

ATTAINING ENERGY, WATER, AND FOOD SECURITY FOR ALL

14th DELHI SUSTAINABLE DEVELOPMENT SUMMIT

6–8 February 2014 | Taj Palace Hotel, New Delhi, India



MINISTERIAL SESSION 2: DEALING WITH THE IMPACTS OF CLIMATE CHANGE

Chair: Rt Hon'ble John Gummer, Lord Deben, Former Secretary of State for Environment & Member of Parliament, House of Lords, UK

- HE Mr Lyonpo Yeshey Dorji, Minister of Agriculture & Forests, Bhutan
- HE Mr Graco Ramirez Garrido Abreu, Governor of Morelos, Mexico
- HE Dr Oyun Sanjaasuren, Minister of Environment and Green Development, Mongolia
- HE Dr Thet Thet Zin, Deputy Minister, Ministry of Environmental Conservation and Forestry, Myanmar
- HE Mr Lars Andreas Lunde, State Secretary (Deputy Minister) of Climate and Environment, Norway
- HE Mr Jorge Moreira da Silva, Minister of Environment, Spatial Planning and Energy, Portugal
- Lord John Prescott, Former Deputy Prime Minister & Member of Parliament, House of Lords, UK



This session emphasized the importance of actively involving the legislative process in sustainable development. The panelists agreed that there is a need for a strong, globally binding, legal climate change mitigation framework in addition to environment-sensitive policies to effectively tackle the problem of climate change. Lord John Prescott also emphasized the need for a framework that indicates common and differential responsibilities for the countries involved.

Climate change affects nations across the globe, regardless of their contribution to it. Thus, it can be mitigated only through global cooperation. It was stated that carbon trading with the consensus of

EU nations would be a big step on the path towards sustainable development.

All representatives unanimously agreed that nations need to actively work towards alleviating the problems faced due to climate change by working on lower carbon emissions and promoting green development, particularly through renewable energy technologies for power generation. Additionally, it was emphasized that forests, which serve as carbon stores, are being depleted due to rampant deforestation and thus need to be protected. It was noted that Bhutan's national development plans intend to preserve its forest cover to the tune of 60 per cent.

A shift to sustainable development is an opportunity for economic growth which can simultaneously result in women's empowerment, employment generation, and poverty reduction. Additionally, it was stated that there is a need for institutional changes that are inclusive and transparent. With an emphasis on immediate action, the panelists spiritedly discussed the importance of green economic growth. ■

AWARD



The 2nd Georgescu-Roegen Award at DSDS 2014 was presented by Lord John Prescott. The award in the category of 'Unconventional Thinking' was given to Prof. Inge Ropke and the award in the category of 'Bio-economic Practices' was given to the Western Ghats Ecology Expert Panel, chaired by Prof. Madhav Gadgil. Prof. Inge received this award for her service in advancing the environmental pool of thoughts. The Western Ghats Ecology Expert Panel received this award for their outstanding contribution to the defense of natural ecosystems and human rights.

SIGNING OF MoU



An MoU between TERI and Jain Irrigation Systems Limited was signed at DSDS 2014. Mr Anil Jain highlighted that they were helping farmers improve productivity by 3–4 times through their irrigation systems. Dr Pachauri praised the company saying, "They [Jain Irrigation Systems Limited] really made deserts bloom." Mr Jain cited that through this healthy collaboration with TERI, Jain Irrigation could work towards bridging the gap between preaching about water conservation and executing water conservation measures.

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THEMATIC TRACKS

KEY LESSONS FROM CDKN-START RESEARCH ON DISASTER RISK REDUCTION AND CLIMATE CHANGE ADAPTATION IN SOUTH ASIA

Chair: Mr Ali Tauqeer Sheikh (CDKN) and Mr Hassan Virji (START)



This thematic track had speakers talking about the research programme on 'Ability of Local Multi-stakeholder Action to Catalyze Shifts in Program and Policy Environment to Mainstream Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA)', implemented in the arid regions of Leh and Barmer. They discussed measures to deal with the problems of disaster management, including utilizing traditional knowledge and using innovative solutions such as artificial glaciers to counter water woes, and organizing community climate schools to monitor local climate variability.

The case study of integration of DRR and CCA in Gorakhpur was taken up, where a study was conducted to identify systemic factors contributing to vulnerability and resilience, as well as DRR policies. It helped the administration develop a District Disaster Reduction Plan integrating CCA, and promote a Shared Learning Dialogue between local communities and the scientific community.

The project on linking DRR and CCA in the Eastern Himalayas, with a focus on Sikkim, Darjeeling, and Eastern Nepal, was also discussed. The discussion on the Kosi Basin study outlined the vulnerability assessment and measures required for incorporating DRR considerations in the region. The study on mainstreaming DRR and CCA in the Indus eco-region involved an assessment of the comparison of the total assets of communities before and after flooding.

Various approaches for CCA and DRR were also highlighted. They discussed the key measures that can be taken up by SAARC to deal with DRR at the regional level, including data sharing, transfer of technologies, and safety nets. ■

ADAPTIVE DEVELOPMENT FOR THE SUSTAINABILITY OF ASIA: RESEARCH AND PRACTICE

Chair: Prof. Kimio Uno



This track was divided into two parts: Science and Policy Interface, and Field-based/Project-based Learning and Action Research. Prof. Hironori Hamanaka spoke about the UN Conference on Sustainable Development (2012) and how its outcomes are leading to a global agenda around Sustainable Development Goals (SDGs).

Dr Gurukan Kumbaroglu presented the pioneering research and multi-layered collaboration model that his university is working on to reduce carbon dioxide emissions and encourage sustainable development.

There were discussions on some policy perspectives on climate change and adaptive development measures, as well as on how science interacts with policy-making. The idea of leadership for sustainability was explained, which can help design the desired future and communicate messages in a way that everybody understands. There was deliberation on innovative approaches for communicating complex scientific issues, with speakers stating that scientists need to engage with the public and share knowledge. The need for project-based learning and action research was also discussed, along with examples to tackle environmental and social problems. ■



SIR JONATHON PORRITT

Founder-Director, Forum for the Future

The transport department considers itself as an isolated entity but the whole problem should be addressed holistically.

HIGH LEVEL DIALOGUE FOR ENERGY, WATER, AND FOOD SECURITY



Addressing issues stemming from the intrinsic link between water, food, and energy security, this track provided some innovative and interesting solutions. Speakers pointed out that as countries are moving further up the economic growth scale, there is going to be a shift in consumption patterns leading to a high demand for energy and water. Emphasis was laid on using water economically, with gains in water resource efficiency coming from better pricing. The session featured a presentation highlighting innovative micro irrigation systems developed by Jain Irrigation Systems Limited, such as drip irrigation systems, promising 'more crop per drop'. The vulnerabilities of the Ganga river basin were discussed, along with issues of groundwater management and problems relating to canal irrigation, with the recommendation that participatory approaches must be used for the transfer of water-saving devices and knowledge to the grassroots. Utilizing Geographic Information Systems (GIS) efficiently to account for different geo-thermo regimes, and scaling up maps to increase accuracy at the planning stage were also suggested. TERI gave a presentation talking about the vision, framework of operation, and multi-stakeholder engagement emanating from the TERI-JISL MoU. ■



PROF. VEENA SIKRI

Convener, South Asia Women's Network (SWAN) & Vice Chairperson, South Asia Foundation (SAF-India)

Without gender equality, no nation can achieve sustainable development and women should be the first building block for sustainable development.



FIRST TERI-ICCT LECTURE: TRANSPORTATION SHOULD NEVER BE ADDRESSED IN ISOLATION!

Chair: Prof. S Sundar

Prof. S Sundar chaired and moderated this session, pointing out the simple fact that transport holds the nation together. Transport should be used as a means of access to education, tourism, agriculture, industry, etc.

It supports economic development and is the second largest energy consuming sector in India. It's also an emitter of particulate matter, black carbon, and oxides of nitrogen, among other gases, that usually have a detrimental impact on human health. Recognizing the enormity of the problem, TERI and ICCT have entered into an MoU to work towards creating awareness on improved fuel quality and air quality, and cleaner vehicular emissions among the general population. They have already organized civic forums in Bangalore, Ahmedabad, Delhi, and Kolkata and there are further plans to organize more of these forums in various other cities. Sir Porritt delivered the first TERI-ICCT Lecture titled, 'Transportation should never be addressed in isolation'. He discussed the importance of sustainable transportation and stressed

that this sector was being neglected throughout the world. He quoted Amory B Lovins book, *Reinventing Fire: Bold Business Solutions for the New Energy Era*. He also quoted from his book *The World We Made: Alex McKay's Story from 2050*. He stated that although innovation is rapidly taking place in the field of aviation, it is slow in road transport. He also stressed on the role of biofuels as playing a significant role in decarbonizing the transport sector. Sir Porritt highlighted the three main problems in the transportation sector, namely infrastructural locking, mindset locking, and lack of capacity within policy makers today.

The TERI-ICCT Lecture envisages organizing one lecture annually by eminent personalities to inform civic society about cleaner air quality and better fuel options.



ROUNDTABLE ON MINING WITHIN THE SUSTAINABLE DEVELOPMENT FRAMEWORK

Date: 7 February, 2014

Chair: Sir Jonathan Porritt

The session began with a discussion on wealth generation in the mining sector in a manner where ecosystems are respected and the sustainable development framework is incorporated. There was a consensus that this utopian scenario is irrelevant as there is no alternative framework available for mining.

A key challenge posed was the interpretation of inter-generational equity, specifically where raw material extraction is from a finite source. Other challenges lay in the areas of governance and democratic processes.

In the context of recent judicial interventions in the mining sector, it was stated that there are adequate laws and regulations but their

implementation has failed, and therefore, robust governance is required. It was also suggested that the legislative framework be trimmed and the laws be simplified; however, this was argued to be non-negotiable on sustainability measures. At the same time, the contribution of mining to the economy was recognized as a necessity for economic survival.

Social licenses or approval for mining entities was emphasized, and a case was made for adding the concept of mineral security to the theme of the discussion. It was also observed that only a very small percentage of ore is extracted legally, thus indicating issues with demand-side management. It was also noted that there was no regional impact assessment, nor any integrated model of appraisal or governance. A key problem area identified was the significant gap between the state and the federal governments with respect to regulating mining.

Two key bottlenecks identified in the Indian mining sector in the context of implementation



of a sustainable development framework were the small scale of mine operations on the whole and the distribution of pocket licenses in specific areas. Some good international practices, such as recycling of water, constant reporting on sustainability issues by mining companies, and the engagement of multiple stakeholders in meaningful dialogue were suggested. With respect to recent and current initiatives by Indian players, the Geological Survey of India highlighted geotechnical innovations in the form of mineral belt surveys, coal bed methane gasification, etc.

The historical regulatory framework was stated to lay down the context for the best way forward for India to develop mining practices within the sustainable development framework. Total number of leases granted was seen to be 11000, out of which only 1000 were found to be large-scale mining operational leases. A future direction was envisioned, focusing on cumulative impacts of mining clusters and a concentration on the quality of information collected for reporting, possibly by having better processes in place. It was noted that in some instances, good work was being done with respect to mine closure activities, but these were weakly documented. Limitations in terms of meagre endowment of mineral resources of the country and complicated procedures for mergers and acquisitions were mentioned as challenges. ■

CENTRE-STAGE INDIA: IN-CONVERSATION WITH INDIAN OFFICIALS

Moderator: Mr Karma Paljor, Business Editor and Senior Anchor, CNN-IBN

Setting the Theme: Mr B K Chaturvedi, Member, Planning Commission, Government of India

- Mr Amitabh Kant, CEO and Managing Director, Delhi–Mumbai Industrial Corridor Development Corporation
- Mr Rajeev Kher, Secretary, Department of Commerce, Ministry of Commerce and Industry, Government of India
- Mr Surender Kumar, Secretary, Department of Science, Technology and Environment; Government of Tripura; India
- Mr Arunendra Kumar, Chairman, Railway Board, Ministry of Railways, Government of India
- Mr Ajai Malhotra, Former Ambassador of India to Russia
- Dr S K Sarkar, Secretary (Personnel); Department of Personnel and Training; Ministry of Personnel, Public Grievances and Pensions; India
- Mr Gireesh Pradhan, Chairperson, Central Electricity Regulatory Commission



The session highlighted the need for an increase in energy from renewable sources in the total energy supply mix of the country. It was discussed that cities should have sustainable transport and related use of technology to leapfrog from their current status to become smarter cities. Dedicated Freight Corridors were seen as a good solution for sustainable transportation. Carbon footprinting was found to be a subject of debate, and its impact on the growth of developing countries needs to be tracked. Region-specific issues were raised, along with regional best practice examples such as solar pumps being used in Bihar were enumerated. Additionally, it was pointed out that water is a state subject whilst the role of the central government is that of a facilitator. Therefore, there is a need to incentivize states so

that more efficient water schemes and projects can be implemented by their governments. The session concluded that all issues have to be addressed in such a manner that sustainability and security go hand-in-hand.

During the question–answer session, the implications of water-intensive crops on soil were discussed, and panelists opined that the policy of free energy for agriculture has to go. Agriculturists need to be metered, and investments in water–saving technologies must be increased. As a perspective to balancing the energy–food–water nexus, abolishing oil subsidies would bring greater energy efficiency and better usage. There is also a need to seek political consensus and meaningful partnerships between states and the centre to take the right efforts forward. ■

HIGHLIGHTS

- ✦ International negotiations are about the costs and benefits of environmental efforts.
- ✦ To support a per capita income of \$8,000 to 10,000 dollars, energy access needs to grow. Oil imports are likely to meet 90% of our requirements by 2030.
- ✦ Urbanization has only just begun in India and the opportunities to create sustainable cities should be on the backdrop of sustainable transport.
- ✦ It needs to be understood how environmental sustainability impacts livelihood in small countries.
- ✦ The North East has 40% of hydroelectric potential as well as the water potential of the country. Only about 5% of this potential has been realized.



MR RAJEEV KHER

Secretary, Department of Commerce, Ministry of Commerce and Industry, India

Least developed countries find it difficult to link trade and food security. It needs to be understood how environmental sustainability impacts livelihood in small countries.

GENDER: THE CORE ISSUE IN SUSTAINABLE DEVELOPMENT

Chair: Dr Ligia Noronha, Executive Director (Research Coordination), The Energy and Resources Institute (TERI)

- HE Mr Dasho Paljor J Dorji, Special Advisor, National Environment Commission, Bhutan
- Mr Muhammad Irfan Elahi, Chairman, Planning and Development Board, Government of Punjab, Pakistan
- Mr Adam Koniuszewski, Chief Operating Officer, Green Cross International
- Sir Jonathon Porritt, Founder-Director, Forum for the Future
- Dr Remi Quirion, Chief Scientist, Fonds de Recherche du Quebec
- Prof. Veena Sikri, Convener, South Asia Women's Network (SWAN) & Vice Chairperson, South Asia Foundation (SAF-India)



The session began with a discussion on gender equality, with Prof. Veena Sikri saying that no nation can achieve sustainable development without gender equality. Gender auditing and budgeting are needed at the policy level to ensure

that money is distributed equally. Women should be at the centre of the process for tackling child malnourishment. HE Mr Dasho Paljoro J Dorji proudly stated that in his country, Bhutan, there is no gender discrimination, and that women are powerful change-makers, participating in all levels of decision-making. Women in Bhutan work in almost every sector, and are also at high administrative posts.

Mr Muhammad Irfan Elahi stressed the need for a focus on social equality, and talked about Pakistan's significant reduction of the gender gap in the last two decades. However, there are still a lot of gaps in different sectors of society. He emphasized the need for primary education, and pointed to this

being the key catalyst in reducing the gender gap. He talked about the government policy of giving incentives to school-going children to attract them towards education and in turn become financially able to support their families. Highlighting the global scenario, he said that in 45 developing countries, women outnumber men at the secondary education level. He stressed upon the need to enhance budgets to support women.

Dr Remi Quirion agreed that gender has to be at the centre of sustainable development. There is need to use the 4E's concept of Equality, Environment, Education, Economy to ensure sustainable development that can be achieved by all. He said that his country is keen to share knowledge with other parts of the globe.

Mr Adam Koniuszewski highlighted the fact that rich communities are dominated by men, while poor ones are dominated by women. He mentioned that the average working hours for women are 18 hours a day, but for men, the World Bank has mandated eight hours. He added that most climate damage has been caused by men, and we need to collect data on the basis of gender. ■

VALEDICTORY SESSION

Chair: Rt Hon'ble John Gummer, Lord Deben, Former Secretary of State for Environment & Member of Parliament, House of Lords, UK
Summary of DSDS 2014 Proceedings

Valedictory Address: Mr Montek Singh Ahluwalia, Hon'ble Deputy Chairman, Planning Commission, Government of India
Vote of Thanks: Dr R K Pachauri, Director-General, The Energy and Resources Institute (TERI)



The Valedictory Session started with opening remarks from the chairperson, Rt Hon'ble John Gummer, Lord Deben, Former Secretary of State for Environment, and Member of Parliament, House of Lords, UK. He congratulated the organizers upon the successful completion of DSDS 2014, and highlighted the achievements of the various sessions conducted within the conference. He then invited Mr Montek Singh Ahluwalia, Hon'ble Deputy Chairman, Planning Commission to give his valedictory address.

Congratulating TERI on the success of the Summit, Dr Ahluwalia noted its contribution to awareness generation on sustainability issues. Speaking on the thematic focus of the Summit, he stated that the difficulty of handling scarce resources lies at the heart of sustainability.

In his opinion, from a sustainability point of view, food security is not a problem in the same way as water security and energy security are. Therefore, he moved to address both energy and water as challenges to sustainability. He opined that most people now recognize energy as a problem. Linking the issue of energy production with energy supply and energy efficiency, he stressed the issue of effective energy pricing. Turning to water, he highlighted the criticality of this highly scarce domestic resource, reminding delegates that that we need to be more concerned about water considering there is no scope for importing it. He said that in spite of not having a global externality like carbon emissions, the domestic externalities of water are huge. However, the most important aspect before us is the need for change in the present mindset where there is little public acceptability to pay for water.

The Valedictory Session came to an end with a vote of thanks by Dr R K Pachauri, Director-General TERI. He thanked the sponsors for their generous support, and the speakers and guests for their profound thoughts and active participation in the deliberations. He noted with appreciation the efforts put in by the organizing team and the TERI family in making the Delhi Sustainable Development Summit 2014, a success. ■

HIGHLIGHTS

- ✦ Cities need not only be smart but also have to be liveable and healthy.
- ✦ DSDS has emerged as a regenerative process of arriving at solutions, sharing of ideas and understanding the intricacies of climate change challenge, not an armchair discussion.
- ✦ There is a need to use the 4E's concept of Equality, Environment, Education, and Economy to ensure sustainable development that can be achieved by all.



RT HON'BLE JOHN GUMMER

Lord Deben, Former Secretary of State for Environment & Member of Parliament, House of Lords, UK

It is remarkable to see the way this Summit drew people from over 40 countries, listening to their views on how climate change is no longer a future fear but a present reality.



MR MONTEK SINGH AHLUWALIA

Hon'ble Deputy Chairman, Planning Commission, Government of India

For India, please don't worry about food security, but worry for energy and be frantic for water.

JOIN THE CONVERSATION ▶

CNN-IBN and Google Hangout: <http://dsds.teriin.org/2014/media.php>

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