



**Wenfang Chen**

**Supervisor:**

**Stefan Hochrainer**

**Research Project:**

**A Method to Assess the Typhoon Wind Intensity at County Level –  
Case study of the Yangtze River Delta, China**

**Abstract:** The Yangtze River Delta (YRD), located in the southeast of China, has been greatly suffering from typhoon hazards. Furthermore, typhoon disaster risk is expected to increase due to changes in exposure levels. Despite of its necessity for better risk management of local governments, still little research work has been done in terms of typhoon disaster risk assessment in YRD. Therefore, during my PhD study, I will focus on developing a typhoon disaster risk assessment model which is expected to be applied into the planning system of local governments. It is expected that during my YSSP stay, a typhoon wind intensity assessment model is formulated for the county level, which will be one part of a general typhoon hazard model.

Even though there are many advances in typhoon or hurricane track (and intensity) simulation models, most of them don't take account of administrative units, making them less practicable for risk management decisions on the local level. This paper, instead, will present a method to assess typhoon intensity at the county level. Rankine Vortex Model will be applied to calculate wind speeds at county's centroid, as such model approach need less strict requirements of the data compared to other typhoon wind field models. Among other risk functionals, the exceedence probability (EP) curve is used as an indicator of counties' typhoon wind intensity, and the zoning map will be plotted based on it in order to provide a vivid illustration of the wind intensity distribution. Both the exceedence probability curve and the zoning map can serve as useful tools for making local typhoon disaster risk management. The approach is embedded within a larger risk management methodology explicitly incorporating possible changes in the hazard and exposure levels over time.

**Biographical Sketch:** Wenfang graduated from Wuhan University in China with a Bachelor Degree of Urban and Rural Planning and Resource Management. She is currently a first year Ph.D. Student majored in Natural Disaster at Beijing Normal University. Her main fields of scientific interest include natural disaster risk assessment from both governments' and insurers' view, risk management, catastrophe insurance.



**Sarthak Gaurav**

**Supervisor:**

**Reinhold Mechler**

**Research Project:**

**Risk and Vulnerability of Water-Stressed Farm Households in Vidarbha Region of India**

**Abstract:** This paper would attempt at characterizing the landscape of agricultural production risk and vulnerability of resource poor farm households under predominantly rainfed conditions. The geographical focus of the study would be on the distress prone region of Vidarbha in eastern Maharashtra state which has witnessed high incidence of farmer suicide mortalities in recent times. Environmental outcomes are stochastic in nature and shocks in the form of adverse rainfall induce substantial fluctuations in the crop incomes and institutional barriers to formal risk management in the region prevail which this research would attempt to explain by analyzing primary data collected during doctoral field work and secondary agro-economic and meteorological data collated from multiple sources. This paper would contribute to developing a framework of risk based analysis and simulating alternative risk management scenarios for the vulnerable farming communities whose human developmental attainments are conditional on risky and uncertain production conditions.

**Biographical Sketch:** Sarthak graduated from the Indira Gandhi Institute of Development Research (IGIDR), Mumbai in May 2007 with an M.Sc in Economics. He worked as a Development Consultant at the Centre for Insurance and Risk Management (CIRM), IFMR, Chennai till August 2008 and is currently a second year Ph.D. student at IGIDR. His thesis is titled “Risk, Vulnerability and Capability Deprivation among Agricultural Households in India”. His main areas of scientific interest are agricultural risk management, weather insurance, programme evaluation and contemporary issues in human development.



**Nimi Hoffmann**

**Supervisor:**

**Michael Thompson / Steven Ney**

**Research Project:**

**Pathways out of Fatalism: Participatory Research, Water Governance and Poverty in South Africa**

**Abstract:** South Africa faces severe problems with increasing drought, aging infrastructure, and the mismanagement of sewerage and reticulation systems. These problems are aggravated and entrenched by the sidelining of civil society participation in water management (despite excellent legislation and public policy). In the Eastern Cape Province, persistent and increasing droughts have led to areas been declared official disaster zones. While industry and commercial agriculture received substantial support from the apartheid government (and continue to do so from the post-apartheid government), poor black rural communities have received little or no support. Many have no irrigation for their crops and livestock, battle with aging and inefficient dams, lack running water and sanitation, and are exposed to highly polluted water. Coastal regions have recently experienced tornadoes and flooding, and municipalities have often been unwilling or unable to respond to the loss of shelter and livelihoods suffered by the most vulnerable. Within this context, the Eastern Cape Water Caucus plays a vital role. This civil society grouping of subsistence farmers and villagers aims to engage local and provincial government in order to foster the participatory management of water and climate risk. Since their inception in 2002, however, they have struggled to engage government successfully. They have identified their lack of knowledge concerning climate risk as the major obstacle to successful engagement, and have proposed that they form partnerships with the four universities in the province. This research will develop a strategy for establishing partnerships with the academy, in order to foster participatory research concerning climate risk.

**Biographical Sketch:** Nimi graduated with an MA in Philosophy and Economics from Rhodes University in 2010; her thesis assessed the role of public judgments about the nature of correct reasoning in economic explanations. Her research interests lie in the interface between economics, education and epistemology, and she is currently focusing on the epistemic value of participatory research and its relationship to the knowledge commons. She will begin an MPhil in Development Studies at Oxford in October this year, where she will work together with poor people's movements in South Africa to refine their conception of poverty and their corresponding critique of the capabilities approach.



**Arame Tall**

**Supervisor:**

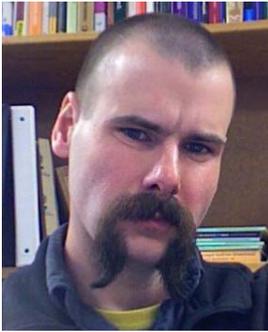
**Anthony Patt**

**Research Project:**

**Reducing Vulnerability to Hydro-Meteorological Disasters through the Use of Climate/Weather Forecasts**

**Abstract:** The objective of my research is to establish that knowledge-based pro-active disaster prevention, through the use of climate/weather forecasts and other climate risk management tools, is a most optimal policy to adapt to a changing climate in the context of Africa's development challenges. I propose that a way forward to trigger the use of forecasts and early warning information by communities at risk from climate change impacts is through the organization of Scientist-Stakeholder dialogues able to bridge the gap between producers and users of climate information, by providing processes (methods) and avenues (workshops) through which decision-makers and vulnerable communities can engage with producers of climate knowledge (modelers, weather forecasters and hydrologists), develop a thirst for more interaction and identify areas of concrete future collaboration to render forecasts useful as input into informed *ex-ante* decisions under uncertainty. Over the past two years, I devised interactive dynamic processes to bring these two communities together (producers and users of climate information), organizing two pilot workshops for "Community Early Warning – Early Action" in West Africa under the auspices of the International Federation of the Red Cross (IFRC), both around the goal of opening communication lines between forecasters and community end-users and reducing community vulnerability to rising hydro-meteorological disasters through the use of weather/climate forecasts. Over the course of my YSSP participation, I will delve deeper into these processes and derive best practices from other similar endeavors to turn them into a replicable methodology toolkit for bridging producers and community users of climate information across Africa, so that available forecasts and climate information may get to the people who need them most –the communities at risk from climate disasters.

**Biographical Sketch:** Arame graduated in 2008 from Columbia University's "Climate & Society" Masters Program. She is currently a second year Ph.D student at the Johns Hopkins University's School of Advanced International Studies (SAIS), where she pursues her interest in the policy implications of Climate Change for Africa. The title of her thesis is "When the waters returned: Impacts of rising hydro-meteorological on Development in Africa: which policy to Adapt to a Changing Climate in Africa?". Her main fields of scientific interest include community vulnerability to hydro-meteorological disasters and scientist-stakeholder dialogues as a means to increase the usability of climate forecasts and information by communities at risk.



**Glenn Daniel Wright**

**Supervisor:**

**Jan Sendzimir**

**Research Project:**

**Decentralization and Development: Public Goods Provision at the Local Level in the Developing World**

**Abstract:** In the last twenty years or so, Political Scientists and Economists have generated a large literature attempting to explain why governments sometimes provide sufficient quantities of public goods and services, such as environmental conservation services, public health, infrastructure development, and public security. However, data on public goods provision has typically been weak; the proxy used for “public goods” has often been spending on social welfare and education services. In many cases, these benefits of these services are far from public, as the majority of benefits of social welfare provisions and education are reaped by the individuals who receive the services, with few positive spillovers to others. It is, for example, difficult to imagine a more private benefit (or a benefit which can be targeted more specifically), than a “social welfare” pension check. Further, the most public of all public goods—environmental services—have traditionally not been included. Finally, the most important independent variable of interest, political democracy, has typically been poorly defined and specified. Using new data at the local level which permits me to more accurately disaggregate public from private goods provision, I test a number of hypotheses regarding the causes of variation in public goods provision. In particular, I examine (a) whether institutional checks and balances facilitate or impede public goods provision, (b) the role of interest group politics in promoting public goods provision, (c) the effects of dense local civil society organizations and other non-governmental organizations on public goods provision.

**Biographical Sketch:** Glenn is a fifth year Ph.D. student at the University of Colorado, Boulder. His dissertation examines why local politicians in democratic, developing-world settings sometimes fail to provide sufficient public goods such as public health services, sanitation, or environmental conservation. He has an MA in Political Science from the University of Colorado, an MA in Teaching from the University of Alaska, Southeast, and a BA in Political Science from the University of Alaska. His other research examines the political and economic incentives which motivate local politicians to provide environmental services like forestry regulation monitoring and enforcement.