

# **STRENGTHENING POWER SECTOR OF BANGLADESH THROUGH GOOD GOVERNANCE**

**A DISSERTATION BY  
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October 2009



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## **Abstract**

Energy is one of the most important inputs to improve quality of human life and enhance economic development. Per capita electricity generation in 2008 was 173kWh and 45 percent of population had access to electricity. During 1994 to 2004 the supply of electricity grew at an average rate of 8.2 percent. But the reliability of electricity supply could not be maintained since 2005; load shading was in the range of 700MW to 770MW reported for 287 days for a total duration of 1433 hours. Electricity crisis has seriously affected the quality of human life and development activities of all the productive sectors. Bangladesh has reasonable reserves of primary energy sources (coal and natural gas), but it could not be made available for sustainable power generation. It has not been possible to give due attention to the supply chain management of power that is generation, transmission, distribution in synchronized manner. Power crisis has been continuing not due to scarcity of primary energy resources but due to lack of efficient management. This is why, the objective of the present study is to identify the gaps in the governance of the power sector, in order to enhance the process of good governance. The legal and policy instruments used to govern the power sector and different institutions involved with the management of the power sector have been presented. Bangladesh Power Development Board was established in 1972 as a vertically integrated organization for overall development and management of the power sector. Since 1977, with the establishment of Rural Electrification Board (REB), a number of new institutions have been established under power sector reform process to improve the quality of electricity supply services. These institutions are DESA, DESCO, PGCB, WZPDCO, DPDC, APSC. At present various functions carried out by BPDB are: overall coordination, generation of electricity in some power plants, purchase of power from the IPPs, distribution of power to some rural and urban areas and sale of electricity to distribution entities (DESCO, WZPDCO, NWPDCO and REB's).

The status of power sector indicates that in 2008-09 the total generation capacity was 5560 MW which includes 3817 MW in public sector (68.65%) and 1743 MW in private sector (35.35%). For the unavailability of gas supply some of the power plant could not produce power according to their rated capacity (GOB 2009). In fiscal year 2008-09 the net generation of power was 12,557.19 million kWh of which 7673.08 million kWh in public sector (61.1%) and 4884.11million kWh was in private sector (38.9%). The Government has decided phase wise establishment of 14000 MW power plants by year of 2020. It takes 5-7 years to build and commission a viable power plant project under public sector. It also needs the assurance of funds from donor agencies. Tender procedure and other hurdles also hinder the progress of implementing a power plant through public funding. There are presently more than 18 power plant projects ranging from 10MW-450MW waiting for implementation under public sector. Considering good prospects of power plant constructions in private sectors, the Government has also decided to allow Private Sectors to set up 10MW-50MW Power Plants without tender processing. The provision is that the Government will purchase electricity at a mutual agreed price.

In Bangladesh Power Sector Reform (PSR) has been initiated in order to improve the performance of the power utilities to serve a greater number of consumers with affordable price of electricity. Study of various reforms measures indicate that reforms process included three functional activities: institutional reforms, policy reforms and operational reforms. Some Progress have been made in generation, transmission and distribution systems. Decision to rationalize tariff has been made in 2006. Since 2008 BERC started tariff



fixation through public hearing. The 3-years Road map has been agreed with ADB to continue further reforms. For sustainable development and management of power sector coordinated actions have to be taken at all levels that is from top most level of decision making to utility levels. Power sector governance system refers to coordinated actions of the Parliament, Parliamentary Committee, Cabinet, Planning Commission, BERC, Power Cell, MOPEMR, Power Division, BPDB and other entities. The study has made an attempt to identify the weakness in governance of the above mention institutions. On the basis of systematic study the following suggestions have been made for strengthening the power sector through good governance. An independent Minister should be given responsibility for the management of MOPEMR under the overall guidance of the Prime Minister. One advisory Committee should be formed for advising both Energy and Mineral Resources Division and Power Division. The Parliamentary Committee may consider inviting independent experts to brief them on specific issues related to energy and power. Serious attention should be given to expedite the approval process of development project by the Planning Commission. BERC should be allowed to function independently in fixing tariffs. Senior levels decision makers should be posted in their respective position at least for a period of 3 years. Power Cell should be given responsibility to monitor constantly the progress of implementation of PSMP and also to undertake policy research and program for HRD. All the public sector companies of power sector should be placed under BPDB establishing it as a holding company. The composition of management board of different electricity companies should be selected with due attention to supply and demand side representation and the position of the Chairman should not be changed frequently.

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## Nomenclatures & Definition

ADB	Asian Development Bank
ADP	Annual Development Program
APSCL	Asugonj Power Station Company Ltd.
BPDB	Bangladesh Power Development Board
BERC	Bangladesh Energy Regulatory Commission
CEI	Chief Electric Inspector
DSM	Demand Side Management
DESA	Dhaka Electricity Supply Authority
DESCO	Dhaka Electricity Company Ltd.
DOE	Department of Environment
DPP	Development project Performa/proposal
DPEC	Departmental project Evaluation Committee
EGCB	Electricity Generation Company of Bangladesh
EA	Electric Advisor
ESUs	Electric supply units
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GNP	Gross National Product
HRD	Human Resource Development
IPP	Independent Power producers
IMED	Implementation, Monitoring and Evaluation Division
kwh	kilowatt hours
KfW	Kreditanstalt fur Wiederaufbau
KW	kilowatt
LDC	Load Dispatch Center
MG	megawatt
MDG's	Millennium Development Goals
MOPEMR	Ministry of Power, Energy and Mineral Resources
NEP	National Energy Policy
NWPDC	North West Power Distribution Company Ltd.
NLDC	National Load Dispatch Center
NBR	National Board of Revenue
OECD	Overseas Economic Co-operation Fund
PDPP	Preliminary Development project Performa /Proposal
PSMPU	Power Sector Master Plan Update
PEC	Project Evaluation Committee
PD	Power Division
PGCB	Power Grid Company of Bangladesh
PTA	Performance Target Agreement
PBSs	Palli Biddiyut Samitees
PSRB	Power Sector Reforms in Bangladesh
PPA	Power Purchase Agreement

RAPSS	Remote Area Power Supply System
REB	Rural Electrification Board
RPC	Rural Power Company
SPP	Small Power Plants
SHS	Solar Home System
SEDA	Sustainable Energy Development Agency
SOE's	State Owned Enterprises
TQM	Total Quality Management
W	watt
WZPDC	West Zone Power Distribution Company Ltd.
WAPDA	Water and Power Development Authority

## Definitions

### Energy

Physicists define the word energy as the amount of work a physical system is capable of performing. Energy, according to the definition of physicists, can neither be created nor consumed or destroyed. Energy, however may be converted or transferred to different forms: We usually measure that energy in terms of kilowatt hours (kWh) or megawatt hours MWh during a certain period of time, e.g. an hour or a year. Energy is not measured in kilowatts, but in kilowatt hours (kWh).

### Source of Energy

Non renewable sources, fossil fuels (e.g. coal, peat, oil, natural gas) Renewable sources (e.g. hydropower, solar, energy, wind energy, muscle power, biomass fuels etc.)

### Classification of Energy

**Commercial Energy** (e.g. coal, peat oil, natural gas and hydropower)

**Non Commercial Energy** (muscle power and biomass fuels)

### Primary Sources of Energy

**Primary Energy** (as obtained from nature)

**Final Energy** (as available to the consumers for final consumption-coal, kerosene, natural gas, LPG, electricity etc)

### Secondary Sources of Energy

**Secondary Energy** (as provided from primary energy, e.g. processed natural gas, refined petroleum products, electricity). Quality of different type of energy arranged in descending order, electricity, non renewable fossil fuels, commercial energy, renewable biomass fuels.



### **Renewable Energy**

**Renewable Energy** is energy generated from natural resources—such as sunlight,<sup>[2]</sup> wind, rain, tides and geothermal heat—which are renewable (naturally replenished).

### **Non-Renewable Energy Resource**

An energy resource that is not replaced or is replaced only very slowly by natural processes. Primary examples of non-renewable energy resources are the *fossil fuels*—oil, natural gas, and coal.

### **Power**

Power (electricity ) is the best form of energy produced from both renewable and non renewable sources. It can not be stored easily. Electrical power is usually measured in watt (W), kilowatt (kW), megawatt (MW), etc. Power is energy transfer per unit of time. Power may be measured at any point in time, whereas energy has to be measured during a certain period, e.g. a second, an hour, or a year.

### **Power Units**

1 kW = 1.359 HP

### **Governance**

Governance is now fashionable, but concept is as old as human history. Governance is defined as the manner in which authority is exercised in the management of a country's economic and social resources.

### **Good Governance**

Good governance is increasingly seen as essential for ensuring national prosperity by increasing the accountability, reliability and predictability of decision making in governance, corporations, and non government organization.

## **1.0 INTRODUCTION**

### **1.1 Introduction**

Energy crisis is the most widely discussed issue in developing countries. The advents of all modern technology, civilization, everywhere electricity has become almost part and parcel of daily life. Improving access to energy in Bangladesh is a primary requirement to poverty reduction and keys to attain the United Nations Millennium Development Goals (MDG's). Power operates all the systems of economic development. Sustainable economic development cannot be perceived without reliable supply of energy. Where poverty reduction is the utmost goal of the government, economic development through effective supply of power is a major concern to the policy planners and decision makers. Though the primary input for development is energy and the most useful form of energy is electricity. Only 45 percent of the population of Bangladesh has access to electricity. Per capita electricity generation in 2008 was about 172 kWh which is very low (Bangladesh Economic Review: 2009). Bangladesh has short supply of power for all end use sectors.

People dependant on modern life style, felt the need for uninterrupted power supply. Since last few years there high growth in agriculture, industry and other sector of economy which increased the demand of power and energy. But the supply of energy and power did not increase corresponding to the demand of energy. As a result energy crisis has taken place. Periodic interruption of power supply in agriculture, industries have affected the growth of these sectors. To alleviate poverty in the face of resource limitations and high population density, Bangladesh requires an economic growth rate of 6-7% per annum, to provide employment to its rapidly growing labor force that cannot be absorbed by agriculture. In order to achieve this growth rate, availability of a reasonably priced and reliable supply of electricity is a prerequisite.

Starting from a small base, the power sector in Bangladesh has grown significantly. The installed generation capacity has increased to about 3740 MW as of November 2008 (GOB: 2008). The highest demand in November 2008 was 4150 MW (GOB: 2008). Electricity generation grew at about 7% per annum during last ten years compared with average annual GDP growth rate of about 5.5%. Notwithstanding the progress made to date, Bangladesh's per capita electricity generation of 172 kWh per annum is still among the lowest in the world (ADB: 2005). This implies that there is scope for significant growth in power sector. The supply of electricity in Bangladesh grew at an average rate of 8.2 percent from fiscal year (FY) 1994 to 2004 and was forecasted to grow at an annual rate of 8



percent for the following 10 years. During FY 2005, load shading in the range of 700-770 MW was reported for 287 days for a total duration of 1433 hours (ADB:2005). Bangladesh is facing an anticipated shortfall of about 2500 MW of generating capacity over the next five years, which confirms the need to strengthen power sector. The Government envisions that this would be possible through implementing power sector reforms. The Government has taken an initiative to provide reliable electricity to the people by producing 7030 MW power within 2011, 8865 MW power within 2013 and 20000MW power within 2021. (Bangladesh Economic Review: 2009). The Government has formulated the National Energy Policy in 1996. The Government has already opened the power sector for private investment and "The Private Sector Power Generation Policy" has been introduced in 1996. The Government also enacted the Bangladesh the Energy Regulatory Commission Act 2003 and established the Bangladesh Energy Regulatory Commission (BERC) which is a landmark decision of power sector reform in Bangladesh.

In comparison to other developing countries Bangladesh has reasonable good reserve of primary sources of energy both from non-renewable and renewable sources to generate power. The supply chain management of power that is generation, transmission, and distribution is the critical aspect of governance to ensure sustainable supply of power.

## **1.2 Governance**

"Governance" means the process of decision-making and the process by which decisions are implemented (or not implemented). Governance is the way government gets its job done. Good governance requires an efficient executive, a functioning legislature, an independent Judiciary and the effective separation and balance of powers among all the branches. In democratic society the operational procedures of the three branches are continuously changed to improve performance.

Bangladesh, a young country in the Asian sub continent emerged with high expectation of establishing an effective system of government by resolving the problems that had been hindering its development. After crossing the thirty eighth year from independence, Bangladesh is still facing many challenges that impede it from realizing its full economic potential. The importance of strengthening power sector through good governance is to be understood by the policy planners and decision makers to ensure reliable supply of electricity to the people.



From the early stage all the operation relating to deliver power that is generation, transmission, and distribution was solely entrusted to the Bangladesh Power Development Board (BPDB). For efficient and effective management and to reduce system loss vertically integrated organizational structure of BPDB has been unbundled under power sector reform. Generation, transmission and distribution organizations have been formed in stages with independent identity and allowed to operate under the Company Act 1994. Changed organizational structure and appointment procedure of the top level management of the power utilities are major reforms measures introduced to strengthen power sector through good governance.

Many unfinished tasks to be considered in future for further improvement of performance of power sector are presented below. It has been observed that the Chairman, Members of BPDB and the Members of the Board of Directors of the companies have been changed frequently. For the purpose of continuity in decision making it is necessary to have stability at the top management. If the key persons are changed frequently it becomes difficult for them to do sustainable development in this sector. Fixing of rationale tariff is a critical issue to ensure sustainable development. Till recent past BPDB had to sell power at a lower average price than the average cost of supply. As a result BPDB had to manage their operation with continuous financial loss. Fixation of tariff on economic rationale has not been acceptable to political Government, because it could made them unpopular to the people due to periodic increase of tariff. Moreover prevailing corruption in this sector has further deteriorated the financial condition. In addition to corruption, inefficient management in this sector also has contributed for the imbalance situation of demand and supply.

The Power Sector Master Plan Update (PSMPU) has been formulated in 2005, but there is rare match of the projected value of power demand with current demand. There is a need to find the reasons why that Master Plan's projected demands do not match with the present demand? As for example, sometimes it takes unusually long time to get the formal approval of a project by the appropriate Government authorities. From beginning to final approval of a Development Project Proposal (DPP) it has to pass through different stages. Planning Division of the Planning Ministry fixed a certain time limit in every stage to approve a DPP. But for unknown reasons it takes much longer time than that is fixed for the approval of a DPP. As a result it affects the rate of implementation of power sector development projects. In addition to delay of project approval sometimes it also takes considerably longtime to complete the procurement process by following the Public Procurement Act 2006 and Public Procurement Rules 2008. It has been reported that in the recent past priority has been given in approving distribution projects in order to attract the voters without giving due attention to the



development of generation and transmission projects .Synchronous development of the three components of power supply chain (e.g. generation, transmission and distribution)depends on timely approval of development projects and their effective implementation. Sustainable operation of power sector depends on earning of sufficient revenue through rationale tariff fixation.

It may be opined that due to lack of rational view in policy formulation, coordination, transparency and accountability, the supply of power could not be ensured to meet the growing demand. Thus it resulted in unusual load shading and system loss. Indicators of Bad governance are mismanagement and corruption on the other hand indicators of good governance are efficient management and less corruption. As demand of power for economic growth is increasing day by day it is obvious to ensure good governance in power sector from top level of the government to utility level to ensure a balance between supply and demand of power which will gradually strengthen the power sector in Bangladesh.

### **1.3 Objectives of the Study**

The objective of this study is to identify and understand the gaps remaining in the governance of power sector, in order to enhance the process of good governance in the generation, transmission and distribution of power, which will have an impact on the energy security for sustainable economic development. The main reason behind this study is that government has taken many initiatives for sustainable development of the power sector through efficient and effective management. Power sector reform initiated in 1993 is a crucial decision in this respect. Various reforms strategies have been implemented in the past could not provide desired outcome. It is recognized that the present power crisis is not due to scarcity of energy resources but due to lack of efficient management. If the country intends to prosper economically, an affordable and efficient power system is a pre requisite. To achieve this objective it will require sustainable development of power sector to meet increasing demand through good governance .The main focus of this study is to asses the existing status of governance and suggest the needs for further reform.

An important question of this study is: "Is good governance a crucial factor to strengthen power sector in Bangladesh?". In order to analysis this research question, the study further divided into four sub questions. These are:

- (1) Whether the problems and loopholes persist in the power sector is for poor governance, or other issues?

- (2) How the organizational structure and independent authority of management effects on the development of the power sector in Bangladesh?
- (3) What are the mechanisms of the power authorities for ensuring effective and efficient service delivery?
- (4) How the existing Acts, rules and regulations affecting the policy and project implementation process thus impedes the development of power sector?

#### **1.4 Methodology**

The following methodologies have been followed to carryout the present study.

- (a) Review of published literature and database on the subject;
- (b) Review of Annual Reports of different organizations ;
- (c) Interactive discussions, meetings with the senior officials of the following organizations: Bangladesh Energy Regulatory Commission, Power Division, Power Cell, BPDB, PGCB, DPDC, DESCO, REB.

#### **1.5 Scope of the Study**

A large number of organizations and stakeholders are directly and indirectly involved with the governance issues of the power sector .Moreover it is a dynamic process. The current status of the major organizations involved with the governance as available in the published literature and reports have been enumerated .An attempt has been made to undertake interactive discussions with the key persons of some of the selected organizations. Due to time constraint it has not been possible to cover many different organizations and stakeholders.

#### **1.6 Structure of Presentation**

Governance of the power sector has been presented in Chapter 2. Present status of the power sector of Bangladesh has been presented in Chapter 3. Power sector reforms of Bangladesh have been presented in Chapter 4. Governance in action in the power sector has been discussed in Chapter 5. Findings and suggestions have been presented in the Chapter 6.



## **2.0 GOVERNANCE OF THE POWER SECTOR**

### **2.1 Governance of the Power sector**

Governance signifies a change in the meaning of government, referring to a process of governing or a changed condition of ordered rule or the new method by which society is governed (Rhodes, 1996, pp.652-3).

According to Commission on global governance, Governance is the some of the many ways individuals and institutions, public and private, manage their common affairs. It is a continuing process through which conflicting or diverse interests may be accommodated and cooperative action may be taken. It includes formal institutions and regimes empowered to enforce compliance, as well as informal arrangements that people and institutions either have agreed to or perceive to be in their interest. Traditionally, government itself managed most service delivery. Toward the end of the twentieth century, however, government relied increasingly on nongovernmental partners to do its work, through process that relied less on authority for control. In precise terms, governance should be defined as sets of principles, norms, roles and decision making procedures around which actors (managers) converge in a given public policy arena (Krasner 1983; March and Olsen 1997).

Governance refers to the structure and function of public institutions. Governance is the way governments get its job done. So before discussing about the institutional reform of power sector we have to know about the governance aspects and organizational structure of the power sector. In power sector governance encompasses issues such as overall development of power sector to meet development needs, preparation and approval of development projects, procurement process, installation and operation of different sub systems, collections of revenues from the consumers and making decision for further expansion of electricity coverage.

In Power Sector governance relates from the top of the government (e.g. Prime Minister, Minister) to utility level governance (Managing Director, Director of companies). So for strengthening power sector, good governance should be ensured from top to utility level governance. Accountability of governance at each of the levels will ensure the good governance which will strengthen Power Sector for efficient operation.

Ensuring good governance of any sector depends upon the organizations and persons who are responsible to govern and the mechanism through which the particular sector is governed. Power sector is such an important sector where the top levels to utility level of organization are related to govern this sector. Each of the individual units of power supply chain (e.g. generation, transmission, distribution) has specific functional task, coordinated actions of all the individual units are necessary to achieve the ultimate objective (e.g. supply of electricity to consumers). For ensuring the good governance in the Power Sector it is obvious to ensure good governance from the top level management to utility level management of all the units.

There are two major issues to consider before going into the discussions on governance of power sector. They are: (a) The legal and policy issues and (b) Institutions through which the power is delivered.

## **2.2 Stakeholders of National Energy Policy (Islam: 2008)**

Different stakeholders directly and/or indirectly influence the governance of power sector are presented below.

- Politicians, Legislators, Ministers;
- Bureaucrats, Development Planners;
- Commissioners of Energy Regulatory Commission;
- Bi-lateral & Multilateral donors;
- Investors(IOC's, IPP's);
- Investment Bankers(ADB ,World Bank etc);
- Energy Managers, Service Providers;
- Appliance Manufacturers and Promoters;
- Academics and Researchers;
- Legal Professionals;
- Law Enforcement Agency Personnel;
- Consumers, Prospective Consumers & Non Consumers;
- Civil society;
- Mass media.



## **2.3 Legal and Policy Issues**

Legal and policy aspects of the governance of the Power Sector are presented below.

### **2.3.1 The Constitution of Bangladesh**

The Constitution of Bangladesh is the foundation on which all the legal systems of the country are to be evolved. The ownership of energy and mineral resources and provision of electricity to rural people have been mentioned in the following articles of the Constitution of Bangladesh.

#### **Article 143**

- (1) There shall vest in the Republic, in addition to any other land or property lawfully vested-
  - a) all minerals and other things of value underlying any land of Bangladesh;
  - b) all lands, minerals and other things of value underlying the ocean within the territorial waters, or the ocean over the continental shelf, of Bangladesh; and
  - c) any property located in Bangladesh that has no rightful owner.
- (2) Parliament may from time to time by law provide for the determination of the boundaries of the territory of Bangladesh and of the territorial waters and the continental shelf of Bangladesh.

Article 16: The state shall adopt effective measures to bring about a radical transformation in the rural areas through the promotion of an agricultural revolution, the provision of the rural electrification, the development of cottage and other industries, and the improvement of education, communications and public health, in those areas, so as progressively to remove the disparity in the standards of living between the urban and the rural areas.

### **2.3.2 The laws (Acts, Ordinance), Rules and Policies**

Some of the important laws, rules and policies relevant for the development of Power Sector are presented below.

#### **(a) Laws**

- Electricity Act 1910 (subsequently revised in 1974, 1983 and 1993)

- Bangladesh Water and Power Board Order, 1972 (P.O. No. 59)
- Rural Electrification Ordinance 1976
- Investment Board Act-1980
- DESA Act. 1990
- Company's Act -1994
- Environmental Conservation Act-1996
- Bangladesh Energy Regulatory Commission Act 2003
- Bangladesh Labor Law 2006
- Public Procurement Act 2006

(b) The Rules and Regulations

- Electricity Rules 1937
- Environmental Conservation Rules-1997
- The Public Procurement Rules 2008

(c) Policies related to Energy and power

- National Energy Policy-1996
- Private Power Generation Policy-1996
- Renewable Energy Policy 2009

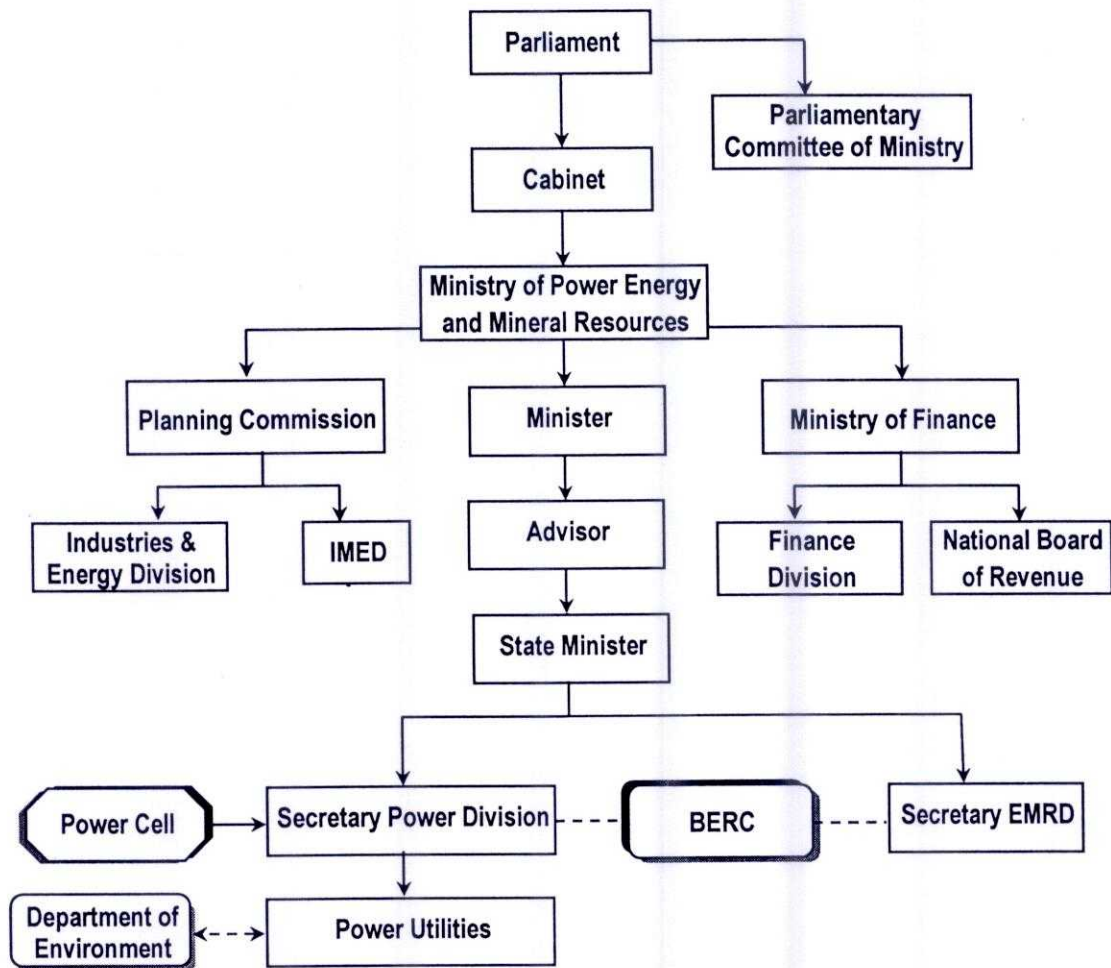
## 2.4 Power Sector Institutions

Before discussing the governance aspects it is necessary to know about the organizational structure of the power sector. The Governance of the Ministry of Power, Energy and Mineral Resources (MOPEMR) are presented below:

Brief Description of the major governance authorities are presented below.

- (a) **Parliament:** Parliament is responsible for legislation.
- (b) **Parliamentary Committee of MOPEMR:** The Parliamentary Committee is responsible to oversee the activities of the MOPEMR but it has no executive authority.





**Figure-2.1: Governance of the Ministry of Power, Energy and Mineral Resources**

- (c) **Cabinet:** Headed by the Prime Minister has the full executive authority to run the operation of the government as per law.
- (d) **Advisor:** Advisor is assigned by the Prime Minister to advise on MOPEMR.
- (e) **Minister:** Minister is responsible to carryout all the matters related to Planning, development and management of MOPEMR
- (f) **State Minister:** State Minister is assigned to carry out specific functions of MOPEMR assigned by the Prime Minister.

- (g) **Planning Commission:** Planning Commission is responsible to approve development projects of the power sector .
- (h) **Industries and Energy Division of the Ministry of Planning:** The division is responsible for processing development projects for the approval of the Planning Commission.
- (i) **Implementation, Monitoring and Evaluation Division (IMED):** IMED is responsible to monitor, implementation of development projects and evaluation of the performance and impact of completed projects.
- (j) **Finance Division:** Finance Division is responsible to approve the financial matters related to MOPEMR and release of funds for the projects implemented under Annual Development Programme (ADP).
- (k) **National Board of Revenues (NBR):** NBR is responsible for the matters related to Custom Duty, VAT and other taxes.
- (l) **Department of Environment (DOE):** DOE is responsible for issuing Environmental Clearance of the power sector development projects on the basis of Environmental Impact Assessment (EIA) as per environmental Conservation Act 1996.
- (m) **Bangladesh Energy Regulatory Commission (BERC):** BERC is the independent authority to regulate all the affairs of the energy and power as per BERC Act 2003.
- (n) **Power Cell:** Power Cell is assigned to provide advice to the Power Division on technical matters.
- (o) **Secretary Energy and Mineral Resources Division (EMRD):** Secretary EMRD is responsible for development and management of all the entities responsible for the development of primary energy resources (e.g. coal, oil, natural gas) except hydropower.
- (p) **Secretary Power Division:** Secretary, Power Division is responsible for overall development and administration of all the power sector entities. Power Division is to undertake coordinated



action with EMRD for the sustainable supply of fossil fuels (e.g. coal, oil, natural gas) required for power generation.

## 2.5 Organizational Structure of the Power Division

Organogram of the Power Division is shown in 2.2 and brief descriptions of different functionaries are presented below. The Secretary, Power Division is the administrative head of the division (Figure 2.2). There are 2 Joint secretary, 5 Deputy secretary, 10 Senior Assistant Secretary level officers under the Secretary to administer various functions of the division. Under Joint Secretary Administration there are 2 Deputy Secretary responsible for Administration and coordination respectively. Under Joint Secretary Development there is 1 Deputy Secretary responsible for development and 1 Deputy Chief responsible for processing of development projects for subsequent approval by the Planning Commission. All the above mentioned officers of the division are cadre officers and generally come from the administrative cadre. They are not familiar with the technical aspects of power sector development. This is why under the Power Sector reform programme the Power Cell has been established as the technical unit of the division. The officers working in the Power Cell are technical professionals.

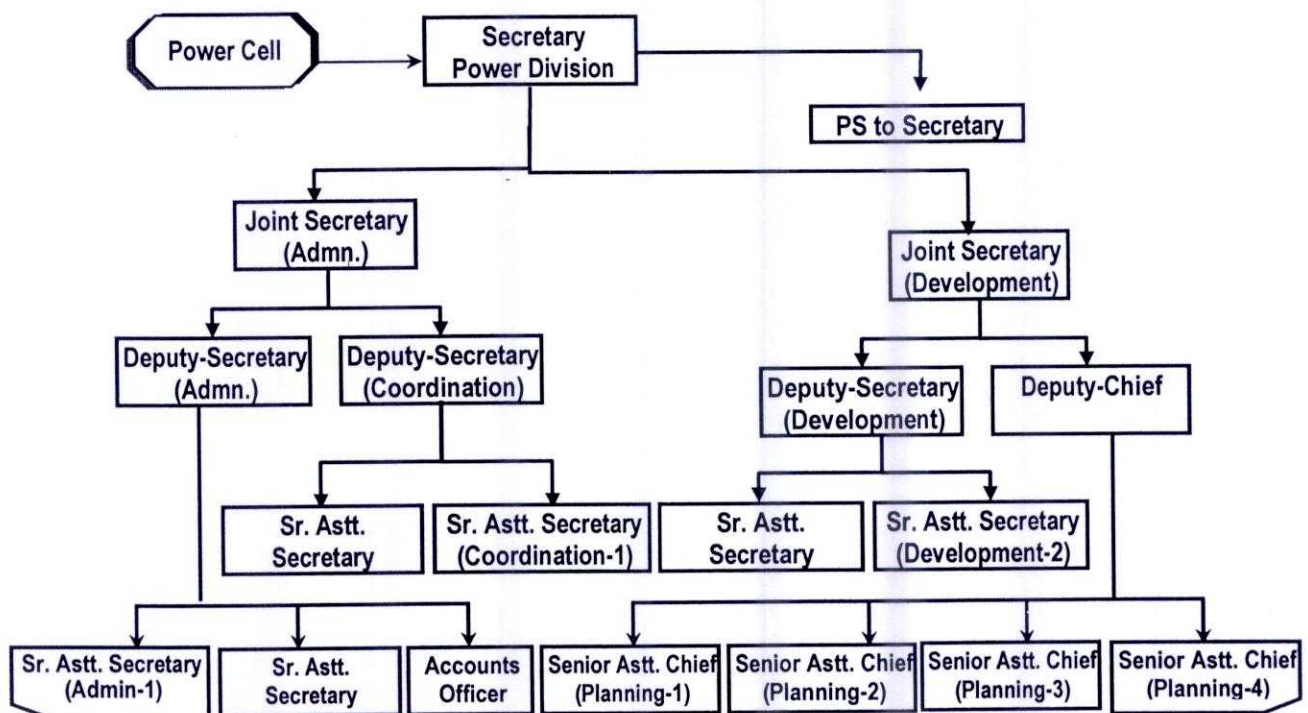


Figure2.2: Administrative Organogram of the Power Division

## 2.6 Organizational Structure of Power Sector

Different organizations under the Power Division, MOPEMR are shown in Figure 2.3 and their functions are described below.

**BERC:** Bangladesh Energy Regulatory Commission established under BERC Act 2003 is an independent organization responsible for licensing and tariff fixation of power generation, transmission and distribution .

**EA & CEI:** The office of the Electric Advisor and Chief Electric Inspector is responsible for giving license to electric technicians and fixation of codes for electrification.

**BPDB:** Initially in 1972 Bangladesh Power Development Board was responsible for overall development and management of the power sector .Under the power sector reforms new institutions have been assigned with some of the functional responsibilities of original BPDB. At present BPDB is mainly responsible for overall coordination of power sector. It has also got some specific functional responsibilities ;such as generation and distribution. Along with its own generation, BPDB purchases power from six IPPs, Asugonj Power Station Co. Ltd. sells power to different distribution entities (BPDB-distribution areas DPDC, DESCO, WZPDC, NWPDC and REB) via transmission system of PGCB.

**Different organizations involved with the power generation activities are:** BPDB, APSCL, IPPs, small IPPs. Power Grid Company of Bangladesh is responsible for transmission of power from power generation plants to high voltage sub stations located at different load centers. There are six distribution entities in the country serving specific franchise areas assigned to them. DPDC is responsible for distribution of power within greater Dhaka area excluding the areas served by DESCO. At present DESCO engaged in distribution of power in Mirpur, Uttara Tongi Gulsan areas of the greater Dhaka.



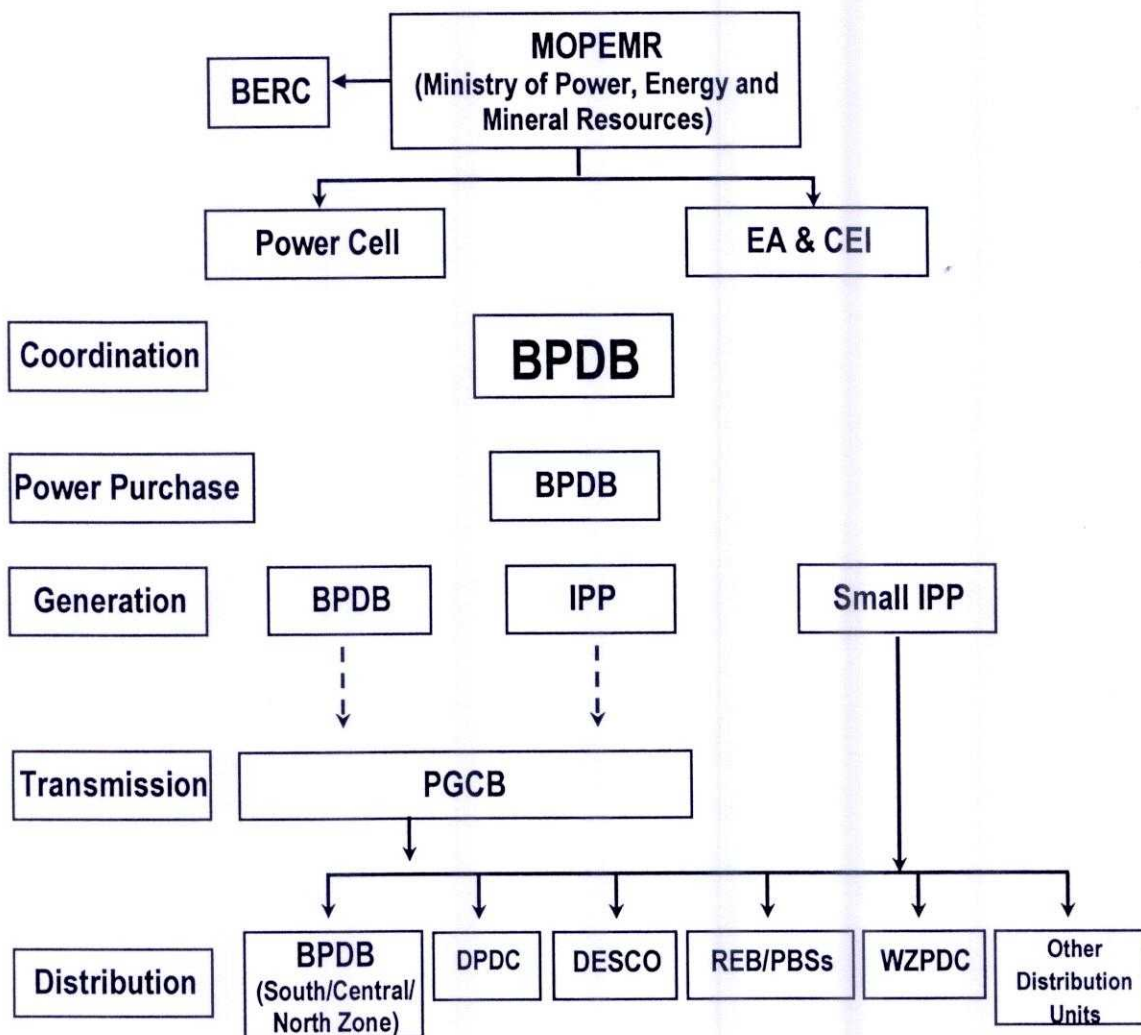


Figure-2.3: Hierarchical Structure of the Power Sector of Bangladesh

## 2.7 Historical Evolution of Power Sector Development of Bangladesh

### 2.7.1 Power Sector Development during Pakistan Period

At the time of partition of Indo-pak sub-continent, in the year 1947 when the British colonial rulers left, power generation and distribution of this part of the country were in the hands of some private companies. The power supply to then 17 provincial districts was within the township in a limited way. The generation voltage was 400 volts. Power used to be supplied to most of the districts during nighttime only. Only exception was Dhaka City where power used to be supplied by two 1500 kW (1.5 MW) generators and the generation voltage was 6600 volts and this was the highest supply voltage. Besides power used to be generated by some industries (tea, sugar and textiles) and railway

workshops. Dhakeswari Cotton Mills, Pahartali Railway workshop, Saidpur Railway workshop and Sugar Mills were amongst them. In aggregate the generation capacity of the country was 21 MW. The generation capacity of the power utility companies together was only 7 (seven) MW and there was no transmission system.

In 1948, Electricity Directorate was created in order to plan and improve power supply situation. In 1959, Water and Power Development Authority (WAPDA) was created and the power sector really started working satisfactorily. In 1960, Electricity Directorate was merged with WAPDA. The basic philosophy was to give more autonomy to an organization for development of this basic infrastructure. At that time relatively higher capacity power plants were built at Siddhirganj, Chittagong and Khulna (highest plant size was only 10 MW Steam Turbine at Siddhirganj). At the same time Kaptai dam was under construction under Irrigation department. Unit size of Kaptai hydro power plant was 40 MW, which for that time was considered to be a large power plant. Side by side construction of Dhaka-Chittagong 132 KV transmission line was in progress. Construction of Kaptai dam and commissioning of Dhaka-Chittagong 132 KV transmission line in the year 1962 may be taken as milestone of power development of this country.

## 2.7.2 Power Sector Development of Bangladesh

### 2.7.2.1 Bangladesh Power Development Board & Reform Process

In 1972, Bangladesh Power Development Board (BPDB) was created as a public sector organization by Presidential Order No. 59 to boost the power sector. BPDB continued to develop as a vertically integrated power utility of the country providing electricity generation, transmission and distribution services in the hole country. By mid 1980's it was observed that BPDB could not maintain satisfactory financial performance to operate on a sustainable basis.

Several ordinances amending the Electricity Act, 1910 had been promulgated, none of them addressed issues involving the commercial nature of the sector, which continued to be treated as an extension of the government providing social goods for the people. From 1986 onwards, the commercial performance of the BPDB deteriorated and during 1991, BPDB's average gross systems loss was about 42 percent and accounts receivables in excess of 6.5 months of billing. This performance was not found reasonable to the covenants agreed by the government and BPDB with the Asian Development Bank (ADB) and the World Bank (WB). These two institutions along with the Overseas Economic Co-



operation Fund (OECE), Japan; Overseas Development Administration (ODA), U.K; Kredltanstalt fur Wiederaufbau (kfw), Germany and the United States Agency for International Development, decided not to provide any financial assistance to the power sector until BPDB and DESA improve their performance to agreed levels. Consequently it considered restructuring the Power sector as a sustainable long-term solution to its problems.

With good economic performance during 1992-95, the demand for electricity grew substantially. Constrained by the paucity of financial resources for investment the Government decided to allow private sector participation in the power sector. However, it was quickly realized that private capital, whether domestic or foreign, would not come into a sector, which was not financially viable and was not technically, organizationally and legally structured in a way conducive to attract it. Faced with a grim possibility of serious electricity shortages during the next few years and to enable the sector to be financially self-sustaining and also to attract private capital, the cabinet approved in principle, the inter-ministerial committee report named "Power Sector Reforms in Bangladesh (PSRB)" in September 1994.

In the meanwhile, the performance of BPDB and DESA have slowly but steadily improved, although they are by no means near international levels of performance. In view of this Improvement and the restructuring effort announced by the Government, the development partners have agreed to resume funding to the sector based on the principle of "Reforms Funding Linkages" i.e. every project funded by these partners would have components addressing the reforms decided upon by the Government.

The first such project was the Rural Electrification Project of the ADB which was approved by the ADB,s Board on 30 May, 1995. This project resulted in the creation of the first independent power generating company, incorporated under the companies Act 1994 in the power sector, with private sector capital from five Palli Biddut Samities (PBS). The project also developed model commercial transactions between the generator and the purchaser and the generator and the fuel supplier. This project is being followed up by likely financing of projects by the OECE (Haripur Extension) and kfw (Comilla-Chittagong Transmission Line).

#### 2.7.2.2 Rural Electrification Board (REB)

The Bangladesh Rural Electrification (RE) Program was initiated with Rural Electrification Ordinance 1976. The Rural Electrification Board (REB) was established in 1977 as the semi-autonomous

government agency reporting to the Ministry of Power Energy and Minerals Resources. REB has been responsible for electrifying rural Bangladesh as per constitutional obligation (Article 16 of the Constitution). Since its inception, the purpose of the rural electrification program has been to use electricity as a means of creating opportunities for improving agricultural production and enhancing socio-economic development in rural areas, whereby there would be improvements in the standard of living and quality of life for the rural people. In 2008, there were 70 operating Rural Electric Cooperatives called Palli Bidyut Samity (PBS), which brought service to approximately 72,00,000 consumers.

#### 2.7.2.3 Dhaka Electric Supply Authority (DESA)

Dhaka Electric Supply Authority (DESA) was created in 1991 basically to operate and develop distribution system in and around Dhaka (including the metropolitan city) and bring about improvement of customer service, collection of revenue and lessen the administrative burden of BPDB.

#### 2.7.2.4 Dhaka Electricity Supply Company Ltd. (DESCO)

DESCO was established under Companies' Act of 1994 and is responsible for distribution of electricity in Mirpur area of the Metropolitan City of Dhaka in Greater Dhaka. DESCO purchases power from DESA.

#### 2.7.2.5 Power Grid Company of Bangladesh (PGCB)

Power Development Board (BPDB) was responsible to manage power generation, transmission and distribution throughout Bangladesh. Power Grid Company of Bangladesh Ltd. (PGCB) was established in 1996 under Company Act 1994 as a fully BPDB owned company responsible for operation, maintenance and development of the power transmission system all over Bangladesh. After establishment of company the existed transmission system had been gradually handed over to PGCB from BPDB and DPDC. On the 31st December 2002 PGCB took over full responsibility of the total transmission system of Bangladesh. It may be mentioned that PGCB was formed under the restructuring process of Power Sector in Bangladesh with the objective of bringing commercial attitude including increase efficiency, establishment of accountability and dynamism in accomplishing its goals. PGCB is mainly concerned with the expansion of the grid network like installation of new transmission line and grid substations.



#### 2.7.2.6 West Zone Power Distribution Company Ltd. (WZPDCO)

In 2002 West zone power distribution company ltd was created which cover all the areas of Khulna and Barisal.

#### 2.7.2.7 Dhaka Power Distribution Company Limited (DPDC)

DPDC is a Ltd. Company Ltd. (DPDC) was established in 2005 under the Companies Act, 1994 as a part of the Power Sector Reform Program. It was created to ensure better services to the electricity consumers under Greater Dhaka District area by direct supervision and close monitoring of the distribution systems management. At the time of inception, DPDC area was assigned about 7473 square kilometer in and around the capital city. Consequently, as per government decision, after handing over the city peripherals to Rural Electrification Board (REB) and some parts of the Metropolitan area to Dhaka Electric Supply Company Ltd. (DESCO), DPDC's operational area has been reduced to southern part of the capital city of Dhaka and adjoining townships of Narayangonj and Tongi.

#### 2.7.2.8 Asugonj Power Station Company Ltd. (APSC)

In 2008, 28<sup>th</sup> June Asugonj Power Station was separated from BPDB and created a new company named Asugonj Power Station Company Ltd. (APSC) was created under the Company Act 1994 for operation and management of the power plants.

#### 2.7.2.9 Present Status of BPDB

At present various functions carried out by BPDB are listed below.

- (a) Coordinate with all other companies and agencies related to the generation, transmission and distribution of power under the Power Division;
- (b) Generate electricity in BPDB owned power plants;
- (c) Purchase power from six IPP's and Asugonj power station company;
- (d) Distribute power to some rural and urban areas of Bangladesh except Dhaka city and the areas cover PBS;
- (e) Sells power to DESCO, WZPDCO, NWPDCO and REB's.

### 3.0 STATUS OF POWER SECTOR

#### 3.1 Present Scenario of Power Sector in Bangladesh

Effective operation of the power sector depends on the balanced development of the supply chain that is generation, transmission and distribution of power. It means that power generation capacity has to be developed according to the projected demand, simultaneous action will have to taken to develop infrastructure for transmission and distribution. If it is not done then the investment made in isolation for a particular segment of the power sector will remain unutilized. An important precondition of the economic development of Bangladesh is the planned and logical use of electricity. The rate of contribution of power in GDP and the rate of growth of power is shown in Table 3.1.

**Table 3.1: Contribution of Power in GDP Growth**

Contribution	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09 (recent)
Rate of contribution of power sector in GDP(%)	1.30	1.34	1.37	1.38	1.30	1.31	1.29
Rate of growth of the power sector (%)	7.29	9.19	8.58	7.45	1.08	6.68	3.64

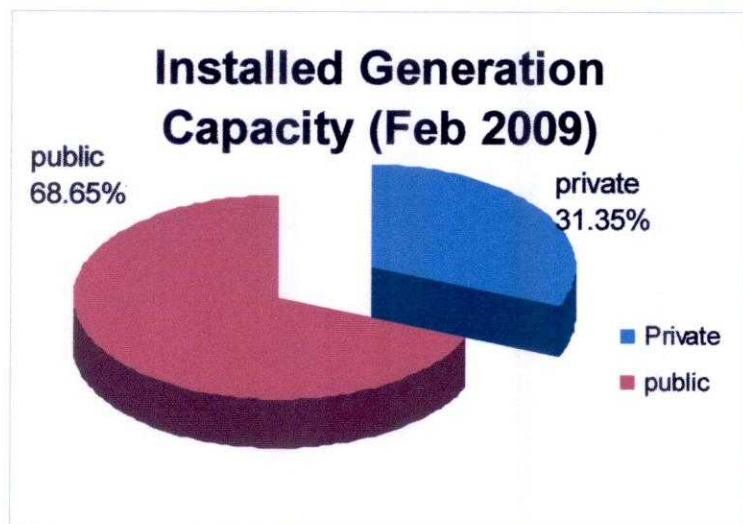
Source: Bangladesh Economic Review-2009

#### 3.2 Generation Capacity and Demand of Power

At present BPDB is mainly responsible for overall management of generation of electricity from own plants and purchased from the private power producers. In current fiscal year 2008-09 (till February 09) the total generation capacity was 5560 MW which includes 3817 MW in public sector (68.65%) and 1743 MW in private sector (35.35%). In February 2009, 4130 MW power was produced within which BPDB's share was 2826 MW and IPP's share 1304 MW. The capacity of production of power from older power plants' has decreased. Though for most of the older plants' economic life has surpassed and should be retired as soon as possible, but BPDB is still utilizing these plants at cost of higher fuel consumption per unit (inefficient operation). Moreover, for the unavailability of gas supply some of the power plant cannot produce power

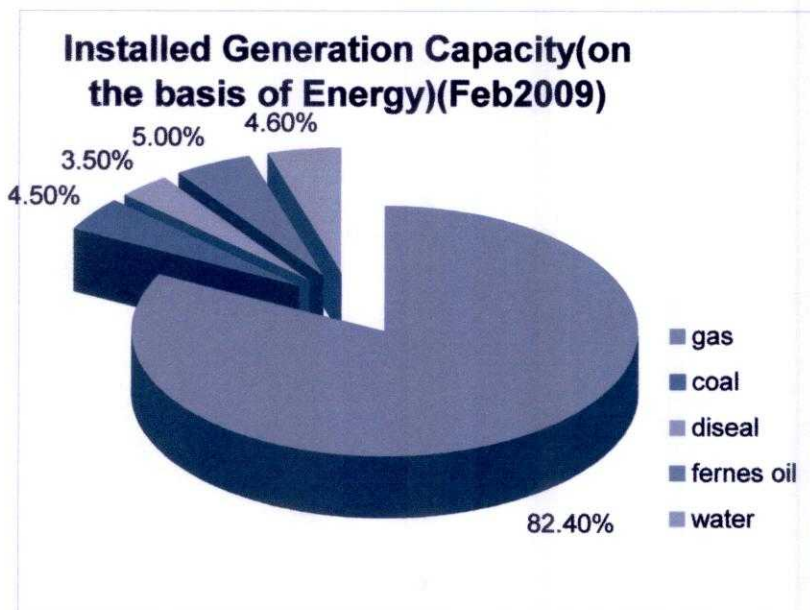


according to their rated capacity (GOB 2009). In the fiscal year 2008-09 (till February 2009) the installed generation capacity in private and public sector (Figure 3.1) and installed generation capacity according to type of fuels (Figure 3.2) used are shown below.



Source: Bangladesh Economic Review-2009

**Figure 3.1: Installed Generation Capacity in Public and Private Sector in the Fiscal Year 2008-09 (till February 2009)**

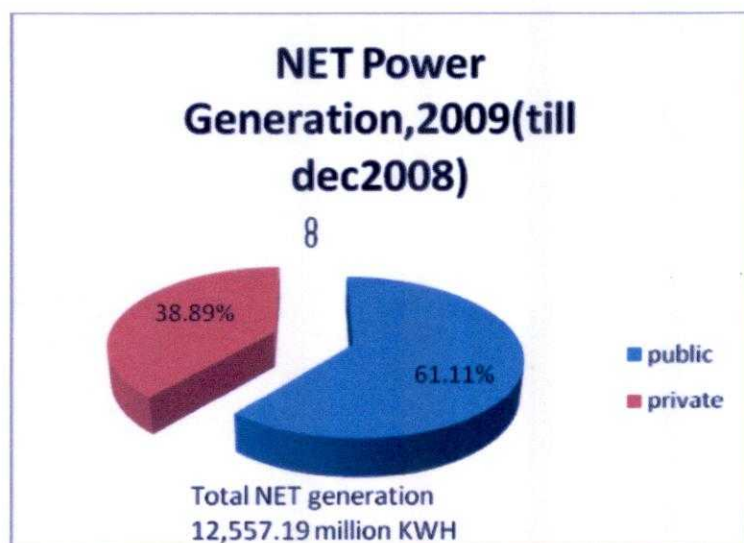


Source: Bangladesh Economic Review-2009

**Figure 3.2 Installed Generation Capacity According to Type of Fuels used in the Fiscal Year 2008-09 (till February 2009)**

### 3.3 Generation of Power

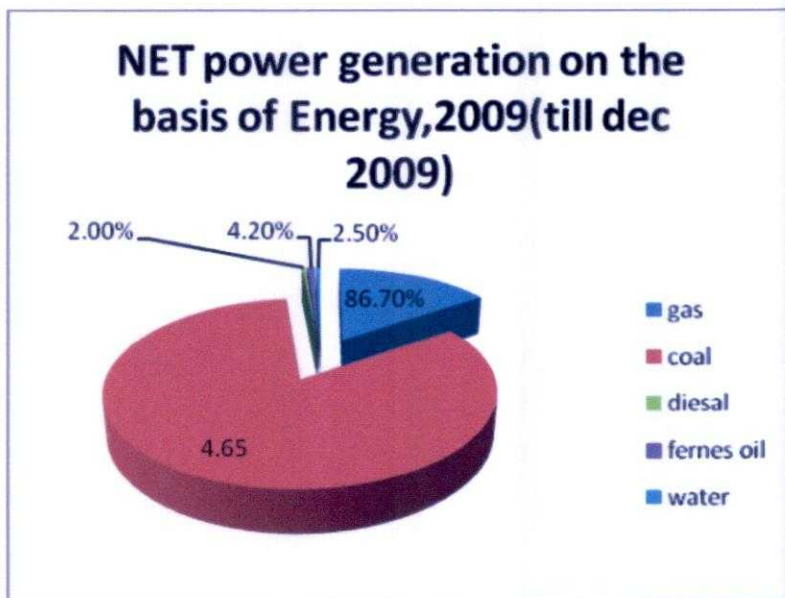
In fiscal year 2008-09 (till December 2008) the net generation of power was 12,557.19 million kWh within which 7673.08 million kWh in public sector (61.1%) and 4884.11million kWh in private sector (38.9%). In the fiscal year 2007-08 the net generation of power was 24,311.78million kWh. But in 2008-2009 fiscal year it is expected that the net generation will be 26000 million kWh and it is also expected that the per capita electricity generation will be increased in this fiscal year. In the fiscal year 2008-09 (till Dec 2008) the net generation capacity in private and public sector and installed generation capacity on the basis of energy has been shown as follows:



Source :Bangladesh Economic Review-2009

**Figure 3.3: NET Generation Capacity in Public and Private Sector in the Fiscal Year 2008-09 (till Dec 2008)**





Source: Bangladesh Economic Review-2009

**Figure 3.4: Net Generation Capacity According to Energy used in the Fiscal Year 2008-09 (till Dec 2008)**

### 3.4 Power Crisis of Bangladesh

Electricity is a powerful input for socio-economic development. Faster economic growth can be achieved by maintaining reliable supply of electricity. On the other hand, improved economic conditions create increased demand for electricity. In order to maintain reliable supply of electricity it is necessary to make reliable projection for future demand. When there is a gap to maintain power supply to the consumer by installing additional generation capacities and constructing necessary power networks it results in power crisis. In simple term when supply of capacity is less than the demand of power it causes power crises. In Bangladesh prevailing power crisis may be attributed to multiple factors: unreliable projection of future power demand, lack of capacity in timely implementation of necessary infrastructural facilities, lack of capacity to generate sufficient revenue through rational tariff fixation for future investment and weak governance. The nature of power problem of the country has been presented below on the basis of available information.

Forecasted maximum demand for FY 2008 was 5,569 MW as per Power System Master Plan Update (PSMPU 2006). The maximum demand served in the year 2008 was 4,130 MW which was 11.09% higher than that in the previous year. Bangladesh facing a huge load shedding in both peak and off peak hour .Due to the shortage of available generation capacity with respect to the increasing demand, BPDB had to restore to load shedding which varied up to 32.57% of maximum demand. In FY 2008, the maximum generation reached at 4130 MW compared to that of 3717MW in the year 2007. In the year 2008 load shedding was imposed on 358 days out of total 365 days. In the year 2007 duration of load shedding was over a period of 364 days. In the year 2008 load shedding was increased mainly due to shortage of generation for shortfall of gas supply to the gas based power plants and shutdown of plants for maintenance. During the year 2008 the total duration of grid failure was for 82 hours and five minutes, which was 92.89% higher than that of the year 2008 (BPDB: 2007-2008).

Growth of maximum demand and maximum demand served for the period from 1991 to 2008 are presented below.

Interruptions of national grid in 2007 and 2008 have been shown in Table 3.2.

**Table 3.2: Interruption of National Grid for 2007 & 2008**

Type of Fault	Total number of faults		Total duration	
	FY 2007	FY 2008	FY2007 Hours/ minutes	FY 2008 Hours/ minutes
Partial power failure due to trouble in generator	102	155	18/50	15/45
Partial power failure due to trouble in grid transformer/breaker	10	14	11/38	28/14
Partial power failure due to fault in transmission line	07	7	9/00	32/17
Partial power failure due to the lightning on transmission line/stormy weather	04	02	01/06	02/03
Partial grid failure	06	06	1/33	03/40
Total grid failure	--	01	--	00/06
Total	129	185	42/07	82/05

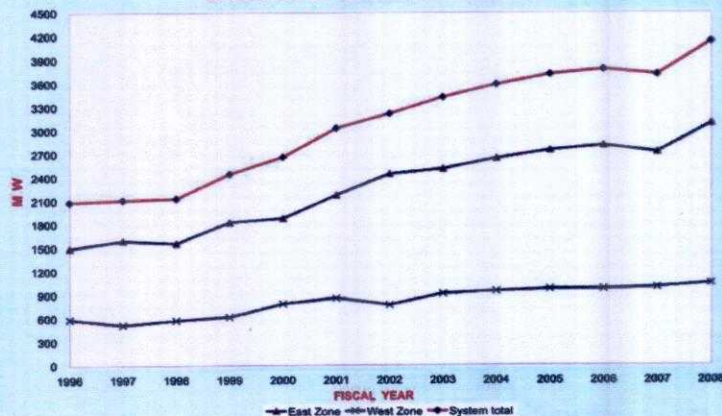
Source: Annual report of BPDB 2007-2008



### MAXIMUM DEMAND SERVED

Year	MAXIMUM DEMAND SERVED IN MW			% Increase over the preceding year
	East Zone	West Zone	System Total	
1990-91	1,141	499	1,640	
1991-92	1,160	512	1,672	1.95
1992-93	1,293	530	1,823	9.05
1993-94	1,355	520	1,875	2.83
1994-95	1,472	498	1,970	5.07
1995-96	1,497	590	2,087	5.96
1996-97	1,594	520	2,114	1.29
1997-98	1,560	576	2,136	1.02
1998-99	1,828	620	2,448	14.62
1999-2000	1,878	787	2,665	8.84
2000-01	2,175	858	3,033	13.81
2001-02	2,447	770	3,217	6.07
2002-03	2,512	916	3,428	6.54
2003-04	2,646	946	3,592	4.79
2004-05	2,749	971	3,720	3.58
2005-06	2809	973	3,782	1.65
2006-07	2725	992	3,717	-1.70
2007-08	3089	1041	4,130	11.08

### GROWTH OF MAXIMUM DEMAND

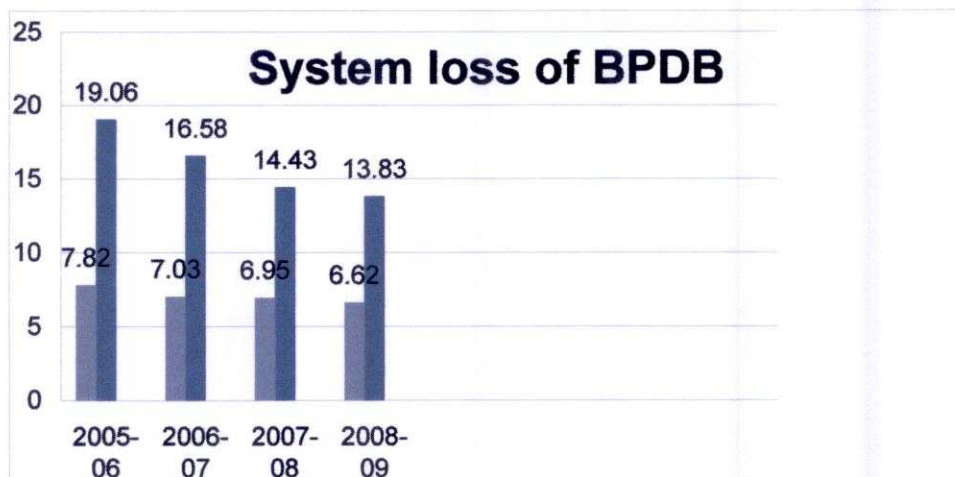


Source: Annual Report 2007-2008/BPDB

Figure 3.5: Growth of maximum demand and maximum demand served for the period from 1991 to 2008

### 3.4.1 System Loss

System loss is a major problem now persisted in power sector in Bangladesh. System loss of BPDB has been shown from 2000-2009 as bellow.



Source: Bangladesh Economic Review 2009

**Figure 3.6 System loss of BPDB has been shown from 2000-2009**

System loss in BPDB for the FY 2008 was 6.95% of net energy generation, which was 7.03% in the year 2007. The system loss was reduced in the FY 2008 due to extensive drive and proper monitoring in commercial operation. The loss in BPDB's own distribution excluding REB also reduced to 14.43% in FY 2008 from 16.58% in FY 2007.

### 3.4.2 Load Factor and Load Management

Consumer's demand in BPDB system, as in any other electric utility, varies throughout the day and night. The maximum demand occurs during 5 pm to 11 pm termed as "peak hour". The extent of this variation is measured in terms of load factor, which is the ratio of a average and maximum demand. For economic reason, it is desirable to have a high load factor, as this would permit better utilization of plant capacity. The cost of energy supply during peak hour is high some relatively costlier power plants are required to be used during peak hour. Interruption of National Grid for 2007 & 2008 has been shown in Table 3.5.



### 3.5 Future Generation Scenario Demand Projection

Due to the rapid urbanization and growing demand of electricity which is also being added by the poor performance, shut down and age old power plants, the power sector of Bangladesh is in a great crisis to meet this rapid growth of electricity consumers by 8%-10% annually. BPDB has carried out a Power System Master Plan Study in 1995 to identify least cost power development plan up to 2015. In the PSMP, the benchmark load forecast was based on 8% growth rate. However, due to shortage in generation capacity, the actual demand could not be supplied. The minimum demand served so far is 2823 MW (27.07.2000). The Government's Vision is to provide affordable and reliable supply of electricity to all by the year 2020. Therefore, the electricity development is required to be accelerated to increase access and attain economic development. In order to meet the projected demand reliably, various generation and transmission projects along with distribution expansion have been identified. These are under various stages of implementation. Generation capability, peak demand, firm capacity and reserve margin of power plants up to 2007 are shown in the Table 3.3.

**Table 3.3: Generation Capability, Peak Demand, Firm Capacity and Reserve Margin from 2001-2007.**

	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Generation Capability							
Public	3014	3248	3751	4493	5109	5383	5413
Private	450	980	1600	1600	1900	2050	2050
Total	3464	4228	5351	6093	7009	7433	7463
Peak Demand	3394	3659	4393	4766	5172	5603	6071
Firm Capacity	2983	3537	4371	5113	6029	6423	6453
Reserve Margin	2.06%	16%	22%	28%	36%	33%	23%

Source: Bangladesh Economic Review 2009

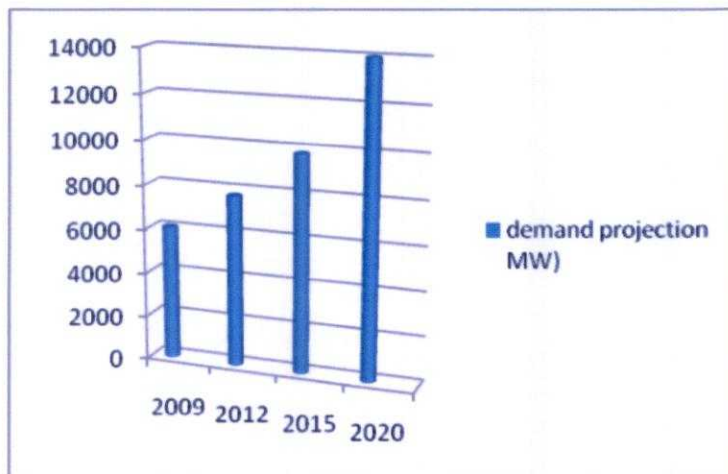
### 3.6 Demand Forecast

According to the reference of the Power System Master Plan forecast the future demand projections are in Table 3.4 and in Figure 3.7.

**Table 3.4: Future Demand Projection**

Year	Demand Forecast (MW)
2009	6066
2012	7732
2015	9786
2020	13993

Source: Bangladesh Economic Review: 2009



**Figure 3.7: Future Demand Projection of Power**

### 3.7 Power Generation Program

On the back drop of this power scenario, the Bangladesh Govt. has decided to phase wise implementation of 14000 MW power plants by year of 2020. It takes 5-7 years to build and commission a viable power plant project under public sector. It also needs the assurance of funds from donor agencies. Tender procedure



and other hurdles also hinder the progress of implementing a power plant through public funding. There are presently more than 18 power plant projects ranging from 10MW-450MW waiting for implementation under public sector. To achieve a logical reserve margin with the balance of demand and supply of power the government has taken some initiatives to build up some power plants and the list is shown in Table 3.5.

**Table 3.5: Power Generation Projects under BPDB in Public and Private Sector**

Serial No.	Power generation projects	Capacity (MW)	Probable time of activation
	Under construction in public sector		
1	Sylhet Fenchugonj 90 MW combined cycle power plant(2nd unit)	GT 30 GT 30 ST30	Waiting to get commission
2	Siddirgonj 2*120 MW picking power plant	240	May june /09
3	Sikolbaha 150 MW picking power plant	150	2009-10
	Planned projects in public sector		
4	Khulna 150 MW picking power plant	150	2009-10
5	Siddirgonj 150 MW picking power plant	150	2009-10
6	Sylet 150 MW Gas turbine station	150	2010-11
7	Chadpur 150 MW combined cycle power plant	150	2011-12
8	Bhola 150 MW combined cycle power plant	150	2011-12
9	Haripur 360 MW combined cycle power plant	360	2011-12
10	Siddhirgonj 2*150 MW Gas turbine station	300	2013-14
11	Boropukuria 125 MW power plant(3rd unit)	125	2012-13
12	Kaptai power plant extension 6th and 7th unit	100	2012-13
13	Veramara 360 MW combined cycle power plant	360	2013-14
	Private sector		
14	Bibiyana 450 MW combined cycle power plant	450	2012-13
15	Siddirgonj 450 MW combined cycle power plant	450	2012-13
16	10-30 Mw small power plant	132	2008-09
17	Rental power plant(15 year)	50	2008-09
18	Rental power plant (3years )	215	2008-09

Source: Bangladesh Economic Review 2009

### 3.8 Government's Activities on Power Sector

Considering good prospects of power plant constructions in private sectors, in continuation to the on going different power plant projects under public sector, of late, the Government has also let go Private Sectors to set up 10MW-50MW Power Plants without tender processing. The provision is that the Government will



purchase electricity at a mutual agreed price. In the fiscal year 2008-09 total generation capacity was 5560 MW within which the contribution of the private sector was 1743MW (31.3%). As per private sector power generation policy formulated in October 1996, three barge-mounted power generating units with capacity of 100 MW each would be set up by private sector entrepreneurs at Khulna, Haripur and Shikalbaha. In private sector the largest power plant projects are (1) Bibiana 450 MW, (2) Sirajgonj 450 MW and (3) Meghnaghat power projects. The private power generation policy offers attractive incentives including tax holidays for 15 years and one-window service.

Currently about 88 percent of power generation is based on natural gas. About 55% of the country's energy supply is based on traditional fuels (crop residues, animal dung and fuel wood), 24% on natural gas, 19% on imported oil and coal and the remaining 2% is hydroelectricity. Natural gas has also contributed to the rapid growth of the chemical fertilizer industry. The recent discovery of sizable coal deposits in the northwestern part of the country is of significance. Agreements have been signed with some Chinese companies for their extraction. A coal-based power plant is also proposed to be set up in the area. Abundant supply of coal at home when extracted will be able reduce pressure on imported oil and natural gas. The salient features of the Government's program to boost up Power Sector of Bangladesh are as follow:

- (a) Attempt has been made to apply two part tariff by which consumers of certain categories are billed at higher rate for their consumption during peak hour, which would motivate them to consume less electricity at peak hour and more electricity during off peak hour.
- (b) Market shopping malls are closed after 8.00 pm to reduce electricity consumption in the peak hour to mitigate load shedding problem. Holiday staggering for industries is being done to mitigate load shedding problem in the country.
- (c) WB, ADB shown keen interest to invest in our Power Sector
- (d) Govt. eyes US\$7b Investment for 14600MW Plants by 2020
- (e) Installed Capacity of 17500MW by 2020
- (f) Phase wise Implementation Program
- (g) Govt. approved Investment in Power Generation by Private Sectors
- (h) IPP Plant Capacity 10MW-50MW without Tenders



### 3.9 The Forecast of Power Sector of Bangladesh

Government of Bangladesh along with the reform activities also prepared the Power Sector Master Plan for the overall development of power sector. According to that master plan the future forecast up to 2020 is shown in Table 3.6.

**Table 3.6: The Forecast of Power Sector of Bangladesh up to 2020**

Description	2008 actual	2011	2013	2020
Installed capacity(MW)NET	5306	7030	8865	16,643
Highest demand of power (MW)	4130	7148	8364	13993
NET power generation (Million KWH)	24,946	28,000	33,000	72,222
Transmission line(circuit KM)	7848	8977	9553	12,000
Capacity of sub grids (MVA)				
(a)400KV &230 KV	5850	6850	12,912	19,075
(b)132KV	7485	10990	13990	27,367
Distribution line (KM)	2,56,143	3,01,000	3,30,000	4,77,558
Consumer (lac)	108.00	126.00	140.00	207.67
Village under electrification	50,724	53500	56,000	80,000
Per capita power generation(Million KWH)	175	190	218	450
Population under electrification	45%	52%	60%	90%

Source: Power Cell

### 3.10 Transmission of Power

PGCB is responsible for the transmission of power in Bangladesh. Besides PGCB, BPDB is also doing some transmission activities. At present the generated power in different power plants has been transmitted through 230 KV and 132 KV line throughout the country. Till 2008 the length of 230 kV line is 2458.5 circuit km and the length of 132 kV is 5602.6 circuit km. till 2008 the lenth of transmission line through installed optical fiber link is 3500 km. If the projects under National Load Dispatch Center (NLDC) and others transmission projects completes within 2009 then this length will be 4200km.

### **3.11 Distribution of Power**

BPDB it distributes power at voltage of 33kV, 11 kV and 4 kV. During the year 1995-96 the distribution line under BPDB was 35,962 km which increased to 48,300 km in 2008. The consumer under BPDB till December 2008 was 18,44,546. REB also plays a significant role in distribution. REB distributed power to total 74,74,917 connection; of which 63,92,575 residential, 755,703 commercial, 122,732 industrial and others 13106 categories. The total distribution lines of REB was 2,16,554 km. Total number of villages electrified under 70 Palli Biddut Samity up to 2009 were 47,260 villages.



## **4.0 POWER SECTOR REFORMS IN BANGLADESH**

### **4.1 Introduction**

In Bangladesh Power Sector Reform (PSR) has been initiated in order to improve the performance of the power utilities to serve a greater number of consumers at affordable price. Careful study of various reforms measures indicate that reforms process include three functional activities: institutional reforms, policy reforms and operational reforms.

Providing access to affordable and reliable electricity to all citizens by 2020 is a befitting national goal of the government of Bangladesh. The government is currently working with an interim target of providing electricity to 60% of the population by 2010. At present electricity coverage in Bangladesh is only 43% and per capita electricity consumption is about 140 kWh which is one of the lowest in the world. It is recognized that the pace of power sector development has to be accelerated in order to achieve overall economic development of the country. To upgrade the socio-economic condition and to alleviate poverty, electricity sector has been prioritized by the Government. As power projects are capital intensive, developing adequate generation, transmission and distribution facilities to provide reliable and quality power supply to the population are a challenge for the Government. Therefore, to materialize government vision, active participation of the private entrepreneurs are essential. The performance of Bangladesh power sector in last two decades fell short of expectation. High system losses in the sector, large amount of accounts receivable and inadequate tariff have been affecting the financial viability of the utilities and attractiveness for investment. Acute scarcity of resources hinders financing the huge cost required for the development of the sector. Absence of clear organizational goals, adequate financial and commercial autonomy and lack of adequate incentives resulted inefficiency in the utility management. Power sector reform is required not only for performance improvement of the existing utilities but also to cope up with future demand. Creation of appropriate environment for private sector participation in power sector development is a strategy for sustainable development (power cell).

## **4.2 The Government's Vision**

Realization of the vision of the government to provide access to affordable and reliable electricity to all by the Year 2020 would call for large addition to generation capacity over time, expansion of grid and distribution networks. To meet the projected demand, the generation capacity will have to be increased by five fold to a benchmark estimate of about 15000 MW. Fortunately, the gas resource of Bangladesh, one of the cleanest and efficient fuels for power generation, provides a special window of opportunity. Availability of capital, particularly from external sources, would be critical in ensuring the stipulated growth and expansion. Therefore, policies and practices that ensure such capital flows must be in place. Given the history of past Foreign Direct Investment (FDI) flows into Bangladesh, the best bet is a mix of concessional capital (to be utilized through public sector entities) and FDI ([www.powercell.gov.bd](http://www.powercell.gov.bd)).

## **4.3 Reform Objectives**

The objectives of Power Sector Reforms issued by the government in February 2000 are presented below.

- (a) Bringing the entire country under electricity service by the year 2020 in phases.
- (b) Making the power sector financially viable and able to facilitate economic growth
- (c) Increasing the sector's efficiency
- (d) Introducing new corporate culture in the power sector entities
- (e) Improving the reliability and quality of electricity supply
- (f) Using natural gas as the primary fuel for electricity generation
- (g) Increasing private sector participation to mobilize finance.
- (h) Ensuring reasonable and affordable price for electricity by pursuing least cost options.
- (i) Promoting competition among various entities

## **4.4 Reform Initiatives**

The foremost priority in the reform agenda of the government is to establish a legal framework for enabling business transaction in the new environment. The roles of regulation and operation would be segregated to evolving functional entities according to the structural needs of reformed power sector. Bangladesh Energy



Regulatory Commission will be responsible for regulation of the sector. The government shall, however, issue policy directives on matters concerning electricity tariff including measures necessary for the overall planning and coordination for the development of the electricity sector. Chronological development of Power Sector Reforms in Bangladesh (PSRB) are presented below.

(1) Power sector reforms started in late 1970s with the creation of Rural electrification Board (REB). In respect of the reform program following achievements have been made so far:

- Rural Electrification Board was created in 1977;
- Rural electrification program has been successful;
- 70 Nos. PBSs established to increase area coverage so far 50,360 villages are electrified;
- Electricity Supplied to 7.3 million consumers out of country's 10.4 million consumers in 2007;
- Significantly positive impact on poverty reduction and social benefits to the rural People.

(2) In early nineties, unbundling of the power sector as a part of reform started with the creation of DESA in 1991.

(3) A high power Inter-ministerial Committee on "Power Sector Reform in Bangladesh" (PSRB) was constituted in 1993. The report of the committee was approved by the Government. The committee's recommendations included the following.

- Unbundling of the sector according to functional lines;
- Corporatization of sector entities;
- Establishment of an independent Regulatory Commission;
- The Power Grid Company of Bangladesh Limited (PGCB) was created in 1996;
- Dhaka Electric Supply Company Limited (DESCO) was created in 1996;
- Power Cell was created in 1995 under the Power Division, MOPEMR;

(4) The National Energy Policy (NEP) was approved in 1996 which recommended among others

- Sector unbundling;
- Private Sector participation;
- Establishment of Energy Regulatory Commission.

- (5) Private Sector Power Generation Policy of Bangladesh was adopted in 1996.
- (6) The Government approved "Policy Guidelines for Small Power Plants (SPP) in Private Sector" in 1998.
- (7) Government reconstituted Board of Directors of corporatized entities for good governance. Government discontinued the practice of appointing Secretary, Power Division as the Chairman of all the Boards. The companies formed Board Committees for Audit, Recruitment and promotion, and procurement to ensure transparency and accountability in the corporatized entities.

#### **4.5 Components of Reform**

The principal components of the reform programme have been envisaged as follows:

- (a) Segregation of power generation, transmission and distribution functions into separate services and creation of BPDB holding company as an apex body where generation, transmission and distribution operating companies will be the subsidiaries of the holding company.
- (b) Corporatization and commercialization of emerging power sector entities.
- (c) Effective regulation under BERC for power and gas.
- (d) Private sector participation and private-public partnership in power sector.
- (e) Financial Restructuring and Recovery Plan for the sector.
- (f) Introduction of cost reflective tariff for financial viability of the utilities and promoting efficient use of electricity.
- (g) Development of Demand Side Management (DSM) including energy efficiency measures to conserve energy.
- (h) Creation of appropriate framework and institution to facilitate the development of alternative/renewable energy resources.
- (i) Utilization of captive power potential of the country through appropriate policy framework.
- (j) Capacity building and Human Resource Development (HRD) for sector entities and corporatized bodies.



It is reported that the government intends to implement the above reforms programmes by taking pragmatic steps through nation-wide consensus of all stakeholders, which include GOB, existing electric utilities, industries and consumers, labour unions, employees, Chambers of Commerce and Industry, civil society etc ([www.powercell.gov.bd](http://www.powercell.gov.bd)).

## **4.6 Progress of Reform**

A brief account of progress of Power Sector reform of the is presented below:

### **4.6.1 Generation**

- Under the "Private Sector Power Generation Policy", new capacity of 1431 MW has been developed by Independent Power Producers (IPP's);
- Licenses have been issued to several Small Power Plants under the "Policy Guidelines for Small Power Plants (SPP) in Private Sector";
- Under the "Policy Guidelines for Power Purchase from Captive Power Plant", agreements signed between utilities and captive generators for 28 MW so far and already 10 MW connected to the grid;
- Ashuganj Power Station has been converted into a corporatized entity as Asugonj Power Station Co.Ltd.(APSCL) in 2008;
- Electricity Generation Company of Bangladesh (EGCB) has been established to implement, own and operate the proposed 2x120 MW and 2x150 MW peaking power plants at Siddhirganj and 360 MW combined cycle power plant at Haripur. EGCB will also own existing generation assets of Siddhirgonj and Haripur power stations of BPDB;
- North West Power Generation Company (NWPGC) has been incorporated in 2007;
- Steps have been taken to install new power plants under various modes of financing in addition to GOB funding.

### **4.6.2 Transmission**

- All the transmission assets (100%) including Load Dispatch Center (LDC) have been transferred from BPDB to PGCB.

- Government allowed PGCB to float tax free bonds to raise fund from local market.
- PGCB offloaded it's 25% share to public through Capital Market in 2006. The process of offloading another 15% of shares has been initiated.

#### 4.6.3 Distribution

- DESCO was established in 1996 and is now functioning in Mirpur, Gulshan, Baridhara, Tongi and Uttara areas of Dhaka by taking over assets from DESA.
- West Zone Power Distribution System of BPDB has been corporatized as WZPDC ;
- North West Zone Power Distribution system of BPDB has been corporatized as NWZPDC;
- DPDC was incorporated in October 2006 in place of DESA;
- Corporatization of South Zone and Central Zone Power Distribution system of BPDB is under process;
- Steps have been taken to bring the people of remote areas of the country under electricity system through Remote Area Power Supply System (RAPSS)" programme. Program to be implemented by the private sector;
- Strategic Business Unit (SBU) activities adopted in 24 distribution circles of BPDB and DESA;
- For introduction of Performance Target Agreement (PTA) scheme, contract has been signed with 24 distribution circles of BPDB and DPDC.
- DESCO offloaded it's 25% share to public through Capital Market in 2006. The process of offloading another 15% of shares has been initiated.

#### 4.6.4 Renewable Energy Development

- Renewable Energy program is being implemented by both public (REB, BPDB, LGED) and private sector.
- IDCOL has been playing leading role in expanding Solar Home System (SHS) in rural areas .More than 200,000 houses, shops and small business have been provided access to electricity using SHS.
- A pilot biomass plant is in operation near Dhaka.
- A wind power plant has started operation in Kutubdia Island.



- Government has formulated The Renewable Energy Policy in 2009 January which may enhance the power security.
- Government is in the process of establishment of Sustainable Energy Development Agency (SEDA) to coordinate and facilitate activities of agencies promoting renewable energy.

#### 4.6.5 Sector Regulation

- Bangladesh Energy Regulatory Commission Act was enacted in 2003. Bangladesh Energy Regulatory Commission (BERC) has been established and made functional to regulate the Electricity, Gas and Petroleum sector through BERC Act 2003.
- Licensing regulation for generation has been approved by the BERC in 2006.

#### 4.6.6 Tariff

- Power Pricing Framework has been approved by the Government.
- Rationalization of tariff (partial) has been made in 2006 and effective from March 2007.
- Since 2008 BERC has started the process of fixing power tariffs for bulk power (BPDB), retail power (BPDB, DPDC, DESCO, REB, WZPDC) as per BERC Act 2003 through public hearing.

### 4.7 Road Map for Institutional Reform: 2008-2010 (ADB: 2008)

Reform measures agreed with the Asian Development Bank (ADB) under "The 3-year Road Map (2008-2010)" are presented below. The time-bound action plan is envisaged in line with Poverty Reduction Strategy (PRS) for realization of the vision of reaching electricity to all by 2020. During this period, electricity demand is expected to grow at the rate of 8-10% per annum. As such, the demand is expected to rise to about 6,608 MW by 2010. Therefore for reliable supply of power, the generation capacity will be required to be raised to at least 8,000 MW which will facilitate raising the per capita consumption to 172 KWh and access to electricity to 60%. Thus about 2,800 MW of new generation capacity will be needed to ensure adequate supply of electricity.

Simultaneously, about 2200 circuit km (100 km 400 kV, 1500 km 230 kV and 600 km 132 kV) of transmission line and about 50,000 km of distribution line will have to be constructed for evacuation and distribution of power.

Together with institutional reform and prudent investment program ensuring least cost solution can provide quantity and quality power to the consumers at an affordable price for sustainable economic and social development of the country. However, in order to redress the sufferings of the consumers due to acute power shortage in the shortest possible time, the Government has, as an interim measure, contracted with private power companies for generation and supply of electricity to BPDB on rental basis for 3 years. These rental power plants (about 300 MW) are expected to be commissioned within 4 months of signing of contract. It was expected that within next 3-4 years, the power plants planned for implementation according to least cost plan will come on line, when these rental power plants will not be required. In response to overall gas situation, particularly transmission and distribution constraints of gas supply new base load, small IPPs and rental power plants are being set up in and around areas where reliable gas supply is available.

The primary objective of the 3-year institutional reform programme has been created an institutional foundation on which to ramp, in a sustainable manner, the substantial investments needed for the sector to properly support economic growth and reduce poverty. This will require the sector to be restructured to improve its efficiency, transparency and overall governance, facilitate effective and independent regulation, expand competition, and begin to improve the quality of electricity services.

Experience gained from the reform attempts has been considered in preparing the road map. Creation of DESA as a separate authority, without introducing new management & corporate culture and without sufficient autonomy & incentive, did not yield good results. Again creation of Ashuganj Power Station Company Ltd (APSCL) and WZPDC without sufficient preparatory works and addressing governance & employee issues properly created mismanagement in the business.

Implementation of road map in future will be based on in-depth study. For example the outcome of BPDB corporatization study will guide structured reform in power sector. Based on BPDB corporatization study, DESA corporatization study, financial restructuring study, South Zone distribution project study for making it



a model distribution entity, O&M contracting for EGCB study for model generation entity, the Road Map for reform and restructuring of Bangladesh power sector will be updated on a six monthly basis for the next course of action.

The main outcomes being sought over the next 3-years is further unbundling of electricity supply into an economically viable number of separate generation and distribution companies, and a single transmission company. These operating companies will act as subsidiaries of BPDB holding company. Technical co-ordination of power system operation will be enhanced through implementation of National Load Dispatch Center (NLDC) project linking generation and grid substations. A strong planning and power trading department for bulk power management will be organized under the BPDB holding company. The indicative milestones for the institutional reforms of the power sector in the next 3 years are summarized below.

#### 4.7.1 Generation

##### **1. Existing Generation:**

1.1. All the existing power stations in the public sector will be converted into profit centers for eventual conversion to a corporatized entity individually or on cluster basis which will be retained by BPDB holding company.

1.2. All commercial issues related to asset transfer and valuation will be completed.

1.3. The business and financial plans will be developed.

1.4. All works related to employee issues including payment of service benefits will be completed as per guidelines provided in the Policy Statement on power sector reforms. Employment of all employees to the corporatized entities shall be governed by the latter's service rules.

1.5. All efforts will be undertaken by GOB so that the emerging entities can start functioning commercially.

1.6. Special plans will be developed to enhance technical and managerial efficiencies and establishing good governance.

1.7. Special attention will be given to Human Resources Development (HRD) program.

1.8. To improve technical and management capability and to establish accountability, special organizational activities like TQM will be introduced.

## **2. New Generation:**

New generation projects will be taken up to achieve the desired security of supply at generation level to be met at least cost and generation capacity will be sought through a mix of sources i.e. public, private, and public-private joint ventures. Employment of Private Sector resources in new generation will be encouraged. For public sector new generation, special attention will be given to good governance, efficient O&M and establishing commercial environment.

### **4.7.2 Transmission**

(a) PGCB will continue to operate as a wheeler of electricity.

(b) Special attention will be given to Human Resources Development (HRD) program.

(c) Demarcation of functional area of generation, transmission and distribution will be finalized and installation of system metering will be completed to establish commercial arrangement among the sector entities.

### **4.7.3 Distribution**

It is realized that main problem lies in the distribution segment. Therefore the success of the reform programmes can not be sustained until commercial environment is established in this segment.



#### 4.7.3.1 BPDB

(a) BPDB distribution segment will be converted into a number of distribution companies under BPDB holding company. All works towards corporatization of BPDB distribution will be completed.

(b) All commercial issues related to asset transfer and valuation will be completed.

(c) Business and financial plans will be developed.

(d) All works related to employee issues including payment of service benefits will be completed as per guidelines provided in the Policy Statement on power sector reforms. Employment of all employees to the corporatized entities shall be governed by the latter's service rules.

(e) All efforts will be undertaken to complete computerization of commercial functions to boost revenue collection and establishing transparent transaction.

(f) Special attention will be given to Human Resources Development (HRD) program.

#### 4.7.3.2 DESA/DPDC

(a) DPDC will be fully functional with employees recruited through a process approved by the company.

(b) All commercial issues related to asset transfer and valuation will be completed.

(c) Business and financial plans will be developed.

(d) All works related to employee issues including payment of service benefits will be completed as per guidelines provided in the Policy Statement on power sector reforms. Employment of all employees to the corporatized entities shall be governed by the latter's service rules.

(e) All commercial functions will be computerized to boost revenue collection and improve transparency.

(f) Special attention will be given to Human Resources Development (HRD) program.

#### 4.7.3.3 REB

- (a) Steps will be taken to improve REB's performance based on reorganization study.
- (b) Steps will be taken to improve network expansion planning process using advanced tools (software) for least cost option in line with GOB's vision to provide access to electricity to people at an affordable cost.

#### 4.7.4 Sector Regulation

The Bangladesh Energy Regulatory Commission Act was enacted in March 2003 and Bangladesh Energy Regulatory Commission has been made functional since April 2004. The Commission has mandate to regulate the electricity, gas and petroleum sector. The Commission already issued 'generation licensing regulation' in 2006. Government recently approved service regulations of BERC staff. The Commission has been fully functional since 2008. BERC has already given order for bulk power of BPDB. Applications of revision of retail power tariffs submitted by BPDB, DPDC, DESCO, REB and WZPDC are under due process.

#### 4.7.5 Power Market Structure

At present BPDB is functioning as Single Buyer and it will continue functioning except for some direct power purchase from small power producers by the utility. Multi buyer/Competitive pool may be adopted when the market becomes mature and stable.

#### 4.7.6 Implementation and Monitoring Approach of Reform Program

Implementation of the reform program is a very complicated and difficult task and requires well-organized, integrated and comprehensive plan and actions. It also requires close co-ordination, interaction and strong commitment of the Government, and other stakeholders. A high level National Steering Committee has been formed. A Task Force has also been established and a Working Group has been formed in each



utility to implement and monitor the power sector reform programs in a coordinated and comprehensive manner.

#### **4.8 The Power Sector Reforms Problems (ADB: 2008)**

The power sector reform problems mostly originated from the 'lack of local ownership of the reform process'. DESA, DESCO and the Power Grid Company of Bangladesh (PGCB) were formed under donor pressure and these never performed up to expectation. Much of the reform process over the last 15 years has been donor driven and has, thus, remained insensitive to the political realities of the country. The government will have to recognize the political cost of a malfunctioning power system with insufficient capacity to meet the public demand for power. Created under pressure from donors, DESA had been the biggest liability of the sector with a Tk. three billion debt to PDB. BPDB is suffering from inefficiency and corruption and at the same time, it is not getting the Atmosphere to become efficient and corruption-free.

Power sector of Bangladesh is now in a period of transition. So long development of infrastructure like power was the responsibility of the Government. The country is naturally very far from the take off position to meet the challenges of 21<sup>st</sup> Century.

Power Sector Reform Policy was approved by the Government where the recommendation was to run the Generation and Transmission (G&T) as one entity. Reform and restructuring of power sector was imperative, as it was not functioning effectively. Reform of every country does not taken up in the same way. It should neither be taken up as per policy prescription of the donors, but according to the need of the society. For this reason it is imperative to undergo through public hiring to analyze the different aspect to find out the best possible solution. As part of the reform program, private power policy was approved by the Government in the month of October, 1996. Incentive package in terms of exemption of Tax and VAT on imported capital machinery and equipment, spare etc. is being offered to the Independent Power Producers (IPP). But the incentive package was not offered to BPDB. As a result, from the very inception of restructuring the utilities the existing system won't be able to complete with the IPPs. In fact, the competition should be like for like. Steps need to be taken to make the existing Generation Sector healthy for the greater interest of the people of the country. It is necessary to think some factors, particularly the social obligation. The more realistic example is that the cost of generation of electricity in the Western Zone



(use imported liquid fuel) is about 6 times than that of the east (use cheap natural gas). BPDB maintains the same tariff structure throughout the country. But Government does not replenish the excess operating cost to BPDB for maintaining the same tariff. In fact, from the very beginning, there was no vision of the policy planners make the system healthy and effective. BPDB sells power to REB and other distribution related companies at a cost lower than the average cost of generation of energy.

As part of the social obligation BPDB is to run gas turbine plants based on costly liquid fuel during off peak hours to meet the irrigation load. This is a positive contribution to the country's economy considering Bangladesh as agro based economy. In fact it is necessary to take more time for discussion in order to do the right and to get a good result from the reform process. As part of the social obligation when International Oil Price fluctuates, Government does not change the electricity price. But in case of IPPs the purchase power of energy will increase with the increase of fuel price. In any case there has to be some form of social commitment for the benefit of the common people.

In any case the reform must bring benefit to the customers and will make the system efficient. The weaker links need to be identified and appropriate measures are to be taken with accountability in each type of the weaker system. Selling of power is a monopoly business. In this situation losses in the system cannot be acceptable. With proper accountability public or private sector basically are the two sides of the same coin in our country. In order to improve the system, strong Government commitment is necessary.

Trade Unions under different political banners instead of looking into the welfare of the employees engaged themselves keen to work as a tail of political entities. As a result interference even in day to day management affair has deteriorated the system more quickly. Donors even took interest to discuss with the trade union leaders to influence then to implement their ideas. There was no justification to interfere in the areas, where the utility and the Government should have the domain. In fact this kind of activities have deteriorated the administrative condition of BPDB and DESA to an unacceptable level. Due to undue to interference of the trade union leaders, it was impossible for the officials who sincerely desired to implement the ideas of the authority in order to improve the situation, may be they are very small in numbers. Eventually, it is hard to believe how the situation deteriorated in State Owned Enterprises (SOEs) that is being operated at the cost of the people.



Traditionally, Bangladesh is attracted to foreign loans and more attracted for import to utilize these loans. It matters little to the policy makers whether these loans will be beneficial to the country and the people. PGCB was created as a precondition to receive the 9<sup>th</sup> Power Sector Loan of ADB despite Cabinet decision to keep Generation & Transmission system to develop and operate as one entity. There is no justification to separate the transmission system first as a first step of separation of Generation, Transmission and Distribution system in the concept of vertical configuration.

#### **4.9 Reform Strategy**

The guiding principles for the reform strategy for the future will be pragmatism based on the experiences gained from the ongoing measures, reliance on the empirical findings about the best practices and giving due consideration to the socio economic and governance context. The pace and sequence of reform should be tailored to solve problems and deliver results rather than be driven by any fixed notion. This would help mobilize support for the programs both within and outside the concerned organizations and thereby contribute to their success.

#### **4.10 Initiatives Taken by BPDB**

In line with the Government's policy on power sector reforms, BPDB has already initiated actions which would separate functional responsibilities so as to enable evaluation of each segment and thereby achieve accountability and improved performance. These are the intermediate steps which will help in the eventual formation of corporatized entities under BPDB.

##### **4.10.1 Management Efficiency for Generation**

The following steps have been taken and are being taken to improve the management efficiency for generation:

- Steps have been taken to corporatize Ashuganj Power Station (728 MW).
- Haripur Power Station (100 MW; to be enhanced to 209 MW) has been converted as Autonomous Strategic Business Unit to ensure efficiency and accountability. This has been done as per

recommendations contained in the report of the Special Assistance for Project Implementation (SAPI) for the extension of Haripur Power Plant. The above report was prepared by M/S. Tokyo Electric Power Co. Inc. funded by JBIC.

- Other plants are planned to be corporatized in phases so that all the power plants will be subsidiaries of a national corporatized generating entity owned by BPDB.
- Efficient corporate management culture will be developed in all the power plants.

#### 4.10.2 Management Efficiency for Distribution

It is recognized that distribution part of the electricity industry in Bangladesh is the weakest link with unsatisfactory commercial performance. Hence, management efficiency for distribution is vital for achieving the overall viability of the power sector.

The steps taken/being taken by BPDB for enhancing management efficiency in distribution are:

- Existing four distribution zones have been reorganized into eight distribution zones.
- Restructuring the distribution function by creating 23 Autonomous Strategic Business (SBU) Units.
- SBUs are to achieve optimum operational efficiency.
- Management and staff are to be motivated to perform through effective incentive packages.
- Accountability to be ensured.
- Management Information System being improved.

Introducing computerized billing and accounting system to all (260) Electric Supply Units (ESUs). Presently-this system is in practice in 15 ESUs.

Consumer committee in each ESU has been established with participation of consumer representative to ensure satisfactory consumer service and accountability of ESU management.



## **5.0 GOVERNANCE IN ACTION**

In Bangladesh there is general complain about unsatisfactory performance of the power sector. Good governance is a necessity to improve the performance and for sustainable development and management of the power sector. This will ensure reliable supply of electricity to all the category of consumers located at the different areas of the country (at the time of their needs) at affordable price. For sustainable development and management of power sector coordinated actions will have to be taken at all the levels starting at the highest level.

Governance in action at different hierarchical levels such as the Parliament, Cabinet, Planning Commission, MOPEMR/Power Division, BERC, BPDB, REB, DESCO, PGCB, DPDC have been presented in this section in the form of case study examples and with brief observations.

### **5.1 Governance in Action at Parliament Level**

It is recognized that the Parliament is the top most institution for enacting appropriate laws and providing guidelines for the development of different sectors. It has not been possible to study the proceedings of the previous parliaments to assess the discussions and decisions on energy and power related issues.

Parliamentary Standing Committee on Ministry of Power, Energy and Mineral Resources oversee the activities of MOPEMR. The composition of the Standing Committee members (Member of the Parliament) constituted by the 9<sup>th</sup> Parliament is shown in Table 5.1.

### **5.2 Cabinet**

The Cabinet headed by Honorable Prime Minister is the highest level institutions responsible for making decisions on development of different sectors including power sector. It has not been possible to study the decisions of the cabinet related to power sector development and their status of implementation during the tenure of previous governments.

**Table 5.1: List of Members of Standing Committee on MOPEMR**

Name	Designation
Major General (retd) Md. Shubid Ali Bhuiyan psc	Chairman
Mr. Shamsul HaqueTuku	Member
Mr. Md. Abdus Shahid	Member
Mr. Abdul Matin Khasru	Member
Mr. Majibur Rahman Fakir	Member
Mr. Sheikh Fazle-Noor-Tapos	Member
Mr. Md. Enamul Haque	Member
Mr. Md. Abdul Kader Khan	Member
Mr. Mahbub Uddin Khokan	Member
Ms Begum Nilufar Zafrullah	Member

The parliamentary Committee may consider inviting independent experts to brief them on specific issues related to energy and power.

### **5.3 Governance in Action at the Planning Commission Level**

According to the rules and procedures of the Planning Commission there is a certain time limit for the approval of the development projects. But for some bureaucratic reasons and for the inflexible rules and regulations sometimes the approval process of projects gets delayed. When a development projects concerning a particular step of power supply chain (e.g. generation, transmission, distribution) cannot be implemented in due time it affects the balance development of the sector. Thus the economy of the country is affected due to shortage of power. In donor funded projects the approval process may require more time to the approval of their own (donor) system.

Honorable Prime Minister presides over the ECNEC Meeting to approve different projects funded through Annual Development Program (ADP). The chairperson of ECNEC can expedite the approval process by calling meetings more frequently but due to procedural requirements there is a limit up to which processing

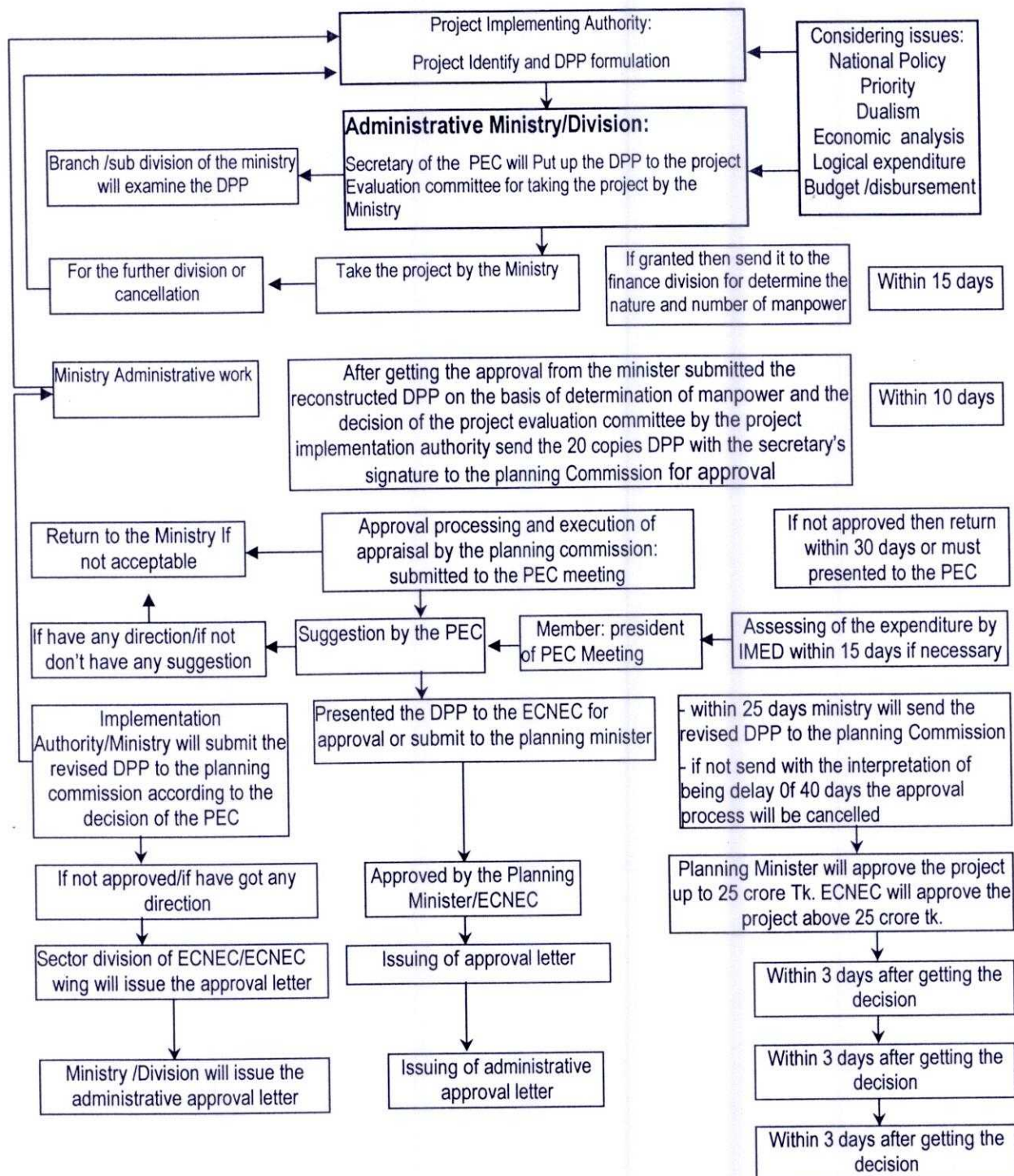


and approval time can be minimized. This particular issues has been explain below on the basis of a case study on the approval process of a REB project.

#### 5.3.1 Approval Process of a REB Project by the Planning Commission

Procedure of formulation, processing, correction and approval of a Development Project Proposal (DPP) of REB by the Planning Commission is shown in Figure 5.1.

Rural Electrification Board prepared a project on Increase 10 lac Customer Connections under the Distribution System of PBS in 2006. The summary of the project is shown in Table 5.2 and the time required for the approval of the project in different stages has been compiled in Table 5.3.



**Figure 5.1 Procedure of Formulation, Processing, Approval and Revision of Development Project in Public Sector**



**Table 5.2 Summary of the Project on Increase 10 lac Customer Connections under the Distribution System of PBS in 2006**

1. Name of the project: Increase 10 lac customer connection under the distribution System of PBS.
2. Objective of the project: To provide 10 lac customer connection within 1,51,561 Km power distribution line under the distribution system of those 56 PBS who are less capable to do it in their own finance , under the program of Rural Electrification.

3. Project Implementation Period:

Date of start  
July 2006

Date of completion  
June 2010

4. Place of project: 56 PBS under Rural electrification Board.

5. Source of Finance: Tk. 2470.29 million by the Government of Bangladesh and Tk. 876.42 million by DFID.

6. Stage of approval: 14-9-2006

7. Expenditure of the project:

a. Total	Project Assistance	Local currency
33467.10	8764.20	24702.90 (currency value lac tk.)

b. Till June 2008 expenditure:

Total	Project Assistance	Local currency	GOB	Financial%	Actual%
2628.72	49.14	2579.58	0.00	0.00%	13.86%

c. Corrected section by ADP in fiscal year 2008-2009:

Total	Project Assistance	Local currency	GOB	Financial%	Actual%
9185.00	3160.00	6025.00	0.00	27.44%	12.00%

d. Expenditure till:

Total	Project Assistance	Local currency	GOB	Financial%	Actual%
6956.60	2972.27	3984.32	0.00	20.79%	16.00%

e. Money Disburse:

Total	Revenue
6025.00	1500.00

8. Financial and Actual Objective and Improvement

Description	1 <sup>st</sup> quarterly		2 <sup>nd</sup> quarterly		3 <sup>rd</sup> quarterly		4 <sup>th</sup> quarterly	
	Financial	Actual	Financial	Actual	Financial	Actual	Financial	Actual
Objective	0.00%	0.00%	2.99%	0.00%	14.42%	3.00%	9.31%	3.00%
Improvement	2.65%	5.00%	3.38%	3.005	5.81%	4.005	8.95%	4.00%

**Table 5.3 Time Required for the Approval of the Project on Increase 10 lac Customer Connections under the Distribution System of PBS in 2006**

Date	Action Taken
21-10-02	REB submitted Project Concept Paper (PCP) to Power Division
13-11-02	Power Division asked for more information about the project.
19-03-03	REB submit those required information to Power Division.
12-04-03	Power Division asked for more information
03-11-03	REB submitted revised PCP
05-11-03	PCP sent to the Planning Commission for arranging financial support
08-06-04	ERD enquired for funding consideration by DFID?
08-11-04	ERD sent the PCP to DFID for financial support
28-02-05	DFID informed ERD their decision to provide financial support
28-07-05	Planning Commission requested Power Division to submit DPP
06-08-05	Power Division asked REB to submit DPP
14-08-05	REB submitted DPP to Power Division
07-09-05	Power Division sent 20 copies of DPP to Planning Commission
29-09-05	Project Evaluation committee of Planning Commission reviewed the DPP
11-01-05	PEC asked some information to Power Division
26-10-05	Power Division asked information to REB
28-11-05	REB submitted the revised copy of the DPP to Power Division
28-12-05	Power Division sent DPP to the Planning Commission
05-03-06	Planning Commission asked more information to the Power Division
09-03-06	Power Division asked more information to REB
09-04-06	REB provided information to the Power Division
20-04-06	Power Division sent corrected copy of DPP to the Planning Commission
26-07-06	Planning Commission sent the DPP to the ECNEC
14-09-06	ECNEC approved the DPP
01-10-06	ECNEC asked for providing more 10 copies DPP to the Power Division
06-11-06	Power Division sent 10 copies DPP to ECNEC but ECNEC asked to sent the copies through the sector
16-11-06	Power Division sent those copies through sector
03-12-06	DPP was approved by
06-12-06	ECNEC issued the approval letter
13-12-06	Power Division issued administrative letter to the Auditor General



**Observations:** It may be noted that it took four years to get the approval of the project by appropriate authorities. There is a need to pay serious attention to reduce the time of approval of development projects by the Planning Commission.

## **5.4 Governance in Action at Bangladesh Energy Regulatory Commission (BERC)**

### **5.4.1 Bangladesh Energy Regulatory Commission Members**

Government enacted BERC Act 2003 and initiated the process of establishment of the Bangladesh Energy Regulatory Commission (BERC) in 2004. It took about four years to recruit BERC members and staffs. The list of BERC members is shown in Table 5.4.

Table 5.4: List of Bangladesh Energy Regulatory Commission Members

Name	From	To
Dr. Mujibur Rahman, Chairman	04-06-2005	10-05-2007
Mr. Showkat Hossain, Member	09-05-2004	08-05-2007
Mr. Mosharraf Hossain, Member	22-04-2004	26-04-2007
Mr. Ghulam Rahman, Chairman	08-11-2007	23-06-2009
Mr. Md. Khalilur Rahman, Member	01-08-2006	31-07-2009
Mr. Md. Mokhlesur Rahman Khandker, Member	23-07-2007	
Mr. Salahud Din Ahmed, Member	27-08-2007	
Mr. Engr. Md. Emdadul Haque, Member	02-12-2007	
Dr. Selim Mahmud, Member	02-07-2009	

### **5.4.2 Governance of BERC**

- (a) BERC has approved and published licensing regulation for Power Generation in 2007.
- (b) BERC has given operational license to the following power utilities: BPDB for generation, PGCB for transmission and DPDC, DESCO, REB, BPDB, WZPDCO, North Zone.
- (c) BERC has given license for power generation under the following categories.

Table 5.5: Different Categories of Power Generation License Issued by BERC

Category	Numbers	MW
BPDB	4 Generation Unit	378.8
Independent Power Producer (IPP)	13	336.77
Small Power	4	92.82
Rental Power	11	423.32
Captive Power	153	867.19
Captive Power (to Sell Power)	7	33.3
Service Oriented Industries	2	140
Waiver (for size less than 1 MW)	343	137

(d) BERC has issues order for bulk power sale of BPDB in 2008

(e) Revision of electricity tariff of the following power distribution companies are under consideration of BERC: BPDB, REB, DESCO, DPDC, WZPDCO.

**Observations:** BERC carries out its activities as per BERC Act 2003. For transparency BERC gives order through open meetings and public hearing participated by the interested stakeholders. As a result BERC's orders to revise the bulk power tariff of BPDB in 2008 and natural gas tariff in 2009 have been accepted by the consumers without much public protests. BERC should be allowed to function independently as per BERC Act 2003.

## 5.5 Governance in Action at the Level of MOPEMR

### 5.5.1 The Ministers/State Ministers of MOPEMR

The Ministers and State Ministers in-charge of Ministry of Power, Energy and Mineral Resources (MOPEMR) since 1991 have been shown in Table 5.4 and Table 5.5 respectively. It may observed that traditionally the Prime Minister/Head of the Government has been in-charge of the Ministry of MOPEMR. The Minister has been assisted by one or two State Ministers.



Table 5.6: List of Ministers In-Charge of MOPEMR

Name of Ministers	Date
Dr. Khandokar Mosharaf Hossain	1991-1996
Honorable Sheikh Hasina	1996-2001
Honorable Begum Khaleda Zia	2001- 2006
Honorable Mr. Faquddin Ahmed	2006-2009
Honorable Sheikh Hasina	2009-till date

Table 5.7: List of Advisors /State Ministers In-Charge of MOPEMR

Name of Advisors/State Ministers	Date
Mr. Iqbal Hasan Mahmud	2004
Major General (Retired) Mr. Anowarul Kabir Taluqder	2005
Mr. Ukil Abdus Sattar	2005
Lt. General (Retired) Hasan Moshud Chowdhury	2006
Major General (Retired) Ruhul Alam	2007
Mr. Tapan Chowdhury	2007
Professor M.Tamim	2008
Advocate Shamsul Hauque Tuku	2009
Brig. General (Retired) Enamul Haque	2009-till date

**Observations:** It has been observed that during last 15 years head of the government has been in charge of the Ministry of Power, Energy and Mineral Resources assisted by one or two State Minister. It is opined that there is a need for constant attention by an independent Minister for the development and management of MOPEMR under the overall guidance of the Prime Minister (Islam 2009).

Previously two Energy Advisor Committees were formed for the two divisions of the Ministry to advise on matters related to Energy Division and Power Division respectively. It is suggested that in future one Advisory Committee should be formed for advising on different matters related to both energy and power in an integrated manner (Islam 2009).

#### 5.5.2 The Secretaries of Power Division

Up to 1997, one Secretary was in-charge of the Ministry of Power, Energy and Mineral Resources. The function of the Ministry has been divided into two divisions- Energy & Mineral Resources Division (EMRD)

and Power Division (PD) in 1998. The Secretary in-charge of Ministry of Power, Energy and Mineral Resources (MOPEMR) and Power Division since 1986 have been shown in Table 5.8. It may be observed that 8 Secretaries were posted in Power Division during last four years (2005-2009).

Table 5.8: List of the Secretary MOPEMR & Power Division

Name of Secretary	From	To
Mr.Shafiul Alam, MOPEMR	17-07-1986	25-08-1988
Mr.Abidur Rahman, MOPEMR	26-04-88	30-06-89
Mr.Hasinur Rahman, MOPEMR	01-07-89	30-06-89
Mr.Azim Uddin Ahmed, MOPEMR	28-12-90	15-19-91
Mr.Mohammad Ali, MOPEMR	16-10-91	12-04-93
Mr.Muhammad Faizur Razzak, MOPEMR	13-04-93	09-04-96
Dr.S.A.Samad, MOPEMR	13-04-96	17-01-97
Dr.Toufiq E Elahi Choudhury BU, MOPEMR	18-01-97	01-12-98
Mr.Arbindo Kar, Power Division	03-01-2000	25-02-2001
Mr.Mofazzal Hossain, Power Division	12-03-01	01-11-01
Mr.Mesbah Uddin Ahmed, Power Division	04-11-01	12-03-03
Mr. S.M.Shamsul Alam, Power Division	12-03-02	12-08-04
Mr.Ehsan Shamim ndc, Power Division	12-08-04	12-02-05
Mr.Nazrul Islam, Power Division	12-02-05	31-12-05
Mr.A.N.M.Akhter Hossain, Power Division	16-01-06	15-01-07
Mr.A.K.M .ZafarUllah Khan, Power Division	22-01-07	10-06-07
Dr.M.Faizul Kabir Khan, Power Division	10-06-07	06-01-09
Mr.Nasir Uddin Ahmed, Power Division	18-01-09	27-05-09
Mr.Md.Abul Kalam Azad, Power Division	28-05-09	till date

Source: Power Division MOPEMR

**Observation:** It takes quite sometime for a new Secretary to be familiarized with the administrative affairs of the division. It is a very difficult task for a Secretary to make meaningful contribution for the development of power sector for a short duration stay in-charge of division. Senior levels decision makers should be posted for at least for 3 years for making effective decisions for the development of the sector.

### 5.5.3 Governance in Action at Power Division

Every month coordination meeting is organized under the Chairmanship of the Secretary, Power Division to over see various activities of the different organizations under the division. Minutes of three monthly



coordination meetings of the Power Division are presented below in order to provide some idea about governance functions.

### **Minutes of the Meetings of Power Division**

*[Notes: Various agenda items of the meetings of Power Division and the Electricity Companies have been classified under the following broad areas: (Administrative: appointment, departmental proceedings, audit, compliance, taking legal actions, pensions, granting LPR, payment of personal bills); (Development: approval of the proposal, budget, evaluation of financial activities, construction, establishment of power plants)].*

#### **I. Minutes of the Monthly Coordination Meeting of the Power Division (22-10-2008)**

Various issues discussed in the meeting and decisions taken are presented below.

- (a) Modernization and rehabilitation of the 1<sup>st</sup> and 2<sup>nd</sup> unit of the Gorasal power station *[Development]*.

Decision: BPDB will take legal measures about the contract appointed in the project.

BPDB will execute the rest of the job of the rehabilitation of the units with the machineries and manpower of its own.

- (b) Establishment of Sylhet 90 MW combined cycle power station (2<sup>nd</sup> phase) *[Development]*.

Decision: BPDB will take immediate actions for generation of power in commercial basis BPDB will complete the tender process of the other implementable projects in the current fiscal year within December 2008.

- (c) Establish Chandpur 150 MW combined cycle power station and to establish the concern transmission system. *[Development]*

Decision: BPDB will complete the tender evaluation immediately and will send it to the government purchase committee for approval.

- (d) Construction of Sylhet 150 MW combined cycle power plant and to construct the concerned transmission system. *[Development]*

Decision: BPDB will take initiative for inviting the tender by completing the work of document formulation within 07 days.

- (e) Sirajgong 150 MW picking power plant and Khulna 150 MW picking power plant: *[Development]*

Decision: Invitation of tender has to be made for time frame gas line construction of Sirajgonj project with coordinating the time schedule of the project.

- (f) Modernization and rehabilitation of the 1<sup>st</sup> and 2<sup>nd</sup> And 3<sup>rd</sup> unit of the Haripur Power Station. *[Development]*

Decision: BPDB will submit the report for transforming the project as combined cycle power plant. BPDB will take action for approval of the RDPP of the project. EGCB will take initiatives to take over the power plant within 1<sup>st</sup> November. EGCB will complete the registration process as public ltd. Company within 31<sup>st</sup> December.

- (g) Renovation of 4<sup>th</sup> and 5<sup>th</sup> unit of Karnophuly Hydro Power Plant. *[Development]*

Decision: BPDB will take initiatives for appointing the consultant to execute the contract within 15<sup>th</sup> November. If more fund needed then it has to be informed to the JICA through ERD.

- (h) Construction of Khulna 150 MW gas turbine power plant *[Development]*

Decision : The tender document has to be completed within 2<sup>nd</sup> November.



- (i) Construction of Sikolbaha 150 mw picking power plant. *[Development]*

Decision: There has to make system for dual fuel in Sikolbaha 150 MW Power Plant. BPDB will send proposal for this within November 08

10 towns power distribution development project. *[Development]*

- (j)

Decision: all the procurement process has to be completed within December 2008

- (k) All projects of the REB: *[Development]*

Decision: All the required information of the World Bank has to be send immediately to take actions against those staff for not sending the required information of the WB by finding out the reason for this incident. All the procurement process has to be completed within December 2008. If there arise any conflict with the donor concerning tender evaluation it has to be send to the ministry/division for dissolve. If the re tendering is required then it the permission of the ministry has to be taken and should remember that re tendering is the last resort.

- (l) DPBC: *[Development]*

Decision: All the procurement process has to be completed within December 2008.

- (m) EGCB. *[Development]*

Construction of the Siddhirgong 2x120 Mw picking power plant

Decision: The tender invitation along with the construction work has to be done immediately. Initiative has to be taken for commissioning according to the schedule.

- (n) Construction of Haripur 360 MW combined cycle power plant and associated sub station.  
[Development]

Decision: It has to be informed to JICA though that there is no need for appointing consultant for management of existing Haripur 100 mw power station. Power Cell will send the upto date information about PWC to the WB.

**Observations:** In the minutes among 14 agenda all are related to the development matters.

## **II. Minutes of the Monthly Coordination Meeting of the Power Division (04-11-2008)**

Various issues discussed in the meeting and decisions taken are presented below.

Minutes of the meeting of the power division dated 04-11-2008 for assessing the improvement of the construction and maintenance activities of the power station and IPP under power division:

- (a) Modernization and rehabilitation of the 1<sup>st</sup> and 2<sup>nd</sup> unit of the Gorasal Power Station [Development]

Decision: BPDB will take legal measures about the contractor of the project. BPDB will execute the rest of the job of the rehabilitation of the units with the machineries and manpower of its own.

- (b) Establishment of Sylhet 90 MW Combined Cycle Power Station (2<sup>nd</sup> phase) [Development]

Decision: BPDB will take immediate actions for generation of power on commercial basis by removing the faults of these power station.

- (c) Establish Chadpur 150 MW combined cycle power station and to establish the concern transmission system. [Development]

Decision: BPDB will complete the tender evaluation immediately and will send it to the Purchase Committee of the Cabinet for approval and will ensure the supply of gas by Petrobangla.



(d) Modernization and rehabilitation of the 1<sup>st</sup> and 2<sup>nd</sup> And 3<sup>rd</sup> unit of the Haripur power station.

[Development]

Decision: BPDB will submit the report for transforming the project as Combined Cycle Power Plant. BPDB will take action for approval of the RDPP of the project. EGCB will take initiatives to take over the power plant within 1<sup>st</sup> November 2008.

(e) Renovation of 4<sup>th</sup> and 5<sup>th</sup> unit of Karnaphuly Hydro Power Plant. [Development]

Decision: BPDB will take initiatives for appointing the consultant to execute the contract within 15<sup>th</sup> November 2008.

(f) Construction of Khulna 150 MW picking power plant and Sirajgonj 150 MW gas turbine power plant .[ Development]

Decision: there has to make system for dual fuel in Sikolbaha 150 MW power plant. BPDB will send proposal for this within November 2008.

(g) Rehabilitation of Kulna 110 MW and 60 MW power stations [Development]

Decision: These projects will be excluded because they are financially non profitable projects. BPDB will take necessary action in this respect.

(h) Construction of the Siddhirgong 2x120 MW picking power plants [Development]

Decision: EGCB will take necessary action for starting the both the units within the expected time with due care.

(i) IPP Bibiana 330-450 MW combined cycle power plant: [Development]

Decision: Immediate action has to be taken after getting the opinion of the CPTU. DG, Power Cell will write letter to the sponsor for LOI and for extension of time period of the project.

**Observations:** In the minutes among 9 agenda all are related to development matters.

### **III. Minutes of the Monthly Coordination Meeting of the Power Division (06-05-09)**

Various issues discussed in the meeting and decisions taken are presented below.

(a) Information about the activities of the organizations presented by the Power Division, BPDB, REB, DPDC, DESCO, EGCB, PGCB, OZOPADICO, APSCL [*Administrative*]

(b) Subject for Discussion: Economical use of Electricity [*Development*]

Decision: Vigilance team of the power division will continue their activities for economy use of power in the offices. They will visit the offices at least 2 times in a month. Offices outside of Dhaka will be included in this activities. The head of the Organizations and companies will continue these activities in their own initiatives. Within the 5th day of each month the reports regarding economical use of power have to be submitted to the Power Division.

(c) Inspection [*Administrative*]

Decision: Inspection will have to be carried out on a routine basis.

(d) Audit [*Administrative*]

The audit objections have to be disposed of in the audit committee meeting and to be reported to the coordination meeting. Audit committee meeting is to be held 4 times in a year and by this way the number of disposed cases has to be increased and that report has to be submitted in the prescribed form.



(e) Departmental Procedure. [Administrative]

Decision: In BPDB and REB the number of disposed cases are less than the filling of the cases. The cases which has not yet been disposed has to be disposed immediately. The report of disposal of DP has to be submitted to Power Division before each coordination meeting.

(f) Pension cases [Administrative]

Decision: Pension cases has to be disposed in the priority basis. If there is any complicity in the pension cases in the organizational level it has to be informed to the ministry.

(g) System Loss [Development]

Decision: Initiatives has to be taken to reduce the system loss in power sector

(h) Recovering of Pending Electricity Bill [Development]

Decision: Actions against pending and recovery of electricity bills have to be continued and report of recovery has to be submitted in the ministry.

(i) Inter-organizational Claim and Receivable [Administrative]

Decision: Different organizations and companies will pay the claim of the BPDB. In this regard power cell will coordinate the issue and will include it in the performance index.

(j) Pending List [Administrative]

Decision: Joint Secretary (Administration) will be the convener of the meeting and he will hold the meeting with the head of other organizations and companies for disposing of the pending matters

**Observations:** In the minutes among 10 agenda, 7 is related to Administrative matters and rest of the 3 agendas are matters related to development.

#### 5.5.4 Power Cell

Power Cell is the operation wing of the Power Division established to assist on various technical issues related to the development of power sector. Power Cell should be manned by sufficient professional staffs. In the past Power Cell has been involved with preparation of Power Sector Master Plan. In future it should be given responsibility to constantly monitor the progress of implementation of Power Sector Master Plan and advise the Power Division/MOPEMR to undertake appropriate measures.

Power Cell should also be given responsibility to carry out policy research on issues (e.g. electricity tariff, governance) and prepare a master plan for Human Resources Development (HRD) for sustainable development of the power sector.

### 5.6 Governance in Action at Bangladesh Power Development Board

#### 5.6.1 Board of Directors

Various activities of BPDB are carried out by the statutory Board of Directors appointed as per BPDB ordinance. The composition of the Board of Directors in 2008 is shown in Table 5.9. All the members of the Board are the full time employees of BPDB.

Table 5.9: List of Board of Directors of the BPDB\* in the year 2008 (till June)

Serial no.	Name	Designation in the Board of Directors
01	A.S.M.Alamgir Kabir	Chairman
02	S.M.Mesbahul Islam	Member (Administration)
03	Md. Fazlul Hoque	Member (Finance)
04	Tapan Kumar Chowdhury	Member (Generation)
05	Md. Mostafa Kamal	Member (Distribution)
06	Md. Delwar Hossain	Member (Planning and Development)

\* All the members of BPDB Board are permanent staff of BPDB.



## 5.6.2 Minutes of the Board Meeting

### I. Minutes of the 1330<sup>th</sup> General Board Meeting of BPDB (06-04-09)

- (a) Approval of the project completion Report (PCR) "Technical assistance for the Corporatization of BPDB". [Development]
- (b) Termination of contract between BPDB and M/S Integral Electric Company, Chittagong against deliverable 100 Nos-11/04KV, 200KVA Distribution Transformer according to contract section GCC 38.1 (Termination for default) and updating Performance Guarantee (PG). ". [Development]
- (c) Purchase of retail machineries for Combustion Inspection of Tongi 80 MW gas turbine power station. [Development]
- (d) Approval of supply of 13 professional engineer/operator and 1 Chinese cook for the Tongi 80 MW gas turbine power station according to the 2<sup>nd</sup> contract time limitation PPR 2003 "section 18e for extending 15% between BPDB and M/S Harbin Power Engineering Co. Ltd.[Administrative]"
- (e) Appointment for the post of Caretaker Engineer.[Administrative]
- (f) The application for granting gratuity of MR. Mollah Moksudul Haque retired Executive Engineer of Gorasha Power Station BPDB Polash Narsingdhi. .[Administrative]
- (g) The application for granting LPR of MR. Abul Moazzam Md. Sufi retired Deputy Divisional Engineer of 50 MW Siddirgonj Power Station BPDB Narayanganj. [Administrative]
- (h) Board decision on Aide memoire sent by KfW Germany for the purpose of execution of pre-paid meter by the financial assistance of KfW Germany.[Development]
- (i) Selling of excess generated power to BPDB by the GPH Chittagong [Development]

- (j) Return of 4% advance Income Tax at the time of payment of company's monthly bill according to the signed contract between BPDB and Energy Prima Ltd. for supply of power from Kumargonj and Sylet 50 MW power plant on rental basis for the term of 3 years. *[Development]*
- (k) Issuing of Disbursement of power delegation of (development and non development) 2009 of the BPDB according to the PPR 2008. *[Administrative]*
- (l) Return of security money against the paid bill under the project of dissolved 16 cities power distribution project. *[Development]*
- (m) Achievement of Commercial operation date of Fencugonj rental power plant in the term of 15 years. *[Development]*
- (n) Achievement of Commercial operation date of rental power plant in the term of 3years *[Development]*
- (o) Achievement of Commercial operation date of small IPP in the term of 3years. *[Development]*

**Observations:** In the minutes among 15 agenda 5 is related to Administrative matter 10 is related to Development matters.

## **II. Minutes of the 1341<sup>th</sup> General board meeting of BPDB (22-06-09)**

- (a) Approval of tender evaluation for execution of the direction and reservation of coal and liquid fuel system of Boropukuria Power Station and direction of 14<sup>th</sup> deep tube well and water treatment plant and direction of chemistry division. *[Development]*
- (b) Issuing of final Acceptance certificate of Khulna 60 mw power plant for rehabilitation of exhaust system of the unit (contract no.09630 dated 10/10/2005) *[Development]*



- (c) Option of the dependants of the deceased officers /staffs during work hour in BPDB [Administrative].
- (d) Promotion in the post of Accountant/finance/commercial director. [Administrative].
- (e) Granting of senior scale (time Scale). [Administrative].

**Observations:** In the minutes among 5 agenda 3 is related to Administrative matters and rest of the 2 matters are related to the development related matters.

## 5.7 Governance in Action at Rural Electrification Board (REB)

### 5.7.1 Board of Directors

Various activities of REB are carried out by the statutory Board of Directors appointed as per REB ordinance. The composition of the Board of Directors in 2006, 2007 and 2009 are shown in Table 5.10, Table 5.11 and Table 5.12 respectively. It may be noted that in the REB Board among the 9 Board Members, 5 are permanent officers of REB. The rest 4 members are from BPDB, BADC, BRDB and BSCIC. Among the 4 out side members BPDB is from the supply side of electricity and the rest 3 members (BADC, BRDB and BSCIC) are from the consumers side of electricity.

Table 5.10: List of Board of Directors of the REB for the year 2006

Serial No.	Name of the officer and designation	Designation in the Board of Directors
01	Dr.A.K.M. Helaluzzaman, Chairman, REB	Chairman
02	Golam Mostafa Kamal, Member Administration, REB	Member
03	Md. Abdul Halim Mollah, Member, Engineering, REB	Member
04	Mr. Mahfuzur Rahman, Member, PBS & Training, REB	Member
05	Md. Khalilur Rahman, Member, Finance, REB	Member
06	Mohammad Rafiqul Hossain, Member, Distribution, BPDB	Member
07	A.S. Nazimuddin Ahmed, Member-Director, BADC	Member
08	Bimal Kumar Kundu, Director-Finance, BRDB	Member
09	Barun Dev Mitra, Director, Planning & Development, BSCIC	Member

Table 5.11: List of Board of Directors of the REB for the year 2007

Serial No.	Name of the Officer and Designation	Designation in the Board of Directors
01	Md. Habib Ullah Majumder, Chairman, REB	Chairman
02	Golam Mostafa Kamal, Member, Administration, REB	Member
03	Md. Mozammel Haque, Member, Engineering, REB	Member
04	Anwarul Kabir Chowdhury, Member, PBS & Training, REB	Member
05	Sheikh Ahmed Ali, Member, Finance, REB	Member
06	A.H.M.Aminul Islam, Member, Distribution, BPDB	Member
07	Kazi Mohiuddin, Member-Director, BADC	Member
08	Md.Abdul Latif, Director-Administration, BRDB	Member
09	Barun Dev Mitra, Director, Planning and Development, BSCIC	Member

Table 5.12: List of Board of Directors of the REB for the year 2009

Serial No.	Name of the Officer and Designation	Designation in the Board of Directors
01	Mr. Bhuyan Safiqul Islam, Chairman, REB	Chairman
02	Mr. Md. Zinnatul Haque, Member, Administration, REB	Member
03	Mr. Md.Nazmul Hossain Chowdhury, Member, Engineering, REB	Member
04	Mr. Md. Mojibur Rahman, Member, PBS & Training, REB	Member
05	Mr. Md. Rezaul Haque Bhuyan, Member, Finance, REB	Member
06	(BPDB)	Member
07	Mr. Md. Sahabuddin Member-Director, BADC	Member
08	Mr. Touhid Uddin Ahmed, Director-Administration, BRDB	Member
09	Mr. Md. Khairul Ananm, Director, Planning & Development, BSCIC	Member

**Observations:** From the above mentioned list of Board of Directors it may be observed that Chairman of the organization is being changed each year and the directors have not functioned more than two years. No directors keep stayed in their post not more than 2 years and another finding is that one person holding the post at a time in different organization.

#### 5.7.2 Minutes of the 1330<sup>th</sup> General Board Meeting of REB (06-04-09)

- (a) Give the current charge on temporary basis against the post of (accountant and finance) of REB [Administrative].



- (b) Construction of REB Academy project building, fixation of loss time frame of the contractor, imposition of charge and for taking legal action [Development].
- (c) Approval of condemnation proposal for unused goods remained in the POBIS construction centre and operation and maintenance store of Sylhet POBIS -2 [Development].
- (d) Proposal no. 01/41/2008 for condonation charge of delay of pending bill of public institution Ms Dock Yard & Engineering Works Ltd, Narayangonj. [Development]
- (e) Purchase of single phase meter against sub package no. 8-9.10lac(GOB0-010/2
- (f) Approval of somity's Board proposal for purchasing of power transformer in the sector of O& M (tender package no.89.gpbs.O& M-07, sub package no.)&M-021)of Gopalganj PBS along with other PBS (Faridpur PBS, Rajbari PBS,Bagerhat PBS,Madaripur PBS and Saryotpur PBS)as lead somity. [Development]
- (g) Approval of purchase proposal no.01/b bo so-o2/2009 for purchasing of 1 phase meter as the O&M goods of lead PBS moulovibazar(tender package no.-89,O&M-06,sub package no.003/2) [Development]
- (h) Approval of purchase proposal no.01/222 /2009 for purchasing of 3 phase meter as the O&M goods of lead PBS Manikgonj (tender package no.-89,Mupbis O&M-01/1,sub package no.002/1) [Development]
- (i) Approval of purchase proposal no.02/222 /2009 for purchasing of voltage regulator as the O&M goods of lead PBS manikgonj(tender package no.-89,Mupbis O&M -06,sub package no.023) [Development]

**Observations:** In the minutes among 9 agenda 1 is related to Administrative related matters and rest of the 8 matters are related to the development matters.

## 5.8 Governance in Action at Dhaka Electric Supply Company Ltd. (DESCO)

### 5.8.1 Board of Directors

Table 5.13: List of Board of Directors of the DESCO in the year 2006

Serial no.	Name of the officer and designation	Designation in the Board of Directors
01	Brig.Gen. (retd) Md. Nazrul Hasan (from 18-07-06 to 12-02-07)	Chairman
	Mr. Md.Abu Taher (from 30-04-06 to 18-07-06) (from 17-04-02 to 27-11-05)	
	Mr.Md. Tauhidul Islam (from 28-11-05 to 30-04-06)	
	Brig.gen.A.A.M.A Rob (from )	
02	Mr. Abdul Hafiz Chowdhury, (MCCI)	Director
03	Mr. Md. Golam Mustafa, Member Finance, DESA	Director
04	Md. Monzur Rahman	Director(Finance)
05	Mr.Qudrate Khuda	Director
06	Prof. Dr.S.M.Lutful Kabir, (BUET)	Director
08	Mr. Mustafizur Rahman, (ICAB)	Director
09	Md Saleh Ahmed Managing Director, DESCO	Director

Table 5.14: List of Board of Directors of the DESCO in the year 2007

Serial no.	Name of the officer and designation	Designation in the Board of Directors
01	Dr.M.Fouzul Kabir Khan (from10-06-07)	Chairman
	A.K.M.Zafarullah Khan (From 13-02-07 to 09-06-07)	
	Brig.Gen.md. Nazrul Hasan (from 18-07-06 to 12-02-07)	
	Md.Abu Taher (from 30-04-06 to 18-07-06)	
02	Mr.Md.Wahid Hossain, ndc (Joint Secretary, Power Division	Director
03	Abdur Razzak, (FBCCI)	Director
04	Md. Monzur Rahman	Director(Finance)
05	Mr.Qudrate Khuda	Director
06	Mr. Muhammad Reazul Islam (Rizu) (IEB)	Director
08	Mr. Mustafizur Rahman (ICAB)	Director
09	Md Saleh Ahmed, Managing Director, DESCO	Director



Table 5.15: List of Board of Directors of the DESCO in the year 2008

Serial no.	Name of the officer and designation	Designation in the Board of Directors
01	Mr.Safar Raj Hossain	Chairman
02	Brig.Gen.Md. Nazrul Hasan	Director
02	Mr.Md.Wahid Hossain, ndc (Joint Secretary, Power Division	Director
03	Mr. Shafiqul Azam, MD, Jibon Bima Corporation	Director
04		Director
05	Dr. S.M Lutful Kabir, (BUET)	Director
06	Mr. Muhammad Reazul Islam (Rizu) (IEB)	Director
07	Mr. Latifur Rahman (MCCI)	Director
08	Mr. Mustafizur Rahman (ICAB)	Director
09	Md Saleh Ahmed, Managing Director, DESCO	Director

Table 5.16: List of Board of Directors of the DESCO in the year 2009 (till August)

Serial no.	Name of the officer and designation	Designation in the Board of Directors
01	Mr.Md. Sahjahan Siddiqe, Bir Uttom (Secretary Retired)	Chairman
02	Mr.Md.Wahid Hossain, ndc (Joint Secretary, Power Division	Director
03	Mr. Md. Reza Sah Alam, Chairman (in charge), BPDB	Director
04	Mr.MD. A.T.M Mortuza Reza Chowdhury, Member (Finance), BPDB	Director
05	Dr. S.M Lutful Kabir (BUET)	Director
06	Mr. Muhammad Reazul Islam (Rizu) (IEB)	Director
07	Mr. Lotifur Rahman (MCCI)	Director
08	Mr. Mostafizur Rahman (ICAB)	Director
09	Md Saleh Ahmed, Managing Director, DESCO	Director

It may be observed from the list of the Board of directors of DESCO that in the consecutive 4 years like 2006, 2007, 2008, 2009 Chairman of DESCO were changed 8 times.

#### 5.8.2 Minutes of the 148<sup>th</sup> meeting of the Board of Directors of DESCO (30-03-09)

- (a) To confirm the minutes of the 147<sup>th</sup> meeting of the Board of Directors [Administrative]
- (b) Compliance on the decision of the 146<sup>th</sup> meeting of the Board of directors [Administrative]
- (c) To consider the technical evaluation report on installation, testing, and commissioning of 33 & 11kv u/g cable at DESCO area against tender no. 32/2008 (group-A, Band C) [Development]

- (d) To review the proposal of selection of consultant for construction of 9 storied office building at Agargoan. [Development]
- (e) To apprise the Board on ADB's comments on the financial evaluation report for the procurement of 11kv and 400 volts aerial Bundelded Cable Accessories against ICB no.36/2007, Lot-C(Group-2) of pacakage-1. [Development]
- (f) To consider the report of the Board Committee pertaining to the grievances filed by some employees of DESCO. [Administrative]
- (g) To eliminate dissimilarities in fringe benefits between DPDC and DESCO. [Administrative]
- (h) To consider the proposed revision in organogram of DESCO. [Administrative]
- (i) To consider employment of 4 nos of Junior Assistant Manager for central control room[Administrative]
- (j) To discuss any other matter with the permission of the chair. [Administrative]
- (k) To apprise the Board with respect to performance of barrister Fida M. Kamal engaged lawyer and engage a new reputed lawyer in this regard[Administrative]
- (l) To consider the proposal to determine the salary level in the approved salary structure of DESCO for the gaurds and head guards to be appointed in compliance with the recommendation of the KPI survey team[Administrative]
- (m) To consider the proposal to repair the Energy meter test benches of DESCO's central testing meter lab. [Development]
- (n) To apprise the Board with respect to complaint raised by some consumers from Mirpur area. [Administrative]
- (o) To apprise the Board about recovery of institutional plot measuring 0.1532 acres at Plot#1/ka, Block-C Avenue#5, Section#6 Mirpur Dhaka1216[Administrative]

**Observation:** If we analysis the minutes we will find that among the 15 agenda 11 is related to the Administrative and 4 are related to Development matter.



## 5.9 Governance in Action at Power Grid Company of Bangladesh Ltd. (PGCB)

### 5.9.1 Board of Directors

Table 5.17: List of Board of Directors of the PGCB in the year 2008

Serial no.	Name of the officer and designation	Designation in the Board of Directors
01	Mr. Khwaja Ghulam Ahmed	Chairman
02	Md. Showkat Ali, Chairman, BPDB	Director
03	Mr.Md.Wahid Hossain, ndc, Joint Secretary (Administration), Power Division	Director
04	Dr. S. Sahnawaz Ahmed, Professor, BUET	Director
05	Mr. Moyeed Roomi, (IEB)	Director
06	Md . Aktaruzzaman Manju (FBCCI)	Director
07	Dr. Jamal Uddin Ahmed, (ICAB)	Director
08	Mr. Quazi Faruque, General Secretary, CAB	Director
09	Mr. Md. Ruhul Amin, Managing Director, PGCB	Director

Table 5.18: List of Board of Directors of the PGCB in the year 2008

Serial no.	Name of the officer and designation	Designation in the Board of Directors
01	Dr. M. Fouzul Kabir Khan, Secretary, Power Division	Chairman
02	Md. Showkat Ali, Chairman, BPDB	Director
03	Mr. Md. Wahid Hossain, ndc, (Joint Secretary (Administration) Power Division	Director
04	A.F.M. Nurul Islam	Director
05	Mr. Moyeedd Roomi (IEB)	Director
06	Md . Aktaruzzaman Manju (FBCCI)	Director
07	Dr.Jamal Uddin Ahmed (ICAB)	Director
08	Mr. Quazi Faruque, General Secretary, CAB	Director
09	Mohammad Safiqul Azam	Director
10	A.B.M.Harunoor Rashid	Director
09	Mr.Md.Ruhul Amin, Managing Director, PGCB	Director

Table 5.19: List of Board of Directors of the PGCB in the year 2009 (till August)

Serial no.	Name of the officer and designation	Designation in the Board of Directors
01	Mr.Dr. Md.Harunur Rashid( Secretary retired)	Chairman
02	Mr. S.M. Alamgir Kabir, Chairman BPDB	Director
03	Mr.Md.Wahid Hossain, ndc, (Joint Secretary (Administration) Power Division	Director
04	Dr.S.Sahnawaz Ahmed, Professor, BUET	Director
05	Mr. Moyeed Roomi, (IEB)	Director
06	Mr.Md. Abu Alam Chowdhury, Vice President, FBCCI	Director
07	Dr. Jamal Uddin Ahmed, (ICAB)	Director
08	Mr.Quazi Faruque, General Secretary, CAB	Director
09	Mr.Md.Ruhul Amin, Managing Director, PGCB	Director

#### 5.9.2 Minutes of 152<sup>nd</sup> Board Meeting of PGCB (06-08-2008)

- (a) Issue related to appoint of manpower against the project setup. [*Administrative*]
- (b) To determine the house rent rate of the officers and staffs. [*Administrative*]
- (c) Evaluation report against the accepted price of the tender named "Supply of steel Members for Transmission Line Towers. [*Development*]
- (d) Approval of the amendment of the proposal related to qualification and experiences existing in the service rules about the appointment of technical attendant. [*Administrative*]
- (e) To change the name of the committee of the appointment and promotion committee as Administrative Affairs related Committee. [*Administrative*]
- (f) Approval of the contract among BPDB,PGCB and Kabir Steel Mill's for connecting the line from unused outside 132 kv barwalia fani transmission line grid sub station to mesers kabir steel rerolling Mills Ltd. Sitakundo Chittagong 132 kv sub station. [*Development*]



- (g) Approval of rent of the committee consisted for renting the the mechenaries of outside 132 kv barwalia commilla 4 k.m. line from barwalia grid sub station and related line bay to kabir steel mill's ltd. [Development]
- (h) Proposal for being the corporate sponsor for ICECE 2008 initiatives taken by IEEE department BUET. [Administrative]
- (i) 9.discussion on Appreciation letter of the ministry for achieving the 100% achievement of PGCB project under FY 2007-2008 under ADP. [Administrative]
- (j) Permission for attending of Mr. Md. Ruhul Amin in a seminer by USAID named as"SARI/Energy – Nomination for executive exchange on examination of European Union Coordination of Transmission of Electricity (UCTE), Belgium. [Administrative]

**Observation:** In the above mentioned among 10 minutes 7 are related to Administrative and 3 are related to Development issues.

## 5.10 Governance in Action at Dhaka Power Distribution Company Ltd. (DPDC)

### 5.10.1 Board of Directors

Table 5.20: List of Board of Directors of the DPDC in the year 2009 (till August)

Serial no.	Name of the officer and designation	Designation in the Board of Directors
01	Mr. Mahbub-ul-Alam Khan (Secretary retired)	Chairman
02	Mr.S.M.Alamgir Kabir, Chairman, BPDB	Director
03	Mr.Muhammad Samsul Kibria (Joint Secretary, Development), Power Division	Director
04	Mr. Md. Alauddin, Chief Executive Officer, DCC	Director
05	Dr. S.Sahnewaj Ahamed, Professor, BUET	Director
06	Professor Musha, United International University	Director
07	Mr.A.K.M Delwar Hossain FCMA (ICMAB)Dhaka	Director
08	Mr. Safiullah, FBCCI	Director
09	Mr. Md Ataul Masud, Managing Director, DPDC	Director

#### 5.10.2 Minutes of the 36<sup>th</sup> General board meeting of DPDC (24-06-09)

- (a) Discussion on the execution of the board meeting of last 3 months. [Administrative]
- (b) Approval of the budget of fiscal year 2009-2010 and revised budget of 2008-2009 of DPDC. [Development]
- (c) Purchasing of 200 units 11/0.4 kv 200 kva transformer immediately for emergency preservation and rehabilitation due to finising the essential transformer. [Development]
- (d) Payment of bill of Law Adviser of DPDC. [Administrative]
- (e) Purchasing of power from captive power plants. [Development]
- (f) Infoming the purchasing proposal of 50 barrel cable fluids from M/S H & S Chem Pharm (UK) Ltd. U.K. for the Ulon Dhanmondi oil field and others 132 kv oil field cable as proprietary item. [Development]
- (g) Giving opinion on the "Draft final report on implementation of immediate Action plan of power sector financial restriction and recovery plan submitted by M/S Ernst & Young Pvt. Ltd. [Administrative]

**Observations:** In the minutes among 7 agenda 4 is related to Administrative and rest of the 4 matters are related to the Development matters.

#### 5.11 General Observations on Governance System of Different Electricity Companies

Under the power sector reform process vertically integrated BPDB has been gradually divided into number of companies along the function line of operation (generation, transmission, distribution) under the Company's Act 1994. BPDB in its present (2009) form has got the following functional responsibilities: overall coordination, power purchase from IPPs, generation distribution. In future residual generation and distribution functions should also be placed under independent companies. For further improvement of power sector, overall coordination of power sector should be given to BPDB and all the public sector power



companies should be placed under BPDB's control, establishing BPDB as a holding company. Power purchase from the IPPs may be the responsibility of BPDB holding company.

The composition of management board of different electricity companies should be selected with due attention to supply and demand side representation.

Characteristic feature of typical decisions taken by the Power Division and different companies have summarized in Table 5.21.

Table 5.21: Classification of Decisions Taken by the Power Division and Other Companies

Organization/companies	Date of meeting	Administrative Agendas	Development Agendas	Total Agenda
Power division (coordination meeting)	06-05-09	07	03	10
Power division	04-11-08	00	09	09
Power division	22-10-08	00	14	14
BPDB	06-04-09	05	10	15
BPDB	22-06-09	03	02	05
REB	06-04-09	01	08	09
DPDC	24-06-09	04	03	07
DESCO	30-03-09	11	04	15
PGCB	06-08-08	07	03	10

It may be observed that majority of the agendas were related to development issues. A systematic study of decision taken by a particular organization over a reasonable period of time (one year) could provide some idea in improving governance aspects.

## **6.0 FINDINGS AND SUGGESTIONS**

### **6.1 Limitations**

It has been reported that the power sector of Bangladesh has not performed satisfactorily. Coordinated actions of a large number of organizations have been necessary to achieve satisfactory performance. The main objective of the thesis has been to identify the weaknesses of the governance process of the power sector and suggest appropriate measures to improve the overall performance. An attempt has been made to systematically study the governance aspects of the power sector at different levels starting from top up to the levels of different organizations involved in providing electricity services. Due to shortage of time it has not been possible to study the governance issues of all the related organizations with uniform attention. As a result, the findings have been presented below along with the limitations of the study.

### **6.2 Findings and Suggestions**

It is recognized that the Parliament is the top most institution for enacting appropriate laws and providing guidelines for the development of different sectors. It has not been possible to study the proceedings of the previous parliaments to assess the discussions and decisions on energy and power related issues.

The Parliamentary Committee may consider inviting independent experts to brief them on specific issues related to energy and power.

The Cabinet is the highest level institutions responsible for making decisions on development of different sectors including power sector. It has not been possible to study the decisions of the cabinet related to power sector development and their status of implementation during the tenure of previous governments.

It has been observed that during last 15 years that the head of the government has been in charge of the Ministry of Power, Energy and Mineral Resources assisted by one or two State Minister. It is opined that there is a need for constant attention by an independent Minister for the development and management of MOPEMR under the overall guidance of the Prime Minister (Islam 2009).



Previously two Energy Advisor Committees were formed for the two divisions of the Ministry to advise on matters related to Energy Division and Power Division respectively. It is suggested that in future one Advisory Committee should be formed for advising on different matters related to both energy and power (Islam 2009).

There is good potential to reduce approval time of development projects by the Planning Commission. There is a need to pay serious attention to expedite the approval process.

BERC has earned the confidence of the stakeholders in fixation of tariffs of natural gas and power. BERC's orders to revise the bulk power tariff of BPDB in 2008 and natural gas tariff in 2009 have been accepted by the consumers. BERC should be allowed to function independently as per BERC Act 2003.

It takes quite sometime for a new Secretary to be familiarized with the administrative affairs of the division. It is a very difficult task for a Secretary to make meaningful contribution for the development of power sector for a short duration stay in-charge of division. Senior levels decision makers should be posted for at least for 3 years for making effective decisions for the development of the sector.

Power Cell should be manned by sufficient professional staffs. In future along with preparation of the Power System Master Plan, it should be given responsibility to constantly monitor the progress of implementation of PSMP and advise the Power Division/MOPEMR to undertake appropriate measures. Power Cell should also be given responsibility to carry out policy research on issues (e.g. electricity tariff, governance) and prepare a master plan for Human Resources Development (HRD) for sustainable development of the power sector.

BPDB in its present (2009) form has got the following functional responsibilities: overall coordination, power purchase from IPPs, generation distribution. In future residual generation and distribution functions of BPDB should also be placed under independent companies. For further improvement of power sector, overall coordination of power sector should be given to BPDB and all the public sector power companies should be placed under BPDB's control, establishing BPDB as a holding company. Power purchase from the IPPs may be the responsibility of BPDB holding company.

The composition of management board of different electricity companies should be selected with due attention to supply and demand side representation and the position of the Chairman of the Boards should not be changed frequently.

### **6.3 Concluding Remarks**

It is envisaged that if the various suggestions made by the present study are implemented it may help in strengthening power sector through good governance. Future research suggested by the study if implemented would help in further improvement of governance.



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