry. Project Director's powers as given by the Government were withdrawn Decisions were pending in the ministry for month's together. Creation of new posts for new power stations were delayed by the Ministry for years leading to hiring of expatriate personnel to run the power station. Full autonomy and commercial operation of BPDB was absent almost in all respect.

BPDB & IPP PAYMENTS

The IPP payment clauses were made in such a fashion that in almost in all the cases the payments are much higher than the unit charges available in the contract. Bangladesh Power Development Board (BPDB) in 1998-99 purchased about 8 million units of electricity at the rate of average price Tk. 2.85 / unit from IPP's. During this period BPDB's own generation cost was Tk. 1.40/unit.

In 1999-2000, 1.240 Billion units were purchased from IPP's at the rate of average price Tk. 4.03 / unit when the BPDB's own generation cost was 1.49 / unit. In the agreement it was stated that 50% capacity charge should be given to the IPP's. Due to which the price given to west mound for its electricity was Tk. 9.08/unit as against the agreement price of Tk. 2.76/unit. The actual price given in this case is about 229% higher than agreement price

Similarly for KPCL (IPP Company) the purchase price of electricity in 1999-2000 was Tk. 3.71/unit as against Tk. 2.51/unit of agreement price which is again 48% higher. For NEPC (IPP Company) the purchased price was Tk. 4.83/unit. as against Tk. 2.62 unit which is again 84% higher than the agreement price. In 1999-2000 BPDB incurred a loss for about for Tk. 610 million due to adjustment of Taka & Dollar price. Similar reports we also experience by other companies BPDB in 1999-2000 incurred a loss for about Tk. 3.22 billion due to purchase of electricity with higher tariff than its own production cost. In such fashion, the state owned company's for electricity generation gradually becoming financially sick due to IPP agreements.

Here it is also to be noted that the IPP's are exempted from Taxes, VATs, duties etc. but the state owned electricity generating units are not be given with such financial benefits.

SOME INDIAN EXPERIENCE OF RESTRUCTURING

AP (Andhra Pradesh) Electricity Tariff Hikes Show Real Face of Reforms

The sharp rise in tariffs for the domestic and the agricultural consumers in Andhra Pradesh - as high as 245 per cent for some of the consumers as shown in the table - 4 below clearly indicates about the reform result.

Table 4:

No. of Units	Previous Tariff	After APERC Increase	Percent Increase	After Increase Additional Subsidy (paisa)	% Increase
0-50	80	145	181	135	168
0-100	120	390	325	295	245
0-200	165	390	236	295	178
0-300	210	450	214	450	214
0-400	290	450	155	450	155
Above 400 units	340	705	207	525	154

Andhra Pradesh, unlike Orissa, has substantial agricultural load. The cyber chief minister, Chandra Babu Naidu, has sought to cushion the impact of the sharp rise in tariffs by increasing the subsidy to the board by a whopping Rs. 1,200 crores. By this, the outflow of money for the electricity sector from the AP government will be higher than the earlier losses of Andhra Pradesh State Electricity Board (APSEB). It is also interesting that the percentage increase in the rates even after the state government announced additional subsidies is higher for the lowest slabs that the highest slabs.

The crux of the electricity reforms lies here. The argument given for the restructuring of the electricity sector is that the losses of the state electricity boards are too high for the state governments. If generation, transmission and distribution are unbundled and privatised, the losses of the SEBs will disappear from the books of the state governments.

Of course, to make the reforms palatable, the rider added is that this will not lead to any sharp increases in tariffs and the agricultural sector will continue to receive low cost electricity through explicit subsidies. What is left unsaid is that this is only an accounting sleight of hand: if agricultural and domestic tariffs are subsidised, all that happens is that instead of losses, the same outflow now occurs as subsidies. Hence, everybody's books look better; but the outflow remains the same.

REPEATING ORISSA FOLLY

If that was the only consequence of unbundling, perhaps there need not have been such a hue and cry. The problem is that despite such subsidies, the tariffs for both domestic and the agricultural sector will see a steep rise - far higher than any such rise in the past. This is in line with what has happened in Orissa. The power tariffs in Orissa have risen by more than 96 per cent in the last two and half years after these reforms.

The question then arises is that if the State government's outflow to the power sector remains the same or is higher, why do the consumers have to see such a stiff increase in power tariffs? The other related question is if the outflow from the exchequer remains the same and the consumers pay much higher tariffs, who is getting the money?

The first question: why do the consumers and the state governments have to pay out higher amounts after unbundling? There are two reasons for higher tariffs. One is that during unbundling, the assets of the SEBs have to be revalued at current market prices. If this is not done, and the assets transferred at book value to the unbundled companies (or privatised ones), this will mean transferring assets of the people at costs far lower than their actual value.

The flip side of such a transfer is that the revalued capital costs of the plant and equipment have to be paid for again by the consumers. The second reason for higher tariffs for the domestic and agricultural sector is that the regulatory agencies do not take into account the obvious - the theft of electricity by the industry - and fixes tariffs based on their supposed use. Also, as the industry is well organized, its ability to intervene in the regulatory process is far greater than that of other sections of the people.

The assets of Orissa State Electricity Board on the books for hydel projects were virtually zero. Hence the cost of hydel power in Orissa was less than 20 paisa.

Once a Orissa Hydel Corporation is formed and privatised, a realistic market value of the hydel assets have been computed. A simple basis of such a market value is what it would cost somebody to build new facilities to produce power discounted by the life of the plant that has been used up. Thus, if a hydel project has only 20 years of life left, it is computed how much power it will produce in the next 20 years and what it will cost is today to put up a similar facility with - a 20 year life span. This is the replacement value of the assets.

Once this is done and the assets transferred to the Orissa Hydel Corporation at this cost, the cost of power is no longer 20 paisa as earlier, but based on the cost of this hypothetical "new plant". The difference is what the consumers have to pay.

Once the assets are revalued, the tariffs have to rise. However, this does not mean that the tariffs rise equally for all. The AP Electricity regulatory Commission (APERC) has decided how much each consumer has to pay of the increased tariffs. The industry has got off virtually scot-free, the entire burden of the increased tariffs have been passed on to the domestic and agricultural consumers. After the people showed their anger in no uncertain terms. Naidu has now decided to pay from the state exchequer some part of the increased tariffs. Thus, the power companies, who will soon be privatised, will retain this huge increase in tariffs; the consumers and state government will suffer large net outflows.

COST OF REFORMS FOR STATE

What is the cost of the reforms on the AP State government? The calculations by the consultants employed by AP show that the state government will have to shell out Rs. 20,000 crores for these reforms in the next seven years. This, in addition to the pension liabilities of over Rs. 4,000 crores for the SEB employees. However, these figures are gross underestimates. The subsidies that the AP government will have to pay for agricultural tariffs are certainly going to be much higher than computed by the consultants. As also the amount that the state government will have to pay their staff after transfer of services to the new companies.

If might appear that the reason for such high losses to the state government due to the power sector is due to the price of electricity being maintained at very low levels for the consumer. The truth is that the Indian consumer is paying higher than international rates for the power that they receive. Internationally, power can be produced between 4-5 cents a unit. If a reasonable cost for its transmission and distribution is added, it should not cost the consumer more than seven cents. The consumers today are being asked to pay tariffs that are well beyond these figures: in the highest slab, the tariff fixed by APERC is close to 16 cents. The average tariff is well above the international costs of electricity.

This is in spite of per capita incomes that are one of the lowest in the world.

Naidu has denied any responsibility for the rise in tariffs. According to him, this has been done by APERC that has statutory powers of fix tariff. What Naidu is concealing is that the consequences of unbundling and setting up a Regulatory Commission had been pointed out at the time that these changes were being brought in. If the unbundling does not have the objective of privatization, there would be no need to revalue the assets.

Further, at that time, the Act could have reflected that the State Assembly will fix the tariff guidelines and the Regulatory Commission will fix tariffs based on these guidelines. To compound the above, the Government accepted all the claims of TRANSCO regarding revenues and costs and failed to protect the subscriber before APERC. Not only that, they themselves argued for a 20 per cent hike in tariffs based on the TRANSCO figures. Once all these figures are accepted, the only way that the tariffs could remain low was if the state government had agreed to the subsidy of 2250 crores asked for by TRANSCO. Once this subsidy was fixed at 1345 crores, the rise in tariffs inevitably followed.

The important question that need to be addressed is that if the theft of electricity continues at the rate of 45 per cent of all electricity produced, should this burden be transferred exclusively to the consumers? Secondly, if this is the level of subsidies, what have been the gains of the reforms? The third, if the people are not benefiting from the reforms, who are the beneficiaries?

For an answer to these questions, Orissa case, may be looked further. Here, the reforms are well under way. The Orissa State Electricity Board (OSEB) has not only been dismantled, but also privatised. The figures coming out of Orissa are instructive. The losses in transmission and distribution, which were supposed to improve after unbundling and privatization, have increased from the SEB days - from 25 per cent to 48 per cent ! Further, the cyclone has brought out the contradictions inherent in the reform process.

The Orissa cyclone saw a massive damage to the distribution system. The privatised distribution company, which is now owned by AES Transpower, an US multinational, first wanted the Government to pay the costs of cyclone damage. Failing this, they have now been given loans by the state government to bring the distribution system back and an increase in rural tariffs to pay back these loans. Even after this, by Government's admission, electricity has not been restored in 800 villages till 2000. AES Transpower is saying privately why should they restore rural electricity, which is loss making anyway.

The other interesting aspect of the Orissa reforms is that AES Transpower has taken over both generation and distribution. One of the arguments for unbundling is that it promotes competition in generation as generating

companies become separated from transmission and distribution companies. However, if the same private company owns both, apparently laws of competition are not violated. Only if they are state owned are such laws of competition violated, this is the logic of the Orissa reforms!

The Andhra and the Orissa cases have shown the real face of the power sector reforms, Earlier, the UPSEB engineers have given spirited resistance to these reforms. The people of Andhra are now in a struggle to roll back these policies.

MUMBAI EXPERIENCE:

Mr. A.B. Bardhan in his article 'Enron to be paid without any power purchased mentioned that "A power purchase agreement was signed, which was for quite sometime treated as a Most Confidential and Secret Document, like a secret treaty signed by two countries. Later, a few clauses began to be leaked. And it was found that our clever ministers had bound themselves, as well as the state and central governments, and of course the poor victim, viz. the Maharashtra state electricity board, to make obligatory purchase of what Enron generates (in dollars), even if this means shutting down its own power stations. It is obliged to pay more than three or four times the price at which the Board itself generates, guarantee 16 per cent returns backed by counter-guarantee from the state and sovereign guarantee by the Centre, and to continue to pay even if now unit of power is purchased, for it will be 'deemed to have been purchased', and so forth.

The payment has to be made into an "escrow account", thereby virtually diverting all the revenues earned by the Board from a number of electricity zones, into this account.

One need not go into all the aspects of this sordid and one-sided deal. It is a tale of how low our ministers and bureaucrats can bend before the 'lotus feet' of the MNCs, the World Bank and the International Monetary Fund, all of them working in tandem, and carry out their dictates. This they call 'economic reforms', 'power reforms' in this case.

Here is how Enron has caught the Maharashtra State Electricity Board (MSEB) by the throat, and is virtually choking it to death, thanks to these great 'reformers' and 'liberalisers'. The Maharashtra State Regulatory Commission has directed the MSEB to stop purchase of costly Enron generated power for a period of three months, and to draw power from its own cheaper generation stations. But during these three months the Board will still have to go on paying Rs. 85 crores per month to Enron for such is the Agreement This is a unique situation where the purchaser has to pay even without purchasing a single unit. It has to pay the penalty for non-purchase. Such is the tops Survey world of the modern-day liberalisers!"

Even this is supposed to be a saving to the Board. Because for purchase of power the Board would have

had to pay a sum of Rs. 150 crores per month, and in the bargain it would have to keep its own power stations idle. Incidentally, it was been said before Enron started generating power, which the cost of each unit purchased would be Rs. 2.89. Actually, when it started the generation, the cost came to Rs. 3.10, and today it is as high as Rs. 4.75. The reason is simple. The cost is linked to the dollar, and therefore as the rupee sinks in terms of the dollar, the rupee cost goes up. Be it also noted, that at the moment, the MSEB's cost of generation is Rs. 1.30 per unit, to NTPC it is Rs. 2.11, of Tata Rs.3.16, and of other companies on an average Rs. 1.53 per unit.

Mr. AB Bardhan concluded by saying "that the wise men who preach the virtues of the foreign MNCs, the evils of the public sector, and the inevitability of 'liberalization', privatization and 'globalization', to which they say, there is no alternative, have landed the country in this situation. Are they serving national interests?"

In last July 115,000 employee of the Mumbai state electricity board went on all out strike in protesting about the restructuring & reform measure. But after 3 days of their strike the Chief Minister of Mumbai had to make the statement in the parliament that they had taken the reform initiative to full fill the loan conditionalities of the World Bank for receiving 1200 crores of Rupees. Finally agreement was made to delay the reform process and to go for a evaluation of the restructuring & reform process taken in the other states.

In November – December 1999, the 75000 workers of Uttar Pradesh state electricity board also went on strike. But the govt. had to stop the reform process for one year and committed to make an evaluation of the experiences of other states.

Also there are bright example in India with their state electricity board running without restructuring. In Kerala the T&D losses is to the tune of 15 – 16% and there is no pending account receivables with the consumers. Kerala is a state where 99% population is educated and they themselves prepare the bill and pay bill by 6- 10th of the following month.

West Bengal the T&D losses in Calcutta Metropolitan City is about 15% , the rest of West Bengal the T&D losses is about 19 – 21%.

New Zealand: There is the complain in New Zealand that the private companies are not taking any interest in supplying electricity to the far off villages. They only concentrate to the profitable areas. The tariff has gone up after the reform process.

(IV) The sunney state of California, USA home to the digital revolution and the silicon valley is in the throes of an unprecedented electricity crisis. California is faced with rolling blackouts, bankrupt utilities and rising electricity bills.

The electricity rate for the consumers with the San Diego Gas and Electric Utility jumped as much as 240%

in just one month last summer. The US energy secretary of state Bill Recharson said recently "California electricity market has become dysfunction". Five years into the uncharged territory unboundedly, competitions free market on electricity deregulation, California electricity sector looks to be going belly up.

California's attempts at deregulating the electricity sector was held as a model for other to follow- both in United States and other parts of the world. The Electricity Bill 2000 in India clearly has the California model in mind. Recently Gogendra Halder, the architect of the Bill, expressed his earnest hope that after current reforms, with the introduction of competition and a free market in electricity power would be traded as easily as soap. But California's Governor Gray Davis who in his January 8, 2001 State address said "My friend electricity is not an exotic commodity like pork bellies, to be traded in the chaotic equivalent of a future market, electricity is a basic necessity of life". Even now by paying higher rates the two utilities of California Pacific Gas and Electric and southern California edition, both threatened with bankruptcy and other measures voted by the California legislature have been opposed by the consumer groups.

What is the nature of crisis that engulfed California last summer and now this Winter? Simply put, the power generators in California held up supply during peak demand periods leading to shortages of power. In order to meet the demand, the utilities and the independent system operators then had to buy power on occasions at prices 20 times that of last summer. Not only did the electricity prices rise astronomically during peak demand periods, they refused to come down during periods of no demand; even on sundays, the prices last summer were 7 times that of 1999. The private generators have reaped windfall profits of 800% to 900% last summer. In one week alone and in June 14, 2000, the purchases of power in California spent \$1.2 bn or 1/8th of their total cost power for the year 1999. Governor Devis has called the power generators "pirates, marauders, gougers and greedy profiteers."

There are now powerful calls for reversing deregulation and the formation of California Power Authority to take over the entire power sector in California, a threat recently held out by Governor Davis as well.

CONCLUSION

The World Bank has been arguing on the need to 'depoliticise decision making and 'freeing it from populist pressures' and therefore the need for independent agencies.

The argument is that if power tariffs and other infrastructure prices are increased, then only they become attractive to the private sector. In this respect they first advocated for restructure the electricity board and install regulatory commissions, next let the

regulatory agencies fix up power tariffs, then privatize the lucrative portions of the Boards.

If the global scenario is taken, it is true that the electricity sector is being drastically restructured. The interesting twist in this restructuring effort is that while the arguments advanced for the reform are "efficiency" and need for new investments, rarely has any discussion taken place on the impact of the reforms on the cost of power. The few examples that are those for India, Philippines all indicates that the power tariff goes up by 100% - 200% after reform.

According to S.N. Roy former Chairman, Central Electricity authority of India, "The average power tariff to industry Rs. 5 per unit has already become highest in the whole world. It is in view of this high tariff the industries are gradually changing over to captive generation. These has resulted in minus 3 percent growth of energy consumption in 1996-97 according to the official figure published by Ministry of Power". He further printed out that "It may be reviling to know that USA is setting load centre gas based power stations as cost of transmission has been found to be extremely high as compared to the transport of gas through pipes. In the last one decade of reforms has only benefited those rich at the cost of poor. The average Power tariff in India has increased two and half times after liberalization and may further doubled in the next 2-3 years time. Even at present a domestic urban consumer spends on 6-8 percent on Energy as against 4 percent elsewhere. Can the policy maker fix benchmarks for expenditure on energy related to income?"

The future power scenario is extremely grim, dangerous and explosive as sustained economic growth can not be achieved unless corruption at all levels is weeded out and the cost of power growth down within the paying capacity of the consumers. The policy makers should read the writing on the wall and not wake up after disaster has overtaken the nation".

In Bangladesh also former Chairman Power Development Board Engr. Quamrul Islam Siddique put forward the similar messages. He had strong arguments with World Bank and donors. He strongly opposed the unbundling effort for such small entity. Wake-up call is there. Developing countries should move carefully in deciding IPP'S share and taking nbundling/restructuring approach.

REFERENCES

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Annexture

Table 1 : A Typical Utility's Technical Losses

Loss Sources		Strong Power System (Percentage)	Medium Power System (Percentage)	Weak Power System (Percentage)
Set-Up 11/132 KV	Transformers at Power station	0.25	.375	0.50
Primary 230 KV	Transmission line	0.50	0.750	1.00
Primary 230/132 KV	Grid-Substation	0.25	0.375	0.50
Secondary 132 KV	Transmission line	1.00	1.500	2.00
Secondary 132/33 KV	Grid-Station	0.25	0.375	0.50
Sub Total (Transmission) Loss		2.25	3.38	4.50
Primary 33 KV	Distribution line	2.00	3.00	4.00
Primary 33/11 KV	distribution Substation	0.25	0.375	0.50
Secondary 11/0.4 KV	Distribution line	3.00	4.00	5.00
Secondary 11/0.415 KV	Distribution Substation	0.25	0.375	0.50
Service Drop		1.00	1.500	2.00
Metering Equipment				
Sub-Total (Distribution) Loss		6.50	9.25	12.00
Grand Total (Transmission & Distribution)		8.75	12.63	16.50
For DESA SYSTEM		6.75	10.005	12.50
For REB SYSTEM		6.50	9.25	12.00

Reference:

POWER SYSTEM IN ASIA AND THE PACIFIC, WITH EMPHASIS ON RURAL ELECTRIFICATION (P-206) PUBLISHED BY UNITED NATIONS.

Table – 2: ELECTRIC UTILITIES DATA BOOK
For the Asian and Pacific Region Energy and Industry Department

Asian Development Bank-1993

REGIONAL SYATEM LOSSES (%)-1990

Name of the Country	System Losses (%)
Afghanistan	25.1
Bangladesh	39.1
Bhutan	13.8
Combodia	44.7
China	12.9
Cook Islands	13.5
Fiji	10.9
Hong Kong	11.8
India	28.1
Indonesia	20.4
Kiribati	16.1
Korea	10.2
Lao PDR	21.4
Malaysia	16.3
Maldives	17.1
Marshall Islands	28.8
Micronesia	17.8
Mongolia	27.6
Myanmar	28.8
Nepal	29.9
Pakistan	24.0
Papua New Guinea	11.9
Philippines	19.2
Singapore	9.1
Solomon Islands	8.8
Sri Lanka	17.2
Taipei, China	9.7
Thailand	14.6
Tonga	13.5
Vanuatu	3.5
Vietnam	26.8
Western Samoa	13.8
Grand Total	16.5

Table 3 : ELECTRIC UTILITIES DATA BOOK

For the Asian and Pacific Region
 Energy and Industry Department
Asian Development Bank-1993

REGIONAL TABLE 22

Average Sales per Employee and Consumer per Employee-1990

Name of the Country	Electricity Sales (GWh)	Consumer Connections ('000)	System/ Utility Employees	Consumer per Employee	Sales per Employee (MWh)
Afghanistan	765	-	3,749	-	207
Bangladesh	4705	1,175	27,826	42	169
Bhutan	123	14.09	-	-	-
Combdodia	101	37.40	1,255	30	80
China	541.174	242,670	890,568	22	608
Cook Islands	11.35	4.84	187	26	61
Fiji	368.89	72.50	1,107	65	333
Hong Kong	25.258	1,892	9,385	202	2,691
India	187.489	65,760	1,011,800	65	185
Indonesia	27.741	11,464	51,305	223	541
Kiribati	5.96	2.40	136	18	44
Korea	96.655	9,315	26,794	348	3,607
Lao PDR	760	51.19	1,009	51	753
Malaysia	19.093	3,236	26,890	120	710
Maldives	21.98	9.50	364	26	60
Marshall Islands	44	2.86	51	56	857
Micronesia	55	5.22	104	50	533
Mongolia	2.257	-	6,933	-	326
Myanmar	1.840	624	-	-	-
Nepal	524	290	-	-	-
Pakistan	29.229	7,858	156,461	50	187
Papua New Guinea	533	48.20	1,987	24	258
Philippines	20.087	5,386	42,149	128	477
Singapore	14.194	821.8	3,250	253	4,367
Solomon Islands	21.16	3,824	128	30	165
Sri Lanka	2608	918	15,026	61	174
Taipei, China	78.132	7,150	31,477	227	2,482
Thailand	36.896	7,859	73,502	107	502
Tonga	20.95	12.43	265	4747	79
Vanuatu	24.70	3.58	72	50	343
Vietnam	5.697	-	-	-	-
Western Samoa	36.79	11.27	214	53	172
Grand Total	1,096,472	366,698	2,383,994	154	460