



**RESEARCH DESIGN MEETING**  
**‘Regulatory Impact Assessment in Electricity Generation Sector in India’**  
**Friday, 27<sup>th</sup> June, 2014, New Delhi**

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**OPENING SESSION**

*Overview*

Udai S. Mehta, Director, CUTS International (CUTS), and Nidhi Kapoor, Associate Economics Analyst, Asian Development Bank, India Resident Mission (ADB), were speakers at this session. Udai provided a brief introduction to the project and the objective of the research design meeting (RDM). Nidhi discussed ADB’s strategy and rationale to support this project.

*Proceedings*

Udai thanked experts for participating in the RDM and gave a brief introduction to the ongoing project on regulatory impact assessment (RIA) in Indian electricity generation sector, being undertaken by CUTS with support from ADB. He mentioned that power projects require around 140 approvals for establishment and operation in India, and the purpose of the project is to assess the costs and benefits of legislations requiring select critical approvals, and provide alternate policy suggestions. He pointed out the objective of the RDM was to put forth the work done until now on the project and get concrete inputs from the experts on the way ahead, specifically regarding selection of legislations for each of the sectors to undertake RIA.

Nidhi congratulated CUTS for taking up the project at such an opportune time, when India has been ranked lower than its potential on the ease of doing business index and growth rates having found new depths. She emphasised on the importance of the project considering the current difficult environment of establishment and operation of power plants, and the need to attract private investment in power generation sector, for the country to realize its potential in energy generation. She further mentioned that this project is part of ADB’s strategy to get policy insights and make relevant policy interventions to facilitate doing of business in India.

**SESSION I: PRESENTATION ON PROJECT OVERVIEW AND METHODOLOGY**

*Overview*

Amol Kulkarni, Policy Analyst, made a presentation on project overview and methodology of the project. He explained in detail the methodology to undertake RIA, and rationale for the selection of the sectors.

*Proceedings*

The presentation explained why RIA is needed and how it will be executed in the three selected sectors, being, land acquisition for Hydro based power generation in Himachal Pradesh,

environment approvals for Coal based power generation in Rajasthan and finance issues for Solar based power generation in Gujarat. Amol briefed about how RIA has evolved as an important tool in various developed and developing nations to evaluate impact of policies and their alternatives, if needed.

V.S. Ailawadi raised concern over using the term RIA as 'regulation' defines a scope, which includes social implications, is much larger than the scope of the study. After due deliberations, it was decided that a definition would be included in the study defining the scope of the term regulation in accordance with our project goals. Anoop Singh also suggested that analysing legislation in vacuum cannot be possible. There are so many aspects that may get impacted due to it. To this, Geeta Gouri emphasised that the study is to ease private participation and therefore looking into any other aspect would be unnecessary. Veena Aggarwal reflected World Bank's report on 'Ease of doing Business' and that this project focus is set out with similar objective.

It was pointed out that the project will be taken up with a timeline beginning from May to December 2014. To this, the experts reacted that was a very timeline and it would be a challenge to do justice with the project in such a short span.

While explaining the process of RIA, Amol brought forward certain challenges that RIA implementation may have in India as it is a new tool to be used for such an evaluation, such as Data collection, Quantification and comparison of impacts on stakeholders and Comparison on impact of existing legislations with hypothetical alternatives.

This was followed by briefing the participants about the progress that has been made so far. In relation to Himachal Pradesh it was stated that it has huge potential in relation to hydro power generation and is the state with maximum pending clearances for forest land diversion. Ailawadi observed that there is a need to refine the process of getting clearances; however no alterations should be made in the timeline so granted under the two Acts (Land Acquisition Rehabilitation and Resettlement (LARR) Act, 2013 and Forest Conservation Act (FCA), 1980) as legislators have given so with some rationality and we must not challenge it unless we can corroborate the same in a substantial way. Gouri and Aggarwal both observed that not maintaining the timelines raises the concern, none otherwise. Somit Dasgupta agreed with them.

The second sector was coal power generation in Rajasthan. It was highlighted that coal contributes most to the total power production in Rajasthan. It was further highlighted that due to high temperature and high presence of suspended particles in Rajasthan, it was difficult to comply with the pollution control norms. Karthik Ganeshan raised concerns over choosing Rajasthan as the state for coal power generation as mostly the thermal power generation in the state is lignite or gas based. He along with Veena suggested that owing to distance from coal mines and new developments of projects, state of Orissa or Jharkhand may be better options for RIA. Amol reasoned this concern by putting into light that the project has certain timeline limitations. As CUTS has its base in Rajasthan and as mentioned that EIA norms in the state are difficult to maintain, the state has been opted/chosen for the study. The members although understood the limitations, however, raised concerns about the limited timeline of the project and the possibility of covering the proposed wide scope within the given timeline.

The third sector, i.e. solar power generation in Gujarat was discussed thereafter. It was highlighted that Gujarat is amongst the frontrunner for solar power generation however, the sector suffers from

issue of finance amongst others. With reference to issue at hand in Gujarat, Singh and Gouri observed that the Power Purchase Agreements (PPAs) are the root cause for less private participation. Molshree Bhatnagar pointed out that each time the bidding is made, private players are bidding aggressively and PPAs are signed before the development of plant. The major challenge is raising funds. Investors are more ready and open to invest in projects operating in Gujarat as compared to other states- policy certainty and no requirement to use domestic content (DCR) is paving way for investment. Financial institutions are otherwise funding too, but interest rates are high (SBI has 20% R.O.I- IFC mandates establishing recurring fund) this subsequently increases the capital cost and hence a challenge for any solar power developer.

### *Conclusion*

Amol guided the floor that there can be many issues in one sector, however this study is focused on identifying one key issue which is causing the greatest hurdle to private participation. Time limitation, as highlighted by the experts, was also noted by the project team. With this, he concluded the session and requested Katiyar to follow up with her presentation on RIA of Hydro Power Generation Sector in Himachal Pradesh.

## **SESSION II: PRESENTATION ON RIA OF HYDRO POWER GENERATION IN HIMACHAL PRADESH**

### *Overview*

In this session, Jyoti Katiyar, Research Associate, CUTS Centre for Competition Investment and Economic Regulation, presented certain challenges such as land acquisition and diversion of forest land, etc., being faced by IPP's investing in Hydro Power in State of Himachal Pradesh. The presentation gave an elaborated comparison of the shortlisted legislations namely, Land Acquisition Rehabilitation and Resettlement (LARR) Act, 2013 and Forest Conservation Act (FCA), 1980 and Forest Rules followed by stakeholder's feedback on the same. The objective of the presentation was to obtain advice/ suggestions from the experts present in the conference room to identify one of the most cumbersome legislation for the project team to undertake RIA

### *Proceedings*

Jyoti at the start of the presentation provided an overview regarding the potential of hydro power in Himachal Pradesh i.e. 20,000 (MW) having the second largest potential in India, while having close to 56% percent of share of hydro power in the state being generated by the private sector. Having laid out the fundamental issues, Jyoti focused on the key legislations namely FCA, 1980; LARR Act 2013 and identified *vis-à-vis* key challenges: land acquisition and Approval for diversion of forest land.

While explaining the detailed process for getting clearances under the FCA, 1980, Jyoti summarised and highlighted few key issues for further deliberation, such as presence of multiple authorities for getting clearances (07 authorities located at Central and State level); Centralisation of power for granting clearances i.e. with Central Government; relevance of transit time i.e. takes around 45 transit days for files to be moved from one department to the other, etc. Jyoti further explained the LARR Act in detail and brought forth the key issues for discussion in the specific Act, whether undertaking of Social Impact Assessment (SIA) for all sizes of land was necessary; definition and

scope of affected families, which is apparently too broad; ensuring that rehabilitation process is complete before acquisition etc.

Post the presentation, the floor was open for deliberations and Ailawadi reacted that one needs to be cautious of policy prescriptions which one would arrive towards the end of the mentioned project, as it would differ from state to state in India. Singh was of the opinion, that the key issue or challenge faced by IPPs is actual implementation of policies, legislations, etc., which is not the focus of the project and that is the key to create an environment for doing business. Singh further suggested that it would be useful to look at other States that might have been able to successfully overcome the challenges, as emerged from preliminary research analysis. Thus, it would be useful to undertake comparison with other States, as part of the research. Further, Pradeep S. Mehta also warned the team that every State has its peculiarities and one needs to be aware of the same while suggesting policy recommendations. He suggested the team to refer to a report undertaken by IDFC on Land Acquisition. It was also suggested by most of the participants, that it might be useful to undertake comparative analysis between the Old and New Land Acquisition Act, as part of the research and evaluate, if the overall procedures have either been simplified or not and on the basis of the analysis, the study can come out with areas for further improvement, which would be an important contribution of the CUTS study.

### *Conclusion*

Finally, after a rich discussion which the presentation brought forth, a comparison table between the legislation on the basis of indicators like: number of documents, time period, cost etc., showed that amongst all the legislations discussed Forest Conservation Act (FCA), 1980) seems to be most cumbersome and carries maximum scope of improvement. Therefore, in agreement with all the experts present in the room it was decided to choose Forest Conservation Act (FCA), 1980 for undertaking RIA.

## **SESSION III: PRESENTATION ON RIA OF COAL POWER GENERATION IN RAJASTHAN**

### *Overview*

In this session, Amol Kulkarni, Policy Analyst, CUTS Centre for Competition Investment and Economic Regulation, made a presentation on environment approval related challenges faced by coal Independent Power Producers (IPP's) in Rajasthan. The presentation provided detailed explanation of the indicators identified to map the legislations. It also gave an elaborated comparison of the shortlisted legislations namely, EIA notification 2006, Air/ Water Act followed by stakeholder's feedback on the same. The objective of the presentation was to obtain advice/ suggestions from the experts, to identify the most cumbersome legislation to undertake RIA.

### *Proceedings*

Amol started his presentation by providing the current electricity generation scenario in Rajasthan and explaining the rationale behind opting for coal IPPs for research in Rajasthan. Though there were several questions raised by experts for instance, there are other states that have relatively greater share in coal power generation in comparison to Rajasthan. But presenting large set of factors including that power production through coal is also considerable in the state of Rajasthan,

followed by evidences in form of time taken to get clearance in Rajasthan and CUTS network to undertake such in depth research and make state level policy interventions, it was suggested that Rajasthan was a feasible state for the Project.

The presentation further discussed the conditional ties under the pollution control laws. In this regard, Ailawadi suggested that there should be incentives provided by government to IPP's bringing new technologies that checks pollution. Also Aggarwal suggested that there are other approvals from Municipal Corporation in regards with groundwater extraction. She mentioned that usually an IPP relying on ground water for the use has to undertake approval for extraction from municipal corporations. She further emphasised on the need to study the costs imposed on Captive Power Producers (CPP's) and if there are any differences that exists in this regards from IPP's.

The discussion about impediments that an IPP face under Environment Impact Assessment (EIA) Notification 2006, was quite fervent. At present time provided for determination of Terms of Reference (TOR) is 60 days from the date of submission of application, Ailawadi suggested that there is a huge scope for overhaul due to technological advancement, Gouri added by stating that a draft a TOR could be uploaded on the website at the application stage, which would help in reduction of timelines.

Also it was noticed that the conditional ties that come with EIA approval are quite onerous and adds to the cost of operating power plant. Also, there was an agreement seen among the expert group for having an independent authority to undertake EIA. This would in principle justify entire idea of undertaking EIA to check environment damage.

Differential treatment between public sector and private sector, with respect to grant of approvals under environment laws, was also discussed. It was observed by Singh that trust deficit exists between the government and the private players as a result of which their proposals are subjected to greater scrutiny as compared to proposals of public sector. This might also result in imposing of additional conditions on private power producers. Thus, results in a differential treatment amongst public and private power producing companies.

### *Conclusion*

Finally, after a rich discussion which the presentation brought forth, a comparison table between the legislation on the basis of indicators like: number of documents, time period, cost etc., showed that amongst all the legislations discussed EIA Notification, 2006 is the most cumbersome and carries maximum scope of improvement. Therefore, in agreement with all the experts present in the room it was decided to choose EIA Notification, 2006 for undertaking RIA.

## **SESSION IV: PRESENTATION ON RIA OF SOLAR POWER GENERATION IN GUJARAT**

### *Overview*

Molshree Bhatnagar, Research Associate, CUTS Institute for Regulation and Competition, presented the research undertaken on policies impacting investment and returns of solar power generation plants in the state of Gujarat, the detailed comparison undertaken, and highlighted the issues for discussion. This was followed by a lively discussion on issues ranging from issues that impact

finance, relevance of different indicators, and culminating into selection of policies to undertake RIA.

### *Proceedings*

Molshree began the presentation by providing justification for selection of Gujarat for solar power generation companies. She explained that independent power producers can bid for solar projects under the Gujarat State Solar Policy, 2009 and the Jawaharlal Nehru National Solar Mission, 2010 (JNNSM). Geeta Gouri mentioned here that there was a need to clarify the distinction between the mission and the policy. To this, Anoop Singh added that the JNNSM has no statutory basis and its enforceability is doubtful, and any grievance cannot be addressed under it. V.S. Ailawadi mentioned that the Electricity Act, 2003, provides that the government will frame policies for development of renewable energy sector. The policy is framed from a long term perspective and has its own authenticity. Dasgupta agreed with his analysis. Anoop Rawat mentioned that the policy is non-**recourseable**; however, Sugandha Somani added that it can still act as a guiding factor for the stakeholders. She further emphasised on the principle of legitimate expectation with which the government would be bound, to fulfill the conditions under the policy. Pradeep Mehta added that traditions and conventions have force of law, and their own authenticity.

As presentation moved further, it was mentioned that financing is a huge challenge for solar power generation. The issues identified in the presentation, which impact investment and returns of a solar power generation company were: financing; land acquisition; grid connectivity and evacuation; domestic content requirement; and renewable purchase obligation.

Singh mentioned that there are various externalities involved in establishing power plants. For instance, under the policy, the onus on linking plants to the grid lies with the power producer and it is required to acquire land to lay transmission lines. This could be a huge cost. There was also a suggestion to evaluate consequences of anti-dumping policies on financing. It was told that this was one of the points which would be covered under the discussion on domestic content requirement.

A comparison of the policies identified by the project team was explained in detail, and different indicator/ basis for comparison were also discussed. It was highlighted that low plant load factor (PLF) is one of the reasons for challenge in accessing finance. Singh mentioned that low PLF is not in control of the developer and this might not be the correct issue to highlight. However, Ailawadi stated that it is required to link PLF with tariff. PLF impacts the internal rate of return and affects the viability of the project. He referred to a CRISIL study of projects compared on the basis of IRR, and asked the project team to have a look at it. In addition, Gouri explained that in large banks like State Bank of India, local officers sanction project loans on the basis of standard template across the country and such officers, not being energy experts, might not be in a position to understand the nuances of state specific policies. The requirement to comply with standard templates might increase the cost of the project.

It was also highlighted by Ailawadi that there is a need to identify who bears the radiation risk. He inquired if adequate data was available in this regard. He also mentioned that differential treatment between private and government entities must be investigated with regard to time period provided for bidding.

Bhatnagar further presented a summary of stakeholder feedback received and the issues for discussion identified. The issues included: measures for making solar energy financially viable for private producers; preferential tariff, as opposed to reverse bidding; capital subsidy, as opposed to interest subsidy; implementation of renewable purchase obligations; addressing the externalities, such as political economy factors and land acquisition; necessity of domestic content requirement; and benefits of localised state solar policies, as opposed to coherent national solar policy. Ailawadi raised concerns for subjecting solar industry to reverse bidding process. He suggested that government should have waited for capacities to come up before allowing competitive bidding. However, Singh differed and was of the opinion that power producers must be subject to competitive bidding since the initial stage.

Ailawadi also mentioned that government should incentivise technology, such as thin film technology, in order to promote usage of latest technology. On the question of relevance of domestic content requirement, Mehta mentioned that to evaluate whether DCR is required, cost benefit analysis is necessary. Gouri mentioned that there is no trade-off between industrial aspiration and energy security. She further mentioned that lot of issues involved in financing are not localised and harmonisation of such issues is important.

### *Conclusion*

It was decided that as none of the policies identified could be studied in isolation, it would be better to undertake RIA on financing related provisions for both JNNSM and Gujarat State Solar Policy. In addition, expert suggestions of making few clarifications while discussing the policies (such as clearly defining mission and policy), and studying issues such as anti-dumping, impact of radiation, were duly noted.

## **CLOSING SESSION**

### *Overview*

While thanking the perspicacious experts for their participation and time, Ashwini K Swain, Fellow, CUTS Institute for Regulation and Competition, went on summarising the rich outcomes from the meeting.

### *Proceedings*

Swain stated that primary objectives of the meeting were satisfactorily met. The objective of the presentation was to obtain advice/ suggestions from the experts to identify most cumbersome legislation for the project team to undertake Regulatory Impact Assessment (RIA) in select Indian states, i.e., environmental clearances for coal IPPs in Rajasthan, land/forest land Acquisition for hydro in Himachal Pradesh, and financing for solar IPPs in Gujarat.

Finally, after entire day of engaging discussion and experts suggestions, it was decided to undertake RIA of Environment Impact Assessment (EIA) Notification, 2006 in Rajasthan for coal based IPPs, Forest Conservation Act (FCA), 1980 in Himachal Pradesh for hydro based IPPs and Jawaharlal Nehru National Solar Mission (JNNSM), 2010 & Gujarat Solar Policy, 2009 in Gujarat for solar IPPs.

## ANNEXURE I

### AGENDA FOR THE RESEARCH DESIGN MEETING

AGENDA	
14:00 – 14:15	<b>Opening Session</b> <ul style="list-style-type: none"> <li>• Udai S Mehta, Director, CUTS International</li> <li>• Nidhi Kapoor, Associate Economics Analyst, Asian Development Bank, Indian Resident Mission</li> </ul>
14:15 – 14:45	<b>Project Overview, Introduction to RIA and Methodology</b> <b>Amol Kulkarni, Policy Analyst</b> , will provide a brief overview of the project, sectors and states covered and introduction to the RIA framework, its importance and relevance in the project's context. Sketch of the project methodology and approach, various activities involved, timelines and broad progress made in relation to such activities will also be discussed.
14:45 – 15:45	<b>Presentation I: Hydro IPPs in Himachal Pradesh</b> <b>Jyoti Katiyar, Research Associate</b> , will present the land acquisition related problems faced by hydro IPPs in Himachal Pradesh. Details on indicators identified, legislations mapped and compared will be provided. Thereafter, the floor will be open for questions, clarifications and discussion. <b>Chair: Dr. Geeta Gouri, Former Member, Competition Commission of India</b>
15:45 – 16:00	<b>Tea Break</b>
16:00 – 17:00	<b>Presentation II: Coal IPPs in Rajasthan</b> <b>Amol Kulkarni, Policy Analyst</b> , will present the environment approval related problems faced by coal IPPs in Rajasthan. Details on indicators identified, legislations mapped and compared will be provided. Thereafter, the floor will be open for questions, clarifications and discussion. <b>Chair: Dr. Anoop Singh, Associate Professor, IIT Kanpur</b>
17:00 – 18:00	<b>Presentation III: Solar IPPs in Gujarat</b> <b>Molshree Bhatnagar, Research Associate</b> , will present the finance (investment and revenue) related problems faced by solar IPPs in Gujarat. Details on indicators identified, legislations mapped and compared will be provided. Thereafter, the floor will be open for questions, clarifications and discussion. <b>Chair: Mr. Vidya Sagar Ailawadi, Retd. IAS and Former Chairman,</b>
18:00 – 18:15	<b>Closing Remarks and Key Takeaways</b> <b>Ashwini K Swain, Fellow, CUTS Institute for Regulation and Competition</b> , will summarise the key takeaways from the meeting, provide closing remarks and present the way ahead for the project.
18:15 onwards	<b>High Tea</b>



## ANNEXURE II

### LIST OF EXTERNAL PARTICIPANTS

S.no.	Name	Affiliation
1.	Anoop Rawat	Principal Associate, Amarchand Mangaldas Suresh A Shroff
2.	Dr. Anoop Singh	Associate Professor, IIT Kanpur
3.	David Zanni	Second Secretary Energy, United States Embassy, New Delhi
4.	Geeta Gouri	Former Member, Competition Commission of India
5.	Karthik Ganesan	Senior Research Associate, Council on Energy, Environment and Water
6.	Nidhi Kapoor	Associate Economic Analyst, INRM, ADB
7.	Somit Dasgupta	Adviser, Planning Commission of India
8.	Sugandha Somani	Senior Associate, JSA
9.	Veena Aggarwal	Fellow and Area Convenor, TERI
10.	Vidya Sagar Ailawadi	Former Chairman, Haryana Electricity Regulatory Commission