

Plenary session on Common Themes for Risk Governance

Friday 11 January 2013 – 08:30 - 12:15

School of Public Policy and Management, Tsinghua University - Auditorium 112

Plenary Session Description

Risks accompany change, and are often accompanied by potential benefits and opportunities. Better risk governance implies enabling societies to benefit from change while minimising the negative consequences of the associated risks. The governance of global, systemic risks requires cohesion between countries and the partnering with others in government, industry, academia and civil society.

Governance refers to the actions, processes, traditions and institutions by which authority is exercised and decisions are taken and implemented. Risk governance, as proposed by IRGC, is a holistic approach to identifying, assessing, managing and communicating risks.

Risk governance is both a concept and a tool. It addresses key questions such as:

- What is the role of science and technology in risk-related policymaking?
- Do organisations and people at risk understand the hazard and its consequences?
- Do they have the capacity to manage the risk and the resilience to deal with unavoidable consequences?
- What are the secondary impacts (both positive and negative) of a risk and its management?
- What societal, environmental, economic or political values affect our willingness to accept the risk?
- How to address uncertainty and ambiguity?
- How to improve decision-making in situations of lack of knowledge or conflict?

Today's globalised world is characterised by increasing interconnectedness, social networking, and fast-paced technological change, which, in addition to opportunities, also have the potential to increase vulnerabilities and to create new risks with impacts on a much larger scale, and sometimes over a longer time span.

Because the evolution of governance mechanisms occurs much more slowly than the processes driving technological and social change, there are serious concerns from governments, the private sector, as well as the general public about the lack of governance mechanisms to efficiently deal with certain public risks; to resolve trade-offs between diverse, sometimes conflicting, needs and interests; or to deal with potential risks from new technologies.

Policymakers have subsequently become increasingly conscious of the importance of risk communication and of meeting public expectations of risk governance.

This concluding plenary session of the International Conference on "From Crisis Management to Risk Governance" will present key challenges of risk governance and suggest recommendations for action.

Plenary Session Agenda

08:15 Registration – SPPM Lobby

08:30 – 08:45 Welcome and introduction

- **Granger MORGAN**, Department of Engineering and Public Policy, Carnegie Mellon University
- **Lan XUE**, School of Public Policy and Management, Tsinghua University

08:45 – 10:00 Session 1 – Managing Crisis and Uncertainty

- **Ortwin RENN**, University of Stuttgart
Anticipating Crisis: A Risk Governance Approach
- **V.S ARUNACHALAM and Anshu BHARADAWJ**, Center for Study of Science, Technology and Policy (CSTEP)
Through a Glass Darkly: On Predicting Future

Questions and discussion

10:00 – 10:30 Tea Break

10:30 – 11:45 Session 2 – Prioritising and Communicating Risks

- **Baruch FISCHHOFF**, Carnegie Mellon University
Setting Priorities among Risks
- **Wandi BRUINE DE BRUIN**, Leeds University Business School and Carnegie Mellon University
Developing Effective Risk Communications: How to Find Out What the Audience Needs
- **Xiguang LI**, School of Journalism and Communication, Tsinghua University
Crisis Management in the Landscape of Social Media

Questions and discussion

11:45 – 12:15 Concluding session - Risk Profile in China

- **Lan XUE**, School of Public Policy and Management, Tsinghua University
A study of Risk Profile in China
- **Yanhua LIU**, Counsellor's Office of the State Council, P.R. China; IRGC Board of Foundation

Speakers' Abstracts and Biographies

Granger MORGAN Professor and Head, Department of Engineering and Public Policy
University and Lord Chair Professor in Engineering
Carnegie Mellon University

M. Granger Morgan is Professor and Head of the Department of Engineering and Public Policy at Carnegie Mellon University where he is also University and Lord Chair Professor in Engineering. In addition, he holds academic appointments in the Department of Electrical and Computer Engineering and in the H. John Heinz III College. His research addresses problems in science, technology and public policy with a particular focus on energy, environmental systems, climate change and risk analysis. Much of his work has involved the development and demonstration of methods to characterize and treat uncertainty in quantitative policy analysis. At Carnegie Mellon, Morgan directs the NSF Center for Climate and Energy Decision Making. He is also director of the newly-formed campus-wide Wilton E. Scott Institute for Energy Innovation. Morgan serves as Chair of the Scientific and Technical Council for the International Risk Governance Council. In the recent past, he served as Chair of the Science Advisory Board of the U.S. Environmental Protection Agency and as Chair of the Advisory Council of the Electric Power Research Institute, of which he is now again a member. He is a Member of the National Academy of Sciences, and a Fellow of the AAAS, the IEEE, and the Society for Risk Analysis. He holds a BA from Harvard College (1963) where he concentrated in Physics, an MS in Astronomy and Space Science from Cornell (1965) and a Ph.D. from the Department of Applied Physics and Information Sciences at the University of California at San Diego (1969).

Lan XUE Cheung Kong Chaired Professor and Dean,
School of Public Policy and Management, Tsinghua University

Presentation abstract

A study of Risk Profile in China

China is undergoing rapid changes in multiple dimensions, including industrialization, urbanization and marketization, which bring about more risks for Chinese society. There is a need to think about how we can improve our strategies and institutions in order to adapt to a more complex world. With this in mind, a pilot project was recently conducted to identify and describe the risk profiles in China. The preliminary outcome of this project will be presented here. In a second phase, it will be used to design a large-scale representative survey in China to outline contemporary risk profile.

The questions that this project aims to answer include: What risks are Chinese people concerned about? What are emerging risks in China compared to the similar researches carried out ten years ago? How do these risks vary across different demographic characteristics? What are the differences in susceptibilities to risks across geography, experience and wealth?

Biography

Dr. Lan Xue is a Cheung Kong Chaired Professor and Dean of School of Public Policy and Management at Tsinghua University. He is also the Director of the China Institute for S&T Policy and a Deputy Director of the China Institute for Strategic Studies on Engineering and Technology Development. His teaching and research interests include public policy analysis and management, science and technology policy, and crisis management.

He also serves as an adjunct professor at Carnegie Mellon University and a Non-Resident Senior Fellow of Brookings Institution. His many public service appointments include a member of the Expert Committee on Emergency Management of the State Council of China, Vice President of China Association of Public Administration, Vice Chairman of the National

Steering Committee for MPA Education, a member of the Visiting Committee for Harvard Kennedy School, and a member of the Governing Board of International Development Research Center (IDRC). He is a recipient of the Fudan Distinguished Contribution Award for Management Science.

Trained as an engineer, Prof. Xue has two master degrees in Technological Systems Management and Public Administration from State University of New York at Stony Brook. He holds a Ph.D. in Engineering and Public Policy from Carnegie Mellon University and taught as an Assistant Professor of Engineering Administration and International Affairs at the George Washington University before returning back to China in 1996. He is also a recipient of the National Distinguished Young Scientist Award of China.

Ortwin RENN Professor and Chair of Environmental Sociology and Technology Assessment, Stuttgart University, Germany

Presentation abstract

Anticipating Crisis: a Risk Governance Approach

The paper will address the potential of a structured governance approach to prepare for and manage crisis situations. The main idea is to develop crisis scenarios that illuminate the need for crisis framing, emergency priority setting, risk communication and adequate timing of management and relief actions. Conventional approaches to projecting loss size, relative frequencies or probability distributions over time or severity of consequences are usually ineffective if applied to emerging crisis situations. Furthermore, attempts to manage crisis when it occurs will probably fail if emergency and contingency plans are inadequate to cope with the crisis situation. Key to effective crisis management is the reduction of vulnerability and the improvement of resilience. In addition, adaptability and flexibility are vital to manage emerging crisis. This paper aims at developing a conceptual orientation for risk and crisis managers to better address emerging crises situations and be better prepared for the challenges of the future. It will specifically focus on the differences between risk and crisis governance approaches (and how they are going to be connected). Some examples from the application fields of natural hazards and energy will illustrate the conceptual arguments.

Biography

Ortwin Renn serves as full Professor and Chair of Environmental Sociology and Technology Assessment at Stuttgart University (Germany). He directs the Stuttgart Research Center for Risk and Innovation (ZIRUS) at Stuttgart University and the non-profit company DIALOGIK, a research institute for the investigation of communication and participation processes in environmental policy making. Renn also serves as Adjunct Professor for "Integrated Risk Analysis" at Stavanger University (Norway) and as Affiliate Professor at Beijing Normal University. Ortwin Renn has a doctoral degree in sociology and social psychology from the University of Cologne. His career included teaching and research positions at the Juelich Nuclear Research Center, Clark University (Worcester, USA), the Swiss Institute of Technology (Zuerich) and the Center of Technology Assessment (Stuttgart). His honours include an honorary doctorate from the Swiss Institute of Technology (ETH Zurich), an honorary affiliate professorship at the Technical University Munich and the "Distinguished Achievement Award" of the Society for Risk Analysis (SRA). Among his many political advisory activities the chairmanship of the "State Commission for Sustainable Development" (German State of Baden-Württemberg) and the participation in the "Federal Government's Ethics Committee on Germany's Energy Futures" are most prominent. Renn is primarily interested in risk governance, political participation and technology assessment. His has published more than 30 books and 250 articles, most prominently the monograph "Risk Governance" (Earthscan: London 2008).

V.S. ARUNACHALAM Chairman, Center for Study of Science, Technology and Policy (CSTEP)
Anshu BHARADWAJ Executive Director, Center for Study of Science, Technology and Policy (CSTEP)

Presentation abstract

Through a Glass Darkly: On Predicting the Future

Prediction of future in any area is always fraught with uncertainties. The consequences of being wrong could be profound (think of the financial markets), and mercifully in some cases, inconsequential. If prediction is so unreliable, then why are we still pursuing it? A short answer is that all of us, from governments to individuals, are surprise-averse and need time and space to plan for the future in areas that matter to us, even when the results of such analysis are not so reliable.

Computers with their prodigious memory and speed of processing provide the wherewithal for analysing the many variables that influence decision making. This presentation describes one such experiment named Darpan (Sanskrit: Mirror) that is now underway at our Center which attempts to predict the future of India's energy needs. This analysis includes an assessment of energy technologies, India's macroeconomic parameters and issues relating to economic growth and human development.

Biographies

V. S. Arunachalam is Chairman of the Center for Study of Science, Technology and Policy (CSTEP), a Bangalore-based non-profit research corporation that studies technology and policy issues. He was the scientific advisor to the Defense Minister of India for more than a decade and Head of Indian's largest research and development institution – Defense Research and Development Organization (DRDO). Arunachalam initiated and headed India's major defense projects, including light combat aircraft and integrated guided missiles programs. He also advised the government on large and innovative human development and infrastructure building programs. He continues to hold a distinguished service professorship at Carnegie Mellon University and is an Honorary Professor of engineering at the University of Warwick in the United Kingdom.

Arunachalam is a recipient of numerous honors and awards including Padma Vibhushan, the highest civilian award for the year from the President of India. He was the past president and fellow of the Indian National Academy of Engineering, Indian Institute of Metals and a fellow of Indian National Science Academy and Indian Academy of Sciences. Arunachalam also is a fellow of Royal Academy of Engineering (UK).

Dr. Anshu Bhradwaj is Executive Director at Center for Study of Science Technology and Policy (CSTEP). He holds a PhD from Departments of Engineering and Public Policy, and Mechanical Engineering, Carnegie Mellon University. His interests are in emerging technology and policy options for India's low carbon inclusive growth. He specialises in computational modelling of energy systems. He is a former member of the Indian Administrative Services (IAS) and has worked with Government of Karnataka in various capacities.

Baruch FISCHHOFF Howard Heinz University Professor, Department of Social and Decision Sciences and Engineering and Public Policy, Carnegie Mellon University

Presentation abstract

Setting Priorities among Risks

Life poses more risks than we have resources to manage. Investing those limited resources well requires setting priorities, paying the greatest attention to hazards that pose the greatest threat to the things that people value most. I will present a transparent general approach that (a) can accommodate the values of diverse stakeholders; (b) uses risk analysis resources

efficiently, and (c) allows comparisons among risks within and across domains. It allows calculating risk priorities or deriving them through group deliberations.

Biography

Baruch FISCHHOFF, Ph.D., is Howard Heinz University Professor, in the Departments of Social and Decision Sciences and of Engineering and Public Policy at Carnegie Mellon University, where he heads the Decision Sciences major. A graduate of the Detroit Public Schools, he holds a BS in mathematics and psychology from Wayne State University and an MA and PhD in psychology from the Hebrew University of Jerusalem. He is a member of the Institute of Medicine of the National Academies and is a past President of the Society for Judgment and Decision Making and of the Society for Risk Analysis. He chaired the Food and Drug Administration Risk Communication Advisory Committee and the National Research Council Committee on Behavioral and Social Science Research to Improve Intelligence Analysis for National Security; he currently cochairs the NRC Committee on Future Research Goals and Directions for Foundational Science in Cybersecurity. He has been a member of the Eugene, Oregon Commission on the Rights of Women, the Department of Homeland Security Science and Technology Advisory Committee, and the Environmental Protection Agency Scientific Advisory Board, where he chaired the Homeland Security Advisory Committee. He has written or edited several books: *Acceptable Risk* (1981), *A Two-State Solution in the Middle East: Prospects and Possibilities* (1993), *Preference Elicitation* (1999), *Risk Communication: The Mental Models Approach* (2001), *Intelligence Analysis: Behavioral and Social Science Foundations* (2011), *Risk: A Very Short Introduction* (2011), *Communicating Risks and Benefits: An Evidence-Based User's Guide* (2011), *Judgment and Decision Making* (2011), *Risk Analysis and Human Behavior* (2011), and *Counting Civilian Casualties* (in press).

<http://www.cmu.edu/dietrich/sds/people/faculty/baruch-fischhoff.html>

Wändi BRUINE de BRUIN	Professor of Behavioural Decision Making, Leeds University Business School Associate Professor of Engineering and Public Policy, Carnegie Mellon University
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Presentation abstract

Developing effective risk communications: How to find out what the audience needs

Effective risk communication is central to promoting informed public debate about risks, implementation of risk prevention strategies, and public preparedness and resilience in the case of disasters. Common mistakes that threaten the effectiveness of risk communications include: using complex jargon, omitting decision relevant information, and failing to address barriers to behaviour change. Interview and survey research is needed to provide experts with a better understanding of their audiences and to develop more effective risk communications.

Biography

Wändi Bruine de Bruin is a full tenured Professor of Behavioural Decision Making (with Leadership Chair) at the Leeds University Business School (UK), where she also serves as the co-Director of the interdisciplinary Centre for Decision Research. She holds additional positions as Associate Professor of Engineering and Public Policy at Carnegie Mellon University (US) and as Adjunct Senior Behavioral Researcher at the RAND Corporation (US). She received a Ph.D. in Behavioural Decision Making and Psychology from Carnegie Mellon University (US), and an MSc in Cognitive Psychology from the Free University in Amsterdam (the Netherlands). Her research interests include risk perception, risk communication, and individual differences in decision-making competence across the lifespan. She is a member of the editorial board of the *Journal of Behavioral Decision Making* and of the *Journal of Experimental Psychology: Applied*, and serves on the program committee of the Society for

Judgment and Decision Making. She edited the 2012 special issue on decision-making competence for the Journal of Behavioral Decision Making. She was an invited speaker at the prestigious Sackler Colloquium on “The Science of Science Communication” which was held at the US National Academy of Sciences in May of 2012, and will contribute to the associated special issue of the Proceedings of the National Academy of Sciences. She has also contributed her expertise on risk perception and communication to advisory panels and workshops organized by the US National Research Council, the Centers of Disease Control, the Food and Drug Administration, the Environmental Protection Agency, the Federal Reserve Bank, the Dutch Central Bank, and the International Risk Governance Council.

Xiguang Li Executive Dean, School of Journalism and Communication,
Tsinghua University

Presentation abstract

Risk of Social Volcano at the Age of Social Media

Social Media have been playing a critical role in shaping public opinion and setting political agenda. This presentation will illustrate the power of social media in China and advocate the necessity of regulating social media.

Biography

Xiguang Li is the Executive Dean of the School of Journalism and Communication of Tsinghua University. He was the founding director of the Center for International Communications Studies of Tsinghua University, which was a brainchild of Mr. Wang Daohan, China's late veteran political figure. As an academic research and education center in China, the center works as a trail blazer in pushing forward the reforms of Chinese press system as well as the journalism education system. Serving as a think tank in press and politics, the center strives for an open press system through press reform.

Li has been leading a national program training health officials, policy makers, government officials and media leaders about important public health issues. During the outbreak of SARS, Li and his center served as a leading think tank and advisory body to the national government and Beijing municipal government. Li has led 10 workshops in Beijing, Henan and Sichuan, training Chinese journalists, editors and media managers on reporting HIV/AIDS.

Drawing on international resources, he is running a regular media forum, debating about press, politics, journalism and media industry. In recent years, Li and his Center has helped organize media events and live coverage for the public speeches of President George Bush, Prime Minister Tony Blair, former President Bill Clinton and former French President Giscard d'Eestaing, at Tsinghua University. For international journalists, the Center offers a home where visitors meet with local colleagues and gain access to China through a growing network of professional and academic exchanges.