



ENERGY SECTOR REFORM IN INDIA – A STUDY OF SOCIO-ECONOMIC AND ENVIRONMENTAL SUSTAINABILITY

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Abstract

Despite initial hesitation and resistance, worldwide changes in economic and financial imperatives and enactment of Electricity Act, 2003, have led to gradual acceptance by almost all the states of India the need for reform in power sector to face challenges of achieving financial viability and to attract FDI or private capital for modernization and capacity expansion. This paper focuses on the power sector reform in India and investigates socio-economic and environmental sustainability of such reform in the light of experience in some selected states. It is observed that reform in this sector is passing through difficulties and amidst controversies particularly, in respect of the model of reform. In the reform process, environmental soundness seems to have taken back seat and down slide in rate of return on public sector assets continues raising doubt as to the correctness of the World Bank prescribed model of reform. Eco-friendly technology development needs to be integrated with the ongoing reform process and a perfect mix of renewable and nonrenewable energy resources utilization is essential.

Introduction

India the largest democracy of the world with a growing population of over one billion is targeting an ambitious economic growth at the rate of 10 per cent over the next two decades. This economic growth coupled with the growing population needs a massive increase in supply of energy – the basic input to the socio-economic development. To bridge the gap between demand and supply (which is conservatively estimated at 11% to 18% during the peak hours at the end of 2005) and to ensure supply of this crucial input to development in a cost-effective, efficient and yet sustainable way India started its power sector reform in 1991 with the amendment of Electricity (Supply) Act. Initially such reform process faced resistance. However, when power sector was repeatedly being pointed out as a major constraint to economic development, when the sector continued to be a huge drain on state budget and when the Electricity Act 2003 forced the inevitability of total reforms in the electricity sector almost all the states accepted the need for reform at least in principle amidst the worldwide changes in economic and financial imperatives. But the model of reform that stresses on mandatory unbundling or dismantling of the SEBs is still being opposed in many states as out of eight SEBs that have gone for unbundling, five SEBs still continue to be plagued with high level of technical and commercial losses.

The Back Ground-Energy Sector in India Prior to Reform

In pre-independence India, Indian Electricity Act, 1910 provided for private participation in the energy sector. But up to the independence period, India's vast rural population had hardly any access to electricity. In post-independence India, the Electricity (Supply) Act, 1948 (with subsequent amendments) and Industrial Policy Resolution, 1956 paved the way for development of the current vertically integrated state-owned public sector electrical utilities – the State Electricity Boards (SEBs). For efficient techno-economic system planning, a central Electricity industry made significant efforts to bring energy services to its vast population and the compounded annual growth rate in per capita electricity consumption reached 6.04%. Through formation of Rural Electrification Corporation, all attempts were made to enhance access of the rural poor to electricity. Government efforts were also directed towards development of renewable energy technologies like biogas, solar energy, wind energy etc. Often high subsidies were provided for development of the renewable and clean energy technologies.

Extent of Reform in Indian States Since 1991

Reform in India is based on World Bank ideology in which ill health of the public sector power industry is attributed to excessive size, over-manning, and excessive centralization, and government monopoly, absence of competition, political interference, inefficiency and subsidies. Naturally, methodology adopted in reforming the power industry consisted of removal of government control, removal of subsidies, privatization and unbundling generation, transmission and distribution of electricity. In India, energy sector is in the concurrent list of the state governments and the central government hence both can enact legislation. Government of India initiated the reform process through amendment of the Electricity (Supply) Act in 1991. Reforms at the state level has either been carried out or are being carried out through organizational restructuring aimed at unbundling generation, transmission and distribution, their commercialization and management through small, manageable entities. Organizational reforms at the national and regional level is being carried out by freeing the central sector agencies from tight government control, by reducing government's equity enabling private participation on joint-venture basis. A central electricity regulatory commission was set up 1998 to rationalize power tariff. Subsequently state level Electricity Reform Acts were passed. Orissa, one of the poorest states in India was the first state to start reform in 1995.



Orissa set up an independent regulatory commission, unbundled generation, transmission and distribution. Distribution was privatized in 1998-99 when the state was divided into four zones for the purpose. Gradually other states followed Orissa State level Electricity Reform Act was then gradually passed by the states of Haryana, Andhra Pradesh, Uttar Pradesh, Karnataka, Rajasthan, Madhya Pradesh, Delhi and Gujarat. The State Electricity Reform Act basically provide for unbundling and corporation of SEBs and setting up of State Electricity Regulation Commission (SERC). The SEBs of Orissa, Haryana, Andhra Pradesh, Uttar Pradesh, Karnataka, Rajasthan, Madhya Pradesh, Delhi and Uttaranchal have been unbundled and corporatized. Twenty two states out of 29 states of India accepted power sector reform policy of the central Government and have set up State Electricity Regulation Commission.

In Terms of Social, Economic and Environmental Sustainability

The power sector reform initiated with the onset of economic liberalization in the beginning of the 90s has so far passed through difficulties and amidst controversies. There were serious objections against such reform in India as it was apprehended that privatization or market-driven reform would lead to the total neglect of the poor; it would lead to large-scale retrenchment of the employees engaged in the sector; it would lead to escalation of the tariff of electricity which eventually would deny access to electricity by the poor people. Success of this reform depends mainly on its social, economic and environmental sustainability.

Social Sustainability

Experience of the Asian power sector reform shows that such reform results in loss of jobs (South Korea) [2], hike in power price (Orissa, India) and hinders rural electrification and instead of widening access reduces accessibility to electricity by the poor (Orissa). Social sustainability of the reform in energy sector may be measured in terms of widening of access to electricity by the people, extent of electrification, levels of electrification, and consumption of electricity and direct or indirect benefit that trickle down the masses.

Economic Sustainability

Power sector reform in India was taken up in the 90s, largely out of economic compulsion rather than conviction, rapidly deteriorating financial health of the power sector on one hand and the need for FDI or private capital for capacity served as the driving force of the reform process.

Efficiency Enhancement through Unbundling and Privatization

To induce efficiency in the ailing power sector, vertically integrated SEBs are being unbundled and separate entities for generation, transmission and distribution have either been formed or are in the process of formation following World Bank guidelines.. Distribution is being privatized gradually. In a few states like Orissa, such privatization of distribution has been extensive.

Tariff Rationalization

Distortion in tariff structure is cited as the major cause for poor cost recovery in the electricity sector in India. Power sector reform in India has been basically driven by tariff philosophy. Electricity Regulation Act, 1998, stipulates phasing out of cross subsidies for rationalization of tariff. Tariff rationalization is a very delicate issue in India.

Subsidies and Cross-Subsidies

In tariff regulation, subsidies and cross- subsidies play very significant role. In Orissa, the state government withdrew subsidy even during the transition phase resulting in hardships for the consumers. Again continuance of such subsidies in the long run affects the target groups in terms of poor, inefficient, inadequate and highly interrupted power supply.

Environmental Sustainability

Ongoing, power sector reform in all most all the Asian countries – India, Indonesia, Malaysia, Taiwan, South Korea, Thailand etc. is contributing significantly to environmental degradation. Dogmatic insistence in raising FDI [13] is almost invariably translating into justification of new fossil-fuelled power plants. The inextricable link between the environment and development that when people are poor the environment suffers and vice versa has further aggravated this environmental degradation [14].

Conclusion

Worldwide changes in economic and financial imperatives, deteriorating financial health of the sector and overwhelming dependence on the state budget on one hand and requirement of capital for capacity expansion to bridge the growing demand-supply gap of energy on the other hand have played vital role behind the on going reform (from the 90s) in the Indian power sector. So far twenty two states of India out of twenty nine states, have accepted power sector reform policy of the Central



Government, enacted state level legislation and set up electricity regulation commissions. Reform in the state level has been either carried out or is being carried through organizational restructuring aimed at unbundling generation, transmission and distribution of power, commercialization and management through small entities. Internal reform, stringent provisions for transparency and accountability may also go a long way in improving the status of the ailing power sector. Modernization of any industry with time is essential to sustain its operational efficiency and the responsibility for doing so lies with the management accountable and efficient management is of paramount importance for financial viability of the power sector in India. Environmental sustainability of the reform process has remained questionable. Reform has encouraged fossil-fuelled power plants setting aside long term vision for the eco-friendly technology of the future. Hydel power generation has substantially gone down against sharp increase in the thermal generation. Much of the pre-reform thrust on eco-friendly technology development and tapping of renewable energy resources like solar, wind and bio-fuels. A perfect mix of renewable and nonrenewable energy resources in power generation can turn the energy sector development environment benign.

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