

ATTAINING ENERGY, WATER, AND FOOD SECURITY FOR ALL

14th DELHI SUSTAINABLE DEVELOPMENT SUMMIT

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



DEALING WITH THE ENERGY, WATER, AND FOOD SECURITY CHALLENGE IN ASIA

Chair: Dr Prodipto Ghosh, Distinguished Fellow, The Energy and Resources Institute (TERI)

Announcement on South Asian Regional Hub for SDSN

Keynote Address: Prof. Jeffrey D Sachs, Director, Earth Institute & Special Advisor to the United Nations Secretary General (via Video)

- Dr Anindya Chatterjee, Asia Regional Director, International Development Research Centre (IDRC)
- Ms Lise Grande, UN Resident Coordinator & Resident Representative, United Nations Development Programme India
- Prof. Hironori Hamanaka, Chair, Board of Directors, Institute for Global Environmental Strategies (IGES)
- Mr Ajay Vir Jakhra, Chairman, Bharat Krishak Samaj (Farmers' Forum, India)
- Dr David Molden, Director General, International Centre for Integrated Mountain Development (ICIMOD)
- Dr Leena Srivastava, Vice Chancellor, TERI University



The session, chaired by Dr Prodipto Ghosh, saw the launch of the South Asian Regional Hub of the Sustainable Development Solutions Network (SDSN). Prof. Jeffrey Sachs, in his keynote address, insisted that the role of such environment and development think tanks is important. He also said that with an unabated increase in greenhouse gases, especially the 35 billion tonnes of carbon dioxide projected to be emitted solely due to fossil fuel extraction, and global temperature rise of 2–4 °C, a call for deep transformation is needed. Prof. Hironori

Hamanaka stressed that a nexus approach requires trade, investment, climate policies, and political will, as well as money and technology to meet the surging demand for food, water, and energy. He pointed out that the world needs an integrated qualitative assessment of the link between these issues at the regional, national, and continental levels. Mr Ajay Vir Jakhra introduced himself as a farmer from a developing nation, and thus, his perception of food security differs from that of the world. He also said that developing countries have a hard time dealing with their GDP indicators, and

they in turn ape their developed counterparts. He pointed out that it is the duty of the developed world to act responsibly and demanded that the world spend US \$100 billion on environmental impact mitigation. Dr David Molden raised the problem of air pollution and the challenges faced by mountain communities. Dr Leena Srivastava pointed out the absence of suitable mechanisms for the nexus, the lack of data availability, and the role of public finance. According to Dr Anindya Chatterjee, efforts made during the Green Revolution for wheat, corn, and rice should be extended to other crops. Ms Lise Grande said that as the Millenium Development Goals (MDGs) are going to expire next year, new sustainable development goals should replace them. Food security was the highest priority under the MDGs, and it is time to deepen this by adopting energy security for food as an Sustainable Development Goals (SDGs). ■

HIGHLIGHTS

- ✎ India, in order to meet its requirements of development, needs massive deployment of renewable resources such as solar, thermal, hydro, and wind.
- ✎ The nexus approach will be successful if all actors and sectors work closely together.
- ✎ The new SDG will lay groundwork for development with environmental concerns.

DSDS 2014 PARTNERS

www.dsds.teriin.org

Supported by



Exhibition Patron



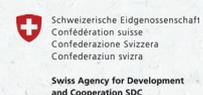
Star Partner



Premier Partner



Senior Partners



Co-associate Partners



Media Partners



THE ENERGY, WATER, FOOD TRIANGLE

Chair: Dr Leena Srivastava, Vice Chancellor, TERI University

- Prof. François Mancebo, Full Professor, IRCS (International Research Center on Sustainability)-IATEUR Rheims University
- Prof. Nebojsa Nakicenovic, Deputy Director General, International Institute for Applied Systems Analysis (IIASA)
- Mr Jake Schmidt, International Climate Policy Director, Natural Resources Defense Council (NRDC)
- Prof. Petteri Taalas, Director General, Finnish Meteorological Institute
- Dr Kazuhiko Takeuchi, Vice-Rector, United Nations University
- Dr Georges Valentis, Managing Director, Veolia Environment Institute

The session was chaired by Dr Leena Srivastava. Speakers emphasized interdisciplinary approaches to deal with the upcoming challenges of energy, food, and water. The panel reiterated that pace of development and our consumption habits, which will lead to a resource shortage, necessitate finding science-based solutions to these problems.

Prof. Petteri Taalas contextualized the challenge and demanded action on climate change by identifying key trends, including a 5 °C increase in temperature by the end of the decade, 80 cm rise in sea levels by the end of the century, and significant increases in natural disasters causing



heavy losses to agricultural production. He emphasized the close correlation between these natural trends and human economic trends, such as a projected doubling of the global middle class by 2030.

Dr Kazuhiko Takeuchi urged a shift in focus from maximizing energy, water, and food production as individual sectors toward optimization based on a nexus approach. He highlighted the gap between international proposals and local realities, and strengthened the case for localization by noting the impact that current food cultivation demands have on ecosystems. Dr Georges Valentis focused on the problem of water supply to cities, expressing confidence that a 24/7 supply was possible and affordable. Mr Jake Schmidt spoke of the problems occurring due to ignorance towards the maintenance and usage of water, as well as the man-made causes and new challenges of

water scarcity. Prof. Nebojsa Nakicenovic pointed out that though the world population has grown seven times over the last two centuries, our water consumption has gone up 20 times and energy use 50 times! Prof. François Mancebo reiterated that integration is the key to dealing with the problems of growing demand for energy, food, and water. ■



PROF. FRANÇOIS MANCEBO

Full Professor, IRCS (International Research Center on Sustainability)-IATEUR Rheims University

To deal with the growing demand of resources, a three-way interaction is crucial as we are going short on resources.

THEMATIC TRACKS

HOW TO STEER THE INDIAN INNOVATION SYSTEM TOWARDS SUSTAINABILITY?

Chair: Ms Urmi Goswami



The session highlighted the importance of innovation as a means to benefit the poorest of the poor. The AFD's mandate in India, it was discussed, is to provide financial and technical assistance to contribute towards a green economy. The National Innovation Council, it was pointed out, takes the top-down as well as a bottom-up approach. Four policy challenges were discussed: identifying the core of the innovation system, i.e., production; increasing share of multinational enterprises in R&D; extreme geographic and sectoral concentration in innovation and R&D; and the low amount of investment in green technology.

The panel agreed that the concept of Frugal Innovation, or *jugaad*, is prominent in India and the mindset of needing cheaper innovations or innovations making things cheaper is gaining importance. The development of banks was possibly a catalyst in bringing about a change in green innovation, with India being first to create a special agency for renewable energy — IREDA. ■

SPECIAL INTERACTIVE SESSION: HOW CAN LEGISLATORS HELP TACKLE CLIMATE CHANGE?

Chair: Lord John Prescott



The session began with the launch of the 'GLOBE Climate Legislation Study' book reviewing the parliamentary framework for climate policies of 46 countries. A discussion ensued among members of parliament from 15 countries on whether every country would accept a global legal climate policy framework. Every country present accepted that climate change is a scientific reality, having experienced unforeseen natural disasters in the recent past.

GLOBE India, involving all levels of governance to heed various voices, was brought up, as was the Mexican policy of opening its energy sector to the public to avoid state monopoly. Norway was noted as the country with the largest number of electric cars owing to incentives for citizens, and being the first to successfully start implementing measures to reduce ozone depletion, reduce the usage of asbestos, and promote recycling and consumption of lead-free gasoline. It was emphasized that each country must contribute to whatever extent possible. ■

TERI AND THE ROYAL NORWEGIAN EMBASSY INITIATIVES ON CLIMATE CHANGE



An overview and update session on the TERI-NFA initiative undertaken with support from the Royal Norwegian Embassy and in cooperation with Norwegian institutions took place. Dr R K Pachauri, Director-General, TERI described it as a partnership to explore issues of the future. Especially notable was his praise for the progress of Norwegian institutions in the sphere of climate modelling. HE Lars Andreas Lunde thanked Dr Pachauri for the opportunity to showcase Norwegian work at the forum, and congratulated him on addressing climate change issues at the highest level (through his leadership at the IPCC and at the grassroots (with TERI)). The session concluded with a short film showcasing the benefits of the partnership across research areas and the capabilities at TERI as well as a vision for collaboration. ■

PROMOTING ENERGY EFFICIENCY IN MICRO, SMALL AND MEDIUM ENTERPRISES

Chair: Dr Ajay Mathur



The session began with a presentation by Ernst & Young (E&Y) based on a study highlighting the current situation of energy efficiency in the MSME sector. The speakers emphasized the highly competitive environment that Indian MSMEs operate in, adding that adopting Energy Efficient Technologies (EETs) is more of a challenge than an opportunity. The MSME sector occupies a special place for innovation, employment, and export and adequate service mechanisms should be established around every demonstration project so that it can result in mass replication. It was suggested that information failures and the lack of a BEE energy conservation code for the MSME sector should be addressed, and a cluster-based bottom-up approach should be adopted. Examples of technology transfer programmes and lines of credit were also cited to demonstrate that an improvement is possible. It was also noted that energy efficiency potential is massive in the old/traditional sector of MSMEs, and local technology must be incentivized to create EETs as per the needs of each cluster. ■

WATER AND FOOD SECURITY

Chair: Mr Srinivas Iyer



This session highlighted the need to enhance water use efficiency in all sectors throughout the country. It was discussed that conservation agriculture can play a main role in the near future. The panelists felt there is a need to blend technology appropriately in order to ensure food security. Steps towards ending hunger while ensuring food security were also discussed. How to frame issues, what are the options available, and probable future solutions for water and food security, these were some of the points discussed by the panelists. Aquaculture, being a low-cost solution, was stated to be the best of all to solve water and food security related problems. Various important questions were put up during the session on issues such as farmers committing suicide, interlinking of rivers, prospects of growing pulses, millets and cash crops, sustainable use of chemical fertilizers, System of Rice Intensification (SRI), etc. The panel answered all the questions with multifaceted dimensions, ground realities, and in the purview of current policies and plans, etc. ■

FOOD, WATER, ENERGY NEXUS: APPROACHES TO SECURING NUTRITION FOR VULNERABLE POPULATIONS

Chair: Dr Ajay Mathur



Despite a growing population, urbanization, and land fragmentation, India has succeeded in achieving food security. However, people are consuming more calories and fats than protein and iron, leading to malnutrition. We now need efforts towards nutrition security. The panel felt that a behavioural change through education is needed to change people's food habits. Farmers need adequate technological support and their produce needs to be linked to a business model that helps produce nutrient-rich food and generates high revenue. This has been achieved through production of poultry, fish, milk, and horticulture, but these commodities are highly perishable and prone to diseases. Regional cooperation for high yield crops at low prices was seen as a possible solution, in addition to integrating SAARC and ASEAN to strengthen production and reduce the price. Middle income nutrition on a lower income budget is possible with adequate government support, and building trust among farmers with appropriate infrastructure, along with a transition in planning and management approaches to protect farmers' interests. ■

ROLE OF RENEWABLE ENERGY IN ENHANCING ENERGY SECURITY IN DEVELOPING COUNTRIES

Chair: Mr Gyan Chandra Acharya



The session began with special remarks by Dr R K Pachauri, who said that renewable energy (RE) will help marginalized people of developing countries, increase economic growth economy and reduce imports. The panel outlined the importance of understanding the concept of energy security with specific reference to developing countries, and to expand traditional definitions of energy security to include RE.

The speakers agreed that developing countries have sufficient RE resources but need better technologies to realize this potential, which requires political commitment and international cooperation to scale up efforts. They noted that

there is a trade-off between energy and food security, especially when it concerns biofuels, and though efforts towards RE are being made, conventional fuels would retain their importance. There was a call for a framework to enhance deployment of RE to achieve targets, particularly among the marginalized sections of society. ■

HIGHLIGHT

- The imperative for a balanced approach along with meaningful lifestyle changes among populations would ensure that we are able to change the future course of humanity.

PRESENTATION



MR JACK ANDRAKA, INVENTOR

"Youth must become more than just an interest group in global climate change."



DR CARLOS LOPES

Executive Secretary, UNECA & UN Under-Secretary-General

Collectively persuade the sceptics of climate change to change their views for a sustainable world.



PROF. HIRONORI HAMANAKA

Chair, Board of Directors, Institute for Global Environmental Strategies (IGES)

An informed transformed framework meeting demands without degradation is essential.

TACKLING THE ENERGY, WATER, AND FOOD SECURITY CHALLENGE IN AFRICA

Chair: Dr Fatima Denton, Officer In-Charge, African Climate Policy Center, Special Initiatives Division, United Nations Economic Commission for Africa (UNECA)

Keynote Address: Dr Carlos Lopes, Executive Secretary, UNECA & UN Under-Secretary-General

- HE Dr Raphael Edou, Minister of Environment, Climate Change and Reforestation, Benin
- HE Mr Henri Djombo, Minister of Forestry Economy and Sustainable Development, Congo
- Hon'ble Mass Axi Gai, Minister of Fisheries and Water Resources, Gambia
- HE Ms Ana Paulo Samo Gudo Chichava, Deputy Minister for the Coordination of Environmental Affairs, Mozambique
- Prof. Rolph Payet, Minister for Environment and Energy, Seychelles
- HE Prof Ephraim Kamuntu, Minister of Water and Environment, Uganda



The keynote speaker Dr Carlos Lopes pointed out that while Africa causes the least harm to the global climate, it will be the most affected. The continent needs to focus on the type of industrialization that will be coherent with efficiency and green development. He also spoke about the need for greater investment and research in climate science and natural disaster warning

systems, adding that we must collectively persuade the sceptics of climate change to change their views for a sustainable world.

HE Dr Raphael Edou said that climate change is not biased, it is faced globally; hence there is an urgent need for leadership, and sensitization and mobilization of citizens everywhere. HE Mr Henri Djombo endorsed this view, saying that the water, energy, and agriculture sectors need to be incorporated into a single strategy. Hon'ble Mass Axi Gai said that Gambia is sustainable in terms of safe drinking water, food security, and energy, but the increase in cost of energy use is leading to poverty in Africa, with the high cost of renewable technology creating a barrier. HE Ms Ana Paulo Samo Gudo Chichava said that energy, water, and food security has to be at the heart of every field in order to achieve sustainability globally, adding that Mozambique's efforts have been recognized in this arena.

Prof. Rolph Payet held over-production and over-consumption largely responsible for climate change, and said that all countries must collaborate to create a coherent policy for sustainable development including solutions to climate change-related natural disasters. HE Prof. Ephraim Kamuntu expressed a need to change our approach to development such that competitiveness and efficiency increase. The session was chaired by Dr Fatima Denton who summed up the speaker responses articulately. ■



HE DR RAPHAEL EDOU

Minister of Environment, Climate Change and Reforestation, Benin

There is an urgent need of leadership everywhere in the world.

HIGHLIGHTS

- ✎ Energy, water and food security are the three pillars of humanity.
- ✎ With diminishing cost of renewable energy, developing nations are now in a better position to provide energy access to offgrid areas.

COMMUNICATING FOR SUSTAINABILITY

Chair: Mr Lance Igonon, Managing Director, Public Relations, Citizen Group

- Mr Tim Nuthall, Media Manager, European Climate Foundation
- Mr Guido Schmidt-Traub, Executive Director, UN Sustainable Development Solutions Network
- Mr Nitin Sethi, Senior Assistant Editor, The Hindu
- Mr Ali Tauqeer Sheikh, CEO, LEAD Pakistan & National Program Director and Asia Regional Director, CDKN



The session began with the chair, Mr Lance Igonon making his introductory remarks on how sustainability has become a hot topic globally. However, he was quick to point out that the price and quality of products still take precedence over sustainability in terms of consumer purchasing habits. He stressed that there is a long way to go with regard to communicating better the precise meaning of sustainability and sustainable development. Mr Ali Tauqeer Sheikh's focal point was that we must clearly define our target audiences when communicating about sustainability, and avoid the trap of experts talking down to people. He said that vast improvements could be made to the process by listening effectively and learning at the community level. Mr Nitin Sethi enumerated the various stakeholders as being the industry, government, and civil society, stating that there is a contentious debate on sustainable development between industry and civil society.

He also pointed out that there is an international discourse on how to talk about sustainability which promotes competition and makes achieving sustainable development more difficult, adding that we also need to be aware of the geopolitics of the negotiation process of a sustainability document.

Mr Tim Nuthall suggested that effective communication of sustainability hinges on a good communication strategy that is informed and supported by concrete evidence. He observed how the psychology of the entire movement of communicating knowledge about sustainable development is fundamentally flawed as it primarily focuses on overwhelming target audiences with large amounts of data. He emphasized how initiatives such as talking to local mining communities would be more productive than constantly churning out reports.

Mr Guido Schmidt-Traub noted that the response measures in terms of sustainable development are not at par with the depth of the challenge that is being faced, and this can be attributed to a fundamental failure in communication. His solutions were to re-brand sustainability in more economic terms and instate good governance. Overall, it was felt that customized communication strategies involving simplification of science and greater clarity on terms such as sustainability and the sustainable development framework should be developed for specific target audiences. ■

THEMATIC TRACK

EXTREME RISKS, VULNERABILITIES, AND COMMUNITY-BASED ADAPTATION IN INDIA (EVA): A PILOT STUDY

Chair: Dr Prodipto Ghosh



In his opening remarks, Dr R K Pachauri thanked the Royal Norwegian Embassy for their collaboration on the EVA project, a remarkable example of science and knowledge that can be used for the benefit of the people. The session began with an overview presentation on the EVA project, with a discussion of its objectives and research activities, including the methodology, impacts, and policy recommendations in the context of the 2013 drought in Jalna District, Maharashtra. The main goal of the project is to assess the enabling conditions for effective community-based adaptation to the impact of extreme events at the community level. It was suggested that Panchayats should be given more power and financial support so that they have greater autonomy to make their own decisions, but for this a proper information system for weather forecasting and agriculture at the village level needs to be implemented. There was also a discussion on the climate change adaptation plans and policies for dry land areas in Africa. The EVA booklet was launched in this session. ■