

Regaining Rationality through Democratisation

A Critical Review of
MDBs Power Sector Activities in India

PRAYAS

Pune, India



प्रयास

आरोग्य, ऊर्जा, शिक्षण आणि पालकत्व
या विषयांतील विशेष प्रयत्न

Acknowledgements

We are grateful to many friends, colleagues, and well-wishers for their kind help, encouragement and comments on the draft report. They come from various institutions in the Indian power sector, peoples' movements, national and international NGOs, and the World Bank. We are also thankful to the staff and trustees of Prayas for their continuous support and encouragement.

This report has been prepared as part of the MDB-Energy Project, whose International Secretariat is based at Both Ends, Damrak 28 -30, 1012 LJ Amsterdam, The Netherlands.

Prayas Energy Group

Efforts by

Mr. Shantanu Dixit, Mr. Girish Sant, Dr. Subodh Wagle, Members Prayas Energy Group

- **PRAYAS**

Initiatives in Health, Energy, Learning and Parenthood
Amrita Clinic, Athawale Corner, Karve Road Corner, Deccan Gymkhana,
Pune - 411 004, INDIA

Tel. + 91 20 341 230 / + 91 20 230 337

Fax. + 91 20 331 250 / 553 3239 (c/o) Attn. PRAYAS, # 341 230

Email : prayas@vsnl.com

This report is also available at : www.altindia.net/prayas

Regaining Rationality through Democratisation

A Critical Review of
MDBs Power Sector Activities in India

May 1999

PRAYAS
Pune, India

Table of Contents

Introduction	1
1. Overview of the Power Sector in India	3
1.1 Power Sector in India	3
1.2 Present Direction: Emphasis on Private Sector Participation	4
1.3 Status of Energy Efficiency and Renewable Energy	6
1.4 Some Missing Components	7
2. Review of MDBs' Energy Sector Projects in India	13
2.1 The World Bank's Energy Projects	13
2.2 Recent World Bank Projects	16
2.3 Energy Lending of the Asian Development Bank	18
2.4 Recent Energy Projects of the Asian Development Bank	18
2.5 Other Activities of the MDBs	18
3. Critique of Power Sector Policies and Activities of the MDBs	20
3.1 Fixation with Growth, Market, and Centralised Systems	21
3.2 Problems with the Reform Package of the MDBs	29
3.2.1 <i>Shortcomings in Designing and Implementation</i>	30
3.2.2 <i>Lacunae in the Content</i>	35
3.2.3 <i>Other Sources of Concern</i>	40
3.2.4 <i>Democratic Process toward an Alternative Solution</i>	2
4. Summary and Conclusion	6
Bibliography	10
Annex I : Cost and Potential of Some Options Considered in Maharashtra IRP	14
Annex II : The World Bank Loans / Projects in India	15
Annex III : ADB Energy Projects in India	17
Annex IV : The WB Project Cycle	18

Glossary of Terms

ADB	Asian Development Bank
ADF	Asian Development Fund (an arm of the ADB handling concessional lending)
AP	(The Indian state of) Andhra Pradesh
ASTAE	Asia Alternative Energy Program (a unit of the WB)
Biofuel	Plant or animal produce used as fuel
CCGT	Combined Cycle Gas Turbine (based power plant)
CERC	Central Electricity Regulatory Commission
CPUC	California Public Utility Commission
CSIs	Civil Society Institutions
DFID	Department for International Development (of UK)
DSM	Demand Side Management
ESMAP	Energy Sector Management and Assistance Program (of the WB)
GEF	Global Environmental Facility
GROSSCON	<u>G</u> rowth- <u>O</u> riented, <u>S</u> upply- <u>S</u> ided, <u>C</u> ONsumption-Directed (Paradigm)
GoI	Government of India
IBRD	International Bank for Reconstruction and Development
IDA	International Development Agency
IFC	International Finance Corporation
IMF	International Monetary Fund
IPPs	Independent (Private) Power Producers
IRP	Integrated Resource Plan (usually implying a least-cost plan that takes an integrated view toward all energy options)
MDBs	Multilateral Development Banks (such as the WB and ADB)
MIGA	Multilateral Investment Guarantee Agency (another arm of the WB group)
MoUs	Memoranda of Understanding
MP	(The Indian state of) Madhya Pradesh
NGOs	Non-Government Organisations
NTPC	National Thermal Power Corporation
PAPs	Project Affected Persons
PFC	Power Finance Corporation (a GoI-owned financing agency for the power sector)
PIDs	Project Information Document (a public document of the WB containing basic information about the projects)
PLF	Plant Load Factor (also called Capacity Utilisation Factor)
Rs	Rupees (Indian currency)
SAR	Staff Appraisal Report (the project appraisal document from the WB)
SEBs	State Electricity Boards (vertical monopoly power utility owned by the state government)
TAP	Transparency, Accountability, and Participation
T&D	Transmission and Distribution (network)
UP	(The Indian state of) Uttar Pradesh
WB	The World Bank group

List of Boxes

- Box 1 Lessons from the Disastrous Agricultural Tariff Policy
- Box 2 An Introduction to the WB and the ADB
- Box 3 Excessive Reliance on Tariff Increase
- Box 4 The Legislative and Political Process of Restructuring in California, USA
- Box 5 Indian Power Sector: History of Regulatory Sabotage
- Box 6 Other Shortcomings in the MDBs Functioning
- Box 7 The Investor Commitment of the WB: A Self-Proclamation
- Box 8 Rights of Communities

Introduction

The World Bank (WB) and the Asian Development Bank (ADB) (also, together, called Multilateral Development Banks or MDBs or sometimes referred only as ‘the Banks’) have been active in the Indian power sector for a long time. This involvement has often generated heated debates on the pros and cons of the MDBs lending and its impact on national development objectives and national interests. On one hand, involvement of MDBs is construed as their endorsement of certain policies and projects. The underlying rationale is simple: simply because they are endorsed by the MDBs, these policies and projects must be based on sound economic rationale and above narrow political considerations. The aura of professionalism, technical expertise, wider international experience, and the financial muscle, together, help the MDBs acquire the status of demigods of prosperity and development. On the other hand, many NGOs, activists, and others portray MDBs (together with IMF, bilateral agencies, Aid India Consortiums, etc.) as organisations supporting and acting on behalf of multinational companies and the international finance capital, which are interested only in exploiting India. The growing emphasis of MDBs on privatisation and private sector participation in the power sector, and governments’ willingness to adopt these policies have also become a contentious issue for a debate. In the debate, protagonists of privatisation express unwavering faith in its benefits making it almost a panacea for all ills of the sector. As against this, many arguments questioning the desirability of such reforms have been put forth, and some critics see it as ploy to sell off public assets.

At the international level, since mid 1980s, the MDBs have been facing increasing criticism for their involvement in projects and policies that lead to increase in emissions of greenhouse gases and other environmentally damaging effects. The MDBs have also been criticised for their involvement in several power projects that entailed adverse social and economic impacts in terms of resettlement and rehabilitation, and caused loss of livelihoods for millions of poor people across the world. There has been growing pressure on the MDBs to reorient their energy sector lending in a manner consistent with the principles of "sustainability". In response to this pressure, the MDBs have come out with new initiatives and several documents elaborating their stand and strategies to increase investments in renewable energy technologies and energy efficiency.

On this backdrop, NGOs from twenty-one countries (this group included Prayas) joined hands to work on the ‘MDB Energy Project’ of ‘BothEnds’ (a Netherlands based NGO) to evaluate energy sector policies and actions of the MDBs’. This ‘Country Report’ for India is an outcome of this project. In addition to similar ‘Country Reports’, the project has also created four ‘Regional Reports’ (for regions of Asia, Africa, Latin America and Eastern Europe) and the ‘International Report’.

The objective of this ‘Country Report’ is to analyse past actions of the MDBs (in the case of India, the WB and the ADB) and their policies in relation to the Indian energy sector, with an emphasis on power sector. The policies adopted by the MDBs in India vis-à-vis our understanding of their implications for public interest forms a backdrop for this analysis. We do not prejudice the MDBs either as demigods of development or as villains of exploitation.

The basic objective is to facilitate a more informed debate on these issues by identifying and analysing the positive aspects and, more importantly, the shortcomings and lacunae of the policies and actions of the MDBs.

There are certain factors, which have put some limitations on this report. First, the MDBs, at times, act in tandem with the International Monetary Fund (IMF), Aid India Consortium, and various bilateral agencies. Hence, comprehensive analysis of the policies and actions of the MDBs would demand considerations of the policies, actions, strengths and limitations of these organisations. This could not be done in the limited scope of this report. The second barrier experienced was secrecy. Many key documents of the MDBs (such as the 'Country Assistance Strategy' and documents relating to projects approved before mid 1990s) are not in the public domain. Finally, it also needs to be mentioned that such an analysis is a continuous process that would evolve over time as new documents and evidence become available and as projects pass through different stages of implementation.

The first chapter of the report introduces the reader to the energy and mainly power sector in India. Issues such as achievements as well as problems encountered by the power sector, governments' responses to these problems, the current status of renewable energy and energy efficiency are discussed briefly. Critical issues that should be addressed urgently for ensuring long term benefits for the country are also pointed out. Such an overview is essential to be able to understand the operations of the MDBs. This chapter is intended for readers who are not very familiar with the Indian power sector. The second chapter paints a brief but comprehensive picture of the past projects / loans granted by the MDBs and the projects / loans being considered by the MDBs for funding in the near future. This chapter gives an idea of the magnitude and scope of MDBs' energy sector lending in India. The third chapter takes a critical look at the literature and activities of the MDBs' especially in the context of the Indian power sector. This analysis focuses mainly on the WB's power sector lending. The last chapter is an attempt to extract lessons based on the analysis that would be helpful in making MDBs' lending in India more beneficial and less harmful for millions of underprivileged countrymen, toward whom the MDBs should have their first commitment.

1. Overview of the Power Sector in India

India is the second largest country by population and the seventh largest by geographic area. Coming to the energy statistics, the commercial energy consumption per capita per year in India is low at 9 GJ compared to world average of 60 GJ (TERI 96-97). As in most developing countries, biomass and other non-commercial fuels constitute nearly 40% of the total energy use (WB 1997a). Coal is the second largest primary energy source accounting for 38% of use. Commercial energy sources (i.e., electricity, petroleum, and coal) get the most attention as well as funding from the energy planners, while, renewable energy and biofuel sources are largely neglected. Table 1 presents the percentage shares, for different energy forms, of the total outlay for energy sector in the Ninth Five-Year Plan, which amount to about Rs. 2,250,000 million (\$ 53.5 billion).

Table 1: Ninth Plan Allocations for Energy Sector

Sector	Allocation (%)
Power	51.4
Petroleum	35.0
Coal	8.6
Atomic Energy	3.6
Renewables	1.6

Source: *Planning Commission, 1997b, Ninth Plan Document*

About 14% of India's primary energy comes from oil while natural gas accounts for 6%. Oil is mainly used in the transport sector and as industrial feed stock, as well as for household cooking, lighting, and power generation. India has very limited oil and gas reserves, which are expected to last for only 15 to 20 years (WB 1997b). Thus, India has to import nearly half of its petroleum product requirement. India's oil import bill constitutes a quarter of the total import bill or one third of the net export earning. (CMIE 1995, TERI 1996-97) Energy intensity of Indian economy has remained high, implying a need for very large investments in power and increasing oil import bill.

1.1 Power Sector in India

The Indian power sector mainly consists of government owned utilities. Integrated utilities owned by state governments (called State Electricity Boards or SEBs) account for 95% of power distribution and 62% of power generation in the country. The federal (central) generation companies account for 30% of generation and inter-state transmission. Rest of generation and distribution is in the hands of private utilities in the three large cities¹. Electricity consumption in India is growing at around 7 % p.a. The Indian power sector has an installed capacity of 90,000 MW and currently supplies power to over 82 million consumers

¹ In addition, India also has some experience of co-operative agencies distributing power in some rural areas. In a part of Bombay metropolis, a municipal company 'Bombay Electric Supply and Transport' (BEST) handles the power distribution and public transport (buses) functions.

spread across the country in few thousand cities and towns as well as 500,000 villages. Table 2 shows the share of fuel wise generation capacity in India.

Since the last five decades, the Indian power sector has been successful in doubling the infrastructure every nine years. However, currently, it is facing severe financial crisis. This is mainly due to the highly subsidised tariff to agricultural sector (please see Table 3) and high commercial losses (i.e., theft). The agricultural tariff, which is based on connected load (not on actual energy consumption), leads to poor end-use efficiency, and also allows hiding of theft of power (please refer to Box 1 for details). Paradoxically, a large part of this subsidy, which is defended on the grounds of equity, goes to the rich farmers. But rationalising agricultural tariff has proved to be politically very difficult.

Table 2: Share in Installed Generation Capacity

Sr. No.	Type of Plant	Share in Installed Capacity (%)
1	Thermal (coal)	65 %
2.	Hydro	24.5 %
3	Gas / Diesel	8 %
4.	Nuclear	2.5 %

(This does not include the capacity of industrial captive plants, which is about 11,000 MW, i.e. 12% of the total utility capacity. These are mostly DG sets and coal thermal plants.)

**Table 3: Average Tariff for Different Consumer Categories in India
(Data for 1996-97)**

Sr. No	Particulars	US cents / kWh	% of cost	Share in consumption (%)
1	Cost of supply (generation, distribution)	4.43	-----	-----
2	Average tariff	3.50	79 %	-----
1	Domestic	2.19	49 %	18 %
2	Industrial	5.57	126 %	35 %
3	Agricultural	0.50	11 %	29 %

Source: (Planning Commission, 1997a) One US Cent = Rs. 0.42

1.2 Present Direction: Emphasis on Private Sector Participation

The government is trying to overcome the financial crisis in the power sector by attracting private investments. First, in 1991, it attempted increase in generation capacity by opening the sector for independent (private) power producers (IPPs). The initial response from private sector, in terms of the memoranda signed, was very encouraging. However, actual progress, in terms of capacity addition, has remained very limited, primarily due to poor financial condition of the SEBs, which were to be the only buyers of the IPP power. It is being realised that, unless the problem of the financial viability of the utilities is tackled, the private capital will not flow in. In response, following the WB line, the governments are

moving towards a radically different structure of power sector. This three-pronged restructuring involves: (a) unbundling (i.e., separation of generation, transmission and distribution functions of state utilities), (b) independent regulation, and (c) privatisation of generation, transmission, and distribution units. Many state governments, using the loans from the MDBs, are planning to follow the restructuring model by unbundling and privatising the power sector. The central government has created an enabling environment for such reforms by enacting a law called “The Electricity Regulatory Commissions Act, 1998”. Now, the central government is suggesting that all states work out SEB reform plans in a time-bound manner.

Box 1: Lessons from Disastrous Agricultural Tariff Policy

During late 1970s, tampering and malfunctioning of meters of agricultural consumers became a problem for some SEBs. This was compounded by the high cost of metering (due to the geographic spread) and low revenue (due to low consumption) from these consumers. Instead of tackling the root causes of the problem, the meters were removed and flat-rate tariff (based on connected load) was introduced. Because the agricultural consumption was a small fraction of total consumption at that time, the action could be justified from these narrow and short-term perspective of economic efficiency. As a result, possible ill effects were ignored, though they were pointed out by a government appointed expert committee, popularly known as the Rajadhyaksha Committee, as early as 1980 (GoI 1980). Within a few years, lobbies of farmers having access to abundant sources of water were successful in replicating this policy in many other states. This was found to be convenient by SEBs, as their work of metering was reduced. Soon, the unverifiable category of agricultural consumption became a useful tool for SEBs to hide theft and high T&D losses and, in turn, to evade the responsibility for efficient functioning. Over the past two decades, the tariff per kW has declined in real terms but consumption per kW has dramatically increased. A lot of infrastructure has been built on the basis of continuation of this trend by individual farmers, co-operatives of farmers, and even the government. As a result, today, the issues of agricultural metering and tariff have become the most contentious issues in the debate over the future of the power sector.

The history of this issue illustrates the enormous cost of neglecting the danger of misuse of apparently simple provisions by vested interests. The lessons from this mistake are worth remembering, especially when we are in the process of designing a new system. It is worth spending time and money to design, establish, and maintain systems with built-in checks and balances against sabotage by the vested interests. This could be achieved by making these systems transparent, accountable, and participatory.

In a nutshell, installing an independent regulatory commission (RC) and implementing privatisation are the major concerns of the government today. However, environmental and social issues have not received their due attention in this process. These issues acquire importance only when there is some opposition to some specific project from project-affected people or some other groups. But, unfortunately, the government tend to concentrate on pushing through the project at all costs, rather than on viewing the valid concerns of these groups objectively and incorporating them in project planning and policy making. In the

absence of any mechanisms for public participation in planning and policy-making, this phenomenon has continued to repeat for years and across the country.

1.3 Status of Energy Efficiency and Renewable Energy

The renewable energy (RE) sources and energy efficiency (EE) measures have not found a place in the mainstream energy planning in India. The current efforts by the governments are limited in focus and are restricted only to conventional mechanisms such as providing concessional finance, tax subsidies, and awareness creation measures. Further, these are focused on the conventional RE and EE technologies, that have already been commercialised.

Renewable Energy: Specialised agencies have been established by governments at the federal (central) and state levels to promote mainly RE devices / schemes. Until recently, focus of these agencies has been on improved cook stoves, solar cookers, PV lanterns, PV street lights, solar water heaters, and small DG sets based on wood-gasifiers. Currently, the biomass-based power generation (in the MW range) has been included in the RE schemes. These agencies mostly work on awareness building and disbursing subsidies.

The Indian Renewable Energy Development Agency (IREDA) is a nodal agency of Government of India (GoI) for providing concessional finance for RE technologies and schemes. The MDBs are providing a line of credit of around \$ 300 million through IREDA for development of mini/micro-hydel plants, wind farms, PV installations, and co-generation projects. In addition, the Global Environmental Facility (GEF) is supporting a 35 to 40 MW solar-thermal project for power generation. The present installed capacity of the RE-based power projects in India is around 1,100 MW, which is expected to move up to 3,000 MW by the year 2002. Of the present capacity, wind contributes 825 MW, small hydel 135 MW, and the rest come from biomass and solar energy sources (ERM 1997).

Though these are welcome developments, there are some crucial shortcomings. For example, due to the tax and other concessions, wind projects have become highly profitable (i.e., with the internal rate of return [IRR] of over 50%) for private firms, with incentives for cost padding. Recent concessions in the Sales Tax offered by several state governments amount to government subsidising half of the capital costs of RE projects. Expenditure of such a high scale of resources has not borne the commensurate benefits. These resources could have been used in more effective manners by investing in RE activities and measures that have multiplier effects and long term benefits². These include: research and development, demonstration projects, simplifying procedures (permissions, etc.), designing and development of new institutional structures, and training.

² One such mechanism adopted in UK compels utilities to buy a certain percentage of their generation from non-fossil sources. In adopting such measures, additional cost for non-fossil generation could be supplemented through subsidies.

Energy Efficiency (EE): The Industrial Development Bank of India (IDBI) has been running a program since mid 1980s for providing concessional loan for industrial EE projects. The ADB has supported this through a line of credit. The Indian government has now made it mandatory for all companies to declare, in their annual reports, their energy intensity (energy consumption per unit of production) and steps taken for improving efficiency. The Federal (central) government has set up a nodal agency called Energy Management Centre (EMC) under the Ministry of Power to promote energy efficiency. It has largely been a promotion agency giving advertisements and facilitating organisation of seminars, workshops, and some studies. A bill mandating all companies to carry out energy audits and establishing energy consumption norms has been prepared by the EMC and is pending for parliamentary approval for a long time.

The power sector planners have taken steps for improving efficiency and utilisation of existing power plants and for installing capacitors in the transmission and distribution (T&D) networks (to improve the power factor). This has had significant benefits. But these projects are not included in the main capacity addition plans, and are often relegated to add-on schemes. As a result, these supply-side efficiency measures do not receive due attention.

When it comes to action, the demand side efficiency (i.e., demand side management or DSM) has largely been a non-starter in India. The EMC, independent researchers, and WB consultants have carried out several DSM studies. But, few schemes have reached the implementation stage, and the confidence of SEBs in these schemes remains low. As a result, the SEBs are not willing to devote financial and managerial resources to these activities. The WB, under its larger reform project, has extended a loan of \$ 100 million for DSM projects to the state of Orissa. It is another story that half of this amount will be spent on metering! Similarly, many other state level reform projects (funded by the MDBs) have a DSM component.

Large possibilities of saving that could be realised through measures such as appliance efficiency standards and streamlining the government purchases are not being harnessed. In fact, inaction, on the part of the government, in terms of not setting mandatory standards for energy efficient appliances, is becoming a problem. Consumers eager to save energy were fooled by bad electronic ballasts with low life and poor performance. This has resulted in loss of consumer confidence in energy saving technologies in general and they are now less willing to risk their money.

1.4 Some Missing Components

Some crucial components are missing from the governments' current efforts, which are primarily aimed at mitigating the immediate problems by trying to increase the investments in the power sector. These efforts might help tackle some immediate problem such as power shortages but would not lead to resolution of long term and fundamental problems faced by the sector.

To achieve developmental goals, India needs a large-scale augmentation in energy and power availability. But social and environmental implications of the conventional energy systems relying on large and centralised power projects have already become pronounced. This calls for a new strategy that can meet the growing demand for energy and electricity without incurring major social or environmental costs. Such a strategy also requires generation and utilisation of electricity in an efficient manner at the least cost. Moreover, special efforts are needed to safeguard interests of the weaker sections of the society, such as project-affected communities and poor farmers, who do not benefit from the present system. To achieve these objectives, it is essential: (a) to base investments on least-cost, integrated resource planning (IRP) exercises, (b) to increase public participation and transparency in the decision making, and (c) to make the sector accountable to the people. Unfortunately, these very aspects are missing from the present efforts undertaken by Indian governments.

Integrated Resource Plan (IRP)

IRP studies involve planning exercises that put all energy options (large and small generation, energy efficiency, and load management) on par and identify the least-cost mix for achieving the desired target of energy demand. Such studies have demonstrated that large economic potential of efficiency improvements and decentralised generation exists in India, and that, if power sector planning did follow the logical least-cost approach, then it will result in substantial reduction in our dependence on large, centralised projects.

We carried out one such IRP study for the state of Maharashtra for the decade 1991-2001. The analysis identifies cost-effective DSM potential for peak load reduction of 2,175 MW (at bus-bar) and decentralised generation potential of 1,812 MW in Maharashtra. The study used 'Life Cycle Costing' (LCC) methodology to evaluate cost of all candidate options.³ Based on the LCC methodology, 'screening curves' (as shown in Annex I) were developed to compare costs of different options on equal footing. Based on these screening curves and the 'load duration curves', a least-cost plan consisting of measures of capacity addition and efficiency improvement was developed. It was seen that 40% of the incremental demand in the decade could be met through DSM options and 15% by decentralised generation options. The dependence on large centralised plants could be reduced to only 45% of the total incremental energy demands satisfied. It was also realised that the cost of the total plan, to meet the same level of energy demands, would reduce by about 33% as compared to the conventional plan (Sant, Dixit 1994). Several such studies have reached similar conclusions (Reddy et. al. 1991, Nadel et. al. 1991).

An IRP-based planning exercise can help substantially reduce the adverse social and environmental impacts, decrease dependence on the foreign capital, and increase the employment. The DSM options are modular in nature, which is another major asset in the current climate of uncertain demand growth and capital shortage. WB studies for two states in

³ The LCC methodology is helpful in transcending dissimilarities due to diversities in the energy options included in the planning exercise, which have considerable differences in their important characteristics such as point of generation / savings, running costs, peak / base load generation, and life of plant / equipment.

India, despite being conservative in their approach, found that the 'Green Scenario' (incorporating the efficiency and renewable sources) is among the least-cost policy options for reducing the environmental impacts (ESMAP 1998).

Transparency, Accountability, and Participation (TAP)

The Indian power sector is accountable to the public at large only in an indirect way, i.e., through the legislature. As the experience suggests, this kind of indirect accountability has not worked in the Indian situation. If the power sector were directly accountable to people / consumers, then it could be compelled to explain the reasons for rapid increase in the cost and convince people on the rationality of its designs and plans. The issues of DSM, efficiency, and renewable energy could not easily be avoided in that situation. The power sector has also been quite secretive about the key information and data. Necessary transparency in the decision-making has been lacking. This has also helped continuation of inefficient practices. For example, many SEBs do not have up-to-date and correct information on the number of agricultural pumps that actually draw power from the grid or their actual consumption. Public participation in the planning process is out of consideration in this environment. The TAP related mechanisms and procedures could have prevented or, at least, minimised the damage due to the hijack of the policy-making function and operations of the Indian power sector.

Public participation in planning can also have substantial benefits. Though IRP-based planning can identify avenues for moving towards sustainability, even these plans usually have certain limitations. These plans cannot anticipate the ground-level situation in its entirety and its implications for energy efficiency and the sustainability, neither can these plans adequately consider the inter-sectoral factors affecting sustainability. This is well illustrated in a case-study of an incomplete dam presented by villagers from Narmada Valley during a meeting of an official committee (Task Force) reviewing hydro-power projects in the state of Madhya Pradesh⁴. According to the case-study, the irrigation department has built a small dam in the village to provide canal irrigation. But, due to lack of maintenance and funds with the irrigation department, the canal construction has not been completed and a gate of the dam is broken. Hence, the reservoir is empty once the monsoon rains are over. Because the local farmers do not get water from this dam, they have dug open wells and obtained electrical connections to pump water up. In this situation, electricity consumption by these pumps totalling to millions of units (with a connected load of over 1 MW) could be avoided by making minor repairs of the dam and completing the remaining length of the canal. Many such opportunities and avenues for energy efficiency could be identified, wherein electricity is used in an appropriate manner or could be eliminated by some action. Such identification of

⁴ This case study is described fully in the 'Draft Chapter on Alternatives' submitted to the 'Task Force' (appointed by the MP state government) by Prayas. A copy of this could be obtained from Prayas. The final report of the Task Force is yet to be completed.

intersectoral and systemic opportunities can be best fostered with extensive public participation in the planning process.

Moving Beyond Sectoral Planning: Toward a New Integrated Paradigm⁵

Instead of viewing them simply as marketable commodities, energy and electricity need to be seen as crucial inputs for poverty reduction or development (which needs to be redefined as 'livelihood security for the poor'). In this perspective, the role of irrigation in Indian situation and the role of energy in increasing irrigation become key components of any development strategy.

Irrigation in India needs to be increased considerably from current levels--i.e., irrigated area being 35% of total cropped area. Researchers have demonstrated that limited but assured exogenous water can provide livelihood assurance to a majority of socially and economically disadvantaged sections in the rural areas. This is feasible even within the constraints of present water availability. This feat could be achieved through a combination of options such as adoption of Low External-Input Sustainable Agriculture (LIESA) technique, conjunctive use of locally harvested water and exogenous water supplement, and better integration as well as management of surface and ground water. This will make it possible to distribute the limited quantity of available water to the hitherto unirrigated areas in order to enhance the equity. However, this entails a need for massive energy inputs for water distribution through pumping. In this perspective, the constraint is not the availability of water but availability of energy at an affordable price⁶.

The affordability of energy for farmers can be greatly enhanced if payments for energy could be made in kind, say in the form of woody biomass. This biomass could then be used as fuel in biomass-based power plants. Researchers have also shown that, with proper land and water management, it is possible to meet the fuel needs for satisfying power requirements for pumping through less than 15% of the incremental biomass generated using the additional water availed from such lifting⁷. The technology for power generation is readily available. In addition, researchers, through their field studies, have established that users would be willing to make such payments in return for reliable supply.

⁵ This section is based on the work done by Mr K R Datye, Suhas Paranjape, K J Joy and others (Datye 1995, 1997, 1998a, 1998b; Joy 1997; Paranjape and Joy 1995).

⁶ Here, a differentiation needs to be made between the affordable price for commercial services and for the basic services.

⁷ This can support water lift up to an average of 30 to 40 meter heads. This can cover a very large geographic area.

Thus, it is feasible to increase irrigation without putting a major burden on the grid in the form of increased power demand or increased consumptive subsidies⁸. Small biomass-fuelled power plants (up to 1 MW in co-generation mode or 3 MW in stand-alone mode) are most suited for this purpose. At a later stage, when the biomass gasification-based gas turbines become available, the efficiency of such plants would substantially increase.

New developments in hybridisation of different non-conventional as well as conventional options would help remove some of the critical shortcomings in the RE systems and increase their utilisable potential. Hybridisation involves making innovative and appropriate combinations of energy sources in order to overcome their individual shortcomings and using them optimally for appropriate end-uses. It also involves using these energy options in conjunction with investments in other sectors. One example of such a hybridised system could be a system that makes optimum use of small pumped storage. For increased irrigation efficiency, on-demand delivery of water becomes crucial, implying a need for local micro-storages. These micro-storages and pumps could be utilised in reversible mode to operate, at times, as pumped storage plants for peaking. In addition, the small hydro plants operating in the monsoon season can also be used as dispersed pumped storage for better load management. But, these combinations cannot provide a perennial supply of energy. These limitations of RE sources could be transcended by using them in conjunction with biomass power plants. Researchers believe that hybrid systems of pumped hydro, biomass power, solar-thermal and fossil fuel (such as coal) can be operationalised on a mass-scale in about a decade. (Datye 1998)

In such hybridised systems, fossil fuel usage could be brought down to one-third or even lower in a cost-effective manner. This would result in lowering our dependence on the conventional plants much beyond what is projected by most IRP studies. Most importantly, this approach can relieve the power sector of increasing burden of consumptive subsidy, while keeping power affordable for the rural consumers.

But such attractive options need enormous efforts in the institutional and operational realms, e.g., efforts for ensuring public participation in decisions-making and for building institutional capabilities at grassroots level. In the “energy self-sufficiency in agriculture” scenario described above, it is necessary to develop institutional structures that could streamline collection of biomass from dispersed farms as well as organise operation and maintenance of small generation plants. The present institutional structure, geared to catering to the demands of large, centralised systems, is not suitable for this. New institutions (such as small businesses, users’ associations, and co-operatives) that can function in a de-centralised, participatory manner need to be evolved and replicated. These institutional and technological innovations cannot occur in vacuum. An enabling environment in the form of policies and

⁸ The energy (or for that matter even water) services will be differentiated in two types--basic services for livelihoods and commercial services. The charges for basic services will be subsidised to some extent as they will cover only the O & M costs and cost of depreciation, while the commercial services will be charged the full cost of supply of the service.

mechanisms for financing, R&D, and tariff need to be developed. The role, authority, rights, and duties of all stakeholders need to be well defined. This will involve a major departure from the present path.

For making this vision a reality, a beginning needs to be made NOW. An action plan to realise this vision has been outlined by these researchers. This involves reorienting social sector expenditure, land and water management, and power planning / investments as well as developing an appropriate institutional structure. It needs to be ensured that the present power sector investments and plans are compatible with such an action plan. If this work is taken up immediately, we might expect sizeable benefits to realise in the coming decade or two. What are needed on the part of planners are an appropriate vision and an action plan to support it.

In a nutshell, until such an intersectoral approach focused on livelihood security is adopted, rural energy will always remain a problem. As mentioned above, this needs to be based on the principles of resource efficiency maximisation, equity, and affordability.

To sum up, the state and central (federal) governments are moving towards three-pronged restructuring, following the MDBs' line in response to the financial crisis. But, in the process, social and environmental implications of conventional power policies continue to remain overlooked, and the RE and EE measures neglected. In this context, policy initiatives in two areas--integrated resource planning and TAP--become crucial. Along with these initiatives, transcending the current restricted paradigm would be necessary in order to move toward a lasting resolution of the crisis.

2. Review of MDBs' Energy Sector Projects in India

India has been a major borrower from the WB as well as the ADB. This section takes a brief review of India's borrowings from the World Bank and Asian Development Bank.

India is the original signatory to the Bretton Woods Agreements in 1944, under which the WB and the IMF were established. The WB provides funds through two main instruments--IBRD loans and IDA credits (Box 2 describes the WB group, its funding sources, share holding, and other details). India is one of the largest borrowers from the WB, both in terms of IBRD loans and IDA credits. Between 1949 and 1997, the Bank has extended 179 loans and 257 IDA credits to India totalling approximately \$18.9 billion and \$22.5 billion respectively (both net of cancellations).

The ADB started its lending to India in 1986, and India is one of the major borrowers of the ADB also. Similar to the WB, the ADB also has two lending instruments--Ordinary Capital Resources (OCR) which is a standard loan instrument and the Asian Development Fund (ADF) which provides concessional loan. Since 1986, through 42 public sector loans (37 projects), the ADB has provided financial assistance to the tune of \$ 6.96 billion to India (ADB 1999).

2.1 The World Bank's Energy Projects

The WB has supported a variety of public as well as private projects in the energy sector. For example, in 1957, an IBRD loan of \$ 9.8 million was granted for a private thermal project, and, in 1959, the government-owned Koyna Hydro Power Project was financed by \$ 25 million IBRD loan. Since then the WB has provided a total of 51 IBRD loans and 18 IDA credits to energy projects in India, which amount to nearly \$ 14.5 billion (net of cancellations). The energy sector (oil, gas, and power) accounts for the largest share (48%) of the IBRD loans to India. But, in the case of IDA, the energy sector accounts for only 11% of the total credit to India. A list of IBRD and IDA energy projects in India is given in Annex II (IBRD 1997, IDA 1997).

The power sector accounts for three-quarters of WB's support to the energy sector in India⁹. The National Thermal Power Corporation (NTPC), a central government-owned thermal generation utility formed in mid 1970s, is the single largest borrower of the WB. Till 1993, the Bank had approved 15 loans totalling \$ 3.8 billion to NTPC. This amounts to around 45% of WB's total energy lending to India. The WB had agreed to provide three more loans of \$ 400 million each to support nearly 19% of NTPC's financial needs during 1992 to 1997. But, only one of these loans has come through as yet. The WB moved from project loans to SEB loans during mid 1980s. Around 1990s, the WB shifted to sectoral loans. After 1994, the WB decided not to support state level power sector unless the state agrees to adopt the WB

⁹ The power sector is the major user of coal and consumes more than 60 % of coal production in India. Thus, power sector also benefits by the WB's loans to the coal sector.

BOX 2: An Introduction to the WB and the ADB

The World Bank (WB) was established after the World War II for economic reconstruction of Europe. It is governed by a Board of Governors (BoG) representing 180 member (shareholder) countries. Member governments purchase shares, allotted on the basis of their relative economic strength, but pay in only a small portion of the value of those shares. The unpaid balance is 'on-call' should the Bank suffer losses. The BoG meets once a year and is the supreme decision-making body of the Bank. Since the BoG meets only once a year, the day-to-day operations and other policy decisions are handled by the Board of Directors. The Board of Directors consists of twenty-four Executive Directors representing individual countries or group of countries. Decisions are made by majority vote and the votes have weights in proportion to the shareholding of each country. The United States is the largest shareholder with around 15% shareholding. Japan, Germany, UK and France are the other large shareholders of the WB, accounting, together, for 43% of votes. The WB President is the chief operating officer of the Bank, who is elected for a five-year renewable term. Traditionally, the WB President is a US national.

The World Bank is a group of institutions, consisting of the International Bank for Reconstruction and Development (IBRD), the International Development Association (IDA), the International Finance Corporation (IFC) and the Multilateral Investment Guarantee Agency (MIGA).

The IBRD accounts for over three-quarters of bank lending. The WB enjoys sovereign guarantee from the borrowing government for its lending. For lending, the WB raises funds through sources such as international financial markets, pension funds, and insurance companies. The guarantees from member governments (shareholders of the WB) make it possible for the WB to raise money at low interest rates. The IBRD loans carry an interest rate which is 0.75% higher than the cost of funds for the Bank, and are to be repaid in 15-20 years. The IDA provides interest free credits (with a service charge of only 1%) to poor countries, which are to be repaid over a 30-40 years. IDA funds are contributions from governments of wealthy countries. The IFC is the arm of the WB lending to private sector, which invests in (and lends to) the private companies in developing countries. The MIGA provides guarantees to foreign investors in developing countries against loss caused by non-commercial risks such as currency convertibility restrictions and political risks. In addition to this, the WB also runs special programs such as ESMAP (Energy Sector Management Assistance Program) and ASTAE (Asia Alternate Energy Program). The annual loan and credit disbursements of the WB group amounts to about \$ 20 billion.

The Asian Development Bank has a structure very similar to that of the World Bank, but its operations are restricted to the Asian countries. The Japan and the USA are the largest shareholders in the ADB (each accounting for 13.2% voting power). Commercial lending resources of the ADB are called Ordinary Capital Resources (OCR) and it also provides concessional credits called Asian Development Fund (ADF). The ADB also lends to private companies.

More information about organisational structures and operations of the MDBs could be found at their web sites [www.worldbank.org] and [www.adb.org]. These web sites have a wealth of information on the MDBs' policies and projects. The World Bank's project cycle and a list of documents available to public at different stages of project are given in Annex IV.

reforms model. Table 4 categorises the WB loans (including both IBRD and IDA lending), as on 30th April 1997, as per the main project component¹⁰. The following is category-wise but brief discussion of WB's loans in the energy sector.

SEB Loans: This class contains loans given to utilities owned by state governments such as Uttar Pradesh SEB, Kerala SEB and Maharashtra SEB. These loans were typically given in mid-1980s and ranged between \$ 200 million to \$ 500 million, supporting projects requiring large investments such as power generation or transmission. These loans were linked to achievement of certain performance standards in terms of improving operational / financial performance and commercial viability (by measures such as improved financial discipline, and tariff rationalisation). But, the Bank had to cancel five out of six recent loans, due to non-compliance to loan conditions by the SEBs /state governments.

Thermal Power Loans: These loans, mostly to the NTPC, were extended for increasing the coal-based thermal power generation from large pit-head projects. The WB loans to NTPC for power plants in Singrauli region have been seriously criticised by social activists and organisations of project affected peoples. The NTPC has developed more than 4,000 MW power generation capacity in the region. This, along with the coal mining activities, has led to severe environmental and rehabilitation problems in the region.

Table 4: Break-up of the World Bank's Loans

Category	Number	Amount (\$ Million)	
		Original	Cancellation
SEB Power	9	2463	1123
Coal Sector	4	589	96
Hydro Power	9	1328	499
Oil	10	2605	425
Transmission	10	1947	208
Thermal Power	21	4201	295
Rural Electrification, Energy Efficiency & Renewable Energy	5	779	34
Total #	68	13912	2680

Note #: The Orissa power sector restructuring loan in 1996 is excluded from this table. All reform-related loans are discussed in Section 2.2.

Hydro Power Loans: The World Bank has supported hydro power development in India since early 1960's through nine projects, involving loans and credits totalling \$ 1.37 billion (net of cancellations). The WB has faced severe criticism for its involvement in the hydro projects, mainly on the account of rehabilitation and environmental issues. Opposition and struggle by project affected people in Sardar Sarovar Project was a watershed in the history of the WB. The struggle drew world-wide attention to the problems of project affected people, to fundamental issues in rehabilitation policy, to environmental and social impacts of

¹⁰ This classification is based on the inferences drawn from titles of the project. Not much information is available about the pre-1990 projects.

large dams, and to WB's failure to adhere to its own policies. The WB was forced to appoint an independent review committee (popularly known as the Morse Committee) to review the project and rehabilitation situation. Following the serious lacunae pointed out by the Morse Committee, the WB withdrew from the project.¹¹

Transmission Loans: Ten projects under this category, amounting to \$ 2 billion in loans and credits, have supported the much-needed investments for power transmission. Over years, Indian utilities have grossly underinvested in transmission. These loans provided mainly for addition of inter-state transmission links and links for evacuating power from large power projects. These projects also had components for improving the dispatch and co-ordination functions of the regional load dispatch centres and for ensuring commercial discipline (in the case of "Powergrid System Development Project").

Coal Sector Loans: Projects under this category provided loans to private and government mining companies in early 1960s and mid 1980s to enhance mining capacity by adopting modern equipment and techniques. The Coal India Environmental and Social Mitigation Project, approved in 1996, needs a special mention. This \$ 63 million IDA credit is exclusively aimed at mitigating the social and environmental impacts of 25 coal mines (including mines in Singrauli region). Under this project, plans will be prepared for environmental regeneration, for rehabilitation of affected people, and for development of indigenous people in the area. In addition, a special fund to finance mitigation and remedy of the environmental and social impacts will be established. The capability of the Coal India Limited to handle such issues is also expected to be upgraded through technical assistance.

Other Projects: Apart from the main project categories mentioned above, the WB has also funded projects in the areas of rural electrification, energy efficiency, and renewable energy. The three rural electrification projects (totalling about \$ 0.5 billion) supported expanding and strengthening rural distribution to increase access and to improve quality of power supply in rural areas. The loan for "India Alternate Energy Project" provided \$ 216 million (including \$ 26 million GEF grant) for co-generation, small hydro, photo-voltaic (PV), and wind farm development in the private sector. This was a credit line for IREDA (the government agency for funding renewable projects). An IDA credit line to IREDA, amounting to \$ 70 million, for the "India Renewable Energy Resources Development Project" supported private initiatives in renewable sources. Mini and micro hydro projects of 116 MW are expected to be commissioned through this project.

2.2 Recent World Bank Projects

This section gives a brief introduction to the WB energy sector projects, which have been approved recently or are likely to be taken up in the near future.

Coal Sector Rehabilitation: This loan of \$ 535 million to Coal India Limited (Coal India Limited or CIL is a central government company producing 90 % of India's coal), will

¹¹ Officially, the Government of India requested for cancellation of the loan.

support purchase of equipment for over 20 coal mines to increase production. Removal of import duty for coal and increased role of private sector in mining industry are among the prominent loan conditions. This project is supported by 'Coal India Environmental and Social Mitigation Project' (CESMP) loan involving \$ 65 million as mentioned above. Successful implementation of CESMP has been laid down as a condition for approving this loan. Discussions with NGOs have also been made mandatory by the Executive Directors of the WB to initiate the loan negotiations.

SEB Restructuring: Under the power sector reform agenda, the WB is providing large loans to different state utilities (in Orissa, AP, and Haryana) in India. These loans are to the tune of \$ 300 million to \$ 1 billion each. Through these loans, the WB is supporting radical reforms in the state power sectors in terms of restructuring of the institutional structure, tariff policy, and ownership of utilities. The existing state-owned power utilities will be broken up (unbundled) in separate generation, transmission, and distribution companies. These companies will be privatised in a phased manner. An independent regulatory commission (RC) will also be set up. The RC will have wide ranging powers including powers to set bulk and retail tariffs and to ensure supply and demand side efficiency. The main responsibility of the RC will be to ensure smooth commercial operation of utilities and to adjust tariff so as to generate sufficient internal resources for expansion, while protecting consumer interests. The government will have to reimburse the utilities, if it wants to offer subsidies over and above the (cross) subsidy permitted by the RC. The restructuring process is nearing completion in Orissa. In Orissa, licences for generation and distribution have been issued to unbundled utilities, generation companies have been privatised, and bids for privatising the distribution companies have recently been awarded.

PowerGrid II: Under this loan of \$ 400 million, the Bank would support the PowerGrid Corporation of India, a government-owned central transmission utility for interstate transmission. This would partly finance the investment needed (amounting to about \$ 4.5 billion over the years 1997-2002), among other things, for strengthening existing inter-regional links as well as for establishing new links and improving control systems. It is expected that the PowerGrid will fully establish 'loose power pools' and allow IPPs an 'open access' to the national grid for enabling them to sell power to any state in the country. Strengthening national grid will also allow 'merit-order dispatching' of plants as well as alleviate power shortages by allowing power transfer between different regions.

Renewable Energy II: This is sequel to the first RE loan with a similar structure. Under RE II, the WB would provide \$ 170 million to public and private investors to develop around 200 MW capacity through mini and micro hydel projects. A small part of the loan would also be made available for DSM projects. This loan will be used by IREDA to sublend at near-market level interest rates of 16.5 to 17 % p.a.

India Solar-Thermal Project: Under this project, the WB, supplemented by funds from Global Environment Facility (GEF), is supporting a large-scale solar-thermal project in the desert state of Rajasthan (along with a fossil fuel plant). The 35 to 40 MW solar-thermal plant (with parabolic trough 'Luz' technology) and 100 MW CCGT plant (using fossil fuels) will be

established. These plants will be operated at 80 % PLF by a private party on commercial principals. The loan includes a GEF grant of \$ 49 million and some technical assistance. The GoI will provide additional \$ 20 million subsidy to compensate IPP for incremental cost of the solar-thermal project.

2.3 Energy Lending of the Asian Development Bank

The ADB's lending operations in India began in 1986, and, by 1998, it had provided loans worth of \$ 7 billion to India. The total ADB lending to Indian energy sector for 15 projects is about \$ 2.6 billion (about 40 % of ADB lending to India). The ADB energy lending is less than 20% of the total WB energy lending in India until now. Annex III gives a list of ADB energy related projects. Till early 1990s, the ADB mainly supported thermal power projects, and, since then, its main emphasis has been on the hydrocarbon sector, i.e., projects to develop gas fields and reduce gas flaring. Currently, hydrocarbon portfolio (at \$ 887 million) is the largest beneficiary of the ADB support to the Indian energy sector. Apart from the hydrocarbon and thermal power projects, the ADB has also supported 'energy efficiency improvement projects' in the power sector and industries. These include the ADB credit line of \$ 150 million to the Industrial Development Bank of India (IDBI) for financing complete change of industrial process (with a condition that the new process is energy efficient). This loan will also strengthen evaluation procedures used by the IDBI for energy efficiency projects through help of consultants. Other loans in this category include the 'Power Efficiency Loan' of \$ 250 million to improve supply side efficiency.

2.4 Recent Energy Projects of the Asian Development Bank

As described in the 'Country Assistance Plan' for 1999 to 2001, the ADB plans to maintain total lending to India at the levels of \$ 900 to 1000 million a year (for all sectors put together) (ADB 1999). The ADB will directly support restructuring of the state power sectors in Gujarat and Madhya Pradesh (MP). Through these projects, issues such as irrational tariffs and operational inefficiency are expected to be addressed by instilling competition, commercialisation, and private sector participation. The ADB reform agenda is quite similar to that of the WB. The ADB also plans to provide \$ 250 million loan to Power Finance Corporation (PFC) for supporting the state level restructuring projects in other states. Apart from these restructuring projects, it will support a combined cycle power generation (loan of \$ 250 million) and an industrial energy efficiency project (loan of \$ 200 million).

2.5 Other Activities of the MDBs

Apart from the specific projects mentioned above, the MDBs also undertake various other activities. These include: policy dialogues at the time of project preparation, annual reviews of projects, and evolution of 'Country Assistance Strategy'. Because the WB documents are circulated to all the countries taking part in Aid India Consortium, it becomes an important activity undertaken by the WB group. Unfortunately, very little information is available regarding these activities.

The second area of the MDB activities is the technical studies and workshops. These are carried out by different groups and units in the MDBs such as ESMAP and ASTAE. Sometimes, the studies are commissioned as special studies by the WB group itself through technical assistance (TA). Most of these studies are carried out by outside consultants (largely foreign). Funds for such studies / workshops come from WB budget, from components of loans, or from earmarked bilateral grants. Some of the important studies done by the WB are listed in the bibliography at the end of this report. Reports prior to 1994, before the WB Information Disclosure Policy was revised, are not public.

As described in Box 2, the WB supports private sector operation through the IFC and the MIGA. Similarly, the ADB also provides loans and equity for private sector projects. But very little information is made public about the private sector lending and operations.

3. Critique of Power Sector Policies and Activities of the MDBs

The previous chapter described profiles of projects supported by the MDBs in the Indian energy sector. This chapter carries out an analysis of the theoretical positions and policies of the MDBs as reflected in their literature and actions. For this purpose, this chapter focuses primarily on the WB's lending to the Indian power sector.

Several of these positions and actions of the MDBs have had and continue to have positive components and desirable elements. For example, compared to the initial years, there has been a substantial increase in WB's involvement in renewable energy and energy efficiency activities during the 1990s. The credit lines provided by the MDBs to the Indian financial institutions and especially to the Indian Renewable Energy Development Agency (IREDA) for energy efficiency and renewable energy (coupled with government policies offering tax concessions) have provided a significant boost to the renewable energy activity in India. Similarly, emphasis laid on improving SEBs' financial discipline and commercial viability by the MDBs was helpful, though, unfortunately, the MDBs had little success in this regard. Another positive aspect of the MDBs operations has been the substantial increase in public access to information and analyses regarding the power sector, compared to that available from the government agencies. This certainly has helped in capability building within country.

However, this chapter aims at presenting a critique of various shortcomings in MDBs operations. It is hoped that such identification of problems in the past and current activities of MDBs will help improve the future operations. This critique is mainly centred around the following two important themes: (a) preoccupation with growth and bias towards centralised supply systems as well as market mechanisms, and (b) overemphasis on privatisation that could be seen as unreasonable and unjustifiable. These comments are based on our understanding and insights gained through a variety of means including several interactions with MDBs, study of bank documents, and interactions with experts.

We have taken precaution not to get into simple comparison between the (state and central) governments and MDBs. In several cases, the governments' actions have been substantially harmful to the public interest. But this is not within the purview of this report, though we have written on this elsewhere. Further, this review is written by taking into consideration various factors that distinguish the MDBs from the governments. These factors include: the self-proclaimed focus of MDBs on poverty eradication, the magnitude and quality of resources (financial and human) available to the MDBs, and the leverage, various guarantees, immunities, as well as the legitimacy enjoyed by the MDBs.

Before embarking on the analysis, it is essential to point out the special circumstances surrounding activities and operations of the MDBs, which make it difficult for an outside observer of the MDBs operations to draw any definite conclusions. This could be explained in terms of the following two elements. First, in a country like India, at any given time, the MDBs are involved in dozens of ongoing and planned energy sector projects. Apart from the

project-related documents such as Staff Appraisal Reports (SARs) and Project Information Documents (PIDs), the MDBs produce a large number of other energy sector documents. These include: reports of routine staff studies and special studies, consultants' reports (e.g., on DSM and elements of reforms), Discussion Papers, and Energy Series Papers. In addition to this material, the MDBs are represented by a large number of individuals including staff members (from Operations Department, ASTAE, Social unit, NGO unit, etc.) and consultants. For outsiders, a multifocused and multifaceted mosaic formed by all these elements represents the public face of the MDBs. This certainly leads to confusion regarding what exactly is the position and contribution of MDBs on certain issues. For example, a person interested in EE/DSM in India is likely to find more literature coming from the MDBs than Indian institutions. Drawing conclusions based on such material, which is made easily available to public, could lead to erroneous conclusions¹². Such a confusion also allows the MDBs to evade the criticism by pointing out some suitable statement by somebody or from some report which, often, does not really address the issue made out in the criticism.

The second such element is secrecy surrounding the documents and operations of the MDBs and their dealings with the governments. Prior to 1994, availability of key documents was highly limited. After the new information policy was brought into operation by the WB and the ADB, this has substantially improved. Still, many key documents relating to projects and policies are not made public. This include the Country Assistance Strategy (CAS), and project evaluation reports¹³. No information is available about the negotiation process between the government and the MDBs. Thus, with these barriers to adequate and accurate information, the MDBs tend to dodge criticism of their operations by dismissing their critic's contention as misinformation or ignorance. Paradoxically, the state governments, when criticised, try to escape the blame or dump responsibility of their decisions at the door of the MDBs.

The following critique of the MDBs operations needs to be viewed in the context of these difficulties. Let us now move to the first theme of our critique.

3.1 Fixation with Growth, Market, and Centralised Systems

The multifaceted bias and preoccupation with certain elements reflected in the literature and actions of the MDBs are paradigmatic in nature and, as a result, connected logically with each other. We will review them one by one.

¹² The major reason for this large amount of literature is the large quantity of funds accessible to MDBs for carrying out Technical Assistance (TAs) studies and special studies. They are disproportionately large compared to the role played by the MDBs in India. As against this, such funds available to governments and related institutions appear minimal when we consider the role played by them. A large part of this money comes from bilateral donors.

¹³ CAS are not made public due to the WB policy that the country government has to make a specific request to make it public and the GoI does not make such a request.

Locked in the GROSSCON Paradigm

For a long time, it has been a critique of NGOs and independent researchers that planners have been trapped in the GROSSCON (Growth Oriented, Supply-Sided, CONsumption directed) paradigm (Reddy et al. 1990). This paradigm assumes:

‘Development = GDP Growth = Energy = Electricity = Centralised Supply + T&D’

It is customary to find, in speeches and documents, a comparison of per-capita electricity consumption in India with that of industrialised countries, portraying it as a sufficient or sole indicator of development. In more refined documents, the growth in MW installed capacity is portrayed as a yardstick of overall economic growth. There certainly is some utility of macro-indicators such as electricity consumption norms. However, the problems lies in their uncritical acceptance by the planners and experts who fail to appreciate and understand severe limitations of such macro-indicators, especially in relation to their relevance to ground conditions. This failure to question the wisdom of accepting such macro-indicators as representing the ground reality and to question whatever follows from this acceptance has serious consequences. It leads to acceptance of simplistic relationships as described in the equation presented above. As a result, development becomes synonymous with increase in centralised generation and in associated T&D systems. This trend also extends to the neglect of low cost options of efficiency improvement and decentralised generation. In an attempt to boost development, planners tend to allow inflated demand projections enter into the overall planning. The result of these two factors--over projection of need and neglect of low cost options--leads to an enormous demand for new investments. When such investments are not easily forthcoming (possibly due to capital crisis), a grim picture of impending shortages and brown-outs is portrayed. Oft-repeated references to power shortages and lack of funds to meet demand, together, create a shortage psychosis. (The history of power planning in India during the last decades is a good example of this.) Planners, politicians, and general public, gripped with the shortage psychosis, tend to trivialise options of efficiency (supply efficiency and as efficiency in use) and justify all-out efforts to attract capital. Ad-hoc and radical measures are then justified to maintain the pace of development, leaving no room for logical decision-making or even discussions. The element of demand overprojection plays a key role in this process.

Perpetuating Shortage Psychosis

The concerned government agencies have been criticised for overestimating the need for capacity addition in future¹⁴. This overestimation, in turn, results into inflating of the capital crisis and then in creation of the shortage psychosis. In fact, the WB studies in 1989

¹⁴ This overestimation or over-projection is due to several factors including: (a) expected increase in captive generation and price elasticity of demand are ignored; (b) energy demand is overprojected; (c) the projections assume a bad performance of power plants.

and 1991 also point out serious problems with the official forecast, planning method, and neglect of tremendous potential of efficiency improvements (WB 1989, 1991). But, when it comes to action and the crucial interactions with stakeholders and public, the WB skirts these issues and continues to toe the government line. As a result, the WB has also perpetuated the shortage psychosis. The most recent Country Economic Memorandum that was made available to us, for example, ignores the issues of supply side efficiency and problems of demand forecasts (WB 1996a). Rather, the section on power begins by painting a grim picture by saying:

“India is facing an unprecedented power supply deficit that could severely undermine its development prospects.”

This stand by the WB, despite having the necessary information and analytical expertise, is shocking because of the following two factors:

- (a) By the time the Memorandum came out in 1996, the marked improvements in the supply-side efficiency and the inflation in the demand projections had been amply evident. At the beginning of the Eighth Five Year Plan period, the required capacity addition was portrayed to be 48,000 MW. However, due to the anticipated shortage of funds (despite aggressive effort for private sector participation), the target for capacity addition was revised down to the figure of 30,538 MW. This was expected to result in power shortages to the tune of 20,000 MW (21%) by the end of the Eighth Plan period (1992-97). But, in reality, only 16,422 MW could be added during the entire Eighth Plan period. Despite such a miserable level of capacity addition, the power shortages did not increase to 34,000 MW, but were restricted to only 15,000 MW (or 18%) (Planning Commission 1997b)¹⁵! In all, the Eighth Plan had over-projected the need for capacity addition by 38%, which implies over-projecting investment needs by \$ 5 billion p.a.!
- (b) Moreover, the statement in Country Economic Memorandum is also factually incorrect. The official data indicates that the power shortage in the late 1990s was not unprecedented. This was in the same range or on lower side compared to the shortage over last two decades.

Such incorrect statements fuel shortage psychosis and help justify drastic and hasty measures. This is exemplified in the 1997 WB Seminar on ‘*Key Issues in the Energy Sector and Power Sector Reforms in India*’ conducted for NGOs (in Washington DC!). A WB speaker described miserable performance of the Eighth Plan in terms of the shortfall in capacity addition (16,422 MW in place of 48,000 MW) but ignored to mention the 38% over-projection in the original estimates (World Bank 1997a). Rather, the shortages were portrayed to be on the rise! Such misportrayal becomes an instrument for justification of emphasis on

¹⁵ This was partly due to substantial improvement in supply-side efficiency, which was not accounted in the earlier projections.

mega projects and on private capital. These are not isolated examples. The MDBs often endorse the need for enormous capital and justify much greater emphasis on private capital.

Integrated Resource Planning (IRP): Inadequate Emphasis

Late and inadequate action by MDBs on DSM / IRP also demonstrates that they have been trapped in the GROSSCON paradigm. Since 1990, Indian researchers have been demonstrating huge benefits of IRP in several studies, and some researchers even have worked out detailed program designs¹⁶. For getting IRP in the mainstream planning, it is essential to take all of the following steps: (a) carry out IRP exercises to identify the potential of various sources and show their implications for policy decisions at macro-level (such as decisions on capacity addition and capital requirement); (b) convert the techno-economic studies into detailed program designs; and (c) carry out demonstration projects. But, till recently, the WB's actions have been limited to carrying out DSM (not IRP) studies. As a result, implications for the macro policy are not evident. Apart from some exceptions, these studies have not progressed to the level of detailed program design, leave aside implementation.

In the case of the recent reforms projects, the WB loans include a DSM component (the Haryana project includes IRP based planning). The reform projects proposed by the ADB envisage IRP studies. The mandate of the Regulatory Commission in Orissa includes promotion of efficiency in the use of electricity. In the Orissa DSM loan from the WB, detailed program design and demonstration projects are also planned. But, over half of the DSM budget will be spent for installing meters (which is part of conventional utility business and not DSM)! Recently, the WB has also shown some initiative (under an ESMAP study) to educate /convince the institutions or policy makers on these issues¹⁷. This study was funded through a large grant from Department for International Development (DFID) of UK, with WB acting as an implementing agency. This study did involve local consultants and peer reviews by independent researchers and NGOs were conducted at various stages. Such a participatory approach needs to be taken even in the case of implementation projects. Failure to achieve true participation (of all stakeholders) and to ensure involvement of academic institutions have been acting as barriers to exploiting benefits of IRP / DSM in India. Most importantly, the studies and plans should not be limited to only 'market' measures, which happens to be another limitation of the WB.

Neglect of "Non-Market" Measures

The WB has a strong 'market-bias' and has been neglecting several 'non-market' measures for DSM. For example, despite their significant benefits, MDBs have not attempted to influence governments' procurement policies for power consuming appliances (e.g., to

¹⁶ The MDBs should have been aware of the benefits of IRP (or integrating DSM in planning) a long time before these studies by Indian researchers, as a lot of work had been done in countries like USA before.

¹⁷ Under this DFID grant, IRP studies were carried out in two states in India.

make decisions based on life cycle costs and not on initial cost). Even market reforms could be achieved by changing behaviour of one of the largest buyer in the market--the governments.

The MDBs have also not attempted a serious dialogue with Government of India for mandating (and upgrading) appliance efficiency standards or for starting efficiency labelling of instruments. On the contrary, the WB has, at times, viewed these measures as non-essential. In a NGO letter to the WB, it was pointed out that recent research on energy consumption by agricultural pumps had shown that present national standards result in sub-optimal pipe sizes. The study indicates that simple changes in the national standards such as changing size of water output hole on pump (flange) could result in savings of \$ 115 million p.a. for the country.¹⁸ Instead of acknowledging this and correcting its stand, the WB said in its response:

“Upgrading appliance efficiency is best fostered . . . (if tariff is increased). The Bank’s immediate priority is to . . . address price distortions and institutional deficiency.”

This excessive reliance on tariff rationalisation has many problems (please see Box 3). There is also no reason why action on appliance standards should wait until privatisation and tariff reforms are completed. Impressive results of measures related to efficiency standards in many developed countries and implications of adopting similar strategies in India have not been studied by the Bank. The rationale underlying imposition of mandatory appliance standards or labelling procedures is to cover failure of market-based mechanisms. The WB seems to be unable to recognise this possibly due to its “market-locked” attitude. As if realising this public relations slip-up, the WB, in its follow-up letter, says that it is planning to work on efficiency standards for some users (not for manufacturers) as a part of their state reform packages¹⁹.

To address this shortcoming, the WB should carry out a study to evaluate the potential and costs as well as to identify the steps required to implement the non-market measures such as national appliance standards, the appropriate government procurement procedures. The approach taken by the US government in this matter is noteworthy. Along with announcement of efficiency standards for refrigerators, the US government also made available technology required to achieve mandated efficiency levels. The manufacturers were free to use this technology. The MDBs could replicate this strategy by buying the best technology (patents) through international competitive bidding and making it freely available to all manufacturers in developing countries. Such an approach for technology transfer, coupled with mandatory

¹⁸ Invariably, the pump dealers decide the size of pipe that is sold with a pump. Dealers choose pipe corresponding to the flange size. The BIS standards for pipe sizing are highly sub-optimal. Our study indicated that even if only half of new pumps installed each year conform to the improved BIS standards, India could avoid addition of large generation capacity. Annual saving (with 50% implementation) are estimated at \$ 115 million p.a. (Sant and Dixit 1996)

¹⁹ This has reference to the letter by Mr. Robert S Drysdale, Director, Country Dept II; to Mr. Peter Bosshard of Berne Declaration, dated April 25, 1997.

efficiency standards can lead to realisation of substantial economic as well as environmental benefits.

Box 3: Excessive Reliance on Tariff Increase

The WB has been indicating several benefits of tariff increase. These include: improved economic efficiency, rationalised (reduced) demand associated with tariff elasticity of demand, and improved financial situation of utilities. The WB consultants routinely propose cost-based pricing that involves tariff hike of around 500 to 1,000% for agricultural consumers. In our opinion, tariff rationalising (which would also involve tariff increase) is extremely essential and urgent. But, sole emphasis on tariff increase by the WB, which is based on inadequate analysis and rooted in a highly theoretical understanding of the ground situation, is unjustified and objectionable.

There are many examples of shortcomings in the WB's analyses on this issue. For example, the WB carried out an input / output analysis in 1991 to identify impacts of tariff hike on consumers. This desk study had serious flaws (San and Dixit 1996a). The data in the input/output models was simply inappropriate for the purpose it was used. As late as 1998, due to lack of data, the ESMAP study had to assume the tariff elasticity for agricultural sector, which was a key input to the analysis²⁰ (ESMAP 1998). There can be several factors for demand reduction in response to tariff increase, such as (a) improvement in efficiency of appliance, (b) fuel switching, (c) reduction in wastage, and (d) withdrawal of service. Not all of these are socially desirable. We have not come across any WB report that has systematically analysed these factors.

Despite such shortcomings, the MDBs continue to believe that only tariff rise and competition can bring efficiency, while neglecting other aspects essential for efficiency improvement. A study of agricultural pumps in India found that farmers using diesel pumps use water and energy as inefficiently as the farmers running pumps on electricity; despite the oil users paying 10 times more for the energy than the electricity users (TERI 1994). This contradicts the usual WB argument that increased tariffs would lead to efficient use of electricity. In fact, even OED review of Energy lending of the WB in 1998 also questions this assumption. Several other studies could also be cited to substantiate this point²¹. Improvement in efficiency needs much more than just tariff increase and this is neglected by the MDBs.

²⁰ On invitation of the WB, Prayas was involved in a peer-review of several studies carried out under this project. One of the topics studied was 'environmental benefits of reforms' (read as tariff reforms). The tariff elasticity of demand was one of the critical elements in this study. One important conclusion of special studies and consultants report was that there is no adequate data and evidence to arrive at an estimate of tariff elasticity in agricultural sector. This is especially serious in the face of over 1,000% tariff hike being envisaged!

²¹ Another study in the US showed that efficiency has much more to do with special initiatives (like education, technical facilities etc.) taken up by the utilities or government. The most efficient users were not from the area having high tariff. The case of Indian industry is similar. Though the industrial power tariffs are one of the highest in the world, the end-use efficiency is not high.

Tariff increase is also considered essential for improving financial health of the utility. But, as pointed out in a speech by the Secretary of the Central Electricity Regulatory Commission (CERC) of India, there is little data and information to estimate possible increase in revenue due to tariff increase (or tariff elasticity of revenue) in Indian situation. He is highly critical of excessive emphasis on tariff rationalisation (primarily reduction of cross-subsidy), which often leads to neglect of large potential of operational efficiency gains (Ahluwalia, 1999).

Restricted Perspective on Rural and Renewable Energy

The policies and operations of the MDBs in the areas of rural energy and renewable energy also indicate that the MDBs are trapped in the GROSSCON paradigm. The focus of these policies and operations has long been on increasing the centralised power supply and making the utilities commercially viable. Unfortunately, in this process, the MDBs have virtually ignored rural energy issues²². The MDBs have not even articulated their intended or desired actions to meet the challenge involved in meeting rural energy needs in India. This neglect is striking considering the current energy scene in rural India. About half of households in India are yet to get access to electricity. A large number of these households are in rural areas. Further, obtaining energy even for cooking is a major problem in many rural parts of the country. The MDBs, whose main objective is to eradicate poverty, should not solely depend on what would “trickle down” from 'commercially viable' utilities for expanding rural grid. Rather, they should accord top priority to the objective of providing energy for rural population at an affordable price to ensure security of rural livelihoods. This would require explicit articulation of rural energy policies and implementation of programmes aimed exclusively at resolving rural energy issues.

Achieving the objective of ‘energy for ensuring livelihoods security’ would require a drastically different approach as explained in section 1.4. Some Indian researchers have demonstrated possibility of massive improvement in living standards, even in the case of rural areas with limited water availability, if an integrated approach to water-land-energy management is adopted. The key components of such an approach would include local water harvesting, low external input sustainable agriculture, improvement in primary productivity of local eco-system, considerable increase in magnitude and diversity in biomass production, and biomass-based power generation. This approach would result into generation of surplus biomass for artisans (which could be used to increase non-farm incomes) even after providing biomass for power requirements. This can also give a boost to biomass based agro-industries with highly efficient use of waste heat from small biomass fuelled power plants (of 1-3 MW capacity) in the form of process heat. The approach envisages proper use of the existing public funds for developing the required infrastructure in the initial five to seven years. Beyond this, economic services (of water and energy) can be provided without any subsidy while the

²² In India, the MDBs have supported governments’ projects aimed at expansion of rural grid through some loans. But the impact of these has been limited. This conventional development path has led to heavy consumptive subsidy, without corresponding social benefits.

subsidy will be limited to capital subsidy for provision of basic services (Datye 1995, 1997, 1998a, 1998b; Joy 1997; Paranjape and Joy 1995).

It is imperative that the MDBs take immediate steps to build on such work by researchers. Translating such promising initiatives into a viable implementation programs requires considerable resources and expertise for, among other things, developing institutional structures, supporting service networks, and conducting demonstration projects on a large scale. The MDBs, which claim to be ‘development’ banks and enjoy many immunities and guarantees (e.g., immunity from direct political compulsions and sovereign guarantee for loan repayment) should be at the forefront of such efforts.

Coming to the issues in renewable energy, the MDBs have produced several reports on these issues and have also extended support to government agencies (such as IREDA). This has facilitated addition of RE capacity. But, the MDBs have been very cautious in experimenting with new technologies, new institutional structures, or management mechanisms. For example, they have supported only the mature, commercially available technologies (such as wind, PV, and small hydro) and have adopted conventional measures such as subsidies, tax concessions, and sales targeted at individual owners. Measures such as community institutions for ownership and implementation, technologies based on local resources (that can meet local needs more effectively), or strategies such as hybridisation of energy options have remained neglected despite their potential for delivering considerable developmental benefits. Neglect of such innovations also limits exploitation of economically viable potential of RE sources. This neglect indicates lack of an integrated, long-term vision that would enable the MDBs to see current efforts and investments as a transitional measures to a RE-based sustainable society. Further, despite their credit line to IREDA, the MDBs have also remained silent on issues of excessive returns to the owners of wind plants (through to tax concessions) without any link to performance²³.

Publication of the book entitled “Rural Energy and Development for Two Billion People”, supporting the community-based solar programs, and the research program on bio-gasification based turbines in Brazil are but small steps by the WB in the correct direction. The WB has a lot to learn (and also to contribute) in this area. Expanding the perspective on rural energy, bringing it in the mainstream thinking, and focussing on the priority objective of ‘energy at affordable price for security of rural livelihoods’ are the key steps the MDBs should take on urgent basis.

To sum up, locking of the MDBs to the GROSSCON paradigm results into their fixation to conventional planning approaches and to certain choices such as centralised systems and conventional systems. This, in turn, results into neglect of alternative planning approaches such as IRP and of alternative energy options such as efficiency measures and renewable energy systems. The severe and serious social and environmental implications of conventional fuels and centralised electricity supply systems are well discussed. Apart from these implications, the fixation also results into neglect of issues related to assured and

²³ Excessive returns and misdirected incentives have been the two key problems in this regard in India, leading to several manipulative activities.

affordable supply of power and energy to rural areas, and thus, leads the MDBs away from fulfilment of their developmental objective of poverty reduction.

3.2 Problems with the Reform Package of the MDBs

For more than a decade, the MDBs made serious attempts to arrest the steep fall in performance levels and financial viability of the SEBs. Finally, after acceptance of wide-ranging economic reforms by the GoI, the MDBs effected a major change in their strategy in the early 1990s. The new prescription they came up with was a package of reform measures that involved a fundamental restructuring of the Indian power sector. The major elements of the prescribed package are privatisation of the sector and independent regulation. However, its main emphasis has remained on privatisation of the power sector, which included both allowing new privately-owned projects as well as privatising the existing public-owned units.

This section analyses the prescription of restructuring and privatisation of the sector designed, sponsored, and enthusiastically pursued by the MDBs as reflected in their literature and operation.

Rapid Change to an Aggressive Stand

The MDBs have been supportive of private ownership since early years. However, in the recent times, they have produced a large quantity of literature describing benefits of privatisation and components of successful privatisation programs. At the practical level, the recent operations of the MDBs in India are largely focused on promoting privatisation of the Indian power sector.

It will be helpful to see how the MDBs and the WB arrived at this theoretical stand and practical focus. The 1989 WB report entitled “India Power Sector Efficiency Review” talks about benefits of private sector. In its 1991 report called “India Long Term Issues in the Power Sector”, the WB supported the GoI initiative for inviting private sector participation and worked out areas for possible private sector involvement. In 1992, through the ‘Second Maharashtra SEB Loan,’ the WB, however, continued its support to public utilities. But, by 1993, the WB seems to have decided not to support SEBs any more. In 1993, the WB organised a conference on ‘Power Sector Reforms in India’, during which the Country Director outlined the new reform agenda of the WB without using words such as unbundling and privatisation. In 1994, this agenda was clearly spelt out in the joint presentation by the IFC and the WB to the WB Executive Directors. By 1995, the WB had decided the details of restructuring of state power sector in Orissa on the lines of the 1994 IFC/WB presentation. The Orissa loan was signed in 1996. By 1999, two more states (viz., AP and Haryana) have signed similar restructuring contracts with the WB. The WB is having dialogues with several other states for loans linked to similar comprehensive reform packages (such as Rajasthan,

UP, Karnataka). The ADB is also in the advance stages of negotiating restructuring contracts with the states of Gujrat and MP. Now, a stage has reached wherein the MDBs have become aggressive enough to suggest that people opposing the reforms are either politically / ideologically motivated or represent vested interests. For example, the Staff Appraisal Report (SAR) (now called Project Appraisal Document) for AP restructuring loan sanctioned in 1999 says:

“The reform program is likely to continue to face a strong opposition, as it will impinge on large and powerful vested interests. The political opposition and vested interest groups have used and will continue to use measures like privatisation of distribution and tariff adjustments as points of contention.” (WB 1999).

Thus, in a span of just five years, the WB has moved from presenting a hazy outline of the necessary reforms and indicating a need for increased private sector participation to terming people with divergent views as either ideologically motivated or with vested interests.

This aggressive stand of the MDBs becomes a matter of serious concerns when viewed against a variety of serious shortcomings in the prescriptions the MDBs that become evident from our analysis. These include shortcomings in the content of the prescription of reform offered by the MDBs, shortcomings in the process of arriving at this prescription, and shortcomings in the manner in which the prescription is being implemented. The following is a brief analysis of some of these important shortcomings.

First, we discuss the shortcomings related to the processes of designing the prescription and implementing it. Then, we go over to the discussion of the shortcomings in the contents of the prescription.

3.2.1 Shortcomings in Designing and Implementation

Externally Driven and Minutely Controlled Processes

By 1994, the WB had developed a fairly clear picture of where it wanted to take the Indian power sector through the process of reforms. Following this, the WB has shown uncharacteristic persuasion and enthusiasm in overseeing implementation of its reform package to the last detail. First, the MDBs started providing a strong financial backing to this process of reforms. Second, the MDBs have been taking extra efforts for convincing the decision-makers in the government and for drafting the necessary Acts, Rules, and contracts. Third, the WB has extensively used its consultants for various tasks such as drafting reform packages and licenses, training of regulators, preparing operational manuals for utility staff, and preparing DSM plans²⁴. Fourth, seminars and ‘educational’ tours (usually to utilities and

²⁴ The consultants recruited by the WB have worked out details of crucial aspects of the reforms and those of related documents ranging from financial restructuring, tariff hike required, projected balance sheets of utilities to the reform legislations and regulations.

institutions in Western countries) are arranged to train and convince the key individuals in implementing agencies and other related institutions including the labour unions. Fifth, the MDBs, at times, have gone an extra mile to ensure that none of the usual difficulties plague the process of reforms. For example, in order to expedite the reform process, the WB provided consultants' support for preparation of Orissa reform package by rearranging the earlier credit for an hydro generation project²⁵. Thus, the entire process of reforms, almost to the last significant detail, has been externally driven and minutely controlled. Interestingly, as described in the earlier section, there has been distinct lack of similar persuasiveness and enthusiastic involvement of MDBs in issues related to DSM/IRP or RE.

During the enthusiastic involvement, the MDBs have used their financial muscle by using loan conditionalities as an effective tool for getting the otherwise difficult tasks done. There are numerous example of such use of loan conditions. In the case of Orissa, the actual approval of the reform loan came only after the reform legislation received the Presidential assent and was enacted. The WB has been insisting that the states taking up reforms should carry out legal and other policy changes up-front, before the major chunk of the loan is approved. The loan disbursement is closely tied with 'performance,' i.e., carrying out the subsequent policy changes, making operational decisions, and carrying out 'balance sheet restructuring'²⁶. The loan conditions also include extensive supervision by the WB staff. The pre-conditions for approval of the second part of the AP loan, for example, require, among other things, that the state government has worked out a financial restructuring plan (which is duly negotiated with the WB), that the power utilities have filed a tariff revision request (which is, at least, at the level mentioned in the approved financial restructuring plan), and that the regulators have passed the tariff order.

Hasty Replication without Sufficient Testing

Through the process of reform, the Indian power sector is being committed to a radically different institutional and regulatory structure. India has had very limited experience of the institutional environment that will be brought into being by the reform process. Unlike technology, institutional structures appropriate in one social situation cannot be successfully grafted on all societies universally and indiscriminately. The success and sustainability of grafted institutions are heavily dependent on the social, cultural, and political history and current situation in the host country. This makes it necessary to test the prescription (and if possible, components of the prescription) before it is applied comprehensively and widely.

It must be noted that problems in carrying out regulation and distribution functions in a rational and efficient manner are at the root of the present power sector crises in India. The WB prescribes independent regulation and privatisation of distribution for these ills. Orissa,

²⁵ Department for International Development (DFID) of UK has also provided substantial financial support for Orissa reform program.

²⁶ In the case of the much-talked about 'Adaptable Program Loan', the subsequent loan components are tied with implementation of pre-decided policy and financial actions. This adaptability refers to the pace and not to the content of the program or its components.

the first state where the WB model is being implemented, is yet to complete the process of privatisation of distribution. Success of the prescription in correcting the root causes of the present crisis will be evident only a few years after privatisation of distribution is completed. But without waiting to see the results of this Orissa experiment in the key areas (such as effectiveness of independent regulation and performance of private sector in power distribution), the MDBs are replicating the same model in several other states. The fact that almost half of the Indian power sector has already been led by the MDBs on this largely irreversible and untested path becomes a cause of serious concern in this context.

Lack of Public Debate

Despite such untested, and, hence, experimental nature of reforms, governments or MDBs have not been open for a dialogue with their critics, leave aside being open for modifications in the key components of the model²⁷. More importantly, there has been no serious public debate on the issue. At no stage in the process of designing or of the prescription, various approaches to reforms or their advantages and disadvantages were discussed with significant participation of stakeholders or the public. The limited debate that took place was restricted mainly to the policy-makers and political circles²⁸.

The outreach activity undertaken by the actors involved in the reform was after the reform package had been designed in a fair amount of details. This process, though called consultations, was really a promotional exercise. In the states under reform, a large amount of literature and media advertisements were the main instruments chosen to convince public on the benefits of reforms. Some of the media campaigns had extensive emotional content (e.g., advertisements showing impacts of power shortage on a schoolgirl and a hospital to convey the message that reforms are the only solution to avoid this). But when unions or consumers opposed reforms despite such promotional efforts, the governments were quick in shedding their conciliatory approach and resorted to strong-arm tactics to curb the opposition. For example, in AP, the reform bill was pushed through all procedures of the legislative assembly in the span of just one-day. To facilitate this astonishingly speedy approval, the entire opposition was suspended from the assembly (Reddy 1999)! The WB, which otherwise preaches good governance, did not find this entire episode serious enough to warrant any action.

On its part, the WB did not make serious efforts to highlight experiences of extensive public consultations or debates on reforms elsewhere, for example, the consultation process that took place in California, in 1992 to 1996. (Refer Box 4 for the details of participatory,

²⁷ The WB has given many consultancy assignments to Indian institutions, but these obviously do not include critics of its prescription. There are a good number of researchers of international repute and well meaning ex-officials / planners in India, who have been working on the power sector issues. However, the MDBs have not made serious attempts to consult them on the reform agenda.

²⁸ These very actors have been held primarily responsible for the current sorry state of the power sector in India. Hence, a debate restricted to these actors has limited significance.

extensive, and detailed consultation process that was undertaken in California before the restructuring package was finalised.)

Instead of making extra efforts to initiate such a democratic process, the MDBs tend to satisfy themselves by putting forth excuses. Being an outside agency, the MDBs cannot interfere in the functioning of the sovereign governments is the usual excuse. This is an invalid excuse. The WB has actively persuaded, and at times, forced the SEBs (using loan conditionalities) to make desired fundamental changes not only in institutional structure but also in laws and other important governance related matters.

Box 4: The Legislative and Political Process of Restructuring in California, USA

Electric utility restructuring in California involved a long process of technical and economic analyses, definition of goals, public review, creation of documents, assessment of implementation options, and procedures to define the process itself. This section provides an overview of the key events in this chain.

Initial CPUC Documents and Public Review: In April 1992, shortly after passage of the Energy Policy Act, the California Public Utilities Commission (CPUC) initiated a comprehensive review of current and future trends in the electric industry. By February 1993, the CPUC concluded that current regulation no longer fits current conditions, and that this incompatibility will increase in the future. It also recommended four broad strategies for reform, including restructuring of the regulated utility industry. Consumer groups, investor-owned utilities, publicly owned utilities, environmental organisations, non-utility service providers, legislators, and others commented on the report. Most commentators agreed that the CPUC must fundamentally reform California's regulatory policy governing the investor-owned electric utilities.

The CPUC issued a document on restructuring California's electric services industry on April 20, 1994 (commonly known as the "Blue Book"). The CPUC's vision for restructuring was identified in the document. This included elements such as direct access, competition and a stand that all consumers should enjoy universal access to a basic and affordable package of electric services. After issuing the Blue Book, the CPUC held public hearings, where over 140 individuals and organisations presented comments. The CPUC held 16 public participation hearings throughout the state to collect comments.

Legislative Oversight: On August 31, 1994, the California Legislature passed a resolution, which established the Joint Oversight Committee on Lowering the Cost of Electric Services. The committee was charged with ensuring that the CPUC's final proposals met certain standards and that the Legislature was properly consulted and involved in electric restructuring policy proposals. On January 24, 1995, the CPUC issued a status report to the Legislature on electric industry restructuring and regulatory reform.

Procedural Planning: On December 7, 1994, the CPUC issued a detailed procedural plan for finalising its policies. This plan requested more public input on public policy goals and implementation issues. The plan also called for formation of a working group, which was asked to prepare a written report on the future of public-goods programs and options for attaining the CPUC's goals for restructuring. The working group--which consisted of representatives from over 123 organisations, including utilities, regulatory agencies, customer groups, environmental groups, and consumer advocate groups--submitted its report on February 22, 1995.

Presentation and Review of Proposed Policy Decisions: On May 24, 1995, the CPUC issued another document (D.95-05-045), which contained both preferred and alternative proposals of policy decisions. The preferred industry structure proposed a wholesale power pool, while the alternative proposal recommended consumer choice through direct access. Comments on these proposals were received by July 24, 1995 and reply comments were accepted until August 23, 1995. Four hearings, each involving all five CPUC commissioners, were held in different regions of California in August and September of 1995.

CPUC Preferred Policy: On December 20, 1995, the CPUC issued the Decision 95-12-063, which identified the CPUC's preferred policy. This policy, which contained elements of both major proposals, established a power exchange, independent system operator, phased-in direct access, and other elements to address public-goods programs and implementation details. This was later converted in a procedural plan, a "road map", for achieving the transition to a restructured electric services industry.

[Extracts from the work of Mark Chao (Natural Resources Defence Council) and Dr. Ashok Gadgil (Lawrence Berkeley National Laboratory) presented at a seminar in Brazil in August 1997. The full paper could be obtained from Dr. Ashok Gadgil <ajgadgil@lbl.gov>]

Another excuse extended by the MDBs to avoid such democratic consultation process is the longer time period involved in such process. This excuse does not stand the test of reason. First, expediency cannot be an excuse for undertaking an undemocratic process, especially in the case of such important policy changes. This is especially relevant in this case, as the current crisis is diagnosed as rooted in sabotaging of democratic decision-making processes by the vested and partisan interests, which control the government. In other words, if the crisis is the result of the misuse of power vested in democratically elected governments, then the efforts to address the same crisis should not eschew going back to the basic democratic process, i.e., direct participation of people in decision-making.

More importantly, the WB's efforts to expedite the process have not been successful. It took years for the WB to design the reform package. Further, the top-down decision making by the WB requires two other phases before the prescription is implemented. In the first phase, the WB has to 'convince' (if necessary, by using loan conditionalities) the policy makers to accept the prescription. The next phase involves joint efforts by the policy makers and the WB to convince, cajole, or force (using the state and police machinery) the other stakeholders to accept the prescription. Considering the time required for these phases, we feel that, the participatory process of decision-making and participatory implementation would not be more time-consuming. At the same time, they will also involve less social and other costs and produce many other benefits such as capacity building.

It needs to be mentioned here that opposition to reforms by vested interests gains strength and legitimacy in the eyes of public, when the process is seen as undemocratic and externally driven, or when people do not perceive the process to be open and participatory. Moreover, the lack of participatory debate also affects the quality of the prescription, as many important policy issues do not even feature in the literature²⁹. Thus, it is unfortunate that the

²⁹ Such important but missing policy issues include the issue of the current status and significance of the historical promise made by the government to provide universal access to electricity. The decision to build power infrastructure using public money was implicitly based on this promise. Now, when the same infrastructure is being liquidated, the issue of relevance or fulfilment of the promise is not even discussed. It needs to be mentioned that, even within the WB model, it is possible to find ways to keep this promise. One such way is to keep aside a part of the sales proceeds and part of the dividend exclusively for expanding access. It is possible that better solution can be found through alternate paths for reforms. The second such neglected but important policy issue is the ways in which the proceeds from sale of assets should be used by the government.

MDBs and governments have allowed the process to be totally opaque and non-accessible for the people in the state.

3.2.2 Lacunae in the Content

The Diagnosis of the MDBs

After the analysis of the shortcomings in the process of arriving at the prescription and of its implementation, let us now turn to the shortcomings in the content of the prescription itself.

The roots of the current financial crisis faced by the SEBs are traced by the MDBs to the extremely low levels of technical and managerial efficiencies, financial indiscipline, theft of electricity, corruption, and high levels of subsidies. All these causes are, in turn, said to be the results of lack of proper incentives for the actors in the sector and of interference in the functioning of the sector by the political bosses controlling governments. The prescription of reforms put forth by the MDBs flows from this diagnoses and attempts to address not only the shortcomings in the old model but also the dangers that lie in the new model.

The Conceptual Core of the Prescription

The reform prescription envisaged by the MDBs aims at achieving two objectives. The first objective is to improve performance. This includes improved financial performance, as well as improved efficiency of generation, distribution, and revenue collection. In the absence of the possibility to move to full competition in the sector (marked by the retail wheeling), this is to be achieved by making the sector incentive-responsive and introducing proper incentives. Hence, the WB model suggests the following measures: (i) bringing in private ownership which is seen to be highly responsive to incentives, and (ii) installing a regulator which is expected to set proper incentives for the private owners (through measures such as introduction of the yard-stick competition and linking of profits to performance.).

The second objective is to prevent vested interests (of all kinds) from interfering in the affairs of the sector. This is expected to be achieved through the following measures: (i) erecting a barrier, in the form of an independent regulator, between the government and the sector, and (ii) giving the regulator a mandate to prevent private players from affecting the competitive environment in the sector especially from introducing monopolistic tendencies.

Thus, there are two major elements in the reform model prescribed by the MDBs-- private ownership and the regulator that is independent of the state. The entry of private interests, that are supposed to be highly responsive to incentives, is expected to improve efficiency and discipline, eliminate leakages due to theft and corruption, bring about rationalisation of tariff (i.e., making tariff commensurate with the costs), and reduce subsidies. Thus, private ownership is seen as the major instrument to eliminate the ills currently plaguing the power sector.

The element of privatisation has remained a major source of controversies over the MDBs' prescription. However, at the practical level, the regulators would be playing a crucial role in the success of the prescription.

The Mighty Regulators

In order to understand the importance attached to the role of regulators in the MDBs' prescription, let us begin by listing the powers enjoyed by the prominent players in the sector. A comparative picture of the powers enjoyed and corresponding responsibilities entrusted to the three key players in the sector is presented in Table 5.

Table 5 amply demonstrates the enormous powers entrusted to the regulators in the WB model. One can see that the regulators hold powers to control, on one hand, economic benefits to private players and, on the other hand, political mileage the politicians could draw. As a result, the regulators would experience enormous pressures as well as a variety of enticements. Without proper counter-checks and balances, this concentration of authority would be a major source of concerns.

Table 5: Powers of the Key Players

<u>Private Sector</u>	<u>Regulators</u>	<u>Government</u>
<ul style="list-style-type: none"> Freedom to respond to incentives and pursue business objectives without interference 	<ul style="list-style-type: none"> Powers to control interference and pressures from politicians Powers to set proper incentives for the private sector Powers to control monopolistic and other types of non-competitive behaviour of private sector players Powers to control factors affecting long-term public interests and interests of the disadvantaged sections 	<ul style="list-style-type: none"> Powers to set sectoral policy

Three Counter-Checks Balancing the Authority of Regulators

The WB model is a variant of the prevailing (but currently under restructuring) model of the power sector in the USA. The role played by the regulators and the authority enjoyed by the regulators have been matters of concern in the US. However, in the US model, there have been three factors that have acted as counter-checks balancing the authority of regulators-- (a)

transparent procedures for selection of regulators; (b) mandatory and strict provisions to ensure transparency in the functioning, direct accountability of the regulators to the public, and meaningful participation of all the stakeholders in the regulatory process (these three types of provisions, together, are referred to as 'TAP provisions' in this report hereafter); (c) civil society institutions which enforce the TAP provisions to protect and promote public interest. The current trend in the US is to transcend the dangers involved in the concentration of authority in the hands of regulators by deregulating the sector and increasing the role of competition. But, according to the WB, this path is not feasible in India, at least, in near future. Let us review the WB model in light of the three types of counter-checks one by one.

Selection Procedures: While discharging various responsibilities, the regulators have to act with ingenuity and have to be technically as well as legally capable to overcome barriers such as information asymmetry³⁰. Most importantly the regulators have to be persons of extremely high integrity as they are dealing with matters involving massive financial stakes. For example, in the case of the state of Maharashtra, the three regulators will control utility revenue of over Rs 120 billion (\$ 4 billion) p.a. This is comparable to the annual budget of the entire state government! Thus, selecting capable and honest regulators to occupy the seats becomes crucial. In the WB model, the selection of regulators is entrusted to a selection committee that has majority of government servants. As an additional precaution, the regulators are prevented from holding, direct as well as indirect, interests in the power sector. (This obviously cannot take care of the interests that cannot be proved legally). The efficiency of this countercheck is open to question because the selection committee has a majority presence of employees of the governments (that have been identified as the major source of the trouble in the old structure).

TAP Provisions: Learning from experiences of the US model of regulation, the WB has made certain modifications in the prescribed regulatory model to make it simpler, less time-consuming, and less costly. In these efforts to reduce complexities and increase speed, the unfortunate casualty is mandatory and strict TAP related provisions that are supposed to act as counter-checks balancing the enormous authority of regulators. For example, first, the time period within which members of public are required to respond in a tariff case is much shorter in the WB model. Second, the regulators also have discretion in deciding matters such as whether to allow a party to give oral submission, and whether to allow public a chance to cross-question the utility³¹. Third, in addition, unlike the USA model, which has a permanent

³⁰ Information asymmetry means a relative imbalance in the power that is accorded by the correct and up-to-date information possessed by the two parties-- utilities and regulators. This asymmetry is rooted in the fact that the information, which regulators are expected to use to control the utilities, is largely owned by utilities. Further, it is also rooted in the financial and manpower resources that the utilities could use to acquire updated information. The regulators are certainly handicapped in this respect.

³¹ This needs to be seen in the context of mandatory and detailed process included in the US model in which other parties can ask question and get answers from the utilities. If the parties questioning the utilities are not satisfied, then the process can be extended to the second round of questions and answers.

and independent 'Office of the Public Advocate' with a clear mandate to represent the disadvantaged sections including small consumers, the WB model pays no specific attention to this critical factor. Fourth, the WB model accords a legal authority to regulators to exempt themselves from the rules, which include even the rule requiring them to hold public hearings³². In fact, the regulators can change / bend the rules by adopting the same simple procedures required for making a routine decision³³. In short, the regulators have the right to decide the level to which they want to maintain transparency in their functioning, to decide the degree and the manner in which they want to be accountable to public at large, and to decide when and how will they allow the public to participate in the regulatory proceedings. Thus, because the TAP related provisions are watered down, to a great extent, in the WB model, their efficiency as counter-check to balance the authority of regulators is highly questionable.

Civil Society Institutions: Coming to the third counterchecking measure balancing the regulators authority-- the civil society institutions, the situation in India is found to be more grim. Civil society institutes (CSIs) comprise various groups, institutions, and peoples' organisations in the society, other than the agencies that are owned/controlled directly or indirectly by the state. These include consumer groups, environmental organisations, trade unions, human rights groups, development organisations, and organisations of project affected people. As we have seen, in the US model, the TAP related provisions are expected to open up spaces and avenues to protect and promote interests of certain disadvantaged section of the society as well as the long term and wider interests of the society as a whole. Similarly, the civil society institutions are expected to use these spaces and avenues opened up by the TAP related provisions.

In the modern era, the growth of civil society institutions in India has remained somewhat stunted as compared to countries in the industrialised world. Further, for historical reasons, civil society institutions in India are also different in their structural elements, in their strategies and tools, and in the underlying paradigmatic elements. During the colonial rule lasting for two centuries, most civil society institutions were created as instruments for the freedom struggle and were seen with suspicion by the colonial rulers. In the post-independence India, the state-centred model was adopted in the political and economic arenas. Hence, the civil society institutions were developed mainly as agencies to lobby and pressurise the state primarily through political means. As a result, the civil society institutions in India have no experience and capabilities to effectively function in 'market-regulators' environment as envisaged in the WB model.

There are no provision in the WB model to address the situation created by this different orientation and make-up of Indian civil society institutions. The WB model does not envisage efforts for reorientation or capacity building of civil society institutions. Neither does it envisage establishment of any agency similar to the offices of Public Advocate to assist civil society institutions in their efforts to participate in the regulatory process. Thus, the efficiency

³² For a detailed analysis of the WB model applied in the state of Orissa, please refer to (Dixit, Sant, and Wagle 1998).

³³ To do so, the regulators simply will have to make a resolution to exempt themselves from the rule.

of the third factor--civil society institutions--balancing the enormous authority of the regulators is also highly questionable.

A Sabotage Prone-Model

To sum up, mainly because of the diluted TAP provisions and absence of vigilant and capable civil society institutions, the regulatory commission, as perceived in the WB model, becomes not only a king pin but the virtual king of the sector. It has enormous authority but little accountability. When this fact is pointed out, the authorities and the WB staff respond by saying that they would be establishing 'good precedence' to avoid misuse of power by regulators. Thus, according to the WB model, the danger of misuse by enormously powerful regulators is to be balanced by two counter-checks--selection committee manned by government officers and good precedence. Both of these would prove extremely weak barriers in the light of the history of sabotage of the power sector institution in India (please see Box 5 for details). Thus, a disastrous combination of the two elements--the enormous authority entrusted to regulators and absence of effective counter-checks to balance this authority--could be seen as making the MDBs' reform model highly prone to sabotage.

In the final analysis, in the earlier model, people were dependent on good politicians (observing legislative conventions) being *elected* and now, after the MDB model is implemented, they will have to depend on good regulators (following good precedences) being *selected!*

Box 5: Indian Power Sector: History of Regulatory Sabotage

The power sector in India has been under public ownership. The structure lacked mandatory provisions requiring transparency in functioning, direct accountability to public, and space for public participation in decision making (called TAP related provisions). This proved as the most fundamental and decisive weakness in this structure. The absence of such TAP related mandatory and elaborate procedures could only be traced to the implicit belief of the early policy-makers that the public servants and peoples' representatives, together, would always strive to maximise the benefits to public. The state controlled by peoples' elected representatives was expected to play the role of regulator and the power sector authorities were expected to be accountable to people through legislature, the supreme sovereign body representing people.

However, a coalition of vested interests managed to sabotage the regulatory function entrusted to the state by exploiting the absence of mandatory and elaborate TAP provisions. This regulatory sabotage allowed the coalition to exercise an unrestrained control over the sector. Once in the control, the vested interests, over the years, exploited the sector to the hilt through a variety of direct and indirect means--theft, corruption, irrational tariff, technical and managerial inefficiency. Thus, in short, absence of mandatory and elaborate TAP provisions is at the root of the present crisis faced by the Indian power sector.

Until recently, these vested interests were not willing to let go their control on the sector. But, now it is becoming increasingly clear that SEBs would soon become political liabilities if they were run in the same manner. This is the reason underlying the current willingness in political circles to let

go their control over the sector and adopt the model suggested by the MDBs. This opportunity should be used to address the fundamental problems and to introduce mandatory, elaborate, and strict provisions for ensuring TAP. In order to ensure effectiveness of the TAP related provisions, people and their organisations should be made aware and capable to utilise the space created by these TAP provisions to protect and promote public interest.

3.2.3 Other Sources of Concern

In addition to shortcomings in the content of the MDBs prescription as well as in designing and implementation of the prescription, there are other factors that cause worries over the MDBs' operations. Some factors are related to their structures and their style of functioning in general, in other words, these problems are not restricted to the energy sector alone and hence are not discussed in this report. (Please see Box 6 for a brief discussion of these problems.) Similarly, some factors pertain to certain historical actions of the MDBs in their power sector operations in India. Two of these factors are briefly discussed below. Apart from this, the last factor about the accountability of the MDBs is rooted in their own structures.

Box 6: Other Shortcomings in the MDBs Functioning

This report does not cover several issues which are often raised by NGOs and organisations of project affected persons (PAPs). However, there are some important issues related to operations and policies of the MDBs, which warrant a special mention.

- ? **Insufficient Referencing:** Referencing in WB / ADB reports is generally insufficient. This leads to lack of accountability and confusion. If MDBs or their consultants adopt an idea originating from other sources (such as report of government committees, NGO documents, or academic publications), then the original source of the idea has to be acknowledged in order to avoid charges of plagiarism. It would be appropriate to invite the originators of ideas to contribute in developing the idea further or to review the work based on their ideas.
- ? **Technical Weaknesses:** Though MDBs employ highly paid consultants, at times, their work is not up to desired standards.³⁴ A process of peer review should be followed for all important reports. This would also help bring in the perspectives of critics.
- ? **Need to Involve Academic Community and Independent Researchers:** The MDBs should involve the academic community and independent researchers as both these groups have unique strengths that are largely absent in the commercial consultants on whom the MDBs tend to rely solely. As

³⁴ There are many instances of such weaknesses. For example, first, technical lapses by the WB in analysing the Saradar Sarovar Project are well known. Second, weaknesses in the analysis of the issues of tariff elasticity of demand and impact of tariff increase on consumers have been pointed out elsewhere in the report (please refer Box 3). Third, while analysing merits of HVDC line for the 'Second Maharashtra Loan', the WB analysts did not consider the effect of inability of HVDC line to transfer reactive loads and consequent overburdening of existing AC line running in parallel. Several more examples of this kind exist.

compared to the transient interests of these consultants having their sole commitment to assignments, the academic community has long-term interest and deeper theoretical understanding of the issues concerned, while independent researchers often have a long-term commitment to the issues and a more grounded standpoint to represent.

- ? Time Pressure: The MDB consultants and staff are usually under a serious time pressure to complete the assignments. The high cost of staff time (i.e., budgetary pressure) leads to avoiding or limiting the public interactions or involvement. This, as mentioned earlier, also acts against the small but viable projects. The MDBs need to restructure themselves so as to overcome this internal shortcoming rooted in the high overhead costs and costly international consultants.³⁵

Vocal Support v/s Under-Playing of Risks

The MDBs' prescription advocates combination of private ownership and maintenance of competitive environment for the private sector. However, in practice, distortions and discrepancies generated by prevalence of imperfect competitive environment could prove highly damaging to the public interests³⁶. The MDBs have discussed this possibility in their literature only on rare occasions. Neither have they made any extra efforts to caution public about them. The IPP process in India is a case in point.

During 1991 to 1995, the worst phase in the history of power planning was unfolding in India. A number of state governments signed a large number of Memoranda of Understanding (MoUs) with IPPs for adding 100,000 MW (more than the then total installed capacity of the country) in a non-competitive manner and in total secrecy. This was being done against the back-drop of public outcry along with allegations of corruption and cost-padding. Several of these MoUs were converted into legally-binding, long-term power purchase contracts. These high-cost contracts and the associated government guarantees (to pay the IPP bills), are two major problems several state utilities will be facing for quite some time to come³⁷.

³⁵ The cost of international consultants (inclusive of travel and per diem) can be as much as 10 times that of the local consultants.

³⁶ The imperfect competitive environment could be the result of a variety of reasons, including interference / over-indulgence of the state or non-transparent and non-competitive procedures / mechanisms.

³⁷ The state of MP has a peak demand of 6,200 MW, of which 1,000 MW cannot be met currently. Peak demand is increasing at the rate of 6% p.a. The projects in pipeline will add over 2,500 MW capacity by 2001, eliminating the shortages. But the MP government has signed legally binding contracts with IPPs to build additional 5,000 MW capacity. With the state government, at times, being unable to make timely payments to its staff, the state guarantee is worth little. The IPPs are desperately trying to secure escrow cover, while the state utility's escrow capacity cannot support even a quarter of this addition.

During this entire process, despite the public outcry, the WB was publicly silent, which itself is a matter of serious concern. But, more worrisome was the support extended by the MDBs to the governments in their official correspondence. In 1993, in the midst of the IPP controversy, the WB Country Director for India, Mr. Heinz Vergin had the following to say in his letter to the Government of India:

“I . . . assure you once again that the Bank thoroughly supports your government’s private power initiative and is keen to consider . . . (funding the private power projects)”³⁸ (Vergin 1993).

Though it is not consistent with the public stand of the WB, the message from this letter has been clear: private sector involvement, however achieved, is better than government ownership.

When it comes to cautioning public about pitfalls and dangers in the pathway to privatisation or about the need for sabotage-proof regulation, the MDBs have been slow and hesitant. First, taking advantage of resources and international experience accessible to them, the MDBs should have studied (and published their findings) the issues such as the cases of regulatory hijack, genesis of the hijack, and corrective actions. Second, before advocating privatisation, the MDBs should have studied the appropriateness of Indian laws such as the Company Law to prevent the possible misuse of its power by the ‘international finance capital’³⁹. Third, considerable effort should have been put in design of a regulatory structure that is appropriate to the social, political, economic, and the institutional situation in India. Finally, to avoid repetition of mistakes and the resultant costs, experiences of bad privatisation (with causative factors and precautions) should have been given wider publicity. Such prompt and effective action by the MDBs could have strengthened the hands of public to oppose moves leading to 'bad privatisation' when initiated by the country governments.

Commitment to Market or Private Investors?

It is often apprehended that the core commitment of the MDBs is not even to the theory of free market. Rather, the primary commitment of MDBs is towards private investors. This commitment to investors could be witnessed in more than one ways. For example,

³⁸ The letter was written to GoI declining support to a controversial IPP project. This particular decision of the WB was driven by the fact that the fuel used and size of plant was not as per the least cost generation options worked out by the WB. But, it was not rooted in the absence of competition or lack of international competitive bidding for the project involving an investment of \$ 2 billion.

³⁹ When the first IPP contract was being signed in India, the lawyers of the IPP reviewed all relevant laws to produce a list of provisions in the existing Indian laws that needed modifications. These modifications were desired either because these would have prevented the IPP from acting in its business interests, or because some of these could be misused later to harm the interests of the company by some authorities. A similar thorough and in-depth review, with aim of protecting public interests and preventing sabotage, needs to be undertaken by the promoter of the model, the MDBs in this case.

attitude of the MDBs toward TAP procedures reflects their primary commitment to investors. Their concerns for transparency and accountability mainly flow from the perspective of investors. For them, transparency implies transparency for market in the form of clear set of rules and regulations. Similarly, for them, accountability means financial accountability of utilities to the regulator or regulators' accountability in terms of adherence to rules and regulations especially those protecting private players from the state. In this design, transparency for people (e.g., their right to information) or accountability of the utilities and regulators to the public at large doesn't receive due importance⁴⁰.

Another example of their commitment to the investors is the tendency of MDBs to view and portray private enterprise simply as benign 'engines of growth'. Various strategies employed by large businesses to interfere and manipulate the market are rarely talked about or acted upon by the MDBs. Examples of market barriers / imperfections cited by the MDBs often refer only to the interference by the governments.

In the context of commitment to investors, it is interesting to see the candid advertisement put out by the WB (please see Box 7). The advertisement talks about WB's emphasis on "results" rather than on charity (PIRG 1995). The "results" are described as creating market for the US business. Similar were findings of the joint seminar organised by the Energy de France (EdF) and the World Bank. The report on the seminar contains a succinct comment, which aptly summarises the criticism:

"Marginally, the key idea, beyond our discussions about privatisation and competition, may be to open the power sectors of developing countries to foreign operators, expertise and capital"(WB/IFC 1994).

Lack of Accountability of MDBs towards People

Because the MDBs are asking the host governments to accept fundamental restructuring of governance procedures and structures, the issue of their accountability towards people in the host country becomes paramount. This is especially serious in view of commitment of the MDBs towards the investors. There is a paradox here. The governments are often faulted by the protagonists of market for making 'economic' decisions though they only have 'political' accountability. However, through the reforms, the MDBs are fostering not only 'economic' decisions but also decisions related to the governance matters, which are patently 'political' in nature. Yet, there are no 'economic' or 'political' mechanisms to ensure accountability of the MDBs towards the people in the host countries. The gravity of the situation is further aggravated because of the political nature of decision-making processes in the apex body of the MDBs--the Board of Governors.⁴¹ The only way the MDBs can

⁴⁰ The commonly used terms of "consumer interest" need to seen in the light that about half of Indian population in not consumer of power!

⁴¹ In response to the objections that ADB has violated its charter by imposing sanctions on India after the nuclear tests, the ADB president acknowledged that ". . . the charter requires that the Bank look

overcome this problem is to ensure that there are adequate and appropriate procedures and mechanisms for democratic participation of people in the host country.

In order to understand the true nature of privatisation process and its implications for India, one needs to draw a holistic picture by putting all the above mentioned elements together. Prescription of reforms has several good components, many of which had already been repeatedly suggested even by the expert committees in India. But the prescription is also plagued by many shortcomings and the manner in which it is designed or implemented are problematic. Moreover, the MDBs, which are sponsoring and directing the process, seems to

only at economic issues, not political . . . But we have states as members and they, by nature, are political. So, obviously the way they vote is something we can't control within the Bank." (Economic Times, Mumbai, April 22, 1999).

Box 7 : An Advertisement by the World Bank

(Text has been typed due to the limitations imposed by size of scanned image. Paper copy of report has photocopy of the advertisement.)

How do you get more bang for the buck?



Ask the World Bank.

The World Bank is just what it says it is – a bank that invests in the world. It doesn't just lend money, it helps developing countries become tomorrow's markets.

Just ask McDermott International Inc. of New Orleans, Louisiana. Thanks to a smart World Bank investment in Africa five years ago, McDermott brought home a \$255 million contract for offshore oil and gas construction that produced work for over 1,000 Americans.

And that's just one success story. Developing countries now purchase almost \$200 billion in U.S. exports, creating nearly 4 million American jobs.

The World Bank works because it runs like a bank. Responsibility and hard work are expected of its clients. That's why President Eisenhower first asked the Bank to manage a separate fund for the world's poorest countries, which could not afford the Bank's regular lending terms.

He wasn't looking for charity, but results.

Over 40 years, many of those countries have become new markets. And the initial cost of that development has been small for Americans. Because for every dollar the U.S. provides, more than four dollars are contributed by other countries. And for Americans, that means more bang for the buck.

At a time when budgets are tight, that's good banking.

The World Bank

have insufficient understanding of the ground realities and even their commitment to the doctrine of free market, at times, seem to be questionable. Their primary commitment appears more to the investors, rather than to the market or the poor. Further, the process of reforms should be a cautious process, as it leads the sector on a largely irreversible path (please see Box 8). Finally, the MDBs will have to resolve the issue of their accountability towards people in the host country.

Box 8: Rights of Communities

The MDBs stress the need for non-reversible nature of changes under the reforms. It is generally seen as essential to protect the private investors as well as the sector from arbitrary political decisions. But, on the other side, such changes also rob the communities of their right to effect reversal of the decision to privatise distribution function. In the MDBs' reform models, the community does not have right to establish co-operative or municipal utilities by reversing privatisation. This is not a hypothetical possibility. In several municipal areas in the USA, there is a popular demand that the municipal authorities should take over local distribution. This makes it essential that the local community should have right to reverse the decisions made by the government or the regulator, especially when it is prepared to manage its own affairs. The reform model should have clearly defined procedures and conditions for such a process⁴². Lack of this clarity reflects the top-down hierarchical authority structure implicit in the reform model.

3.2.4 Democratic Process toward an Alternative Solution

The alternative prescription proposed here is fundamentally different from the MDBs' prescription in the underlying diagnosis of the crisis as well as in its approach towards its resolution. The differences in the diagnosis are not over the techno-economic elements but over the institutional elements, which arise out of different understanding of the underlying political economy. Our analysis suggests that the crisis has origins in the sabotage of regulatory system by the vested interests. In our understanding, this regulatory sabotage was possible because of the lack of appropriate TAP provisions (please see Box 5 for details).

In our analysis, the real key to ensuring that the power sector would perform in an efficient as well as socially and environmentally desirable manner lies in democratisation of its functioning. In other words, the only lasting solution to the recurring crisis in the power sector is democratisation of the sector. This primarily includes democratisation of its decision-making as well as regulatory functions.

The process of democratisation has two major components: (a) introduction of appropriate TAP provisions in both, policy design and regulatory functions, and (b) building capacity of civil society institutions to utilise the space and opportunities provided by the TAP

⁴² Several issues need to be thought out for this. For example, how will the resources be raised to buy off the stakes of the private utility, how will other contracts be affected.

provisions. In other words, the democratisation of the sector should focus on educating people about their rights, encouraging them to hold the authorities accountable, providing them with the necessary analytical and training support, and creating legal and institutional space to facilitate all this. Once this is done, vigilant people and their capable institutions, in active collaboration with the state and businesses, can ensure steps necessary for efficient running of the sector.

It is believed that, once the functioning of the sector is democratised, the prescription to the crisis will emerge out through a process of participatory consultations. This is exactly opposite to the top-down approach adopted by the MDBs to arrive at their prescription.

This process of democratisation will certainly need some time. This time-lag requires simultaneous actions to limit the ongoing damage in the intervening period. Thus, the path we suggest has the following two components: (a) democratic process for evolving the solution, and (b) simultaneous actions to tackle the immediate problems.

Democratic and Participatory Process for Evolution of the Solution

Through an independent selection process, a five-member commission should be established with a mandate to facilitate public discussion on the problems of the power sector, to analyse different proposals, and then to decide on a solution. In a period of three to four years, the commission should carry out the following tasks:

- (a) Publish the problem definition along with statement of objectives of reforms and invitation for public to suggest different solutions. Receive and compile public reactions. Simultaneously, take steps to provide analytical and legal support to the civil society institutions during this process⁴³.
- (b) Compile the list of solutions being offered along with discussion on the pros and cons of each. Publish this for larger circulation. Hold public hearings and meetings to discuss views of different stakeholders.
- (c) Decide on a model for restructuring, giving reasons for arriving at this model. The commission should identify the likely problems of transition and work out procedures / solutions to tackle the same. In addition, the commission should also evolve procedures and mechanisms essential for capacity building of civil society institutions and for protecting the public goods.

⁴³ One of the ways to do this is to establish temporary mechanisms, similar to the 'Office of the Public Advocate' and a 'Resource Centre' for civil society institutions.

Rather than a giving rise to a conflict, this process could lead all the actors in the sector towards a consensus⁴⁴. In addition, this process would also facilitate education and capability building of civil society institutions.

Tackling the Immediate Problem

It is clear that health of the power sector is worsening. Actions need to be initiated to minimise this damage during the period in which the reform commission completes its process. There are two objectives guiding the actions to control damage during the intervening period, viz., (a) creating barriers between the state and the utility and (b) streamlining the functioning of the state utilities to the extent possible. Some of the actions that could help achieve these objectives are described below. These actions should be reversible and transitional in nature.

The government should reorganise the top management of the SEBs. The governing boards of SEBs should comprise independent professionals and representatives of different stakeholders, instead of government appointees. The members should be selected through the selection process used for appointment of the members of the reform commission. Appointments should be for a fixed term.

The government should allow a pre-decided tariff increase in this period of two to three years. Different sections of utility should be made accountable for their performance. The government should also initiate process of performance contract with the SEB management and staff. The performance target should be defined in terms of bill recovery, reduction in theft, power plant performance, improved consumer relations, and introduction of transparency related provisions.

The utility management and workers will thus have a clear mandate and incentives to achieve the target performance. The power sector workers' unions are already coming forward suggesting that the governments should lay down targets for the workers and simultaneously, spell out their own relationship with the power sector (move towards a system of contract between the government, the utility and workers, similar to that in France). As mentioned before, unions are willing to take responsibility to achieve the targets if the government assures to provide necessary facilities (such as police protection in areas where theft is rampant) and let the SEBs run in an independent manner.

⁴⁴ The power sector workers' unions are already coming forward suggesting that the governments should lay down targets for the workers and, simultaneously, spell out their own relationship with the power sector (move towards a system of contract between the government, the utility, and workers, similar to that in France). Unions are willing to take responsibility to achieve the targets if the government assures to provide necessary facilities (such as police protection in areas where theft is rampant).

The public awareness generated through the process of the reform commission as well as the loan conditionalities of the MDBs , if any, would be instrumental in ensuring governments' continued commitment to both the elements of the alternative solution.

Thus, in this chapter, we began by analysing the biases of the MDBs in favour of the GROSSCON paradigm, conventional planning approaches and the centralised systems using conventional fuels. The latter part of the chapter was devoted to discussion on the reform package being advocated and sponsored by the MDBs. Herein, we undertook analysis of the prescription of the MDBs and presented an alternative proposal in the form of a process. We feel that a lasting solution to the current crisis besetting the Indian power sector lies not in some ideal prescription of measures, rather it lies in ensuring rational decisions by democratising the underlying decision-making processes⁴⁵ .

⁴⁵ The term rational is used here in a wider sense. It is not restricted to economic rationality at the firm level. But this rationality means what is desirable for the society as a whole in long term.

4. Summary and Conclusion

The Chapter 3 presented a detailed critique of the MDBs' literature and actions centred on the two themes: (a) preoccupation with growth, market, and centralised systems and (b) need for democratisation of the process of reforms. In this chapter, we begin with a summary of the analysis in Chapter 3 to get a holistic picture. This critique is then viewed along with the strengths and limitations on the MDBs to see what conclusions emerge out.

A Summary of the Critique

The MDBs, influenced by the GROSSCON paradigm, have been helping perpetuate the 'shortage psychosis'. This psychosis, in turn, often precipitates ad-hock and conservative decisions in the favour of large, centralised, supply-sided systems based on conventional fuels. This bias is further aggravated because of neglect by the MDBs of the planning techniques (such as IRP) and non-market measures to promote the efficiency and renewable energy options. This imbalance and neglect have been among the important lacunae leading to the criticism of the MDBs for the social and environmental implications of their policies. In response to these criticisms, the MDBs have taken up some programs on renewable energy and efficiency, however, these programs continue to remain small appendices and are yet to be integrated in the mainstream vision. In the context of large rural population and high levels of poverty in rural India, more worrisome is the neglect of rural energy issues, which play a critical role in efforts aimed at providing security of livelihoods. Thus, in addition to the social and environmental implications of their energy policies, the MDBs have failed to integrate their actions in energy sector with their developmental objective of poverty reduction.

In the light of the present aggressive stand of the MDBs on the prescription of power sector reforms, there are two sets of concerns: (a) concerns related to the content of the reform package and (b) concerns related to the manner in which the package is devised and implemented. The process in which the prescription of reform has been shaped is characterised by lack of participatory debate and lack of open-mindedness on the part of MDBs. The outreach activity conducted jointly by the MDBs and the implementing governments could best be described as exercises to promote the pre-decided prescription. Though there are concrete examples of successful public participation in policy-making and planning exercises elsewhere (as conducted in California or Kerala), while promoting the electricity reform package in India, the MDBs contented themselves by giving excuses for not doing so⁴⁶.

Coming to the content of the prescription, conceptually, the main element of the prescription--the private ownership--is expected to eliminate the ills of inefficiency, indiscipline, theft, and corruption. However, in practice, the success of the MDB prescription is heavily dependent on the authorities and powers exercised by the honest and capable

⁴⁶ In the state of Kerala, on popular demand, the government conducted a state wide bottom-up program to evolve development plans of villages in which larger public participation was ensured.

regulators. The key issue, in this regard, is the absence of effective and sure-fire counter-checks to the enormous authority accorded to the regulators. This makes the MDB solution highly prone to the sabotage by the vested interests.

The vivid contradiction between, on one hand, the aggressive stand taken by the MDBs on privatisation and restructuring and, on the other hand, absence of such persuasiveness or enthusiasm in promoting options of efficiency or renewable energy is too blatant to miss. These contrasting attitudes could be described as '*just do it*' (for privatisation) and '*just think it*' (for renewable energy and efficiency).

The Limitations Experienced by the MDBs

This critique needs to be placed in the context of the oft-cited limitations experienced by the MDBs. The first major limitation pertains to the fact that the MDBs are owned by the governments and have to largely deal with and work through the governments in their operation within the countries. It is said that this makes it difficult for the MDBs to remain completely immune to the pressures and the limitations of the governments in the countries. In response, it could be said that the best strategies for the MDBs to overcome these pressures and limitations is to encourage participation of all stake-holders, including public in general, in planning and design process. The MDBs have already demonstrated their capabilities while convincing the governments to effect fundamental changes even in the governance and legal structures. Hence, if systematic efforts with true commitment are made over a period, as was done in the case of privatisation, then the MDBs can convince the governments on the need and benefits of transparent, participatory, and accountable practices. It is logical and legitimate that, especially when the government interference was found to be the major source of crisis, the efforts to resolve the crisis include people, the fountain head of legitimacy in democratic system⁴⁷.

Another limitation experienced by the MDBs is their large-sized and capital intensive projects necessitated by their large overhead costs (which, in turn, are rooted in the high cost of manpower and largely centralised operation from the Washington). This works against the small-sized, innovative projects even if they are cost-effective and desirable on the social and environmental grounds. This is no more an insurmountable difficulty. In the era of information technology and advances in management sciences, it should be possible for the MDBs, which have been advocating fundamental restructuring of governments around the world, to reorient their own structures and functioning to overcome this limitation.

For various reasons, the particular structure and the composition of the MDBs, evolved over years, generate thinking and actions that remain far removed from the ground realities of

⁴⁷ There is an additional benefit to the MDBs in adopting this democratic and participatory approach. It is often said that the wealthy countries have considerable influence on the MDBs' decision-making through the 'biased' voting procedures. As a result, actions of the MDBs are largely geared to protect the economic and political interests of these countries. The democratic and participatory approach, if adopted, could provide the badly needed legitimacy to the MDBs actions in the eyes of common people of the host countries.

the poor, whom they intend to help. The recently emerging understanding on the part of the MDBs about the need to listen to the poor and learn from the ground level workers acknowledge this shortcoming (Wolfensohn 1999). However, this understanding needs to be translated in concrete actions.

The Strengths and Advantages

Along with these limitations, the MDBs also enjoy certain strengths and advantages. One of the major advantages lies in the high levels of financial and human resources available to them for collection of information and for conducting research and analysis. This advantage is enhanced by their exposure to a wide range of experiences from countries with diverse situations. These experiences could provide an invaluable wealth of understanding and insights. The most important advantage on the side of the MDBs relates to various immunities and guarantees they enjoy. The MDBs are largely insulated from the direct pressures of the in-country vested interests unlike the country and local governments. The MDBs also enjoy sovereign guarantees from the country governments for their loans.

In addition to the above strengths, the MDBs possess considerable leveraging ability, which is disproportionately large to the money they lend. Apart from the leverage in the financial matters, the MDBs also have a leveraging effect on the policies and actions of country governments⁴⁸. This leveraging at policy level could be traced to, apart from their financial muscle, the aura of professionalism and expertise the MDBs carry, which earn them respect and legitimacy in the elite and educated circles in the country.

The Three Critical Responsibilities

While the limitations experienced by the MDBs could be addressed through some innovation and reorientation, the strengths and advantages they enjoy put the MDBs in a special and privileged position. The usual tendency, on the part of the MDBs, to respond to criticisms by effecting peripheral policy changes and translating them into insignificant actions is not commensurate with this special and privileged position. In order to be true to their developmental goal of poverty reduction and to inspire confidence in the minds of people about their commitment to democratic values, the MDBs should undertake three critical responsibilities.

First, they need to get involved in a truly participatory dialogue with people and grassroots level functionaries. It is heartening to see the recent acknowledgement that the understanding of the ground realities and peoples' aspirations is not readily available in the ivy-league universities. Neither can this knowledge be imported through a few consultations with NGOs and ground-level functionaries. It could only emerge through a participatory dialogue between the experts at MDBs having analytical skills and theoretical capabilities and the ground-level functionaries and people themselves having experiential insights. Such a dialogue needs to be conducted with mutual respect and on equal grounds.

⁴⁸ The MDBs and especially the WB enjoy considerable influence on IFC, IMF, India Development Consortium, and even private funds.

Such a dialogue will help analysts and professionals in the MDBs transcend the limitations imposed on them by their training and location (social location, class location and geographic location). It will also help them view issues of development and livelihoods as well as view life in general, from the standpoint of the poor and the disadvantaged. This brings us to the second critical responsibility of MDBs. This changeover in the standpoint would require willingness on the part of the MDBs to examine and, wherever necessary, restructure the very foundations of their vision, policies, and programs. In other words, the second responsibility requires the MDBs to demonstrate courage to effect a fundamental restructuring of their development paradigm. To realise this paradigmatic metamorphosis, the MDBs will have to withstand resistance of various international vested interests and make changes in their rhetoric, policies, and actions, which would logically follow from the vision of development centred on 'security of sustainable livelihoods to poor'.

The third critical responsibility pertains to translating this paradigmatic transformation in practice. The MDBs should desist from following the well-trodden and streamlined pathways. This is because, most often than not, these 'practicable and 'viable' pathways are found to work against environmental sustainability and against security of livelihoods of poor. Instead, the MDBs should experiment and research, using their new understanding of development, to identify weak but critical linkages in the efforts to attain the objective of 'security of sustainable livelihoods for all'. Their special and privileged position (especially the guarantees and immunities they enjoy), in combination with the large resources available to them for research, should be used to experiment and innovate in order to transform the 'desirable' into 'practicable' and 'viable'.

In the final analysis, discharging these three responsibilities by the MDBs would certainly be helpful in arriving at a fundamental and lasting solution aimed at making the Indian power sector sustainable, viable, and democratic. Moreover, it will be an appropriate response to the crisis of vision and credibility faced by the MDBs. This will bring closer the aim of making the MDBs true 'developmental' institutions committed to democratic values.

Bibliography

- Ahluwalia, S. 1999. "Tariff Reform in India: A Review of Directions and Issues." Presentation at the National Conference on "Transition to a Liberalised Environment-Experiences and Issues in Regulation." February 3-4, 1999, New Delhi.
- ADB (Asian Development Bank). 1996. *Country Operational Strategy Study: India*. Asian Development Bank, Manila.
- ADB (Asian Development Bank). 1999. *Country Assistance Plan - India, 1999-2001*. Asian Development Bank, Manila.
- CMIE (Centre for Monitoring Indian Economy). 1995. *India's Energy Sector*. Centre for Monitoring Indian Economy, Mumbai.
- Datye, K. R. 1995. "Scenarios and Water Futures: An Integrated Perspective for India." Workshop Discussion Document, Stockholm Environment Institute's Workshop, Boston, September 28-30.
- Datye, K. R. 1997. *Banking on Biomass: A New Strategy for Sustainable Prosperity Based on Renewable Energy and Dispersed Industrialisation*. Centre for Environment Education, Ahmedabad.
- Datye, K. R. 1998a. "Opportunities for Sustainable Livelihoods in Semi-Arid Environment" A Paper Presented at the 'Expert's Meeting on Vulnerability Generated by Water Scarcity in Semi-arid Regions'. Sweden.
- Datye, K. R. 1998b. Presentation at the Meeting of 'Task Force on Evaluation of Alternatives to the Narmada Valley Development Plan' Appointed by the Government of MP. Bhopal, India, September.
- Dixit, S.D., Sant, G.S., Wagle, S. M. 1998. "WB -Orissa Model of Power Sector Reform: Cure Worse than Disease." *Economic and Political Weekly*. April 25, 1998.
- ERM (Environmental Resource Management India). 1997. *Renewable Energy In India: A Special Study*. A report prepared under ESMAP project "Environmental Issues in the Power Sector." New Delhi.
- ESMAP (Energy Sector Management and Assistance Program). 1998. *India Environmental Issues in the Power Sector*. World Bank, Washington D. C.
- GoI (Government of India). 1980. *Report of the Committee on Power* (Report of Committee chaired by V G Rajadhyaksha). Ministry of Energy, Department of Power.

- Hagler Bailly 1996. "An Industrial DSM Program for the Uttar Pradesh State Electricity Board", A Report Prepared for the ASTAE and the World Bank.
- Hayes and Bartlett Inc. 1995 'Uttar Pradesh Power Sector Restructuring Study' Volume 1, Main Report, by Putnam, Hayes and Bartlett, Inc. The World Bank consultants, 1995
- Innotem Services. 1996. "Feasibility study: Electric Motors Demand Side Management Project", A Report Prepared by the Innotem Services under Orissa State Power restructuring Project for ASTAE and the World Bank.
- IBRD (International Bank for Reconstruction and Development). 1997. "Statement of Loans." The World Bank, April 30.
- IDA (International Development Association). 1997. "Statement of Development Credits., The World Bank, April 30.
- Joy, K. J. 1997. "Sustainable Water and Land Usage for Transition to a Rural Dispersed Industry and Livelihoods" an Unpublished Paper.
- Metering Engineering Inc, 1995, "Orissa State Power Restructuring Project: Demand Side Management Load Research Component", Volume I and II, the Report prepared by Metering Engineering Inc. for ASTAE and the World Bank.
- Nadel et al.(Nadel Steven, Gopinath S., and Kothari, Virendra). 1991. "Opportunities for improving end use electricity efficiency in India" A Report of the Office of Energy and Infrastructure, USAID.
- Padmanabhan, S. 1996. "DSM Strategy Programs in India: The World Bank's Experience", Presentation by S. Padmanabhan, ASTAE, World Bank.
- Paranjape, Suhas and K J Joy. 1995. *Sustainable Technology: Making the Saradar Sarovar Project Viable.*, Centre for Environment Education: Ahmedabad, India.
- Planning Commission of India. 1994, "Report of the NDC Committee on Power" Government of India: New Delhi..
- Planning Commission of India. 1996, "Approach Paper to the Ninth Five Year Plan, (Draft)" Planning Commission, Government of India: New Delhi..
- Planning Commission of India. 1997a, "Annual Report on the Working of State Electricity Boards and Electricity Departments", Planning Commission, Government of India: New Delhi.
- Planning Commission of India. 1997b. *The Ninth Five-Year Plan (1997-2002), Vol. I and II.* Government of India: New Delhi.

Public Information Centre (PIC) 'Project Information Documents of Various Projects in the WB Pipeline'.

PIRG (Public Interest Research Group). 1995. *The World Bank and India*, New Delhi.

RCG/Hagler Bailly. 1994 . "Strategic Approach for DSM in India : Reconnaissance Report." Prepared by RCG/Hagler Bailly for ASTAE and the World Bank.

Reddy, A. K. N. 1990. *Development Energy and Environment : A case study of Electricity Planning in Karnataka*. Parisar Annual Lecture. Parisar: Pune, India.

Reddy et al. (Reddy, Amulya Kumar N., Gladys D Sumithra, P. Balachandra, Antonette D'Sa). 1991. "A Development-Focused End-Use-Oriented Electricity Scenario for Karnataka." *Economic and Political Weekly*.

Reddy M T 1999, "Reforms In Power Sector in Andhra Pradesh." An Unpublished Note. Centre for Environmental Concerns: Hyderabad, India.

Sant, Girish and Shantanu Dixit. 1994. "Least-cost Power Planning : Case Study of Maharashtra State" An Unpublished Report Available from Prayas.

Sant, Girish and Shantanu Dixit. 1996a. "Beneficiaries of IPS Subsidy and Impact of Tariff Hike" *Economic and Political Weekly*, December 21.

Sant, Girish and Shantanu Dixit. 1996b. "Agricultural Pumping Efficiency in India : The Role of Standards" *Energy for Sustainable Development*, Vol. III, No. 1, May.

TERI (Tata Energy Research Institute). 1994. *Co-management of Power and Ground water Resources : Issues in Sustainability and Equity in Ground-water Scarc Areas*. TERI: New Delhi.

TERI (Tata Energy Research Institute). 1996/97. *TERI Energy Data Directory and Yearbook, 1996/97*, TERI: New Delhi.

Vergin, Heinz. 1993. The letter by Mr. Heinz, Director, India Country Department, The World Bank to Mr. M. S. Ahluwalia, Secretary, Ministry of Economic Affairs, Ministry of Finance, Government of India, April 30, 1993.

Wolfensohn, James D. 1999. "The Knowledge Bank Also Needs to Listen and Learn." In Speaker's Corner (Development Forum), The WB Web Site.

WB (World Bank). 1989, *India Power Sector Efficiency Review* Vol. I to III.

WB (World Bank). 1991. *India Long Term Issues in the Power Sector*, Volume I to III.

- WB (World Bank). 1992. *Staff Appraisal Report on India Second Maharashtra Power Project.*
- WB (World Bank). 1993. *Staff Appraisal Report, India Powergrid System Development Project.*
- WB (World Bank). 1993. "Power Supply in Developing Countries: Will Reforms Work?" Proceedings of a Roundtable Co-sponsored by the WB and Electricite de France, April 27-28, 1993. Industry and Energy Dept., The World Bank.
- WB (World Bank). 1993a. *Conference on Power Sector Reforms in India.*
- WB (World Bank). 1993b. *Staff Appraisal Report on India NTPC Power Generation Project.*
- WB (World Bank). 1996a. *Country Economic Memorandum: Five Years of Stabilisation and Reform :The Challenges Ahead'* The World bank, Report No. 15882-IN.
- WB (World Bank). 1996b. *Staff Appraisal Report on Orissa Power Sector Restructuring Project..*
- WB (World Bank). 1997a. "Key Issues in the Energy Sector and Power Sector Reform in India", Presentation at 'Workshop with NGO Representatives' at Washington D.C.
- WB (World Bank). 1997b., *Project Appraisal Report on Haryana Power Sector Restructuring Project.*
- WB (World Bank). 1999. *Project Appraisal Report on Andhra Pradesh Power Sector Restructuring Project.*
- WB/IFC (World Bank and the International Finance Corporation). 1994. "Power and Energy Efficiency Status Report on the Bank's Policy and IFC's Activities." A Joint WB /IFC Seminar, to the Executive Directors of the WB, July.

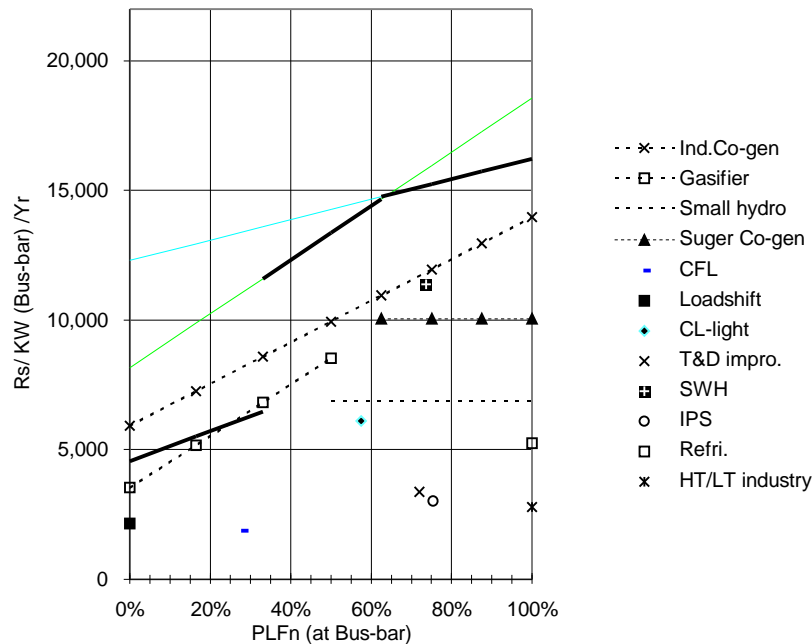
Annex I : Cost and Potential of Some Options Considered in Maharashtra IRP

DSM Options	Savings #	
	Peak Power (MW)	Energy (MU)
Household lighting	680	1670
Solar Water Heaters	150	950
Refrigerator Efficiency	46	400
Commercial Sector	110	540
Irrigation Pump Set Rectification	200	2655
LT Industry	164	900
HT Industry & Misc.	400	3600
T&D Loss Reduction	175	1400
Industrial Load Shifting	250	Nil

Note # : All figures represent bus-bar saving.

Decentralised Generation Option	Installed Capacity (MW)
Sugar Co-generation	500
Co-generation in Other Industries	500
Small Hydel Plants	712
Producer Gas	100

Screening Curves - The Cost Effectiveness of Energy Efficiency and Renewable Energy



The annual cost of a kW generated / saved is plotted against the PLF (for supply options) and against the conservation load factor (for DSM options). The solid lines indicate the centralised supply options. The highlighted part of these lines represent the least-cost envelope of centralised options. The decentralised supply options of industrial co-generation, wood gasifier, small hydro and sugar co-generation is indicated by broken lines. The DSM options of CFLs, industrial load shifting, commercial sector (CL-lighting), T&D improvements, solar water heaters, IPS efficiency improvements, refrigeration

efficiency improvements (Refri.), and industrial efficiency (HT/LT industry) are indicated by point markers. The DSM options are far too less expensive than the supply options.

Source : (Sant and Dixit 1994)

Annex II : The World Bank Loans / Projects in India

Sr. No.	Title / Project	Loan Number	Effective Date	Amount (Million \$)		
				Original	Cancellation	Undisbursed
1	Tata Hydro Elec.- Andhra Valley	0106-0	07/12/55	16.2	2	
2	Tata Hydro Elec.- Andhra Valley	0164-0	28/11/57	9.8	0	
3	Koyana Power	0223-0	16/07/59	25	6	
4	Pvt. sector Coal Prod.	0292-0	18/10/61	35	6	
5	2nd Koyna Power	0024-0	24/10/62	21	0	
6	Kothgudam Power	0037-0	03/07/63	24	0	
7	Power Transmission	0416-0	27/07/65	70	20	
8	2nd Kothgudam Power	0417-0	03/08/65	14	0	
9	2nd Power Transmission	0249-0	29/07/71	75	2	
10	3rd Power Transmission	0377-0	28/09/73	85	0	
11	RE (rural electrification)	0572-0	23/10/75	57	0	
12	4th Power Transmission	0604-0	22/10/76	150	0	
13	Singrauli Thermal Power	0685-0	28/06/77	150	0	
14	Korba Thermal Power	0793-0	14/08/78	200	0	
15	Tata Hydro Elec.- Andhra Valley	1549-0	08/02/79	42	0	
16	Ramagundam Thermal Power	0874-0	22/05/79	200	0	
17	2nd REC	0911-0	17/10/79	175	3	
18	2nd Singrauli Thermal Power	1027-0	30/07/80	300	0	
19	Farraka Thermal Power	1887-0	10/12/80	25	12	
20	Farraka Thermal Power	1053-0	10/12/80	225	0	
21	Second B'bayHi Offshore Dev.	1925-0	24/02/81	400	0	
22	Ramagundam Thermal	1648-5	18/05/81	50	0	
23	Tata Hydro Elec.- Andhra Valley	1549-5	17/06/81	63	0	
24	Second Ramagundam Thermal	2076-0	16/03/82	300	23	
25	2nd Korba Thermal Power	1172-0	16/03/82	400	14	
26	Ind Refinery Rationalisation	2123-0	29/06/82	200	0	
27	3rd RE	2165-0	21/10/82	305	9	
28	Godavary Petro Exploration	2205-0	28/02/83	166	0	
29	Offshore Gas Dev.	2241-0	27/06/83	222	87	
30	Upper Indravati Hydro	1356-0	09/09/83	170	0	
31	Upper Indravati	2278-0	27/09/83	156	156	
32	Central Power Transmission	2283-0	29/03/84	251	119	
33	2nd Farraka Thermal Power	2442-0	29/06/84	301	55	
34	Duchichuva Coal	2393-0	30/08/84	151	51	
35	Cambay Basin Petroleum	2403-0	31/08/84	243	29	
36	Indira Sarovar - Hydro Elec	2416-0	18/06/85	157	148	
37	Tata Hydro Elec.- Andhra Valley	2452-0	31/07/85	135	1	
38	Indira Sarovar Hydro-elec	1613-0	07/11/85	13	8	
39	SSP Dam and Power	2497-0	06/01/86	200	182	
40	SSP Dam \ Power	1552-0	06/01/86	100	0	
41	Chandrapur Thermal	2544-0	20/02/86	300	109	

42	Rihand Power Transmission	2555-0	20/02/86	250	64	
43	Kerala Power	2582-0	05/03/86	176	76	
44	CC Power	2674-0	27/03/87	485	0	
45	Oil India Petroleum	2785-0	28/09/87	140	2	
46	India coal	2796-0	28/09/87	340	40	
47	National Capital Power Supply	2844-0	21/03/88	485	162	
48	Talcher Thermal	2845-0	21/03/88	375	80	21
49	Karnataka Power	2827-0	06/04/88	330	260	
50	Western Gas Dev.	2904-0	02/09/88	295	12	
51	UP Power	2957-0	22/09/88	350	326	
52	2nd Karnataka Power	2938-0	27/10/88	260	236	
53	Indian Oil Corporation	3044-0	13/10/89	340	296	
54	Maharashtra Power	3096-0	14/12/89	400	63	96
55	Naphtha Jhakri Power	3024-0	30/01/90	485	0	228
56	Oil/ Gas sector Dev	3391-0	26/12/90	150	0	-
57	Northern Regional Transmission	3237-0	10/01/91	485	0	275
58	ONGC gas flaring reduction	3364-0	21/07/91	450	0	29
59	BSES	3344-0	29/07/91	200	0	10
60	Tata Hydro Elec.- Andhra Valley	3239-0	30/09/91	98	0	-
61	Power Utility Efficiency	3436-0	18/03/92	265	25	87
62	Power Grid Corporation	3577-0	26/03/93	350	0	192
63	TN Newsprint - Renewable	3544-0	06/04/93	75		-
64	Renewable Source Dev	2449-0	06/04/93	115	0	86
65	2nd Maharashtra Power	3498-0	18/06/93	350	0	238
66	PFC - TA	3630-0	23/08/93	20	0	19
67	NTPC	3632-0	06/06/94	400	0	267
68	Coal Sec. Env., Social Mitigation	2862-0	23/07/96	63	0	56
69	Orissa Power Sector Restructuring	4014-0	24/09/96	350	0	338
70	Haryana Power Sector Restructuring*	PE-35160	01/03/98	600	0	-
71	AP Power Sector Restructuring *	PE-49537	01/03/99	1,000	0	-
			Total	15,864		

Note : * Adjustable Program Loans. (Source : IBRD 1997, IDA 1997, WB 1997b, 1999)

Annex III : ADB Energy Projects in India

Sector	Project Title	Net Amount	Effective Date
Fin&Ind.	Private sector infrastructure facility	150	Sep-97
Fin&Ind.	Private sector infrastructure facility	100	Sep-97
Fin&Ind.	Private sector infrastructure facility	50	
Energy	Gandhar field development	199	May-92
Energy	Hydrocarbon sector program loan	125	Dec-91
Energy	Gas flaring reduction	241	Sep-93
Energy	Gas rehabilitation and expansion	173	Aug-94
Energy	LPG pipeline	150	
Energy	Power Efficiency (Sector)	250	Jul-92
Fin&Ind.	Industrial energy efficiency	150	Jul-95
Fin&Ind.	Renewable Energy Development	100	Jul-97
Energy	North madras thermal power	113	Apr-87
Energy	Unchahar Thermal power extension	160	Apr-89
Energy	Rayalaseema thermal power	178	Jul-90
Energy	Second north madras thermal power	200	Feb-91
Energy	Power transmission sector	275	Oct-96
	Total	2613	

Source: (ADB 1999)

Annex IV : The WB Project Cycle

Information on Bank projects is produced at different stages in the preparation of a project. Below, there is an illustration of the stages in the project cycle. The Bank and governments of borrowing countries share responsibilities over the project cycle. Cofinancing agencies, bilateral agencies, NGOs, and other parties may also participate in the preparation of a project and in its implementation. Publicly available information in The InfoShop, corresponding to the stages in the project cycle, is also shown.

Before being made public, the documentation on a project is reviewed by the government of the borrowing country for sensitive material. Drafts of documents are not generally distributed: only the final documents are available to the public.

Information more directly related to business opportunities under Bank-assisted projects also appears in the Bank's *Monthly Operational Summary* that is published as part of the *United Nations Development Business* newspaper. Procurement notices and contract awards also are published in the same newspaper.

Project Cycle	Activities	Documents Available to the Public
Identification	Joint Borrower/Bank Involvement - Sources of project ideas · Bank economic work · prior projects · other agencies - Initial summary of project approved by country department	Project Information Document (PID)
Preparation	Responsibility of Borrower - Technical/financial assistance available from: · Borrower · Bank · other agencies - Studies (economic, technical, institutional, financial) - Study of impact on environment Project summary revised by the Bank	Technical information Environment Assessment (EA) revised PID
Appraisal	Responsibility of Bank - Evaluation of project viability: · economic · technical · institutional · financial · environmental	
Negotiations	Joint Borrower/Bank Involvement - Borrower reviews final documents - Terms and conditions of loan agreed	
Approval	- Board of Directors of the Bank approves loan - Signing of loan agreement by both parties	Staff Appraisal Report (SAR) or Technical Annex (TA)
Implementation/ Supervision	- Loan declared ready for disbursement - Implementation by Borrower - Supervision by Bank	Legal Agreement
Ex Post Evaluation	- Completion and audit reports - Analysis used for future project design	Impact studies

Extract from the World Bank web site.

Selected Prayas Documents

- Ø Least Cost Power Plan for the State of Maharashtra
- Ø Power From Sardar Sarovar: An In-efficient Plan
- Ø The Enron Controversy: Techno-economic Analysis and Policy Implications
- Ø Agricultural Pumping Efficiency in India: The Role of Standards
- Ø How Reliable are Agricultural Power Use Data
- Ø SEB Privatisation: Transcending the Issue of Ownership
- Ø Beneficiaries of IPS Subsidy and Impacts of Tariff Hike
- Ø Regulation: A Case Study of Power Sector Privatisation in India (*A Presentation at the WB-NGO Workshop on Privatisation*)
- Ø The Enron Story: Controversial Issues and the Struggle
- Ø WB Orissa Model of Reforms: Cure Worse than Disease
- Ø Towards an Efficient and Low Cost Power Sector (*Draft Chapter on Energy Issues, Prepared for the Narmada Valley Task Force Appointed by Government of M.P.*)
- Ø Promoting Public Interest: Civil Society Institutions and Independent Regulatory Agencies in the Electricity Sector (*A Submission to CERC, India*).

About PRAYAS

PRAYAS means *determined efforts in a definite direction*.

At PRAYAS, we apply our professional knowledge and skills to understand the issues afflicting society especially in the areas of health, energy and livelihoods, as well as learning and parenthood. Further, we strive to translate this understanding in strategic but sensitive responses.

Underlying these responses is our belief that, if equipped with adequate information, sound analyses, and necessary skills, even disadvantaged sections of society can tackle their problems and shape their own future.

Our activities—research, policy analyses, information dissemination, public interest advocacy, skill development, provision of counselling support – are geared to the objective of equipping the disadvantaged and facilitating people's own action.