

The Division of Economics and the Economic Growth Centre under the One Asia Foundation Lecture Series cordially invite you to a seminar by Associate Professor Shreekant Gupta

**Speaker** : **Associate Professor Shreekant Gupta**  
*Delhi School of Economics  
University of Delhi and  
Adjunct Associate Professor  
LKY School of Public Policy, National University of Singapore*

**Topic** : **“Modelling the Impact of Climate Change on Agriculture”**

**Chairperson** : **Assistant Professor Hong Fuhai**  
*Division of Economics  
School of Humanities & Social Sciences*

**Date** : **Tuesday, 18 March 2014**

**Time** : **2:30 pm - 3:30 pm**

**Venue** : **Conference Room, Level 5 (HSS-05-57)**  
*Nanyang Technological University  
School of Humanities and Social Sciences  
14 Nanyang Drive  
Singapore 637332*

**About the Speaker:**

Shreekant Gupta is Associate Professor at the Delhi School of Economics, University of Delhi and Adjunct Associate Professor at the LKY School of Public Policy, National University of Singapore (NUS). His research interests are in applied economics and policy including environment and development and climate change. He has taught at universities in Dubai, India, Kazakhstan, Singapore and the United States. Earlier, he was Fellow and Head, Environmental Policy Cell at National Institute of Public Finance and Policy (NIPFP), New Delhi. He has also worked as environmental economist at the World Bank at Washington DC focusing on environmental policies in Sri Lanka, Ghana and Poland. His policy experience includes Director, National Institute of Urban Affairs, New Delhi (in the rank of Additional Secretary to the Government of India).

Dr. Gupta received his PhD in economics from the University of Maryland at College Park in 1993 where his dissertation committee included Nobel Laureate Thomas Schelling. He was Fulbright Fellow at the Massachusetts Institute of Technology (2001-2002) and Shastri Fellow at Queens University, Canada (summer 2001). Dr. Gupta has served on several national and international committees on the environment including the Intergovernmental Panel on Climate Change (IPCC) that was awarded the Nobel Peace Prize in 2007 to which his contribution was recognized. Currently he is Coordinating Lead Author in Working Group III of IPCC Fifth Assessment Report to be released in April 2014.

**Abstract:**

This paper estimates the impact of climate change on yields of important food crops in India and on the variability of these yields. Our analysis is at the district level using panel data for yields and for other variables over the last 40 years. We use the stochastic production function approach suggested by Just and Pope (1979) that estimates the impact of independent variables on expected mean and also the variance of the dependent variable (district level yields in our case). Greater variability in yields of key food crop has important policy implications for India. We include exogenous climate variables as independent/explanatory variables, namely, rainfall and temperature at the district level. We also control for key inputs such as irrigation, fertiliser and use of high-yielding variety (HYV) seeds. The stochastic production function is estimated using a three step Feasible Generalized Least Squares (FGLS) approach. Preliminary results indicate significant impact of climate change on yields

and also on the variability of yields.

**Reservation:**

Admission is free. Please reply to Christina, e-mail: [achristina@ntu.edu.sg](mailto:achristina@ntu.edu.sg) or Tel: 6790-5689 to confirm your attendance.