

A Research Proposal submitted for "Global Development Award for Outstanding Research" in Development Competition 2003 under the category `Reforms, interest groups and civil society`.

**IMPACT OF THE DISTRIBUTION OF COSTS OF REFORM
ON THE PACE OF INSTITUTIONAL REFORM IN
DEVELOPING COUNTRIES**

**A PROPOSAL TO STUDY POWER-SECTOR REFORMS IN DIFFERENT
STATES OF INDIA**

A. OUTLINE OF THE STUDY

A1. Introduction and justification of the study

The manner in which the distribution of costs of economic reform among different sections of society affects the pace of reform has been the focus recently of a number of studies¹. (Fidrmuc and Noury (2002) provides a review of literature on this issue prepared as part of the `understanding reform' project of GDN). The study proposed here aims at assessing the impact of the distribution of costs and benefits of reform on the pace of power-sector reforms in different states of India.

Generation, transmission and distribution of electricity are being carried out by the public sector organisations namely State Electricity Boards (SEBs) in all states of India (barring a few metropolitan areas) and these organisations are financially non-viable (Government of India, 1996; Rao et al, 1998, Morries, 1996). Financial difficulties are mainly due to the burden of providing power at subsidised rates to some sections of consumers (mainly farmers and residential consumers) without compensation from the government (where governments have provided compensation it has led to fiscal crises).

¹ Some of the theoretical issues in this regard are reviewed in Drazen (2000), Roland (2000, 2002) and Persson and Tabellini, 2000).

Inefficiencies of the organisations (Kannan and Pillai, 2001a, 2001b; Pillai and Kannan, 2001), partly facilitated by the state ownership and lack of autonomy, accountability and adequate incentives for their employees have also contributed to financial difficulties. Thus SEB's are not in a position to generate and distribute adequate electricity which has led to deterioration of the quality of supply and increased the effective cost of power for industrial producers. It is in this context that the Government of India initiated power sector reforms in the early nineties. The initial phase saw private participation in power generation with government guarantees on assured return on capital, but it did not succeed as the basic problem of the financial non-viability of SEBs was not addressed. This led to several state-level initiatives to reform SEBs, including unbundling, making corporations or privatisation of distribution and institution of regulatory bodies². However the states are at different stages of power sector reform and the pace varies from state to state. This study aims at to understand the extent and pace of power sector reforms in various Indian states using a political economy framework.

The study would contribute to the emerging literature on the political economy of economic reforms for the following reasons:

1. Empirical evidence on interest group support for reform is scarce and empirical studies in developing countries are constrained by the fact that for most part reforms were initiated only recently and comparable data is not available

² There is an issue whether the reforms already initiated in India, for example the ideas enshrined in the Electricity Act passed by the Indian parliament in 2003, are the right kind of (or sequencing of) reforms to achieve efficiency and financial viability, given the market failures associated with provision of electricity. (See Bhattacharya and Patel (2003) for a discussion on how information asymmetries affect market-oriented reforms in infrastructure services such as electricity.) Popular aversion to institutional change in the Indian power sector (including the use of competition) as well as the 'support' for unfettered competition in some circles, do not seem to be based on a meaningful analysis of market failures associated with the sector. There may be optimal combinations of regulation and competition, ideal for different stages of growth of the sector and other socio-economic variables. However this issue of 'ideal reform' is not much relevant for this study, since many Indian states are yet to make any serious attempt to reduce the loss of SEBs, improve its efficiency, and to have a fully functional regulatory process. This study could focus on certain broader targets of reform like institution of regulation, achievement of financial viability, steps to make organisations efficient etc. in order to evaluate the performance of different states.

(Fidrmuc and Noury 2002),³. Empirical and statistically valid literature explaining the causes or determinants of reform is scarce though there are a number of case studies (Drazen 2000)⁴. In this context, the power sector reforms in the Indian states, initiated since the early nineties and struggling with different socio-political contexts could provide comparable data and generalizable insights on the determinants of political support for reform.

2. Most research from the 'new political economy'⁵ perspective have analysed political support for macro-economic reforms (or economic reforms in general)⁶ or changes in trade policies or labour legislation. However, the determinants of political support for reforming institutions providing public goods (and others traditionally provided or regulated by the state) such as water supply, electricity and other infrastructure such as roads, in developing countries are rare⁷.
3. A study of the determinants (or broadly facilitating/discouraging factors) of power sector reforms can be an important contribution to the understanding of Indian economic reforms. A recent stock-taking of reforms in India points out that the existing public utilities in power sector are the single largest contributor of fiscal deficits in the country and the efforts to reform power sector⁸ have not

³ As noted by Fidrmuc and Noury (2002), the limited empirical literature includes the case studies in Bates and Krueger (1993) and Williamson (1994), Fidrmuc (1999, 2000a), Warner (1999), Bell (1997), Jackson et al (2001), Pacek and Radcliff (1995), Pacek (1994), Edwards and Steiner (2000) and Teichman (1997).

⁴ The IMF working paper by Abiad and Mody (2003) makes an attempt to test hypotheses regarding the determinants of financial sector reform.

⁵ As noted by Bardhan (1997), the use of incentive analysis as part of political economy to analyse the governance problems of developing countries has started only recently. He has analysed issues such as corruption, centralisation and ethnic conflicts.

⁶ For example, Weyland (2002) analyses political decision-making in terms of general economic reforms in the context of a few Latin American countries.

⁷ There are a couple of studies carried out by Bourguignon and Verdier (2000) on education. Bernard and Roland (1997) used median voter preference to explain why governments are reluctant to institute marginal cost pricing in the case of publicly owned electricity utilities, in the context of Canada.

⁸ The institutional issues and options for reforming Indian power sector are discussed in Dossani and Crow (2001). The performance of the state level public utilities in Indian power sector is analysed by a number of studies including Rao et al (1998) and Morris (1996). There are a number of writings critical of ongoing reforms in power sector in India including Phadke and Rajan (2003) and Kannan and Pillai (2001b).

been very successful so far (Singh and Srinivasan 2002). This can be reckoned as an important item of unfinished agenda of reforms in India. Thus the need for analysing the reasons for the difficulties in implementing power sector reforms in India. In this context, understanding the determinants of political support for reforms is an important step.

4. There are indications that pressures from different sections of society and its impact on political decision-making are a major factor for the not-so successful attempts to reform the power sector in Indian states. For example, in the state of Kerala reform in power sector would causes no loss to the majority of poor, even though the political legitimisation for not going ahead with the reform was that it would affect the poor (Santhakumar, 2003a). In fact, the middle class would have been the major losers (the median voter happens to belong to this section) and this has discouraged political parties from implementing reforms that would be socially beneficial in the long run. Given this context, only very small changes (or marginal reforms) have been effected so far. On the other hand, in the state of Assam, where only 25% of the population have access to electricity and the quality of supply is very poor, the prevailing situation is one of less opposition to more drastic reforms (Santhakumar, 2003c). In a number of states, the high level of subsidy on electricity received by farmers is not only a major source of financial difficulty for public utilities, but also the main bottleneck in reforming the power sector. Thus the need to study the political economy of power sector reforms in India⁹.
5. The theoretical literature unravels the role of the following factors influencing political support for reform'. A war of attrition in which each group waits for the other to bear a disproportionate share of adjustment costs (Alesina and Drazen, 1991); the crises¹⁰, uncertainty of benefits at the aggregate and individual

⁹ Though there are studies titled as political economy of power sector reform as Morris (1996) and Kannan and Pillai (2001b), the distribution of costs and benefits of reforms and its impact on political support of reform have not been analysed in India, except for Kerala carried out by this author (Santhakumar, 2003a).

¹⁰ See Williamson (1994), Rodrik, (1994), Drezen and Grilli (1993), Bruno and Easterly (1996) and Drezen and Easterly (2001) on the role of crises in facilitating reform.

levels¹¹; the problems associated with giving commitments on ex-post compensation ex-ante, lobbying by interest groups¹², level of democracy of government¹³ and the impact of ideology of parties¹⁴, on the pace of reforms¹⁵. The dynamics of political support has also attracted the attention of a number of scholars (Williamson, 1994; Rodrik, 1996; Fidrmuc, 1999). Median voter preference has been used to analyse this issue (Alesina and Rodrik, 1994; Persson and Tabellini, 1994; Bernard and Roland, 1997), and the broader role of the middle class has been discussed (Birdsall, 2001). Yet we have not seen analysis of the systematic relationship between the characteristics of losers (or winners) such as their economic position and their population size and the political readiness to implement institutional reforms in a democratic society¹⁶. This study is an attempt in the direction of such an analysis.

6. 'Non-economic' factors such as the quality of leadership¹⁷ (at the political and bureaucratic levels), level of social capital¹⁸, ideology of political party at

¹¹ See Fernandez and Rodrik (1991) and Dewatripont and Roland (1992a, 1992b) for treatments on uncertainty in this regard.

¹² For discussions on the role of interest groups see, Krueger (1993), and Hellman (1998).

¹³ The discussion on whether autocratic governments or democratic ones are better positioned to implement reforms can be seen in Williamson (1994), Cheung (1998), and Fidrmuc (2003).

¹⁴ The discussion on whether left-wing or right-wing parties can implement reform easily can be seen in Williamson (1994), and Cukierman and Tommasi (1998).

¹⁵ See reviews such as Rodrik (1996) and Fidrmuc and Noury (2002). Rodrik (1996) distinguishes one set of empirical studies that focuses on myopia and irrationality of actors, and other set which tries to explain how the interaction of rational actors itself could block even those reforms that are beneficial to society in overall terms.

¹⁶ Fidrmuc (2000) notes that support for reform is negatively affected by unemployment and by the proportion of retirees and blue-collar and agricultural workers, and positively affected by size of private sector and the higher white-collar workers. However the situation can be different in countries such as India for particular reforms where white-collar workers and some sections of private sector can be the beneficiary of non-reform. Similarly it is to be seen whether poorer people can positively affect reform even if they are numerous and beneficiaries of reform.

¹⁷ The risk-taking role of leadership is discussed in Weyland (2002).

¹⁸ The concept of social capital is developed in Coleman (1990), and Putnam (1993) and recently reviewed in Dasgupta and Serageldin (2000).

government¹⁹, can influence the nature, extent and pace of reforms²⁰. Though quantitative data analysis on such issues are difficult in any context, a systematic comparative analysis is meaningful in contexts where reforms are being implemented one broad framework (so that the influence of some variables can be neglected), but with differences on specific parameters. Power sector reforms in different states of India provide such a context and can be used to study the influence of these non-economic variables.

A2. Objectives of the study and analytical framework

The proposal is to analyse the determinants of the differential nature, extent and pace of power sector reforms in the Indian states. Specifically I will examine the influence of the distribution of the costs and benefits of reform (or non-reform) among different sections in society on the pace of power sector reforms. The following questions will be taken up.

1. What are the key achievements in power sector reforms in about 20 major states of India?
2. Which are the key variables (including non-economic variables) that could explain the differences in performance of power sector reforms in these states?
3. How does reform in the power sector affect different sections of the society in each state? There are the following three levels of costs (and benefits) to each individual or household: (1) The subsidy they receive for the electricity they consume? (2) What they lose (or suffer) for the poor quality of supply of electricity or what they would be willing to pay for better quality of supply? (3) Extent of lose (or gain) on account of non-viability (and inefficiency) of the power sector, including the

¹⁹ The economic analysis of whether right-wing government or the one on the left wing is better placed to implement is reform is discussed in Williamson (1994) and Cukierman and Tommasi (1998).

²⁰ The importance of non-economic variables in explaining the pace of reform has been recognised by the economists themselves. For example, Roland (2002: 46) notes that 'it becomes necessary to have a more comprehensive picture of initial conditions, including political and sociological variables, to have a more precise idea on their effect on the initial choice of institutions as well as on economic policies'.

losses due to the fiscal problems of the state arising out of the non-viability of power sector?

4. How does the distribution of costs and benefits (or net costs and net benefits) affect the pace of power sector reforms in different states? Given that the policy and legal framework of the Government of India provides some commonality in the broad contours of power sector reforms that can be adopted by the states, it is the detail and the pace of reform that differ significantly between states. Hence are there some general patterns in the relationship between the distribution of net costs and the pace of reform based on the experience of Indian states?

The study will draw upon the broad outlines of the 'new political economy' framework. Political decisions regarding the pace of reforms are influenced by the incentives (and net benefits) which determine an individual's decision to support/oppose reform, that gets communicated to or internalised by political decision-makers. The net benefit (or net cost) is determined by the direct costs (for example, potential loss of subsidy due to reform), indirect gains in term of electricity consumption (for example, the reduction in expenditure on supplementary equipments due to the improvement in quality supply), and also the indirect gains in economy or public service as a whole due to the improvements in power sector. It is assumed that reforms would provide net positive gains for the society as a whole in the long run. However, specific sections of society may lose in the immediate context and there can be institutional problems in providing them compensation or giving credible commitments to compensate them ex-ante. (The uncertainty at the aggregate level on future benefits would determine the expected future benefits and influence the assessment of net benefit) Depending on the position of the losing sections in the income ladder or voting spectrum, their influence on political decision-making varies, and under certain circumstances even a minority of losers could discourage politicians in a democratic set up from going ahead with reform (even if their lobbying power is overlooked²¹). The central objective of the study is to explore the relationship between the size and position of losers (in income ladder and voting spectrum) on the one hand and the pace of reform on the other hand.

²¹ A review of the literature on the role of lobbying by interest groups can also be seen Fidrmuc and Noury (2002).

In addition, the study would also explore the possibility of analysing the influence of non-economic variables such as quality of leadership, level of social capital, ideology of party at government, etc. on the pace of reforms²². A few multi-country studies have used variables such as crises, shocks, democracy, and demonstration (learning) to explain the differential pace of reforms²³ (Nelson, 1990; Lora, 1998; Abiad and Mody, 2003; Quinn, 2000; Simmons and Elkins, 2001; Rajan and Zingales, 2002). Though wide differences in political and institutional factors are unlikely in the Indian states, variations in their political and social structure -- the incumbency of a regional as against a national party at the state level, the relative independence of a chief minister, aspects of civil society such as social capital, literacy rate, and so on -- can be captured through similar multi-state exercises to assess the determinants of power sector reforms in India. It may be insightful to know whether the reform in a state has a demonstration effect on states situated close to it geographically. These factors could also be analysed within the (game theoretic and new) institutional framework, which suggests that that rational choices by individuals and groups need not necessarily lead to socially efficient outcome in all situations (especially those with public goods features, coordination problems, etc.) and here leadership, social capital, etc. may have a co-ordination function (in one-shot exchanges or in repeated interactions)²⁴. However, the empirical component of this part of the study would be to see whether such non-economic factors have played a key role in making the performance of power sector reform different in one context among a number of cases having similar economic parameters.

A3. Main testable hypotheses

1. ***The losses or gains for poor due to reform are unlikely to influence the pace of power sector reform in Indian states.*** Available evidence indicates that major sections of poor are deprived of benefits from the existing framework of the

²² A number of studies have analysed the role of these and other variables such as democracy, etc. on the implementation of reforms in different countries. For a review, see Liew and Bruszt (2003). Abiad and Mody (2003) is an attempt to test the influence of shocks, learning and ideology and structure on financial sector reform.

²³ Whether reform in one region induces in nearby regions through demonstration effect is the issue here.

²⁴ A number of studies discussed in Weyland (2002) recognises the importance of leadership beyond the cost-benefit calculations of conventional rational choice theory, as evident from the bold initiation of market reforms in Latin America that carry tremendous economic and political risks.

power sector. One indication of this is the low connectivity of power supply among the poor in almost all states. Only a small section of the poor is connected to the grid, and hence only this minority among the poor receive the benefit of subsidised power supply provided to domestic consumers. (The poor are more likely to be employed in less power consuming industry and in agriculture and their level of employment is likely to be inversely related to power consumption. There is also counter evidence indicating more employment in situations of green revolution where crop productivity is enhanced by the increased use of inputs including power). Even in states, where the government uses a significant part of its public finance to sustain the power sector such spending does not benefit the poor for they are not connected. Moreover, high spending and consequent fiscal incapacity of the state government affects the poor negatively in two ways, first by reducing overall a state's ability to extend connections to them and secondly by reducing resources for other public services that benefit them. Thus non-reform is likely to be more costly for most of the poor. However it is hypothesised that their losses/gains are unlikely to affect the political decision-making significantly.

2. ***If middle class is the net loser (and has the median voter) reform is likely to be delayed.*** There are situations as in Kerala (Santhakumar, 2003a) in which the middle class currently receive very high levels of subsidy (to the tune of more than 50 per cent of average cost of production) in the price of electricity. Directly or indirectly the government has been shouldering the burden of subsidy. Part of this burden might also be borne by other sections of domestic and industrial consumers. The rural middle class and rural elite (which might also be part of the overall middle class when rural and urban population are taken together) would be receiving subsidised electricity not only for home consumption but also for irrigation. In spite these benefits of non-reform, middle class may also be bearing the costs of non-reform in the form of additional expenditure due to the poor quality supply, and indirect losses arising from a non-viable power sector. However there may be net gains for the middle class when these costs are also accounted. In such cases even if this middle class is not numerically powerful, their position in voting spectrum (if they include the median voter) can make

them decisive politically, especially when two very powerful political parties compete against each other. This issue will be explored in this study.

3. *Left of centre political parties (or almost all political parties in India²⁵) tend to implement reform strategies, which they oppose while in the opposition or vice versa.* There is ample anecdotal evidence to show that political parties when are in power are concerned about fiscal difficulties created by excessive subsidies for consumption of electricity to specific sections of society but when out of power take a milder view of the situation or oppose steps to improve it and encourage popular agitations. In fact the incentives of competing politics create a 'prisoner's dilemma' situation where the inability to agree on certain minimal strategies prevent the realisation of socially beneficial reforms. **(A reform oriented federal policy framework could play a role in partially solving this 'prisoner's dilemma' problem.)** This seems to be the situation pertaining to the heavy subsidies for electricity for irrigation in a number of Indian states. A detailed analysis of this issue is proposed as part of this study.
4. *Higher the level of consumption of majority of domestic consumers, the easier to implement reforms* There is a trade off between the subsidy received by individuals for electricity and the quality of power supply. (Even though there is a broader trade off between subsidy and quality of other public services, it may not be self evident). If people consume or need more electricity, the expenditure due to poor quality of supply may outweigh the amount of subsidy they receive from power consumption and they become net losers. This can be an incentive to support (or not to oppose) reforms.

A4. Methodology including data sources

This study proposes to cover the following major states of India: Kerala, Tamil Nadu, Karnataka, Andhra Pradesh, Orissa, Madhya Pradesh, Maharashtra, Gujarat, Uttar Pradesh, Bihar, West Bengal, Assam, Haryana, and Punjab. The capital city of Delhi and two other metropolitan cities namely Mumbai and Kolkatta will also be considered but treated separately. Information on the following aspects would be required for this study.

²⁵ All political parties in India including the Hindu nationalist party of BJP try to claim rhetorically to represent the interests of poor and farmers.

(1) The status of reforms and key performance variables of power sector in each state; (2) Distribution of subsidy for consumption of electricity among different sections of society; (3) The expenditure incurred by people belonging to different sections due to the poor quality of power supply (4) The potential losses to people due to the problems in economy and public finance management created by the non-viability of power sector (5) Qualitative information on the role of non-economic factors such as quality of leadership, level of social capital on pushing/blocking reforms.

The data sources and/or methodology to test each hypothesis are given below.

For (1): The annual compilation by the Planning Commission (Power and Energy Division) of Government of India, on 'the working of State Electricity Boards (SEB) & Electricity Departments, provides data on financial and physical performance of each SEB. Recently it has also been providing information on the steps taken by each state to reform its power sector. Macro data on the coverage of electricity connections, use of electricity and other sources of lighting, and the relationship between electricity connections and the social and economic (income, consumer expenditure, asset ownership) characteristics of population in each state can be obtained from different rounds of well known sample surveys such as National Sample Survey (NSS), and National Family Health Survey (NFHS) carried out in India. For comparative analysis, the level of reforms in different states have to be measured. In this study, measurement of 'reform' will be taken up in terms of certain broad or generic 'steps' rather than in terms any specified process of reform. For example such generic criteria can include, institution of a fully functional regulator, the gap between recovered tariff and cost, steps to enhance organisational efficiency, etc. This is adequate at this stage in India, as many states are yet to take effective steps in this regard. Even in states where some explicit steps such as privatisation have been attempted, adequate complementary institutional changes are yet to be taken in terms of generic criteria. Moreover, political support is closely linked to these generic criteria. Reliance on these generic criteria in this study would avoid having to consider the specific reform strategies, such as particular combination of competition or regulation, or a particular mode of privatisation followed in any Indian state as ideal or not. (Some of these strategies may not be the ideal one even on pure efficiency grounds.) Attempts will be made to assess the degree of reform achieved by each state based on the policy dimensions or generic criteria through

aggregation. In doing this, the broad principles of aggregation followed for assessing the degree of financial liberalization for different countries by the IMF study (Abiad and Mody, 2003) will be used here. (In this case six indices of reform were selected and each of it takes values between 0 and 3 - in the ascending order of the degree of reform- and the aggregate index is based on the sum and it takes the values between 0 and 18). Similar approach in the selection of indices and appropriate aggregate measures will be developed to assess the degree of power sector reform achieved in each state.

For (2): Though one would expect that the each SEB would have compiled information on who among its consumers gets how much subsidy, my experience with two state electricity boards in Kerala and Assam, shows that such information is not available in a readily usable form. Tariff rates are known but these are telescopic rates (for instance: 1 Rupee for first 50 units and 2 Rupees for those units above 50, and so on) and they do not give the average rate of tariff paid by each consumer. Even though the total tariff paid by each consumer is available in the ledgers of the field offices of SEB, such information is not compiled to provide information on how many people consume less than say, 50 units, and so on, due to the near absence of computerisation. Attempts will be made to compile this information from a representative sample of field offices from each state selected for the study, if such information is not available already.

For (3): This is to know how much people of different socio-economic characteristics lose by using supplementary sources such as kerosene, candles, batteries, generators, etc. due to the poor quality of electricity. In addition there can be losses (and difficulties) due to the poor quality of power supply. (This loss is approximately equal to the expenditure on supplementary sources minus the cost of providing equivalent power through a minimum cost alternative - possibly a centralised source). These are part of economic costs of unreliability (outage) of power supply and the methods of estimating these are discussed in studies on power systems reliability such as those reviewed in Munasinghe (1979)²⁶. In fact, it would have been ideal to carry out a survey on how much people are

²⁶ As noted in Munasinghe (1979: 49), there are two approaches to measure the costs of unreliability of power supply. The first one is based on observed or stated willingness to pay for better quality, and the second approach attempts to estimate outage costs by the effects of outages on the production of goods and services. Since the focus here is the households, we would be using the revealed willingness to pay approach here.

'willingness to pay' for better levels of quality of supply²⁷. However there are many difficulties and limitations for conducting such a 'contingent valuation' study in the context on developing countries such as India. It is proposed that we collect only the expenditure on alternative sources, which is part of the revealed preference method of assessing the willingness to pay. This will be done in the awareness that such expenditure would indicate only a part of the overall loss sustained due to the poor quality of supply. Thus as part of the study, a primary survey of about 10000 households in all the selected states will be undertaken to assess the expenditure on alternative sources, and the relationship between such expenditure and the socio-economic characteristics of the household. (The exact sampling and other details of survey will be worked out after analysis of the secondary information.)

For (4): This is to understand how different sections benefits from the reduction of government deficits and economic-wide gains due to power sector reform. Here the methodology of benefit incidence analysis (employed by funding organisations such as World Bank and Asian Development Bank (2001) for assessing the impact on poor²⁸) will be used with appropriate modifications. The rigorous approach of estimating benefit/tax incidence for different income groups from marginal governmental finance released through the reform of power sector will be used if possible depending on the availability of data. Otherwise, one can consider the additional benefit to different sections by considering the current tax benefit incidence, and by assuming that marginal finance is distribution-neutral. In case of very poor levels of data availability, it can be assumed that the benefits of different sections from the governments' gains through reform would be shared in proportion to the share of the state domestic product. This methodology can be used or its result taken as indicative of the distribution of economy effect - the benefits to the economy from reforms in one sector. Secondary data on the economy and the expenditure pattern of governmental finance is available in compilations by the departments of economics and statistics of each state, and

²⁷ The methodology of such WTP surveys is more or less standardised (Carson, 2000). The issues of such 'Willingness to Pay' surveys in the context of developing countries are discussed in Anand and Perman (1999), Singh et al (1993), Whittington et al (1993), and so on.

²⁸ These institutions have also recognised the importance of the distribution of gains to specific groups such as poor to the process of political economy processes in policy-based lending (Bolt and Fujimora, 2001).

organisations such as Centre for Monitoring Indian Economy (CMIE), and Economic and Political Weekly (EPW) Research Foundation.

For (5): A set of stakeholders and analysts of the power sector (federal officials, consultants, industry and commercial associations, academics, consumer organisations, etc.), who have interacted with decision-makers in multiple states will be interviewed with a set of questions (with ranking variables) to analyse the role of non-economic factors. Attempts will be made for comparative assessment of social capital in different states in this regard. Qualitative information from others sources (or example news papers) on the political mobilization against and for reforms will also be collected and assimilated.

Information from these sources will be used for analysing the determinants of reform (including the distribution of costs and benefits) on the pace and nature of reform through econometric methods (possibly using discrete choice probabilistic models) and also through descriptive and case study analysis. Bivariate and Multivariate Analyses by taking the degree of power sector reforms as dependent variable and with different independent variables reflecting the distribution of net gains/losses or reform will be attempted. In addition the role of other political and institutional factors will also be examined through this process. Apart from measuring the statistical significance of the influence of these variable, attempts will also be made to explain the role of these determinants through simple game structures, as attempted by the author somewhat successfully in another issue of governance and development in the context of developing countries (Santhakumar, 2003d).

A5. Research output and policy relevance

The main research output will be a monograph (for possible publication as a book) on the (new²⁹) political economy of power sector reforms in India. This monograph would contain the following components, which have important policy implications concerning institutional reforms in the provision/regulation of goods and services that were traditionally considered to be the purview of the state.

²⁹ This qualification is necessary in India since much of the popular version of political economy here have the roots in classical political economy.

1. The study is expected to bring out important facets of the ten year long, not-so-successful attempts to reform the power sector in India. As noted earlier reform in this sector is necessary not only to reduce fiscal problems of governments in India but also to facilitate investments - the two areas of major concern in the unfinished agenda of economic reforms in India. It could generate insights regarding the political economy variables such as the distribution of costs and benefits of reform and the pressure of interest groups, and the influence of non-economic variables such as the quality of leadership, level of social capital and the ideological (and opportunistic) behaviour of political parties.
2. The research would generate a part of the much needed data to facilitate public discussion and decisions on power sector reforms. Currently, compiled data is not available in many Indian states to indicate how the benefits of governmental expenditure or cross subsidy in power sector are distributed among different sections of people. This information would be useful for targeting the subsidy or for designing a lifeline tariff for poorer consumers. Similarly the general public and politicians have little information on the losses that different income groups including poor sustain on account of the poor performance of the power sector. The data to be generated and analysed by this study, though not comprehensive, would provide reliable indications in this regard.
3. Probably, the most important aspect of the policy relevance of the study is to know whether reform-oriented governments can change the distribution of costs marginally in order to generate adequate social support for reform³⁰. Since, a major part of these costs and benefits hinge on the subsidy for electricity consumption and the quality of supply, the strategies for changing this distribution marginally are neither very complex nor very difficult to implement (if adopted in a gradual, step by step, process). It is seen from empirical experience in some states that the social demand for improving the efficiency of a public organisation (or to reduce the cost of inefficiency) increases as the tariff paid by the middle class consumers become closer to the cost of provision. Thus

³⁰ This is somewhat different from the well-known strategies to 'relax political constraints to enact reform (Roland, 2002)' such as the compensation to losers (or credible commitment to do so), attempting partial reforms, and waiting for crises to emerge.

in Kerala, the middle class previously indifferent to the organisational inefficiencies of KSEB became more and more critical of inefficiencies. Thus this proposal would consider the possibility that reform-oriented governments can 'engineer' reform and create necessary political support, by changing slightly the existing distribution of the costs and benefits³¹.

B. BIBLIOGRAPHY AND REFERENCES

B1. Relevant publications of the author

B1.1. Writings on distributional impact of power sector in India

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Santhakumar, V., (2003a) **The impact of distribution of costs and benefits of non-reform - a case study of power sector reforms in Kerala between 1996 and 2000**, *Economic and Political Weekly*, 38, 2, 147-154.

Santhakumar, V. (2003b) **Poverty and Social Impact Assessment of Power Sector Reforms in Kerala**, Kerala Power Development Project, Asian Development Bank

Santhakumar, V. (2003c) **Poverty and Social Impact Assessment of Power Sector Reforms in Assam**, Assam Power Development Project, Asian Development Bank

B1.2. Writings on other issues of governance and institutions providing public goods

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³¹ The use of strategies to gain political support by the reforming governments is not new. The distribution of state assets (or assets in public enterprises) to citizens or workers (Roland and Verdier, 1994; Boycko, et al, 1995; and Shleifer and Treisman, 2000) or the dual track liberalisation, in which prevailing contracts were respected but prize liberalisation was attempted at the margin as in China as noted by Roland (2002) are examples.

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C. RESEARCH TEAM

V. Santhakumar is the main researcher. His previous work includes analysis of the impact of distribution of costs and benefits of non-reform on the political support of power sector reforms in the Indian state of Kerala (Santhakumar, 2003a). In addition he has worked on the socio-economic impact of power sector reforms in two states of India, Kerala, and Assam (EISP, 2000; Santhakumar, 2003b; 2003c). He has also examined the (perverse) incentives that discourage institutional reforms in the provision of other public goods such as irrigation and water supply (Santhakumar, 1997; 1998) and examined institutional failure in other issues of governance like the control of pollution in developing countries (Santhakumar, 2003d; 2001b). He is an Indian, residing in India

and permanently employed as an associate fellow (associate professor) at the Centre for Development Studies, Thiruvananthapuram (Kerala), India. A research associate and a research assistant will be recruited for the proposed study. The CV of the main researcher is given in Appendix 1.

D. RESEARCH INSTITUTION

The Centre for Development Studies, Thiruvananthapuram, Kerala, is a well-known social science institution carrying out post-graduate teaching and applied research in India. Research carried out in the initial years of CDS, established in 1972, was on understanding the policies required for social and human development in developing economies. It also highlighted the path followed by the state of Kerala in this regard. The faculty members of CDS have worked on a diverse national and regional economic themes, including those of power sector, as evident from the details of research and publications given in its website www.cds.edu. The centre has teaching programmes (M.Phil. and Ph.D.) in Applied Economics, and has 25 faculty members specialised in economics, statistics, demography and history.

E. BUDGET

The following itemised expenditure is envisaged for the proposed study.

Item	Budget in US Dollars
Conducting (and analysing data of) primary survey in 5000 households in all selected states, @USD 5 per household	25000
Field work (secondary data collection and interviews) expenses for the researcher for 200 days @ 100 USD per day.	20000
Compensation for the researcher's time for 12 months @2000 USD per month in India	24000
One Research Associate for 12 months @ 500 USD per month and a Research Assistant for 12 months @ 300 USD per month	9600

Air Travel for the researcher and associate within India	10000
Stationary, Communication and Contingencies	2300
Overheads for the research institution to provide administrative support and facilities @ 10% of total expenses	9100
Total	100000

Appendix 1

CURRICULUM VITAE

Name: V. Santhakumar, Ph.D.

Contact Address:

Associate Fellow (Associate Professor), Centre for Development Studies (CDS),
Thiruvananthapuram, Kerala (India); Fax: 0091-471-2447137; Telephone (off.): 0091-
471-2448881; Telephone (Res.): 0091-471-2556927; e-mail: santhakumar@cds.ac.in

Age, Date and Place of Birth:

41 years, July 31, 1962 in Koliacode, Kerala (India)

Nationality: Indian

Marital Status: Married with one child

Education:

Ph.D (1996)	Economics Faculty of Humanities and Social Sciences Indian Institute of Technology, Madras
M.S.(by Research) (1992)	Public Policy Studies Faculty of Humanities and Social Sciences Indian Institute of Technology, Madras
B.Sc.(Engg.) (1984)	Civil Engineering Kerala University

Employment:

Associate Fellow (Associate Professor) from 23 August 2001 onwards, Centre for Development Studies (CDS), Thiruvananthapuram, Kerala (India).

Research Associate (Lecturer) from 3 August 1996 to 23 August 2001, Centre for Development Studies (CDS), Thiruvananthapuram, Kerala, India

Visiting Researcher (on leave on duty from CDS): Vanderbilt Institute of Public Policy Studies, Vanderbilt University, Nashville, TN, USA from 25 September 2000 to 24 May 2001.

Visiting Researcher: Department of Irrigation and Water, Wageningen Agricultural University, The Netherlands, between 1 November 1998 and 31 March 1999.

Major Research Interests:

Political economy of the provision of public goods and governance

Awards and Fellowships

- a. Received the first prize (research medal) of Global Development Network in 2001 for the paper titled 'The impact of citizens' response to weak governance: The case of citizens' suits and actions of civil disobedience to protect environment in India'.
- b. Received the post-doctoral fellowship awarded by the World Bank funded, India Environmental Economics Capacity Building Project, in 2000-01 through a nationwide competition in India.
- c. Received a five-month post-doctoral visiting researcher fellowship from the Wageningen Agricultural university in 1998 through a university-wide competition among the nominees recommended by various departments.
- d. Selected for the K.K. Birla Foundation Post-Doctoral Fellowship in Economics through a nation-wide competition in 1999. However I could

not take up this fellowship due to the preoccupation with the Wageningen university programme.

Research and Consultant Projects:

1. Assessing the Socio-Economic Benefits of Rural Electrification, as part of the Assam Power Sector Development Project (as staff consultant of ADB, July-Aug, 2003)
2. Social and Poverty Impact Assessment of Power Sector Reforms in Assam, as a staff consultant of Asian Development Bank (April - July, 2003)
3. Social and Poverty Impact Assessment of Power Sector Reforms in Kerala, of the Kerala Power Development Project of Asian Development Bank (July, 2002 to March 2003)
4. Social Impact and Social and Environmental Cost Benefit Analysis of Alternative Proposals of Hydroelectric Project in Puyankuty Basin of Kerala, Sponsored by the Kerala State Electricity Board (May 2002 to June 2003)
5. Economics of Nature-Based Tourism in South Asia, sponsored by South Asian Network of Economic Initiatives (SANEI) of Global Development Network (Started in December, 2002)
6. Assessment of the socio-economic impact of power sector reforms in Kerala, sponsored by the Canadian International Development Agency (completed in April 2000).
7. The Social and Environmental Cost-Benefit Analysis of the Pooyamkutty Hydro-Electric Project, for the Kerala State Electricity Board (completed in August 2000).
8. Economic valuation of the ecological Services provided by the Coastal Wetlands in India and Bangladesh', sponsored by the South Asian Network of Economic Initiatives of the Global Development Network (completed in March 2002).

9. Developing strategies for conservation of bio-diversity in home gardens: sponsored by National Biodiversity Strategies and Action Plan (completed in June 2001).
10. Social Impact of the Pooyamkutty hydro-electric project, Kerala sponsored by Kerala State Electricity Board (completed in 1998)
11. A Project for the development of a demand-based approach to the planning of water resources in Kerala, supported by the Kerala Research Programme for Local Level Development of the Ministry for Development Co-operation, Government of Netherlands (completed in 1998).
12. A study on the issues of Sustainability in Kerala's Agriculture as part of a multi-country study organized by the PANAP, Malaysia (completed in 1996).
13. A micro-watershed study project sponsored by the Department of Science and Technology, Government of India, (completed in 1992).

Research Papers and Publications: The relevant publications of the author are listed at the beginning of Bibliography section in the main text of the project proposal.

Languages:

1. English: Fluent written and Spoken
2. Malayalam: Fluent written and Spoken
3. Working Knowledge of Hindi, Tamil and Spanish