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Water Security, Climate Change and Sustainable Development



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SEMINAR ON

**Water Security,
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A major problem confronting the entire world is how to ensure a high rate of economic growth that is both sustainable and equitable so that hundreds of millions of people living in poverty can have significantly better standard of living and the middle classes can at least maintain their current lifestyles and can even further improve them. Unfortunately the growth rates have been anaemic in recent years in the industrialized countries. The latest growth rates in two major emerging country giants, China and India, have been the envy of the developed world but they need to be further scaled up to lift their people out of poverty.

The global situation is further complicated by the fact that even though water is an essential component of sustainable development, its management practices have consistently left much to be desired in both developed and developing countries. While in recent years, there are signs of improvements in certain countries, these rates of improvements are not fast enough to make significant differences. Research conducted by the Third World Centre for Water Management shows that at least 3.5 billion people in the world do not have access to clean water which is safe to drink. The Centre also estimates that only about 12% of the people in Latin America have access to proper wastewater treatment and disposal services. The situations in Asia and Africa are no better. As a result most of the water bodies in and around urban centres of the developing world are now already heavily polluted and cannot be used for many purposes without extensive and expensive treatments.

Water, unlike many other natural resources like oil, gas and minerals, is a renewable resource, and thus can be used, treated properly and reused again. This cycle can continue numerous times with proper management practices. For example, currently in Singapore, wastewater after extensive treatment becomes of higher quality than tap water. Part of this highly treated water is then pumped directly to drinking water reservoirs and also sold to industries requiring very high quality of water.

Thus, contrary to current widespread belief, the world is not facing a water crisis because of physical scarcities of water but it is facing a crisis because of poor water management. The good news is that with good water management, the world has enough water to meet all the needs of some 9.3 billion people by 2050.

Gujarat is a semi-arid state where availability of water has been historically a problem. It has made an extraordinary move by constructing a State-Wide Drinking Water Supply Grid. It consists of 2,678 km bulk pipeline, 120,769 km distribution pipeline, 23,693 storage structures providing 2950 MLD of clean and treated water to 40 million people in the state.

The global water problem has been made further complicated by the uncertainties imposed by Climate Change. Water is an important medium through which climate change will affect sustainable development. Historically water management has been a difficult problem, but new uncertainties like changing rainfall patterns due to global warming will make it increasingly more and more complex.

All industries need water to operate. With increasing water requirements for all types of water uses, industry will have to learn to do more and more with less and less water. This can be made possible by using latest management practices and best available technology.

The Seminar on Water Security, Climate Change and Sustainable Development is bringing together the world's leading academics, very senior officers of major international organizations, presidents of important NGOs and captains of the world's major industrial concerns to discuss the latest developments and best practices in terms of water security, climate change and sustainable development. It will provide a unique platform for exchange of opinions between leading experts from different disciplines, sectors and issues. Such a gathering of the world's leading experts has simply not happened before.

S P E A K E R S



DR. RAJENDRA K. PACHAURI
CHAIRMAN, IPCC AND CEO, TERI, NEW DELHI, INDIA

Dr. Rajendra Kumar Pachauri is the Chair of the Nobel Peace Prize-winning Intergovernmental Panel on Climate Change (IPCC), the scientific intergovernmental body that provides decision-makers and the public with an objective source of information about climate change. He is also Director General of TERI (The Energy and Resources Institute), a major independent research organisation providing knowledge on energy, environment, forestry, biotechnology, and the conservation of natural resources. He was Senior Adviser to Yale Climate and Energy Institute (YCEI), prior to which he was the Founding Director of YCEI. He was awarded the second-highest civilian award in India, the 'Padma Vibhushan' in January 2008 by the President of India and received the 'Officier De La Légion D'Honneur' from the Government of France in 2006. He has been conferred with 'The Order of the Rising Sun, Gold and Silver Star' by His Majesty Akihito, Emperor of Japan, the 'Commander of the Order of the White Rose of Finland' by the Prime Minister of Finland, the 'Commander of the Order of Leopold II' by the King of the Belgians and Mexican Order of the 'Aztec Eagle' by the President of Mexico in June 2012.

ABSTRACT : IPCC'S LATEST REPORT AND ITS IMPLICATIONS FOR INDIA.

The Intergovernmental Panel on Climate Change (IPCC) has recently completed its Fifth Assessment Report (AR5), in which major findings have been presented which have both short and long term implications for water security and related areas. The Summary for Policy Makers (SPM) of the Synthesis Report (SYR) of this assessment clearly highlights changes in the global water cycle, the warming of the oceans and their acidification as a result of 30% of the carbon dioxide emitted since the beginning of industrialization, being absorbed by the oceans. There is also an increase in extreme precipitation events which would clearly effect availability of water throughout the year. This, combined with increase in heat waves and average temperature increases as a result of climate change, will also increase evaporation effects, soil conditions for agriculture as well as availability of water for irrigation. Overall, climate change would impede efforts at sustainable development, while at the same time sustainable development itself would help with adaptation and mitigation measures to deal with climate change.

<http://www.ipcc.ch/index.htm> ; <http://www.teriin.org/profile/profile/emp/1>



PROF. ASIT K. BISWAS
DISTINGUISHED VISITING PROFESSOR, NATIONAL UNIVERSITY OF SINGAPORE,
LEE KUAN YEW SCHOOL OF PUBLIC POLICY, SINGAPORE

Prof. Asit K. Biswas is universally acknowledged to be one of the world's leading authorities on water and environment management. He is a co-founder of the Third World Centre for Water Management in Mexico, and Distinguished Visiting Professor at the Lee Kuan Yew School of Public Policy in Singapore. He was a member of the World Commission on Water, and a founder of the International Water Resources Association and the World Water Council. He has been a senior advisor to 20 governments, six Heads of the United Agencies, Secretary General of OECD, and many other major international organizations. Among his numerous prizes are the two highest awards of the International Water Resources Association, Honorary Degree of Doctor of Science from three major European and two Indian Universities. Prof. Biswas received the Stockholm Water Prize for "his outstanding and multi-faceted contributions to global water resource issues", as well as the Person of the Year Award from Prime Minister Harper of Canada, and Aragon Environment Prize of Spain. He was selected as the one of the 10 "Water Trailblazers" by Reuters.

ABSTRACT : WATER, CLIMATE CHANGE AND INDUSTRIAL DEVELOPMENT.

Over the past two decades, climate change has steadily climbed up the political agenda whereas water has basically gone nowhere. Climate change is undoubtedly a critically important issue. However, over the near- to medium-term, water is at least as important, if not a larger threat, than climate change. Over 3.5 billion people still do not have access to clean water. In India, nearly all water bodies near urban centres are heavily polluted and can no longer be used without expensive treatments. In China, 46% of rivers have disappeared because of overuse during the past 60 years. Millions of people are dying each year due to water-related diseases. In many countries, costs of poor water management are now approaching 5% of GDP. Nearly 2/3rd of the Fortune 500 companies currently consider water poses a substantial business risk. Some major MNCs are now making long-term investments decisions on the basis of adequate availability. MNCs like Nestlé, Coca-Cola and Unilever are taking active steps to reduce their water footprints with new and innovative technologies. For example, this year Nestlé's factory in Moga, Punjab, will become the first factory which will add water to the environment, instead of extracting from it. UN estimates that droughts are the world's costliest natural disasters, inflicting \$6-8 billion annual damages. As W.H. Auden has noted "Thousands have lived without love, but no one without water."

<http://lkyspp.nus.edu.sg/faculty/biswas-asit/> ; <http://www.thirdworldcentre.org/english.html>



DR. PETER BRABECK-LETMATHE
CHAIRMAN OF THE BOARD, NESTLÉ, VEVEY, SWITZERLAND

Peter Brabeck led the Nestlé Group from 1997 to 2008, first as CEO, till 2005, and then as Chairman and CEO. In April 2008, he handed over the office of CEO and remained Chairman of the Board of Nestlé S.A. He is Vice-Chairman of L'Oréal, Chairman of Delta Topco (Formula 1), member of Exxon Mobil Corporation Board, Vice-Chairman of Foundation Board of the World Economic Forum, and Chairman of "2030 Water Resources Group." Among his numerous awards are Austrian Cross of Honour for services to the Republic of Austria, "La Orden Mexicana del Águila Azteca," Schumpeter Prize for outstanding contribution in disruptive Innovation, and Honorary Degree of Doctor of Laws from University of Alberta.

<http://www.nestle.com/aboutus/management/boardofdirectors/peterbrabeckletmathe>



MR. MOGENS JENSEN
MINISTER FOR TRADE AND DEVELOPMENT COOPERATION

Mr. Mogens Jensen is the Minister for Trade and Development Cooperation, Denmark. His distinguished Parliamentary career includes serving as the Vice-Chairman of the Social Democratic Party in 2012, Government auditor from 2011 to mid 2013, Chairman for the Social Democratic Party parliamentary group, 2011-2012, Former former spokesperson for culture and media, former member of the Cultural Affairs Committee, The Foreign Policy Committee, The Foreign Affairs Committee, The Legal Affairs Committee, The Greenland Committee, and The Faroe Islands Committee. He is also the former chairman for the Danish Delegation to the Parliamentary Assembly of the Council of Europe. He has consulted various reputable institutions like the Danish Confederation of Trade Unions, LO and worked as a consultant on developing countries, Workers Education Association (AO), Consultant on culture, Workers Education Association, (AO), Secretary of Education, Danish Social Democratic Youth and The Trade Union's leadership education.

ABSTRACT :

India is projected to be reaching a 'water stressed' situation and will face the largest urban expansion in next fifty years with far reaching consequences for water demand and consumption patterns. But it is also a great opportunity. It calls for far more efficiency across sectors. India and Denmark face different challenges but can share experiences and cooperate on a wide range of areas.

<http://um.dk/en/about-us/the-ministers/the-minister-for-trade-and-development-cooperation/>



PROF. BENEDITO BRAGA
PRESIDENT, WORLD WATER COUNCIL, BRAZIL

Prof. Benedito Braga is a professor of Civil and Environmental Engineering at Escola Politecnica of University of São Paulo, Brazil. He holds a Ph.D. in water resources from Stanford University and is a Honorary Diplomate of of the American Academy of Water Resources Engineers. He is the author of more than 200 papers and 25 books and chapters of books published internationally. Braga was member of the Board of Directors of the Brazilian National Water Agency from 2000–2009. President of the Intergovernmental Council of International Hydrologic Program of UNESCO (2004-2005). He is the President of World Water Council responsible for the organization of the World Water Forums since 2012.

ABSTRACT : CLIMATE CHANGE AND WATER SECURITY: THE NEED FOR INCREASED RESILIENCE

When discussing climate it is imperative to understand that it is the water sector that is most affected by its variability and change. Peoples' concerns about climate are not climate per se, but the consequences of excess or lack of water resources due to climate change. For example most of the reasons given that we should be concerned about climate change have to do with impacts associated with water. By and large, all the impacts of climate variability are manifested through, by and with water whether you talk about impacts on ecosystems or hydrological extremes. Policy recommendations to the climate community towards the incorporation of water resources development need to be incorporated in the debate. Poor countries in Africa are already suffering with the vagaries of climate today. Annual GDP of some countries in that continent have a straight correlation with annual rainfall. Low rain, low GDP. Therefore, if we store more "rain", that is to say more water in reservoirs, then we will be able to solve this equation. Disaster risk reduction and climate change adaptation should be essential components of development planning. Do the rich countries have high resiliency to water related disasters because they are rich or did they become rich because they invested in water resilience measures even when poor? The developed countries are more likely to think of environment and security in terms of global environmental changes and developing countries are more concerned with the human security implications of local and regional problems. Water uses and the role of water are different in the different socio economic circumstances of people. Are we raising anxieties about climate change among publics while inadvertently denying those publics the means to deal with these events?

<http://www.worldwatercouncil.org/about-us/organisation/president/>



DR. BINDU LOHANI
VICE-PRESIDENT, ASIAN DEVELOPMENT BANK, PHILIPPINES

Dr. Bindu N. Lohani is Vice-President of the Asian Development Bank (ADB) for Knowledge Management and Sustainable Development and a member of the ADB's Management Team. Prior to assuming his current post, Mr. Lohani was Vice-President (Finance and Administration) of ADB. Dr. Lohani's professional expertise and experience are in environment, water, climate change and sustainable development. He is a member of the International Advisory Panel of the Institute of Water Policy (Singapore). He is an elected member of the National Academy of Engineering of United States, and is a diplomate of the American Academy of Environmental Engineers and Fellow of the American Association for the Advancement of Science Council.

ABSTRACT : ECONOMIC GROWTH AND CLIMATE PROOFING ASIA THROUGH SUSTAINABLE WATER RESOURCES MANAGEMENT.

Asia has demonstrated remarkable economic growth over the past decade. According to Asia 2050 study, it is now considered to be the main driver of future global economic growth. Despite successes, competing demands for finite water resources coupled with climate change impacts now pose one of the highest risks to sustaining high economic growth within the region. Managing a more complex water environment requires smarter solutions. India is already committed to goals for increasing water use efficiency in irrigated agriculture, improving sanitation and a more holistic planning of water resources. Despite the actions being taken, India remains particularly challenged in improving urban water security where it scores only 1 (the lowest level) out of a 5-point index according to Asia Water Development Outlook, 2013. With an annual increase of 3% in urban population - India is expected to have 55% of its inhabitants residing in cities by 2050. Therefore, urban water security will become increasingly critical to enhance people's livelihood and sustained economic growth. This paper will consider suitable interventions to meet future demands for water while addressing climate change risk. These include integrated planning of water resources, tackling wastewater management and reuse, and providing water supply systems that are both financially and environmentally viable. The concept of green cities as the future of Asia's economic growth centers will be discussed, building on examples from the region.

<http://www.adb.org/about/management>



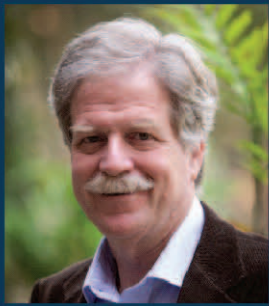
MR. JEREMY BIRD
DIRECTOR GENERAL, INTERNATIONAL WATER MANAGEMENT INSTITUTE, SRI LANKA

Mr Jeremy Bird specializes in Water Resources Policy, Law, Management and Institutions. His career includes 3 years as CEO of the Mekong River Commission, research and consultancy work across Asia and Africa and experience with project development with ADB, Hydropower Projects for a number of development banks and advising the German Government on the Bonn 2011 Conference on the Water, Food & Energy Security Nexus. Mr Bird was also part of the Secretariat of the World Commission on Dams, a multi-stakeholder global policy initiative assessing the governance environmental & social issues.

ABSTRACT : ADAPTING TO CLIMATE VARIABILITY IN ASIA—ALREADY A REALITY FOR WATER MANAGERS?

Addressing variability in rainfall patterns has always been an integral part of the job of water managers, whether it be designing interventions for flood management, considering the reliability of water supply for irrigation or advising on priorities during drought conditions. The conventional tools and approaches employed however are no longer sufficient to deal both with the significant uncertainties and increases in extremes that result from climate change, and the expectations of stakeholders in an increasingly connected world. The use of modern technology, 'big data' and low-cost communications provide a range of new opportunities for addressing these challenges. But these need to be matched with physical, institutional and management innovations that place adaptation and responsiveness to variability at the center of the approach and require us to seek solutions that transcend sectors. The presentation will examine a number of these challenges and possible solutions at a range of scales, from climate smart villages to national policy, with particular focus on Asia and India in particular.

<http://www.iwmi.cgiar.org/about/from-the-director-general/>



DR. DAVID JAMES MOLDEN
DIRECTOR GENERAL, INTERNATIONAL CENTRE FOR INTEGRATED MOUNTAIN DEVELOPMENT (ICIMOD)

Dr David James Molden is a research for development specialist specializing in water resources and sustainable mountain development, with an interest in integrating social, technical, and environmental aspects of natural resources management. He has contributed to the publication of over 200 works in books, refereed journals, research and project report series, the media, and educational materials. He has received many awards including the Outstanding Scientist Award of the Consultative Group on International Agricultural Research (CGIAR) in 2009.

ABSTRACT : THE CHANGING HIMALAYAS AND WHAT IT MEANS DOWNSTREAM.

The Hindu Kush Himalayan mountain region is the source of 10 of Asia's major river basin serving over 1.3 billion people. The mountains are undergoing rapid change from climate and socio economic transformations. Perhaps most striking is climate change, with the increased melting of the Himalayan snow and glaciers. Yet a myriad of other changes are taking place including increasing demand for water for energy and food production, high outmigration of the population from rural areas, increased hazards of floods and droughts, and rapid urbanization. What does all this mean for mountain people, and downstream populations? The presentation will cover the status and trends of water in the Himalayas, some key challenges for management and water infrastructure, and strategies to adapt and take advantage of opportunities that come with change.

<http://www.icimod.org/?q=7425>



MR. MADSNIPPER
GROUP PRESIDENT / CEO OF GRUNDFOS.

As Media Consultant, from the early 90s to Executive Vice President, Markets & Products, Member of Corporate Management and Chief Marketing Officer and member of Management Board in 2011, he has held various prestigious positions with the Lego Group. He has a MSc in Business Administration and a BSc in Business Administration. Currently he is a Member of the Board, Bang & Olufsen A/S and Member of the General Council of the Confederation of Danish Industries (DI). In the past he has also been a Member of the Board, Stokke A/S "Userdriven Innovation" Danish Ministry of Business and Kompan A/S. he He has also served as the Chairman of the Board, Design School Kolding and Member of the boardBoard, Merlin Entertainments Plc. Global entertainment.

ABSTRACT :

WATER SECURITY, CLIMATE CHANGE AND SUSTAINABLE DEVELOPMENT are critical elements that the Government, industries and communities need to work on collectively. With this point of departure Nipper will address the fact that we also need to consider another key aspect energy. It is imperative that we approach the water-energy nexus in a holistic manner, especially as we know that the demand for water and energy will increase substantially as the country urbanizes and more people move above the poverty line. Secondly, Nipper will call for an even closer co-operation between the public and the private sector. Building on the strides the state of Gujarat has taken, including water India's stronger foundation for sustainable development, including key areas such as the Clean India campaign, Ganga Action Plan and 100 Smart Cities, the point of departure for a stronger co-operation is stronger than ever before. Corporates and industries now need to play a key role in supporting all-round sustainable development including ensuring water and energy efficiency and minimizing their environmental footprint. Sustainability must be an integral part of everything we do not least of products and solutions, the way business operates, the way we do business and how we work with the communities we operate in. Sustainable solutions exist and the industry is ready to take the co-operation on the water and energy challenges to the next level.

<http://www.grundfos.com/about-us/group-management-and-structure/grundfos-group-management/mads-nipper.html>



MR. JOPPE CRAMWINCKEL
DIRECTOR WATER, WORLD BUSINESS COUNCIL FOR SUSTAINABLE DEVELOPMENT

Mr Joppe Cramwinckel leads the water programme of the World Business Council for Sustainable Development. Before joining the WBCSD, he was Sustainable Development Lead for Shell International Exploration and Production B.V and served as environmental lead in Brunei and Oman. In 2003 he became the Shell Issue Manager for Water. He is member of a number of Advisory Boards/Advisory Councils, among others, the European Water Partnership, the Stockholm World Water Week and is a member of the Supervisory Council of the Water Footprint Network.

ABSTRACT : WATER, CLIMATE CHANGE AND BUSINESS.

Over the past decade business changed their practices and processes in terms of water conservation, wastewater treatment, recycling and reducing carbon footprints. Supported by activities of organizations like the WBCSD, awareness was raised on the risk water, energy and climate challenges poses for economic growth. This will be illustrated by the response to the WBCSD “Business in the World of Water” scenarios. This WBCSD Water Scenario project aimed to help business understand the present and anticipate the future of the world’s water. Companies improved their water management performance significantly. In doing so, they extensively used risk assessment tools like the Global Water Tool. This performance improvement will be illustrated by diving deeper in the performance of leading WBCSD member companies. More recently the link between the energy, water and climate challenges has been better understood by the business community. Climate change will influence water availability which in turn will exacerbate the conflict of competing demands for water as well as water-related stresses for the energy sector. Water is used for cooling thermal power plants; in the extraction, transport and processing of fuels; and, increasingly, in irrigation to grow biomass feedstock crops. Severe droughts and warm temperatures could easily lead to energy supply disruptions. This growing awareness will be illustrated by the outcome of a survey carried out by the Global Electricity Initiative among the CEO’s of companies responsible for 72% of global generating capacity, which highlighted the emergence of access of water and land as the key issues for the power sector. We need therefore to respond to the energy water and climate challenges by projecting the potential impact of climate change on water availability and other weather events – and by extension, the impact on energy systems. This requires to down scale and integrate climate models. We also need to develop new business models that integrate resilience (e.g. more resource efficiency) and foster stakeholder discussions, interdisciplinary collaboration and integrated actions.

<http://www.wbcd.org/newsroom/bios/joppe-cramwinckel.aspx>



PROF. TAIKAN OKI
INSTITUTE OF INDUSTRIAL SCIENCE, UNIVERSITY OF TOKYO

Prof. Taikan Oki received his Ph.D in Civil Engineering at The University of Tokyo in 1993. His research interests are the fields of global hydrology and world water resources including the virtual water trade and water footprint. He is one of the coordinating lead authors for the chapter “Freshwater Resources” of the IPCC WGII AR5. He got many awards such as the Biwako Prize for Ecology in 2011, and the Japan Academy Medal in 2008. He is the first Japanese AGU Fellow in its Hydrology Section.

ABSTRACT : INTEGRATED WATER RESOURCES MANAGEMENT IN A CHANGING WORLD

The real hydrological cycles on the Earth are not natural anymore. Humans are now driving changes in atmospheric processes through emission of green-house gases and land cover changes directly and indirectly. Global mean temperature is projected to rise approximately proportional to the cumulative total anthropogenic CO2 emissions from 1870 (AR5, IPCCWGII). Temperature rise itself will have direct impacts on the availability of water resources through changing flow regimes in snow-dominant or glacier-effluent river basins, and it will also be associated with sea level rise, which will accelerate sea water intrusions to surface and ground water and reduce freshwater availability, because thermal expansion is one of the major causes of observed and projected sea level rises. Further, climate change is projected to alter hydrological cycles: changing temporal and geographical patterns of hydrological components, such as precipitation, evapotranspiration, runoff, and ground water recharge, and particularly in their extremes. Consequently, the frequency of floods and/or droughts is projected to increase some parts of the world, and substantial transformation would be needed for water resources management. However, as articulated in the AR5 of IPCCWGII, “Risk of climate-related impacts results from the interaction of climate-related hazards (including hazardous events and trends) with the vulnerability and exposure of human and natural systems”, increasing frequency of natural hazards, such as torrential rainfall or long-lasting heat wave, alone will not cause damages on human and natural systems, and both climate and social changes are relevant for planning sustainable development in the future. AR5 (WGII) also says “Significant co-benefits, synergies, and tradeoffs exist between mitigation and adaptation and among different adaptation responses; interactions occur both within and across regions”. Mitigation and/or adaptation actions should not be planned in an isolated manner, but should be integrated into wider frameworks, such as integrated water resources management, land use planning, disaster risk management, and sustainable development. It would preferably be integrated into a risk management framework assessing and managing possible global risks, and ultimately pursue increasing human well-beings.

<http://hydro.iis.u-tokyo.ac.jp/~taikan/Home.html>



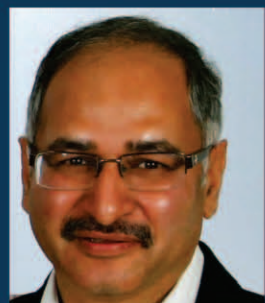
MR. ASIM PAREKH
VICE-PRESIDENT TECHNICAL, COCA-COLA INTERNATIONAL

As Vice President Technical, Mr Asim Parekh heads Technical Function for the India & South West Asia Business Unit. He oversees the Product and Package development, Supply Chain, Scientific Regulatory Affairs, Quality, Environment and Safety Management. His total work experience spans 28 years and includes companies such as Cadbury, Danone India and Britannia before moving to Coke. Asim holds Bachelor's degree in Mechanical Engineering from IIT, Kharagpur.

ABSTRACT : CONSTRUCTIVE DISCONTENT—AN APPROACH TO SUSTAINABLE DEVELOPMENT.

The term "sustainable development" was coined in the paper "Our Common Future", released by the "Brundtland Commission" way back in 1987. It stated "Sustainable development is the kind of development that meets the needs of the present without compromising the ability of future generations to meet their own needs". The concept of sustainable development can be interpreted in many different ways, but at its core is an approach where everyone has a role to play in making the world a better place and passing along a healthier planet to the next generation. It also means to undertake a journey of development that looks to balance different, and often competing, needs against an awareness of the environmental, social and economic limitations we face as a society. Corporations have realized that it is very much possible for a business to grow in a more sustainable way. Today, as nations, businesses and institutions all over the world scramble to find ways to solve the calculus for growth, a large part of the solution lies in sustainability-driven innovations. Sustainability now sits firmly on the main agenda of many corporations and Business leaders see sustainability reshaping their business environment and are committed to reorienting their companies to take advantage as they scale up their contribution to global priorities. The caution here is that sustainability has to be seen through the lens of growth and differentiation rather than focusing on incremental mitigation. An approach of Constructive Discontent to Sustainable Development ensures that the journey of sustainability is always on growth path, keeping a realistic view on scale of challenges. There are various examples to prove that companies with this approach have been able to achieve substantial results in a reasonable timespan, which to others seemed not possible to achieve. These companies seek out new innovations, technology and innovative way of working while remaining constructively discontent and not allowing themselves to get complacent or satisfied with incremental progress.

http://www.coca-colaindia.com/presscenter/people_gallery.html



MR. SANJAY KHAJURIA
EXECUTIVE VICE-PRESIDENT, NESTLÉ

Mr. Sanjay Khajuria holds a Degree in Science and in Law. He is presently Senior Vice President – Corporate Affairs, Nestlé India Limited and responsible for South Asia Region. His role includes managing external relations, public affairs, media relations and Creating Shared Value. He is President CIFTI – FICCI and has previously headed FICCI task force on Water Management. He has a total experience of about 25 years and has also worked with DCM, Pepsi and Nestec S.A., Switzerland.

ABSTRACT : WATER, CLIMATE CHANGE AND SUSTAINABLE DEVELOPMENT

Climate change and challenges around limited water resources are perhaps one of the most potent threats for society and business and engages all stakeholders. The food processing sector, in particular, faces the considerable challenge of producing foods which are safe, nutritious and affordable and produced in a way that it does not adversely impact the natural resources. Nestlé in India, for example converts 1.5 Million tons of perishable agri produce to safe and nutritious foods.

Nestlé has been frontrunner in the efforts towards creating sustainable development. It has participated in industry efforts to help cocoa and coffee farmers adapt to climate change, while also tackling deforestation and helping farmers in dairy farms. Nestlé's efforts to further reduce greenhouse gas emissions at factory sites have involved energy efficient programmes, the use of cleaner fuels such as natural gas and biomass and through the Nestlé Environmental Management System it is committed to the continual improvement of the environmental performance of its activities.

It is committed to provide climate change leadership and has ongoing programmes in several areas that focus on water preservation, natural resources efficiency, bio-diversity conservation and no-deforestation, air emissions reduction, climate change adaptation, and zero waste. As a result of the rigorous activities Nestlé is today highly rated in the Dow Jones Sustainability Indexes, CDP Climate Performance Leadership Index and OXFAM Climate Change ratings.

<http://www.nestle.com/media/media-contacts/Nestle-India>



MR. BJORN KAARE JENSEN
DEPUTY DIRECTOR GENERAL OF THE DANISH GEOLOGICAL SURVEY OF DENMARK AND GREENLAND (GEUS) AND THE CHAIRMAN OF THE DANISH WATER FORUM (DWF).

Mr. Bjorn Kaare Jensen is a former Assistant Professor at the Technical University of Denmark and Research and Innovation Director of DHI. He has 20 years of management experience at all levels in the Danish water sector and 30 years of professional experience within a number of areas related to water, environment and climate change. Bjørn Kaare Jensen has extensive experience working internationally both in the EU and the Third World Countries in Africa and Asia. Bjørn Kaare Jensen is a board member of a number of national and international networks and committees, and he has a broad international business and research network. He is currently leading the groundwater partnership within China Europe Water Platform (CEWP), he is co-leading the European track to the World Water Forum in Korea in 2015, and he is the Danish national expert in the EU Horizon 2020 Challenge 5.

ABSTRACT : SUSTAINABLE GROUNDWATER MANAGEMENT AS A KEY ELEMENT TO ENSURE WATER SECURITY AND CLOUD BURST MITIGATION

Since drinking water supply in Denmark is entirely relying on groundwater, water security and cloud burst mitigation in Denmark is dependent on the ability to manage the whole water cycle with sustainable groundwater management as a key element. Sustainable groundwater management serves multiple purposes, including water security – to ensure supply of safe and enough drinking water for various users (household, agriculture, industry, recreational, etc.), water protection – to protect against contamination from point and diffuse sources, climate change resilience by managing the whole water cycle to reduce climate change effects, and to ensure compliance with the European Water Framework Directive in terms of maintenance and/or restoring environmental acceptable standard of water bodies. The strong dependency of groundwater gives a strong incentive to protect the groundwater resources, to save and reuse groundwater and to increase groundwater recharge. It also gives a basis for a high awareness on groundwater quality in the population and for keeping high water price. There are a number of key elements in the Danish approach to groundwater management, and one of the key characteristics is a distinct partnership approach where many different stakeholders from public institutions to private companies work closely together to find solutions to the challenges. The ground-water management in Denmark is based on a number of national programmes, in which such partnerships have been established, which are: the national groundwater mapping programme, the national ground-water monitoring programme, the contaminated site registration and remediation programme, the national programme for assessment of pesticide leaching to groundwater, a cloud burst programme for mitigation of the adverse effects of extreme rainfalls, and a national water resource model. These programmes go hand in hand with a very strong focus on research and innovation in the Danish water sector and a transparent and logical organisational set-up for the public management of the sector, and a number of demand management incentives creating public awareness to save and reuse drinking water. This presentation provides an insight in the political mind-set behind the Danish approach to sustainable groundwater management and the organisation of the management set-up, the different stakeholders involved, the cooperative approach, the tools & the technologies.

http://www.danishwaterforum.dk/about_dwjf/board.html



MR. JOHN RUSSELL
STRATEGIC PROJECT MANAGER, SHELL INTERNATIONAL

John Russell is a strategy project manager in Shell's group strategy and business environment team where he is global lead for Shell's work on city development. Prior to working at Shell John has had a long career in the British Civil Service where he was most recently the Chief Operating Officer for Infrastructure UK a unit of Her Majesty's Treasury.

In this role he developed the UK's first National Infrastructure Plan. He has also had roles as Deputy Director for Growth and Productivity in the Treasury and Head of household energy efficiency policy in the UK Department of Energy and Climate Change.

ABSTRACT : URBAN PATHWAYS: THE DEVELOPMENT OF URBAN INFRASTRUCTURE SOLUTIONS IN SURAT

The presentation will focus on water, wastewater, energy use and greenhouse gas emissions within the context of sustainable urban development, with Surat as a case study.

Alternative scenarios are being developed to help decisionmakers to weigh the benefits and costs of appropriate future policies. The potential replicability of the methodology developed for other Indian cities will also be explored.

<http://www.shell.com/>

MODERATOR



MR. DAVID EADES
PRESENTER, BBC NEWS, LONDON

Mr David Eades is a mainstream presenter with BBC World News. He has been with the BBC for 25 years, working as Europe Correspondent, Ireland correspondent, and Global Sports News Correspondent. David has interviewed presidents and prime ministers, leading industrialists, sports stars and entertainment leaders.

He has broken exclusive stories on corruption in sport and politics, as well as covering some of the biggest stories of a generation from the death of Princess Diana, the Good Friday Agreement, plus major events including Olympic Games. He also hosts the flagship BBC Radio news and current affairs programme 'The World Tonight'.

<http://tvnewsroom.org/biography-images/david-eades-3514/>

RAPPORTEUR



DR. CECILIA TORTAJADA
SENIOR RESEARCH FELLOW, LEE KUAN YEW SCHOOL OF PUBLIC POLICY, SINGAPORE, A FORMER PRESIDENT, THIRD WORLD CENTRE FOR WATER MANAGEMENT, MEXICO

Dr. Cecilia Tortajada is Senior Research Fellow, Institute of Water Policy, Singapore. She has been an advisor to major international institutions like FAO, UNDP, JICA, ADB, OECD and GIZ, and has worked in several countries in Africa, Asia, North and South America and Europe on water, natural resources and environment-related policies. She also conducts independent studies on Corporate Social Responsibility of major multinational corporations.

She is a past President of the International Water Resources Association, editor-in-chief of the International Journal of Water Resources Development, editor of book series on Water Resources Development of Oxford University Press, and Water Resources Development and Management of Springer. She is the author and editor of more than 30 books by major international publishers. Her work has been translated into Arabic, Chinese, French, German, Japanese and Spanish languages.

<http://lkyspp.nus.edu.sg/faculty/> ; www.thirdworldcentre.org/epubli.html

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MS. NISHTHA MANOCHA
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Nishtha Manocha is currently pursuing her PhD in Blue Green Infrastructure at the School of Civil and Environmental Engineering, National University of Singapore. Her doctoral research is focused on integrating sustainable water practices into the framework of urban development, where she works in the water, energy and climate domain.

Ms. Manocha was previously a researcher at the Lee Kuan Yew School of Public Policy. Thus, with a strong interest in policy analysis she not only looks to develop real solutions but also looks into mechanisms by which they can be practically implemented in national frameworks of countries. She is the recipient of the 2014 Singapore-Netherlands Sustainability award and was also recently recognised by the Ministry of Environment, South Korea. She represents the Asia Pacific Youth Parliament for Water in the capacity of the Asia Pacific Youth Water Ambassador.

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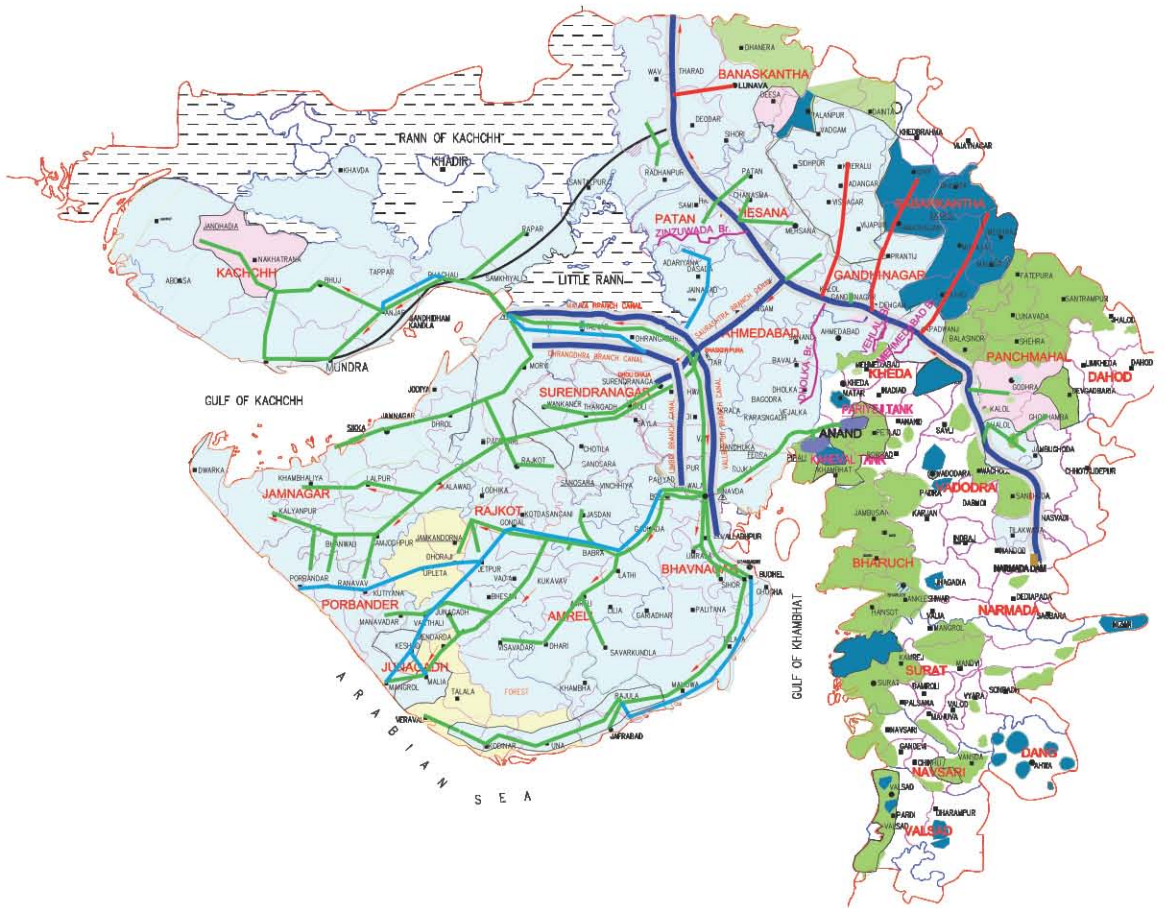
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