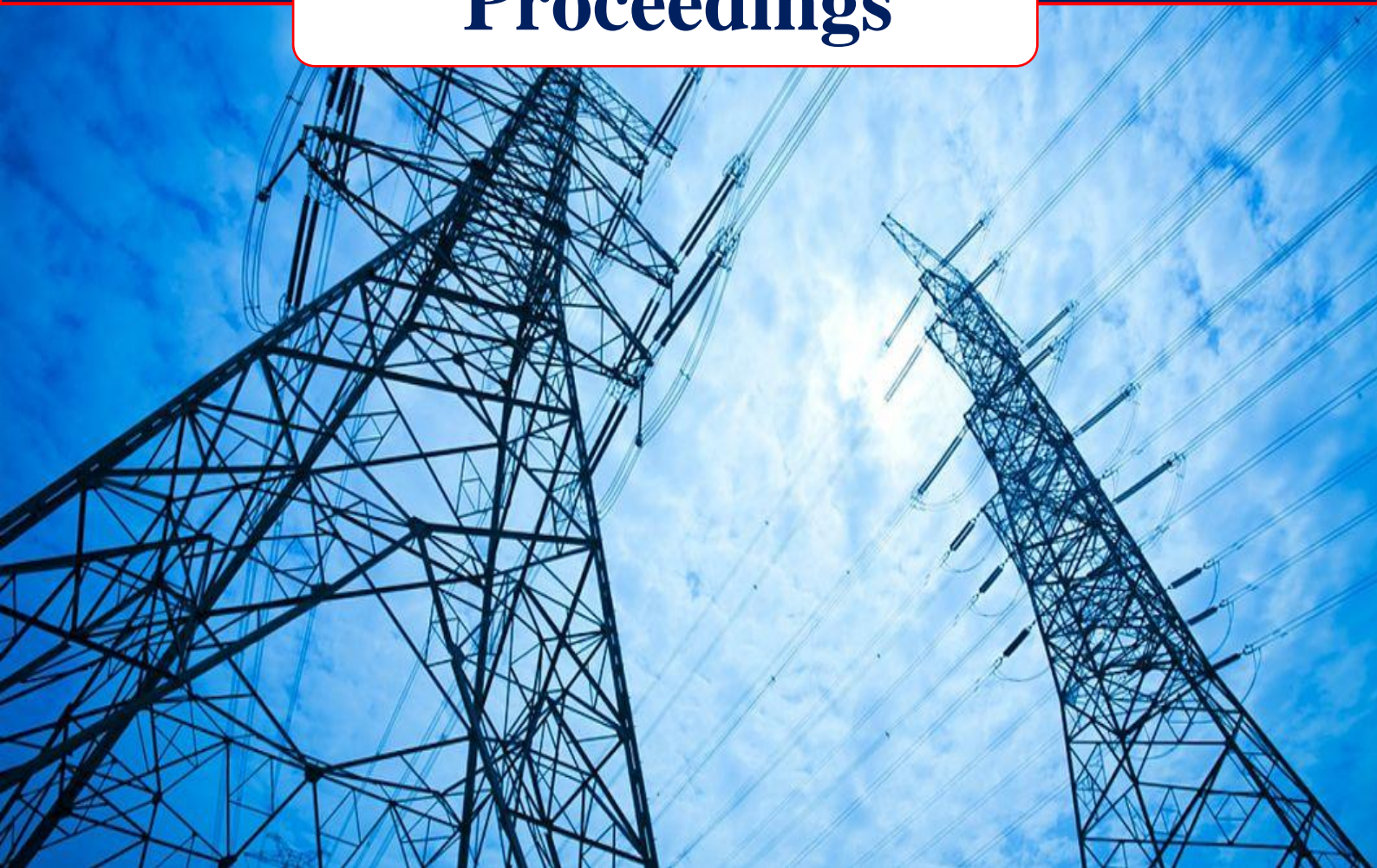


Inception & Bangladesh Electricity Model Result Discussion Workshop  
held on 08<sup>th</sup> December 2020 (Tuesday) from 11:00 AM - 12:30 PM (BST)

**Project Title:** 'Implications of declining costs of Solar, Wind and Storage Technologies on regional power trade in South Asia (BBIN Countries)'

# Proceedings



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## Inception & Bangladesh Electricity Model Result Discussion Workshop

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## Inception & Bangladesh Electricity Model Result Discussion Workshop

### 1. Agenda

11:00 AM- 11:15 AM (BST)	<b>Session I – Inaugural Session</b>	
	<b>Welcome Address &amp; Project Introduction</b>	<b>Dr. Jyoti K Parikh,</b> <i>Executive Director, Integrated Research and Action for Development (IRADe)</i>
	<b>Inaugural Address</b>	<b>Mr. Mohammad Hossain</b> <i>Director General, Power Cell</i>
	<b>Special Remarks</b>	<b>Mr. Simon Trace</b> <i>Principal Consultant, Natural Resources &amp; Energy, OPM Oxford</i>
11:15 AM - 11:40 AM (BST)	<b>Presentation on</b> “Bangladesh Electricity Model”	<b>Mr. Vinay Saini,</b> <i>Area Convener, Integrated Research and Action for Development (IRADe)</i>
11:40 AM – 12:15 PM (BST)	<b>Session II- Panel Discussion</b>	
	<b>Session Chair</b>	<b>Prof. Kirit Parikh</b> <i>Chairman, Integrated Research and Action for Development (IRADe)</i>
	<b>Panel Discussion</b>	<ul style="list-style-type: none"> <li>• <b>Mr. Siddique Zobair,</b> <i>Expert on Energy, Environment and Climate Change &amp; Ex-Additional Secretary and Member, SREDA</i></li> <li>• <b>Dr. Aminul Hoque,</b> <i>Vice-Chancellor, Eastern University, Former Dean, EEE, BUET Former Vice-Chancellor, MBSTU</i></li> <li>• <b>Mr. Md. Shah Alam,</b> <i>Director, Policy Advocacy and Planning, Bangladesh Investment Development Authority (BIDA)</i></li> <li>• <b>Shri. Pankaj Batra,</b> <i>Project Director IRADe-SARI/EI, Ex-Chairperson(I/c) &amp; Member (Planning), Central Electricity Authority</i></li> </ul>
12:15 PM – 12:25 PM (BST)	<b>Q &amp; A Session</b>	
12:25 PM – 12:30 PM (BST)	<b>Closing Address &amp; Vote of Thanks</b>	<b>Shri. Pankaj Batra,</b> <i>Project Director IRADe-SARI/EI Ex-Chairperson(I/c) &amp; Member (Planning), Central Electricity Authority</i>

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### 2. Brief Bio of Delegates



**Professor Jyoti K Parikh** is the Executive Director of Integrated Research and Action for Development (IRADe), New Delhi. She was a Member of the Prime Minister's Council on Climate Change – India and is a recipient of the Nobel Peace Prize awarded to IPCC authors in 2007.



**Mr. Mohammad Hossain** is the Director General of Power Cell, a technical arm of Power Division, Ministry of Power and Energy & Mineral Resources. Mr. Hossain has more than 30 years of experience serving the Government of Bangladesh (GoB) in different organizations at diverse high-profile positions.



**Mr. Simon Trace** is Principal Consultant with Oxford Policy Management and Director of the DFID funded Applied Research Programme on Energy & Economic Growth. He has more than 35 years of experience working in international development.



**Dr. Kirit Parikh** is the Chairman of Integrated Research and Action for Development (IRADe), New Delhi. He has more than 58 years of experience in the Energy Policy and Development sector. He has been the Member in charge of Energy at Planning Commission, Government of India (GoI).



**Mr. Pankaj Batra** is currently the Project Director for South Asia Regional Initiative for Energy Integration (SARI/EI) at IRADe. He is a thought leader in the Indian power sector having more than 38 years of experience. In the past, he has served as the Chairperson of the Central Electricity Authority, Government of India.



**Mr. Siddique Zobair** is a panel expert of the power sector in the Ministry of Power, Energy and Mineral Resources. He has served the Government of Bangladesh for 34 years in different capacities and retired in January 2020 as Additional Secretary/Member, Sustainable and Renewable Energy Development Authority (SREDA).



**Professor Dr. Aminul Hoque** is at present the Vice-Chancellor of Eastern University. Prof. Hoque has more than 44 years of teaching and administrative experience. During his tenure, he has been the Vice-Chancellor and Dean of many eminent engineering institutions.



**Mr. Mohammad. Shah Alam** is at present the Deputy Secretary, Director, Bangladesh Investment Development Authority (BIDA). Prime Minister's Office since November 2017. He has been closely involved in facilitating and promoting Investment Projects etc.

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### 3. Proceedings

#### A. Session I – Inaugural Session



**Dr. Jyoti Parikh** gave the welcome address and welcomed all the panellists and delegates to the webinar. She gave a presentation on the project that IRADe is undertaking titled "Implications of declining costs of Solar, Wind and Storage Technologies on regional power trade in South Asia (BBIN Countries)". During her presentation, she highlighted the current paradigm of South Asia power trade and how the trade direction and volume may change in the future with declining solar and storage technologies prices. In the project introduction, she highlighted the key questions that will be addressed in this project, approach and methodology adopted, outputs from this project, and past analytical study that was undertaken by IRADe on India-Bangladesh electricity trade.



**Mr. Mohammad Hossain** gave the inaugural address and stressed upon the theme of the project as it is the need of the hour since the declining cost of solar, wind, and storage technologies will have critical long-term impacts on the future power sector. Bangladesh is particularly interested in Solar as the potential for solar is highest among the total RE potential of Bangladesh. Mr. Hossain shared that there are two constraints for solar in Bangladesh, the first one is the cost of solar and the second is the availability of land. However, with the declining cost of solar the levelized cost of electricity from solar projects is becoming competitive to conventional generation in Bangladesh. As per the Bangladesh RE policy, RE capacities have to be developed in Bangladesh to meet its 10% of power demand by 2020, but as of date Bangladesh only meets less than 5% of its power demand from RE sources. Mr. Hossain also shared about the possibility of importing solar/RE electricity from India as Bangladesh is facing land availability issues for domestic solar projects.

Mr. Hossain appreciated the past work that IRADe has undertaken for promoting Cross Border Electricity Trade in the South Asia Region and particularly among the BBIN countries. He further, shared that this project will help in dealing with country-specific issues as well as regional issues. Also, it will work as a building block in promoting regional corporations. In the end, he shared that this study will enable policy-makers and stakeholders to further understand the possibility of trade under changing cost dynamics.



**Mr. Simon Trace** shared the goals of the applied research program 'The Energy and Economy Growth (EEG) Project' funded by UK Aid. He is currently serving as the director for the EEG project and the project looks into the interactions between large-scale grid-based power systems and economic growth focusing especially on developing countries. Under the EEG programme, around 27 projects are currently funded in Sub Saharan Africa and South Asia Region implemented by academic institutions and non-government organizations/think tanks. The current project aligns with the EEG theme of promoting regional cooperation and power trade that will link high demand centres with generation centres and helping in decarbonizing the power sector leading to better achievement of climate goals.

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Cross border trade also provides additional benefits of energy security, optimal utilization of resources, and better management of demand and crisis for example the recent report from IRADe published by EEG on "Learning from the COVID-19 experience - a framework for a resilient regional electricity grid for Bangladesh, Bhutan, Nepal, and India." South Asia region has existing and future prospects of cross border trade particularly based on hydro. However, with the declining cost of solar and storage technologies, the economies of trade will be impacted. Hence, this research study will provide important material for consideration to regional energy experts and planners for considering the best actions for future grid expansion.

### B. Theme setting presentation



**Mr. Vinay Saini**, Area Convener, IRADe presented the updated Bangladesh Electricity model. IRADe has developed Bangladesh Electricity Model in the past and has updated this model for this project. During his presentation, Mr. Saini covered the model assumptions, scenarios, and key results from the Bangladesh electricity model. Apart from this, he also provided insights into the global trends of Renewable and storage technologies cost decline expected by 2050.

### C. Session II – Panel Discussion



**Dr. Kirit Parikh**, Chairman, IRADe chaired the panel discussion with eminent panellists from Bangladesh. Dr. Parikh said that the past study by IRADe shows that there is significant scope for regional electricity trade in the South Asia region and would also result in a significant reduction in CO2 emissions. He said that the current project focuses on developing/updating electricity models for Bangladesh, Bhutan, India, and Nepal (BBIN) and analyzing the impact of cost reduction of renewables on cross border electricity trade in these countries. The panellists shared their expert

views on the power sector of Bangladesh and also deliberated on ways to improve the Bangladesh Electricity model.



**Mr. Siddique Zobair**, Ex-Additional Secretary and Member, SREDA stated that Bangladesh has high solar potential. Solar has not progressed much due to three issues i.e. space limitation, price or cost, and management issues. He also said that the difference between the off-peak hour and peak hour is very high in Bangladesh. He suggested that if a regional grid could be developed between Bangladesh, Bhutan, India, and Nepal (BBIN) with Hydro as a baseload renewable energy (RE) source and solar/wind could be the intermittent periodical RE source integrated into the regional

grid. He said if such a regional grid could be designed it would help tackle substantial power generation concerns.

Mr. Zobair mentioned that although there is land scarcity in Bangladesh, the Govt. of Bangladesh can still achieve the target of 30% RE by 2040. He said that the answer to this lies in the river delta plan wherein 8 river management projects have been identified that will be implemented by 2035. Under this plan, the Govt,

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of Bangladesh plans to manage the river banks of many big rivers that have variable widths of up to 10 to 12 km at some places. By 2035, the Govt. of Bangladesh will be able to raise a lot of land after the completion of these 8 projects. He also mentioned that if only 5% of this raised land could be used in that case more than 40,000 to 60,000 MW of solar could be installed. This newly raised land will be made from sand fill hence will not be cultivable; it would require at least 10 to 15 years to become cultivable. Meanwhile, since the life of the solar plant is 20 to 25 years, they can be easily installed on them. He said that the government has already drafted the solar road map where they are estimating to install 25,000 MW of solar plant both on land and in water bodies (floating solar is one of the options); for rooftop solar, the net metering policy is already in place; for wind, they have 4 small pilot projects in place.



**Dr. Aminul Hoque**, Vice-Chancellor, Eastern University, pointed out that for many years Bangladesh has been dependent upon natural gas for the generation of electricity however the current Govt. of Bangladesh has been promoting nuclear and hydro-based power generation and electricity trade with India and Bhutan. He also said that the countries involved in power trade should have the same voltage level, frequency level, and power factor improvement plans.



**Mr. Mohammad. Shah Alam**, Director, Policy Advocacy and Planning, Bangladesh Investment Development Authority (BIDA) suggested that the economy of Bangladesh is progressing very fast and the current government aims to make Bangladesh a developed economy by 2041. The power sector plays a major role in developing the economy as a result the current government has laid major emphasis on this sector. The government is facilitating and promoting projects from outside the country that would aid in power generation in the country.



**Shri. Pankaj Batra**, Project Director IRADe-SARI/EI, pointed out that the most important factor in regional cooperation is that the marginal amount of peak demand achieved for a short time in a day, as well as variable peak demand for different seasons across countries, should be addressed by making the peak capacity available for 100 percent of the time, this might result in short power interruptions across the country that can be staggered, however on broader terms would help in the capacity reduction and sharing of the reserves of the countries involved in the regional grid.

### D. Closing Address & Vote of Thanks

**Shri. Pankaj Batra**, Project Director IRADe-SARI/EI, delivered the closing address & vote of thanks. He thanked Mr. Vinay Saini for an insightful presentation and to the eminent panellists for sharing their expert views. In his closing address, Mr. Batra said that Bangladesh's Delta Plan 2100 is farsighted and it needs to be reviewed as time passes due to various changes that might happen in the coming years. He also mentioned that internationally 3% of the total electricity generated is traded worldwide. However, in Europe, 10% of electricity generated is traded and they are aiming to make it 15% by 2030. He also stated that to have undisrupted regional electricity trade there have to be equitable benefits for all the participating countries only then can the apprehension of trade disruption can be negated.

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### 4. Attendees

The workshop was a great success with the participation of 40 plus stakeholders from Power Cell, Bangladesh Investment Development Authority, Electricity Generation Company of Bangladesh, Sustainable And Renewable Energy Development Authority, Power Grid Company of Bangladesh, Eastern University of Bangladesh, Bangladesh Energy Regulatory Commission, Bangladesh Power Development Board, Nepal Electricity Authority (Nepal), Druk Green Power Corporation (Bhutan), Department of Hydropower & Power System (Bhutan), Ministry of External Affairs (Bhutan) and Department of Electricity Development (Nepal).

S.No.	Name	Organisation	Engagement	Nationality
1	Dr. Jyoti Parikh	Integrated Research and Action for Development	Welcome Address & Project Introduction	India
2	Mr Md. Hossain	Power Cell	Inaugural Address	Bangladesh
3	Mr. Simon Trace	Natural Resources & Energy, OPM Oxford	Special Remarks	UK
4	Mr. Vinay Saini	Integrated Research and Action for Development	Presentation on Bangladesh Electricity Model	India
5	Prof. Kirit Parikh	Integrated Research and Action for Development	Session Chair - Panel Discussion	India
6	Mr. Siddique Zobair	Sustainable and Renewable Energy Development Authority (SREDA)	Panelist	Bangladesh
7	Prof. Dr. Aminul Hoque	Eastern University, Bangladesh	Panelist	Bangladesh
8	Mr. Md. Shah Alam	Bangladesh Investment Development Authority (BIDA)	Panelist	Bangladesh
9	Mr. Pankaj Batra	Central Electricity Authority	Panelist	India
10	Sabrina Shams	Bangladesh Power Development Board	Attendee	Bangladesh
11	Md. Tanvir Masud	Sustainable and Renewable Energy Development Authority (SREDA)	Attendee	Bangladesh
12	Kuenga Choden Dorji	Department of Hydropower & Power Systems	Attendee	Bhutan
13	Kazi Kabir	Electricity Generation Company of Bangladesh (EGCB) Ltd.	Attendee	Bangladesh
14	Krishna Dev Rimal	Nepal Electricity Authority	Attendee	Nepal
15	CFK Musaddeq Ahmed	Bangladesh Electricity Regulatory Commission	Attendee	Bangladesh
16	Ugyen	Ministry of Economic Affairs	Attendee	Bhutan
17	Engr. Jorifa Khatun	Bangladesh Power Development Board	Attendee	Bangladesh
18	Matiur Rahman	Power Grid Company of Bangladesh Ltd.	Attendee	Bangladesh
19	Mohammad Mahbubur Rahman	Power Grid Company of Bangladesh Ltd.	Attendee	Bangladesh
20	Tandin Dorji	Druk Green Power Corporation Limited	Attendee	Bhutan
21	Md.Mizanur Rahman	Power Grid Company of Bangladesh Ltd.	Attendee	Bangladesh
22	Sumaiya	Power Grid Company of Bangladesh Ltd.	Attendee	Bangladesh
23	Shahnaz	Power Grid Company of Bangladesh Ltd.	Attendee	Bangladesh



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S.No.	Name	Organisation	Engagement	Nationality
24	Mohd Rezaul	Sustainable and Renewable Energy Development Authority	Attendee	Bangladesh
25	Md Ariful	Bangladesh Investment Development Authority	Attendee	Bangladesh
26	Lokendra Bahadur Saud	Nepal Electricity Authority	Attendee	Nepal
27	Mr. Mohammad Hossain	Power Cell, Power Division	Attendee	Bangladesh
28	Nusrat Wara	Power Grid Company Bangladesh Ltd	Attendee	Bangladesh
29	Chhimi Dorji	Ministry of Economic Affairs	Attendee	Bhutan
30	Mohammad Golam Sarware Kainat	Sustainable and Renewable Energy Development Authority (SREDA)	Attendee	Bangladesh
31	Durga Bhusal	Department of Electricity Development	Attendee	Nepal
32	Md.Manzur Morshed	Sustainable and Renewable Energy Development Authority (SREDA)	Attendee	Bangladesh
33	Momummad Moniruzzaman	Power Grid Company of Bangladesh Ltd.	Attendee	Bangladesh
34	Rajesh Regmi	Nepal Electricity Authority	Attendee	Nepal
35	Shamsun Nahar	Power Grid Company of Bangladesh Ltd.	Attendee	Bangladesh
36	Md. Sayful	Bangladesh Investment Development Authority	Attendee	Bangladesh
37	Rinzin Chopel	Druk Green Power Corporation Limited	Attendee	Bhutan
38	Md. Arifur Kabir	Power Grid Company of Bangladesh Ltd.	Attendee	Bangladesh
39	Prakash	Nepal Electricity Authority	Attendee	Nepal
40	Karma Gyeltshen	Druk Green Power Corporation Limited	Attendee	Bhutan
41	Mr. V.K. Agrawal	Integrated Research and Action for Development (IRADe)	Attendee	India
42	Dr. Probal Ghosh	Integrated Research and Action for Development (IRADe)	Attendee	India
43	Mr. Sandeep Pathak	Integrated Research and Action for Development (IRADe)	Attendee	India
44	Dr. Jasleen Bhatti	Integrated Research and Action for Development (IRADe)	Attendee	India
45	Mr. Kumar Abhishek	Integrated Research and Action for Development (IRADe)	Attendee	India
46	Mr. Pugazenthi Dhananjayan	Integrated Research and Action for Development (IRADe)	Attendee	India
47	Mr. Mohnish Makawna	Integrated Research and Action for Development (IRADe)	Attendee	India
48	Ms. Maitreyi Karthik	Integrated Research and Action for Development (IRADe)	Attendee	India
49	Ms. Sharmistha Ghosh	Integrated Research and Action for Development (IRADe)	Attendee	India
50	Ms. Apali Varshney	Integrated Research and Action for Development (IRADe)	Attendee	India

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### About EEG

The Applied Research Programme on Energy for Economic Growth (EEG) is led by Oxford Policy Management. The programme is funded by the UK Government, through UK Aid. The Applied Research Programme on Energy and Economic Growth (EEG) produces cutting edge research on the links between energy and economic growth, working closely with policy makers in Sub-Saharan Africa and South Asia to build more sustainable, efficient, reliable and equitable energy systems. EEG is a five-year programme, led by Oxford Policy Management (OPM) and funded by the UK Department for International Development. For more information visit: [www.energyeconomicgrowth.org](http://www.energyeconomicgrowth.org)

### About IRADe

IRADe is an independent advanced research institute which aims to conduct research and policy analysis to engage stakeholders such as government, non-governmental organizations, corporations, academic and financial institutions. Energy, climate change, urban development, poverty, gender equity, agriculture and food security are some of the challenges faced in the 21st century. Therefore, IRADe research covers these, as well as policies that affect them.

IRADe's focus is effective action through multi-disciplinary and multi-stakeholder research to arrive at implementable solutions for sustainable development and policy research that accounts for the effective governance of techno-economic and socio-cultural issues. Being Asia Centre for Sustainable Development, we have been carrying out policy research and its implementation for enabling socio-economic growth and charting pathways for sustainable development in South-Asia.

IRADe was established under the Society's Act, in 2002 at New Delhi. It is certified as a Research and Development Organization by the Department of Scientific and Industrial Research (DSIR), Ministry of Science and Technology (MoST). It has also been selected as a Centre of Excellence by the Ministry of Urban Development (MoUD) for urban development and climate change. In addition, it provides expertise to other ministries, national and international institutions and partners with other reputed organizations.