

Environmental sociologists in East Asia have formed a network and organized International Symposium on Environmental Sociology in East Asia (ISESEA) since 2007 biennially, by taking turns in Japan, Taiwan, Korea and China. It's the second turn for Taiwan to organize ISESEA.

The 6th International Symposium on Environmental Sociology in East Asia (ISESEA) in Taiwan, which will be held at the National Taiwan University campus on 19-22 October, 2017. The theme of ISESEA-6 is "Transboundary Risk Governance in East Asia". In facing risks of a wide range from climate change, air pollutions, nuclear disasters and nuclear waste management, food safety, emerging technology...etc., we will discuss transboundary risk governance, particularly with an East Asian perspective.

6th INTERNATIONAL SYMPOSIUM ON ENVIRONMENTAL SOCIOLOGY IN EAST ASIA

東亞環境社會學國際研討會

# 6<sup>th</sup> INTERNATIONAL SYMPOSIUM ON ENVIRONMENTAL SOCIOLOGY IN EAST ASIA

19<sup>th</sup>-22<sup>nd</sup>

RISK SOCIETY AND POLICY  
RESEARCH CENTER  
NATIONAL TAIWAN UNIVERSITY  
TAIPEI, TAIWAN

OCTOBER  
2017

東亞環境社會學  
國際研討會



OFFICIAL WEBSITE



## Conference Introduction

Environmental sociologists in East Asia have formed a network and organized International Symposium on Environmental Sociology in East Asia (ISESEA) since 2007 biennially, by taking turns in Japan, Taiwan, Korea and China. It's the second turn for Taiwan to organize ISESEA. The 6th ISESEA in Taiwan, which will be held at the National Taiwan University campus on 19-22 October, 2017. The theme of ISESEA-6 is "Transboundary Risk Governance in East Asia". In facing risks of a wide range from climate change, air pollutions, nuclear disasters and nuclear waste management, food safety, emerging technology...etc., we will discuss transboundary risk governance, particularly with an East Asian perspective.

## Organizers



Risk Society and Policy Research Center,  
National Taiwan University



College of Social Sciences,  
National Taiwan University



Graduate Institute of National Development,  
National Taiwan University



International Sociological Association-  
RC24 Environment and Society

This Conference is sponsored by Ministry of Science and Technology, R.O.C. (106-2916-I-002-026-A1)



## Local Planning Committee



RSPRC Chief Director

**Kuei-Tien Chou**

Chief Director,  
Graduate Institute of National  
Development, National Taiwan  
University



RSPRC Research Fellow

**Ming-Sho Ho**

Professor, Department of  
Sociology, National Taiwan  
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RSPRC Research Fellow

**Ying-Feng Chen**

Assistant Professor,  
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Administration and  
Management, Chinese Culture  
University



RSPRC Research Fellow

**Shu-Fen Kao**

Assistant Professor,  
Department of Sociology,  
Fo Guang University

## Directions and Venue Locations



Getting to the Venue: *Social Science Building, NTU.*



### **Walking:**

1 min walk from the Back Gate of NTU  
(Intersection of Xinhai Rd. & Fuxing S.  
Rd.);

### ***Social Sciences Building***



### **Metro:**

Wenhu Line (Brown): Technology Building Station. 10  
min walk from the stop to the Back Gate and Venues.

***Registration Desk*** 1F, East Side of College of Social  
Science.

***Liang Kuo-Shu International Conference Hall*** 3F, College of Social Sciences

***Conference Room 300, Graduate Institute of National Development Building***



## Registration and Information

**The Registration Desk will be open at 1F, College of Social Science, NTU, on:**

Oct. 19<sup>th</sup> 16:00-20:30.

Oct. 20<sup>th</sup> 08:30-18:30.

Oct. 21<sup>st</sup> 08:30-18:30.

### **Programme changes and message board**

General announcements, changes and updates to the program will be displayed at Registration Desk.

### **Badges**

The name badge is given to you when you register and ensures your admission to the conference.

Please make sure you wear it at all times!

### **WIFI Service**

Wireless network connection name: NTU.

Wireless network connection ID and Password will be given when you register.

### **Catering**

Coffee breaks and the refreshments will be served outside each conference room.

Welcome Party on Oct 19th will be held at Saloon 108, 1F, College of Social Sciences, NTU.

Lunch and Oct 20th Dinner are served outside the Liang Kuo-Shu International Conference Hall, 3F, College of Social Sciences, NTU.

Farewell Dinner on Oct 21st will be held at VIP lounge, 14F of Howard Civil Service International House. Please check <https://goo.gl/8kaBw>

❖ **Local fresh ingredients are used in our prepared meals and snacks.**

❖ **We try to reduce disposal utensils: Special lunch box will be prepared on Oct. 20<sup>th</sup> and Oct. 21<sup>st</sup>. Please help us to gather the lunch box on Oct. 20<sup>th</sup> after enjoying the meal. Feel free to take your lunch box home on Oct. 21<sup>st</sup> after enjoying it!**

### **Important telephone numbers:**

Emergency call 110

Medical assistance 119

Metro Traffic schedules website:

<http://english.metro.taipei/>

Taiwan (Taoyuan) International Airport website:

<http://www.taoyuan-airport.com/english/flight>

Taipei Songshan Airport website:

<http://www.tsa.gov.tw/tsa/en/home.aspx>



## Guidelines for Panel Session Presentation

Please check the online conference program to re-confirm the time and room of your session. Below are some tips to assist you, most importantly please ensure you start and finish your presentation on time.

### Duration

- Each panel session length is 100 minutes including question time and each panel session presentation should involve 3-4 speakers.
- Each presenter has **15 minutes** for his/ her presentation. After all the presentations, there will be about 20-30 minutes to open the floor for Q & A for all presenters.

### For session moderators

- Session moderators are invited to come to the room **10 minutes prior** to the start time of the session. Their responsibilities include introducing the session and the speakers, ensuring that the time is equally divided across all presentations, and guiding the general discussion.

### For session speakers

- Presenters are invited to come to the room **10 minutes prior** to the start time of the session to upload their presentation and check the functionality. We recommend avoiding file names such as IEASEA-6 or PRESENTATION. If you need technical assistance and cannot spot an assistant, kindly approach us at the Registration Desk.
  - Computer and projector will be available in each room for presentations. Please use either **PowerPoint (.ppt)** or **Portable Document Format (.pdf)** as presentation formats. Presenters are requested to bring their presentations on a USB stick under all circumstances. Connecting personal laptops is discouraged to avoid excessive loss of time. If you need any help with your file, please feel free to approach us at the Registration Desk.
  - The presentation computers use PowerPoint with Windows operating system.
  - Staff will ring a bell to let you know the remaining time.
    - >The 1<sup>st</sup> bell: **3 minutes** remaining for the presentation
    - >The 2<sup>nd</sup> bell: **The end** of the presentation
- ❖ ISESEA committee reserve the rights to make any changes to the conference schedule.

## Schedule

October 19 <sup>th</sup> (Thursday)		Venue
16:00-20:30	Registration	1F, College of Social Sciences, NTU
18:30-20:30	Welcome Party (Juju Wang, Shu-Fen Kao)	R108, College of Social Sciences, NTU
October 20 <sup>th</sup> (Friday)		
08:30-18:30	Registration	1F, College of Social Sciences, NTU
09:00-09:20	Opening Address by Ching-Ray Chang	Liang Kuo-Shu International Conference Hall, College of Social Sciences, NTU
09:20-10:40	Keynote Speech 1: <i>How the USA Became an Impediment to International Climate Governance: Examining the Climate-Change Denial Movement</i> Riley Dunlap (Michael Hsiao)	
10:40-12:00	Keynote Speech 2: <i>SD (Social Design) for SD (Sustainable Development): Imaginations of Environmental Sociology</i> Juju Wang (Koichi Hasegawa)	
12:10-13:30	Lunch Break	
13:30-15:10	Regular Sessions I	
15:10-15:40	Break	
15:40-17:30	Regular Sessions II	
18:30	Dinner	

October 21 <sup>st</sup> (Saturday)		
08:30-18:30	Registration	1F, College of Social Sciences, NTU
09:00-10:20	Keynote Speech 3: <i>Narratives, Models, and Societal Change: linking narratives and models to support collective behavior change toward sustainable futures.</i> Ilan Chabay (Kuei-Tien Chou)	Liang Kuo-Shu International Conference Hall, College of Social Sciences, NTU
10:20-10:30	Break	
10:30-12:10	Regular Sessions III	
12:10-13:30	Lunch Break	
13:30-15:10	Regular Sessions IV	
15:10-15:40	Break	
15:40-17:20	Regular Sessions V	
18:30	Farewell Dinner	Howard Hotel/14F
October 22 <sup>nd</sup> (Sunday) 7:30 meets at the Registration Desk /17:00 return to NTU		
<p><b>On 10/22 we have a study tour to two locations in Yilan County. In the morning, a two-hour guided tour in the campus of Chilin Education Foundation is planned. After lunch break, we will take a walk in Dongsan River Ecoark, where is an important field of recreation and environmental education in Yilan County. The extra participation fee for the study tour on Day 4 is NT\$ 1200 per person.</b></p>		

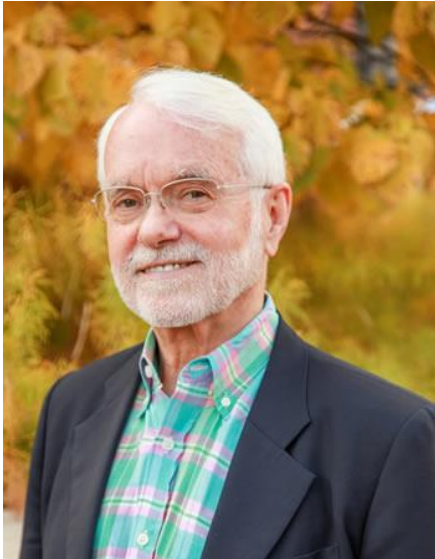


## Study Tour Schedule

Time	Activity	Note
07:30-07:50	Meet at Registration Desk, 1 F College of Social Sciences, NTU	
07:50-09:15	Leave for Chilin Education Foundation (CEF)	
09:15-11:15	CEF guided tour (the Taiwan Democracy Movement Museum, Taiwan Social Movement Archives Center and the Chilin Art Gallery)	
11:15-11:30	Break	
11:30-11:40	Leave for Restaurant	
11:40-13:10	Lunch break at Hai-Sho-Tang Restaurant	
13:10-13:45	Leave for Dongshan River Ecoark	
13:45-15:15	<b>Touring in Dongshan River Ecoark</b> If weather allows and tickets available, we may have a 15-min. boat ride at 14:30.	Boat ride is optional.
15:15-17:00	Going back to NTU	

## Keynote Speech 1

### Keynote Speaker: Prof. Riley Dunlap



Regents Professor of Sociology and  
Laurence L. and Georgia Ina Dresser Professor  
Department of Sociology  
Oklahoma State University  
U.S.A.

### Chairman: Prof. Michael Hsiao

Distinguished Research Fellow  
Research Center for Humanities and Social Sciences Academia Sinica

## How the USA Became an Impediment to International Climate Governance: Examining the Climate-Change Denial Movement

Global warming was widely recognized as a problem in the USA by the early 1990s, but a long-term and ever-evolving campaign to deny its reality and seriousness has turned anthropogenic climate change into a major controversy. The basic findings of climate science are constantly challenged by a growing set of interconnected actors who portray climate change as uncertain, even a hoax, leading large segments of the public and many policy-makers in the USA to dismiss its importance and thus the need to reduce carbon emissions. Key actors in the denial movement, the economic and ideological interests motivating them, and the primary strategies and tactics they employ are outlined and traced over time—including their diffusion to other nations.

The Denial Movement's efforts help account for why the USA never ratified the 1997 Kyoto Accord, and has continued to be an impediment to effective international policy-making (especially under the

second Bush Administration). Its success has reached a new peak with the Trump Administration, which has withdrawn the USA from the 2015 Paris Accord, is erasing all of the Obama Administration's domestic climate policies, and poses a barrier to international efforts to reduce carbon emissions—all based on the false claim that climate change does not represent a major risk.

## Keynote Speech 2

### Keynote Speaker: Prof. Juju Wang



Professor, Center of General Education  
Professor, Institute of Sociology,  
National Tsing Hua University  
Hsinchu, Taiwan

### Chairman: Prof. Koichi Hasegawa

Professor, Sociology Graduate School of Art and Letters, Tohoku University.  
President, ISA RC24 (2014-2018)

## SD (Social Design) for SD (Sustainable Development): Imaginations of Environmental Sociology

Sociologically speaking, natural farming is supposed to be a social movement rather than an agricultural practice. In this sense, natural farming movement (NFM) need to mobilize a variety of resources and to empower stakeholders so that “common good”(共善) could be achieved. Thus, NFM is playing a role to link with the concept of sustainable development (SD) concentric model in terms of environmental, social and economic aspects toward again “common good”(共善).

Based on the abovementioned concept, this talk aims at exploring how NFM could be engaged in paradigm shift, institutional transformation and structural change through another SD: social design. In particular, social design places emphasis on social inclusion and participation by engaging them



into their daily life. Moreover, NFM could be a mechanism to approaching a sustainable society through social design by empowering the weak and environmental friendly economy as a whole.

Some cases for social design will be presented to promote the NFM and vice versa. For examples, a linkage between NFM and GNH (Gross National Happiness) will be elaborated in addition to NFM products' social design in the campus and community level. These cases actually display “common good”(共善) of the NFM by linking two SDs: Sustainable development and social design.

## Keynote Speech 3

### Keynote Speaker: Prof. Ilan Chabay



Head of International Fellowships, Incubator, and the Knowledge, Learning, and Societal Change International Research Alliance (KLASICA) at the Institute for Advanced Sustainability Studies, Potsdam Germany (IASS)

### Chairman: Prof. Kuei-Tien Chou

Chief Director, Risk Society and Policy Research Center, National Taiwan University

Chief Director, Graduate Institute of National Development, National Taiwan University

### **Narratives, Models, and Societal Change: linking narratives and models to support collective behaviour change toward sustainable futures**

Humanity is faced with an urgent and critical need to respond effectively to accelerating global environmental and societal changes affecting society at multiple scales across the world. This situation requires not only relevant knowledge from natural science, social science, and humanities to inform the process of setting desirable target states in accord with local conditions, contexts and cultures. It also requires lasting, adaptive, transformative change in patterns of behaviour of individuals, collectives, and institutions.

KLASICA is an international research network that seeks to identify and understand conditions under which collective behaviour change toward just and equitable sustainable futures occurs or fails to occur at different scales and contexts and to use that understanding to advance solutions for and promote actions on pathways to sustainable futures.

I will discuss how collective behavioural change can be understood and perhaps catalysed or supported through two closely-related aspects of the nature and role of narratives. Narratives are important targets for research to identify and understand their significance in empowering or hindering change in different circumstances and contexts. I am using the term “narratives” not as argumentation or extended descriptions of the content of an idea, but rather as a concise, emotionally-rich, readily-communicated expression of the core of an idea. Narratives carry motivational and inspirational power and reflect individual and community identities or world views. They must be culturally or politically resonant in the local context to be effective and thus typically take the forms of poems, images, music, dance, or other cultural expressions. Narratives may also arise as intentionally-generated or commissioned “visions” of desirable target states in particular contexts. Narratives of identity or world view can strongly, though often tacitly, motivate positive or negative responses to visions for change toward sustainable futures.

The KLASICA alliance seeks to understand narratives - existing or emerging – for their insights into communities and collective behaviour change. In addition, we aim to understand how narratives may provide important data, along with information on the topology of the networks, needed to populate agent-based social models. A very difficult, but crucial further step will be to connect the mutually-contingent dynamics of ecological systems and emergent behaviours of societal systems.

## Regular Sessions

Session	Date/ Time	R300	419	710	713	814
		Graduate Institute of National Development	College of Social Sciences			
A: Regular Sessions I	10/20 13:30 - 15:10	A2: Climate Change Adaption & Energy Transition	A4: Environmental Movement	A1: Air Pollution & Governance	A3: Disaster Restoration	A5: Framing, Narratives and Media
B: Regular Sessions II	10/20 15:40 -17:30		B2: Energy Transition	B1: Comparative Studies	B4: Environmental Perception & Environmental Behaviors	
C: Regular Sessions III	10/21 10:30-12:10	C1: Environmental Justice 1	C4: Risk Communication & Risk Governance 1	C2: Health Risk & Environmental Pollution	C3: Management and Use of Natural Resources 1	C5: Sustainable Consumptions and Behaviors 1
D: Regular Sessions IV	10/21 13:30 -15:10	D2: Nuclear Risks & Nuclear Waste Management	D1: Environmental Justice 2	D4: Risk Communication & Risk Governance 2	D3: Management and Use Of Natural Resources 2	D5: Sustainable Consumptions and Behaviors 2
E: Regular Sessions V	10/21 15:40 -17:20			E3: Management and Use Of Natural Resources 3	E1: Sustainable Development and Public Participation	





# **Regular Sessions I**

## **Air Pollution & Governance**

**Friday, Oct. 20, 2017**

**13:30 PM - 15:10 PM**

**Chair: Prof. Chang-Chuan Chan, Collage of Public Health, National Taiwan University**



## **Comparison of International Cooperation on Transboundary Air Pollution in Europe and Northeast Asia: from the Perspective of Intergovernmentalism**

Ms. Hyun-Ji Im, Seoul National University

In this paper, the international cooperation aspects to resolve transboundary air pollution problem in Northeast Asia and Europe are compared. There are similar air pollution problems in the Northeast Asia and Europe, nevertheless, the degree of cooperation among related countries are different. In Europe, while the CLRTAP and eight protocols under UN-ECE have led to substantial reductions of pollutants, Northeast Asia has not reached the stage of institutionalization, even though there are several consultative organizations. From the perspective of ‘Intergovernmentalism,’ which is an international relations theory derived to explain integration in Realism, this paper examines the cause of difference in degree of cooperation between the two continents. National interests of each countries would be divided into two factors; that are, ‘domestic factor’ which means the pursuit of domestic interests and the ‘international factor,’ the improvement of the relative position of the country. These two factors are analyzed from the viewpoint of the affected countries and the polluting countries. From the perspective of affected countries, in regards to domestic factor, not only the degree of air pollution is less severe, but also the proportion of pollutants originating from other countries is relatively low in Northeast Asia than Europe. In other words, while in the case of the European countries, the air pollution problem was a major problem in terms of domestic interests, therefore it was necessary to use international cooperation, whereas Northeast Asia do not need to. Secondly, from the viewpoint of affected countries, in regards to international factor, European countries have already developed a lot of regional cooperation, consequently, gaining the initiative in this sector will not significantly change the relative status in the region. Whereas, in the case of Northeast Asia, the countries have recognized environmental cooperation as a mean of acquiring political hegemony in the region because of lack of experience in regional cooperation. Meanwhile, in point of polluting countries, joint research results from EMEP had been recognized by all concerned countries in Europe. Thus, they have had no choice to but to participate in reductions to sustain their relative position in the region. On the other hand, due to the lack of reliable joint research results in Northeast Asia, the polluting countries do not have to take responsibility for pollution induction, in the aspect of the relative status in the region. Based on this analysis, this paper proposes to promote cooperation among Northeast Asia countries considering long-term profits. In conclusion, three specific measures are suggested. First of all, this study argues that overlapping consultative organizations should be unified under TEMM, the most politically



neutral partnership. Secondly, establishing a scientific joint research network at TEMM is recommended to deduct reliable scientific results, moreover maintain consistency with intergovernmental consultation. Lastly, the cooperation between Korea and Japan, which are mainly affected countries should be improved such as active joint actions in order to progress of the negotiation.

## **Governing PM2.5 in China: Focusing Events, Information Disclosure, Monitoring Networks and Policy Turns**

Dr. Ho-Ching Lee, National Central University

China has long faced some of the worst air pollution in the world. More recently, urban fine particles called PM2.5 have left serious economic, social and health impacts. Beijing and much of industrial northern China are often blanketed in smog in late winter and early spring. A heavy reliance on coal for energy, factory production and automobile emissions are to blame for this man-made hazard. Since 2011, haze-related hazards have become more frequent, more intense, covering a broader region and lasting for a longer period of time. At the same time, it has also entered the center of public policy agenda. Policy inquires rely largely on credible and complete scientific input. In the case of PM2.5 measurement and monitoring, in 2008, the US embassy in Beijing started measuring and posting PM2.5 readings on Twitter. In 2011, a civil society actor Nature University launched a campaign –“I measure the air quality for my mother country”- that established an alternative PM2.5 monitoring web site by collecting data from portable sensors by local residents. As a result, in January 2013, the Chinese government took a policy turn from a position of non-disclosure of information to making air quality data sets available to the public. This paper explores what environmental information is useful to environmental decision making, and, to what extent, by transparency, by advocacy coalition, or by reframing as a “meteorological disaster,” it can be translated to policy outcomes. Furthermore, the hazard of PM2.5 can also be referred to as a “risk multiplier”, contributing to instability and leading to displacement and migration. To sum up, this study adopts the concepts of Kingdon’s policy streams and Birkland’s focusing events in the policymaking process. They are then used to examine the causes, impacts and effects and related policy responses to PM2.5 scenarios. Hopefully, the study results will be instrumental in making a set of policy recommendations for hazard governance in China.

## **Air Pollution and the Perceived Quality of Governance in China: Evidence from the Wave 4 Asian Barometer Survey**

Dr. Chelsea C. Chou, National Taiwan University

Associate Research Fellow, Chin-en Wu, Institute of Political Science, Academia Sinica

Associate Professor, Chih-sung Teng, Graduate Institute of National Development, NTU

This paper examines the relationship between air pollution and Chinese people's evaluation about the quality of governance in China. Studies on China's air pollution have made a significant breakthrough since the 2010s. In the recent development, many scholars focus on how the grievances about environmental pollution have gradually empowered Chinese people to act against the government's infrastructure projects. The research on the impact of pollution on regime support, however, has been hindered by limited historical pollution data. To solve the problem, this paper uses the satellite Aerosol Optical Depth (AOD) observations to estimate surface PM<sub>2.5</sub> concentrations in each Chinese city and county. This data is shown to correlate with PM<sub>2.5</sub> exposure and hence is useful to identify the level of air pollution, while the official air quality data revealed by the Chinese government are often fraught with measurement problems. To have a grasp of Chinese people's attitudes toward their government, we take advantage of the newly compiled data by the Wave 4th China national survey of Asian Barometer (conducted from December 2014 to June 2016). The ABS dataset asks directly whether individuals are satisfied with the current political system. In addition, it asks about citizens' evaluation of the services provided by the local government. We find that in localities where a high level of PM<sub>2.5</sub> concentrations is detected, the respondents of the Survey tend to be less satisfied with the local government's performance. At the same time, the degree of regime support is also shown to be affected by the quality of air. We conclude that air pollution is influential in affecting Chinese people's evaluation about their government.

# **Climate Change Adaption & Energy Transition**

**Friday, Oct. 20, 2017**

**13:30 PM - 15:10 PM**

**Chair: Prof. Koichi Hasegawa, Tohoku University**



## **Climate Change and Vulnerability of Nomadic Pastoralists in Nigeria**

Dr. Regina Hoi-Yee Fu, Hosei University

This presentation attempts to study the impacts of climate change on vulnerability of Nigerian pastoralists. Agriculture in Africa is highly vulnerable to impacts of climate change, manifested through increased drought and flood severity, more intense storms, shifts in the timing and distribution of rainfall, warmer temperatures, and secondary effects such as increased pest and disease pressure. African pastoralists face several challenges that constrain their livelihoods and stifle their ability to adapt to changes in their external environment. The challenges can be grouped into four categories: climate change, political and economic marginalization, inappropriate development policies, and increasing resource competition. African pastoralists have lived with challenges of climate change and variability for millennia, and they are known to be highly resilient to erratic weather and climate conditions. However, the unprecedented rate and scale of human-induced climate change is beginning to pose problems, especially where social, political and economic factors are inimical to their livelihoods. Pastoralists in Africa are nowadays facing bigger challenges of land accessibility and lack of integration into the socio-cultural life of home communities. Climate change will be an additional stressor that outstrips their current adjustments. Vulnerability is most often represented by a suite of socio-economic, political and environmental factors that represent the sensitivity and exposure of a population to climate hazards. In studying vulnerability to climate change, researchers study exposure/sensitivity (degree to which a system is affected by or responsive to climate stimuli), resilience (ability to bounce back or to maintain stability despite disturbances) and adaptation strategy (ability to cope with disturbances). Climate change impacts on pastoral households are evident in livelihoods outcomes of higher temperature, changing landscapes and ecology, increased risk of drought, fire and floods, heat related illness and diseases among others. The understanding of vulnerability of the pastoralists in Nigeria will help us understand the root causes of violence and insecurity that are concealed in the interaction between the environmental, socio-political and economic factors. The desire of a people or social group to do things differently or do different things altogether is a function of the knowledge of climate risk available to them. More often institutions tend to plan for people without adequate information about the people's knowledge and perception of the risk they face. The study aims to provide evidence for policy decision in ameliorating socio-political situation, increase access to grazing resource stock, to mitigate climate change impact, support livelihoods development and a crucial task to support a transition to a more sustainable society.

## **A Comparison Study of Risk Perception, Attitudes Towards the National Energy Choice and Climate Change among Japan, and four EU Countries.**

Dr. Midori Aoyagi, National Institute for Environmental Studies

This paper tries to analyze the differences and similarities of risk perception, attitudes towards the national energy choice and climate change among four countries, Japan, UK, Norway, Germany and France. Climate change and Fukushima nuclear power plants' accident are the two major policy factors for defining energy choice in each country. But responses are different among these five countries. Our surveys seem to give us a hint for understanding this situation. Fukushima nuclear power accident had great influence on the nuclear power policy. Although Japan was severely damaged by the accident, the Japanese 2030 GHG reduction target still includes nuclear power as a main source of energy, while Germany decided to fade-out nuclear power in the long run. The European four countries survey was a part of large EU project-EPCC, and Japanese survey was done by National Institute for Environmental Studies. Each survey was fielded between May and June 2016, using almost same questionnaires. Each sample size was over 1,000 adults, randomly selected nationally representative samples. A) Risk perception on climate change, policy support: people in this five countries are very much worried about climate change. From 83% to 94% of respondents chose "I think that the world's climate is changing". Two options of "very" or "extremely" worried were chosen by 63% in Japan, 41% in France, while 30%, 29%, 20% in Germany, Norway, and UK, respectively. More than 60% respondents in all five countries chose "We are already feeling the effect (of climate change)." Less than 16% of respondents see the causes are mainly "natural process", rather than human activity. More than half of respondents in every country are very much eager to save energy to help tackle climate change. More than 60% of respondents in every country support their own country being part of Paris agreement. B) Nuclear power generation as a favorable energy source: Japan's distribution is very like EU three countries, very high response rate in negative options. UK public is relatively positive in nuclear power. Attitudes and risk perception towards the climate change and nuclear power are very much similar in Germany and Japan, but political consequences are different. We have to explore another factor for explaining this. Economy is the possible factor for this. Germany enjoys better economy, while Japan is suffering worst economic situation ever, people support economic over environment, according to our survey. (I appreciate EU 4 countries EPCC project (PI: Prof. Nick Pidgeon, Cardiff University) funded by EU for general help for making this comparison possible.)



## **Social Impact Assessment and the Amendment of the Electricity Act in Taiwan**

Mr. Mu-Xing Lin, National Taiwan University

Dr. Ting-Jieh Wang, Risk Society and Policy Research Center, College of Social Sciences, National Taiwan University

With minor and incremental changes since its passage in 1947, Taiwan's Electricity Act has long been criticized for failing to promote sustainability. By the end of 2016 a major revision was underway, which aimed at the reform of the electricity market, nuclear power phase-out agenda, and progress in renewable energy. In this article we attempt to use the approach of social impact assessment (SIA) to study the amendment process of the Electricity Act. As electricity is a necessity for daily life, the amendment of the Electricity Act will affect the lives of many households. Thus all members of the public can be viewed as stakeholders, whose opinions ought to be taken into consideration. Nevertheless, due to the lack of SIA in policymaking processes in Taiwan, many policies have created suboptimal outcomes, often causing widespread complaints or grievance. Given the potential impacts of the amendments to the Electricity Act, an impact assessment ought to have been conducted so that potential impacts and the opinions of stakeholders can be clarified, which will provide crucial data for lawmakers, government officials and concerned members of the public. This article will first review literature in the studies of environmental and regulatory impact assessment, with a focus on social dimensions. We will then provide analysis and suggestions of the SIA procedures, especially on the topics of scoping, stakeholder identification and public participation based on an understanding of the Taiwanese contexts. This will become the basis for further discussion of the application of SIA in the process of revising the Electricity Act. In comparing several versions of the draft amendments, we will highlight the definitions of stakeholders, policy changes and potential social impacts in different drafts. The discussion will conclude with the benefits of including SIA in the making of energy policies and laws.

## **The Development of Electricity Grid, Smart Grid and Renewable Energy in Taiwan – A Legal Perspective**

Prof. Hwa-Meei Liou, Graduate Institute of Technology Management, National Taiwan University of Science and Technology

The grid has played a vital role in the evolution of the electricity market; from traditional to smart grids, from fossil fuel power generated electricity grid connections to the integration of other renewable energy forms such as solar and wind power, the grid has played a key role in each step in Taiwan's move towards energy transition. Past research shows that the role of revisions to legislation is a key factor in reforms to the electricity market, including reforms made to the transmission and distribution element of the electricity industry. According to the newest plans for the liberalization of the electricity market, the transmission and distribution electricity grid is defined as a public conveyor. The smart grid has 6 main facets to promote, including smart generation and dispatch, smart transmission, smart consumers, smart grid electricity grid industry and the establishment of a smart grid environment; the government expects to invest one hundred billion three hundred and ninety nine thousand New Taiwan dollars into this project. In response to the possible affect the integration of renewable energy generated electricity with their unique nature could have on the grid's stability and reliability that, there is a vital need for the regulation of the grid's management and skills.

# **Disaster Restoration**

**Friday, Oct. 20, 2017**

**13:30 PM - 15:10 PM**

**Chair: Prof. Sun-Jin Yun, Seoul National University**



## **Jolt: Disaster Relief and Civic Space after the 2008 Earthquake in Sichuan, China**

Prof. Yi-Fei Li, New York University

Dr. Xiaohua Zhong, Tongji University

Earthquakes jolt, geophysically as well as socioeconomically. Environmental sociologists have maintained a robust line of inquiry into the social consequences of natural disasters. The massive earthquake that struck Sichuan, China on May 12, 2008 has been a focal point of empirical investigations for quite some time. Nearly a decade after the earthquake, this article seeks to take stock of existing arguments about the earthquake's impact on public life in Sichuan, and to contribute evidence from the field to further advance our understanding of natural disasters in the authoritarian context. Our investigation confirms previous accounts of an emerging, but constrained, civil society that consists of a diverse array of organizations and individuals. We document the shifts in the composition of this emerging social space, and compare areas affected by the earthquake with those unaffected. Our analysis provides additional clarity to the understanding of how this emerging civil society has evolved over time. Additionally, based on extensive interviews with local residents, social workers, officials, and aid professionals, we find that some of the crisis "exception" measures of the state continue to thrive nearly a decade after the earthquake. Many of these "exception" measures marked major deviations from the conventional political wisdom in China, but were nevertheless instituted in 2008 to ensure social stability during disaster relief. They entail extensive and recurring consultation with residents, and requires full consensus from entire residential blocks. Over time, curiously, these exceptions mature into rules. The long-term durability of these more democratic measures signals crucial transformations of the local state after the earthquake. The local state is now marked by openness to public participation, receptiveness to pluralism, and devolution of political power. Taken together, we argue that civic space has taken a strong foothold in Sichuan after the earthquake. We call it civic space, instead of civil society, as it is more far-reaching than the latter. On the one hand, non-state actors find more political space in which they can safely operate. On the other hand, state officials have become acculturated and accustomed to a new way of everyday bureaucratic routines, opening up "new state spaces" for democratic deliberation. This latter kind of civic space is the new "jolt" to the Chinese political landscape. While this civic space remains limited in many ways, its offers insights into new political possibilities.

## **Japanese Restoration Regime and Governance after Disasters**

Prof. Young-Geun Kim, Korea University

The purpose of this paper is to analyze how Japanese economic structure or policy has undergone transitions in coping with internal and external changes of circumstance after catastrophic disasters such as earthquakes and the war. It focuses on the transfiguration of economic policy after outbreak of the Great Kanto Earthquake of 1923, post-war system (1945), the Great Hanshin-Awaji Earthquake of 1995 and the Great East Japan Earthquake of 2011. This paper analyzes the economic structure and political changes after outbreak based on grasping the actual condition of each accident. Especially focusing on the social effect from earthquakes in Japan, it analyzes Japanese economic political transformation related to global economic changes. It describes Japanese governance changes in terms of the restoration process of each accident. The disaster governance which has been changed from the Great Kanto Earthquake indicates 'inter-war-system' which means between a war and the other, 'the postwar system', 'inter-disaster-system' which means between a disaster and the other especially after the Great Hanshin-Awaji Earthquake, to 'post-disaster system' after the Great East Japan Earthquake.

## **Disaster Resilience in an Aging Society**

Dr. Tadashi Nakasu, Chulalongkorn University

In March 2015, the Sendai Framework for Disaster Risk Reduction mentioned “build back better” as one of the four priorities for action in the Third UN World Conference on Disaster Risk Reduction (UNISDR 2015). Disaster recovery has been of great concern in the disaster risk reduction field (Qurantelli, E.L. 1989; Tierney and Nigg 1993). However, disaster recovery theories have not attracted much attention from researchers to date (Etkin 2015). In addition, disaster risk due to demographic changes, especially a declining population and aging society, also has not been well recognized. This paper explains how disaster recovery theories and demographic risks are significant in the examination of the recovery from a disaster in order to build a resilient society. The two disaster recovery theories are used, along with several case studies, to investigate disaster recovery processes with declining populations and aging societies. One is Haas et al. (E.J., R.W., and M.J. 1977) and Bates et al. (Bates 1982; Bates and Peacock 1989, 2008), who argue “the recovery process follows or facilitates the trend which the affected communities originally had before the disasters.” The other is Hirose (1982), who indicates that “the disaster recovery process depends on three major ingredients, the physical scale of the hazard, aid from outside, and community strength (Hirose 1982).” After the examining these viewpoints, the paper investigates disaster recovery processes of municipalities with declining populations and aging societies severely affected by the 1993 Southwest-off Hokkaido Earthquake and the 2011 Great East Japan Earthquake disasters in Japan. Through analyzing the disaster recovery process, this paper attempts to answer the following questions: How do we recognize the demographic risks on disasters in East Asian countries? What is a better way to consider disaster resiliency, especially, ‘build back better’, in the case of a declining population and aging society?





# **Environmental Movement**

**Friday, Oct. 20, 2017**

**13:30 PM - 15:10 PM**

**Chair: Prof. Taisuke Miyauchi, Hokkaido University**



## **Turkey's Environmental Movement in the Crisis of Democracy**

Mr. Takuya Moriyama, Doshisha University

This presentation will discuss the relationship between environmental movement and democracy in Turkey. Turkey's civil society has emerged according to political liberalization since the 1980s. Especially, due to Turkey's shift to the neoliberal policy and increasing economic inequality, charity organizations providing social assistance have grown compensating state's inability. On the other hand, civil society organizations and movements opposing state policy have been facing oppression. Their opinions are rarely accepted to the state policy. Turkey's environmental movement also became active since the 1980s. However, Turkey's government has been intolerant of opposition to development projects. As Harvey (2007) depicts, while neoliberalism suggests retreat of state from market, in reality neoliberal governments increased state intervention to make better market condition for those in power [1]. Turkey also introduced neoliberal policy by military rule after the 1980 coup and Turgut Özal's strong leadership after democratization. Özal's government actively invested in infrastructure such as highway, bridge, and dam. Neoliberal policy was succeeded to today's Justice and Development Party (JDP) government. During JDP's rule, Turkey has witnessed a boom in construction sector. Numbers of large scale projects have been carried out to boost the country's construction-led economic growth [2]. Those development projects however, have raised concern for negative environmental impacts. The Gezi movement in 2013 was a landmark for Turkey's environmental movement. Protest against a city park redevelopment expanded to large movement against government's policies. Democratization of decision making process was one of the important demands of the movement. The Gezi movement reminded people that conflict on development project is not just about technical and environmental issue but also about democracy [3]. Since the Gezi movement, Turkey's environmental movement started to emphasize their demand for democratization. However, the government is even boosting mega projects such as third airport in Istanbul, Istanbul canal connecting the Black Sea and Marmara Sea, and nuclear power plants in Akkuyu and Sinop, in spite of criticism. Under a state of emergency since July 2016, reinforced nationalism and aspiration for economic growth allow the government to take more bold steps; incentives are given to project companies and investors, environmental regulations are eased, and the government became more oppressive to opponents. This presentation will also refer to opinion and action of environmental movement for upcoming constitutional amendment referendum in April and analyze the role of environmental movement in Turkey's politics.

- [1] Harvey, David (2007), A Brief History of Neoliberalism, New York: Oxford University Press.
- [2] Adaman, Fikret., Bengi Akbulut., Yahya Madra. and Şevket Pamuk. (2014), “The economy: hitting the wall,” The Middle East in London. 10 (3), 7-8.
- [3] Özkaynak, Begüm., Cem İskender Aydın., Pınar Ertör-Akyazı. and Irmak Ertör. (2015), “The Gezi Park Resistance from an Environmental Justice and Social Metabolism Perspective,” Capitalism Nature Socialism, 26(1), 99-114. Note: The contents of this presentation would be similar to author's another research presentation in the conference of The Peace Studies Association of Japan on 1st and 2nd July, 2017. Latest information and findings would be added to this presentation.

## **The Environmental Movement Against the Four Large River Project in South Korea**

Dr. Do-Wan Ku, Environment and Society Research Institute

Mr. Cheol-Jae Lee, Environment and Society Research Institute

This paper aims to analyze the characteristics of the environmental movement against the Four Large River Project in South Korea. The Four Large River Project is a national project constructing 13 huge dams in four large rivers in Korea implemented under the Lee Myung-bak administration. This project was criticized due to the environmental destruction and undemocratic and illegal process. We analyze the frame, resource mobilization, and political opportunity structure of this movement. Firstly, green growth frame and ecology and democracy frame were antagonized. Secondly the government mobilized all the nation state's apparatus and economic resources. The environmentalists mobilized public opinion, catholic churches, local people etc. Thirdly, the political regime was closed and authoritarian. The pro-4 large river project alliance was constructed by administration, big corporations, conservative mass media. The environmentalist could constitute alliance for preserving 4 large rivers of intellectuals, opposition party politicians, local farmers, and some catholic church leaders. This movement was not successful in terms of achieving direct purpose that is cancellation of the project. However, it was successful in terms of deliberating and recognizing socially the negative environmental and political impact of authoritarian developmental government. We can analyze the characteristics of authoritarian developmental state and ecological democratic movement in South Korea in this paper.

## **The Historical Development of Japan's Organic Agriculture Movement: from Teikei in the 1970s to the Act on Promotion of Organic Agriculture in 2006**

Ms. Hsieh-Ming Yi, Graduate School of Environmental Studies, Nagoya University

The purpose of this research is to review the development of organic agriculture in Japan and examine how the ideas and strategies of Japan's organic agriculture movement transformed at different times, which may be able to be compared to those of other East Asia countries. This paper attempts to capture the full picture of how organic agriculture developed in Japan, analyzing the movement in three stages: 1) the background of teikei (a system of community-supported agriculture in which farmers and consumers cooperate directly) as the central idea of movement in 1970s; 2) conflict between different statements arisen by the establishment of organic standards since the mid-1980s; 3) the movement calling for the enactment of Promotion Law of Organic Agriculture since the 2000s. The result shows that the ideas and strategies of the social movement formed and evolved along with changing political and economic structures. At first, Japan's organic agriculture movement began with criticism of modernization; they drew a line and refused any intervention from business or government, developing an alternative path with teikei. However, as the movement spread, organic agriculture became subsumed and industrialized by the market. At the same time, the growth of teikei slowed, and government began intervening in organic agriculture with the establishment of organic standards. In response to this, in order to continue developing sustainably in modern society, the movement changed their strategy to promote organic agriculture in collaboration with business and government. From this, two important issues are raised: 1) the ways in which the private sector and government will collaborate to spread organic agriculture; and 2) how the movement will maintain its critical point of view in the face of an expanding set of ideas and strategies.



# **Framing, Narratives and Media**

**Friday, Oct. 20, 2017**

**13:30 PM - 15:10 PM**

**Chair: Prof. Juju Wang, National Tsing Hua University**



## **A Civil Sphere in the Authoritarian Context: Smog Crises and China's Official Media**

Ms. Hao-Yue Li, Suny University at Albany

Professor, Ron Jacobs, Suny University at Albany

China as the largest developing country is now facing the worst air pollution in the world. In fact, Chinese air pollution has been the most debated topic in global media because of two big events: the 2008 Beijing Olympics and the PM2.5 crisis since 2010. This paper explores how China's official state newspaper reported about air pollution in the lead up to the Beijing Olympics and during the 2010 PM2.5 crisis. We are interested in three related issues. How does the official state press try to balance the need to respond to the environmental crises with the need to maintain national and international legitimacy? How do these responses change over time? Finally, how do they differ from the kinds of narratives that were circulating in other key publics, such as Western newspapers, scientific reports, and ENGO press releases? Our central argument is that the official Chinese press initially tried to ignore and downplay the significance of the environmental crisis caused by air pollution, but it gradually modified its approach by developing two narratives about Chinese modernity and the environment. The first narrative emphasized the challenging modernization context that China faced, in which its goals of environmental regulation needed to be balanced by its need for sustained economic growth. This narrative celebrated the environmental changes and innovations that had been initiated, while also recognizing the structural challenges that would take decades to overcome. The second narrative emphasized the need for a partnership with an emergent Chinese civil society, as an important way to respond effectively to environmental challenges. In developing its new discursive approach to discussing air pollution, the Chinese official state press was able to draw on similar interpretations that were circulating in two influential transnational publics: reports that were emanating from the scientific community, as well as public statements by environmental NGOs. Aligning with these transnational public narratives helped to amplify the international legitimacy and plausibility of China's public response. It also offered some coverage from the dominant accounts in mainstream US newspapers, which consistently interpreted China's actions as evidence of corruption, dishonesty, and a general hostility toward democracy and civil society. We argue that the changing discursive strategy of the Chinese official press points to important cultural changes taking place in China's public sphere, signaling a general movement away from an exclusively state-dominated focus, and a greater attentiveness to competing narratives that are circulating in transnational publics.

## **Participatory Natural Resource Management in Rural China: Making and Unmaking Environmental Narratives**

Dr. Zoe Ju-Han Wang, University of Melbourne

Environmental and development discourses in China can be categorized into three narrative motifs framing human-nature relationships: peasant, indigenous and community. Indigenous and community narratives have been adopted by environmental NGOs (eNGOs) in China in promoting community-based natural resource management (CBNRM) projects. A case study of two communities in Yunnan shows that neither narrative theme is fully internalized by the relevant rural communities. Instead narratives may be modified strategically by local communities for several reasons. First, there are differing if overlapping agendas held by local communities and eNGOs, partly related to commercial objectives. Second, incompatibility of the Chinese language and adopted concepts of “community” result in confusion. Finally, a lack of recent territorial and cultural claims by rural communities since the collectivist era makes it difficult to construct the identity of a community.

## **Governing the Boundaries: The Challenges to Apply the Planetary Boundaries Framework into National Environmental Policy in Taiwan**

Dr. Chia-Wei Chao, Risk Society and Policy Research Center, College of Social Sciences, National Taiwan University

“Planet Boundaries” had become an influential narrative to guide the sustainability transition since it been proposed in 2009. The research teams with 28 internationally renowned scientists identified nine critical thresholds for the human development, which include climate change, stratospheric ozone, land use change, freshwater use, biological diversity, ocean acidification, nitrogen and phosphorus inputs to the biosphere and oceans, aerosol loading and chemical pollution. Therefore, it provided a new prospective for the science community to prioritize research funding and the environmental NGOs to re-invite the campaign strategies. However, the implementation of this framework relied on the successful translation from the global-scale viewpoint to support decision-making at national level. Several studies attempt to assess the environmental limit based on the Planetary Boundaries framework, and setting the national environmental objectives according the assessment result, such as Sweden. In spite of the vividly international discussion, the influence of Planet Boundaries is finite in Taiwan. The main reasons include the sluggish response from science community, isolation from international environmental regime and missing link between global threshold to the local controversy of the environmental movement discourse. Therefore, this study attempts to assess the national environmental performance of Taiwan based on the Planet Boundaries, thus the segmentation of global level and national level can be dissolved. Moreover, the “governance gap” will be identified based on expert questionnaire and in-depth interview with the key stakeholders. Based on the above result, an innovate government framework will be proposed to fully integrated the Planetary Boundaries framework into national environmental policy.



# **Regular Sessions II**

## **Comparative Studies**

**Friday, Oct. 20, 2017**

**15:40 PM - 17:30 PM**

**Chair: Prof. Saburo Horikawa, Hosei University**





## **Carbon Credits: Varieties, Social Meanings, and Circuits**

Prof. John Chung-En Liu, Occidental College

Carbon markets, or cap and trade systems, have become the most prominent policy instrument to mitigate climate change. Since early 2000s, many countries and regions, including the European Union, northeastern United States, California, Québec, South Korea, and China, have adopted this market-based approach to control greenhouse gas emissions. In these markets, governments issue a limited number of emission allowances that firms can buy and sell according to their strategy. There is also a separate and yet vibrant market of carbon offsets—carbon reduction units produced through green investment outside of one's jurisdiction. These carbon credits are highly financialized and usually traded as futures contracts. The current scholarship mostly sees the carbon credits as a uniform, anonymous commodity detached from our social lives. I argue that such conception masks the market's origin as a tool to solve a critical social problem. To deepen our analysis, I aim to achieve two goals in this paper. First, I will present a sociological analysis of meanings of carbon credits. In particular, I distinguish two types of carbon credits—emission allowances and carbon offsets—and examine their moral and political economy. Emission allowances, as I will demonstrate, are more "public" than offsets. Second, I will explore the potential for individuals to take active roles in the carbon market. While not downplaying the importance of structural solutions, I argue that citizens can re-conceptualize the market as a site for collective actions. As carbon market will remain crucial policy in the foreseeable future, this paper envisions ways to re-embed the market into the social fabric that created it, making the market more democratic, transparent, and legitimate.

## **A Comparative Study on Endangered Bears Protection in South Korea and Mongolia from a Perspective of Environmental governance: A Case Study on the Asiatic Black Bear and the Gobi Bear**

Ms. Khulan Erdenebileg, Graduate School of Environmental Studies, Seoul National University  
Prof. Sun-Jin Yun, Seoul National University

North East Asia was a rich region in terms of species but many species became endangered species because of human disturbance. One of the most representative cases is the Asian black bear in Korea and the Gobi bear in Mongolia. Disappearance of bears, one of the highest predators and controllers, cannot but influence imbalance of global ecosystem which is connected as nets. Protection of endangered species is necessary but it accompanies costs and sometimes social conflicts. Thus, environmental governance is required, in which relevant stakeholders participate. This study explores cases of South Korea and Mongolia in terms of environmental governance in protection of endangered bears, the Asian black bear and the Gobi bear, respectively and finds implications through comparison. South Korea and Mongolia are placed in different circumstances and their approaches are different. Nevertheless, both countries can learn from each other. This study employed literature review and interviews as study methodologies. In case of South Korea, the government is a major player and species restoration technology development is central. In the process, the importance of species restoration was the fully shared through the whole society and conflicts with local residents have happened. In comparison, in case of Mongolia, however, NGOs as well as the government came to be concerned about protection of the Gobi bears. In particular, lay people of the Mongolia are interested in it based on information sharing through SNS with pride in the Gobi bear living in that region only. However, it is problematic in that the Mongolia government does not allocate sufficient budget and does not establish short-, mid- and long-term plans. Even though two countries' environmental governance to protect endangered bears are different, this comparative study shows possible ways for each country to solve their current problems.

## **In the Search of Disaster Data: South Korea and Japan-2014**

Prof. Ilknur Oner, Firat University

Disaster related literature reveals that searching and tracing disaster data in different countries is not an easy task. However, in certain circumstances these sort of studies are essential but has many difficulties. Study reveals difficulties related to language, system differences and on going disaster experiences during study. Study reveals results of the historical analysis of the disaster related systems in both countries and researchers at the point experiences related to Neguri typhoon in South Korea and Japan and quakes in Yokohama ISA congress during July 2014 and interviews in several University and municipalities of these countries. The paper will be covering four sections. The first section will be introducing originality and historical appearance of the necessity of studying this topic and importance of the subject. The second section covers methodological details. The third section reveals findings and detailed comparative discussions. The fourth section concludes findings and recommendations for the future studies.

## **What is Social Capital in Local Food Networks? Towards Comparative Studies in Asia**

Dr. Megumi Nakagawa, Yoamagata Prefectural Yonezawa Womens Junior Collage

1. Background This study examines what are the effects of the concept of social capital in Local Food Networks studies. LFNs are widely recognized subjects in sociology of agriculture and foods. Social capital is key concept to analyze the subjects ( Renting and Marsden 2003, Goodman et al 2011, Maye 2013 ). There are three political discourses mainly in agriculture; neomercantilism, multifunctionalism and neoliberalism. Agriculture that emphasizes environmental conservation is particularly important issues because multifunctionalism has strengthened its influence in Europe Union and Japan. Recently, a great deal of LFNs research has been conducted in relate to neomercantilism and multifunctionalism. Typical research subjects of AFNs studies are the organic, farmers market and Community Supported Agriculture etc. These subjects are also categorizes as Alternative Food Networks or Short Food Supply Chain. These activities are not only appeared in Western countries but also in East Asian countries (Nakagawa 2014, 2015, 2016; Steven and Akitsu 2015). However, few studies examined the key concepts in LFNs studies for nonwestern societies.

2. Methods First, I sum up the key concepts and main result in Local Food Networks researches based on European perspectives. Second, I introduce Japanese research context that a direct selling is a Community Supported Agriculture for organic vegetables.

3. Conclusion Much attention for social capital in LFNs has been paid that how it can be used to facilitate its economic activities. Social capital is regarded as not only accumulate around individuals but also around groups, therefore the characteristics of various social capitals are not main issues.

4. References Goodman D. E., E. M. DuPuis and K. M. Goodman, 2011, *Alternative Food Networks: Knowledge, Practice and Politics*, New York, Routledge. Maye. D, 2013, "Moving Alternative Food Networks beyond the Niche", *International Journal of Sociology of Agriculture and Food* 20: 383-390. Nakagawa Megumi, 2014, "The Self Measuring Radiation Movement for Alternative Food Networks", *International Sociological Association 18th Congress*, Pacifico Yokohama, Yokohama, Japan (July 15th, 2014) Nakagawa Megumi, 2015, "Independent Radioactive Measurement and Organic Agriculture in Miyagi Prefecture, Japan", *The Study of Sociology* 95:125-144. (in Japanese) Nakagawa Megumi, 2016, "Thinking about Alternative and Local Food Networks: Exemplification of Organic Food Groups Facing the Fukushima Nuclear Accident", *International Sociological Association 3th Forum* Wien University, Wien, Austria (July 14th, 2016) Renting H. and Marsden T.K., 2003, "Understanding Alternative Food Networks:

Exploring the Role of Short Food Supply Chains in Rural Development”, *Environmental and Planning A* 35: 393-411. Steven R. McGreevy and Motoki Akitsu, 2015, “Steering Sustainable Food Consumption in Japan: Trust, Relationships, and the Ties that Bind” Audley Genus eds. *Sustainable Consumption: Design, Innovation and Practice*. Hans G. Grauch eds. *The Anthropocene: Politik-Economics-Society-Science*.

## **Environmental Change and Migration: Causes and Consequences in China**

Dr. Dan Liu, Population and Development Research Center of Jiangsu Province

More and more researches have been concerning about the environment and migration, especially the interaction between ecological environmental change and migration. However, migration caused by environmental change is a highly complex concept that can be understood as part of migration dynamics. Human migration is potentially influenced by environmental factors (like desertification, drought, lack of sustainable sources of safe air and water, tropical hurricanes, industrial pollution etc.), but ultimately shaped by a complexity of forces such as social, economic, political and cultural processes. Therefore, environment-induced migration needs to be addressed in a much broader context of human development agenda, which can provide the basis for more prospective and appropriate migration and environmental protection policy. In this paper, the author reviewed the study of environmental change and migration in China, analyzed the causes and consequences of environment-induced migration in the context of Chinese industrialization and urbanization, tried to explain how environmental change interplay with other social factors in decisions relating to migration. Hoping this work can help policy makers and communities respond more effectively to the challenges of balancing social development with human wellbeing and environmental protection.

# **Energy Transition**

**Friday, Oct. 20, 2017**

**15:40 PM - 17:30 PM**

**Chair: Prof. Yasushi Maruyama, Nagoya University**





## **Energy Storage Stimulus to Independence and Development. The Broken Promises of Sardinia Island in Italy**

Prof. Giorgio Osti, University of Trieste

Energy storage is a rational practice: it reduces wastes, it increases security and improves systems efficiency at every territorial level. In that sense it responds to an ecological rationality. But storage has cultural meanings as well, providing a sense of cognitive security on future and identity. There is finally a social dimension of energy storage concerning its possibility to improve reciprocity. Generally speaking network provision of energy through district heating or electric grid has reduced the people interactions; it is bowling with a cold and anonymous partner, paraphrasing R. Putnam 'bowling alone'. Indeed, the need for block or city level electricity storage (smart city) has restarted the opportunity for people to cooperate on common tasks. The paper aims to highlight social dimensions of energy storage, considering its multilevel and systemic nature. It is possible to create storage systems from household level to high tension grid, beside intermittent sources like wind and sunlight. Moreover, energy sector is highly institutionalised and responds to national security imperatives. Historically it has been dominated by a State-big companies duopoly. A wide framework is then necessary for including all these trends. A connection between social network and institutional analysis offers a good theoretical reference (Owen-Smith and Powell 2008). The hypothesis is that self organised networks of consumers or SMEs do not emerge, differently of food nested markets, because energy provision is disconnected to shared values, like solidarity and environmental justice, and the duopoly is very strong despite unbundling efforts. Nevertheless, political and personal independence aspirations and the search for new jobs push for the realisation of energy communities, in which storage is crucial. That is especially evident on islands. Sardinia in Italy is a big island that suffered of energy colonisation and low economic development. The reaction to these negative processes is spurring the local authorities to invest on energy storage projects. The results are ambivalent, but Sardinia anyway represents an emblematic case study of energy transition stimulated by storage practices to be applied as well to Asia Islands or other places aspiring to relative independence.

## **Korean Traditional Beliefs and Energy Transition: Pungsu, Shamanism, and the Local Perception of Wind Turbines**

Prof. Eun-Sung Kim, Kyung Hee University

Prof. Ji-Bum Chung, Ulsan Institute of Science and Technology

Yong-Seok Seo, Korea Advanced Institute of Science and Technology

This article examines the relationship between Korean traditional beliefs such as pungsu theory and shamanism and local opposition to wind farms. First, from the pungsu viewpoint, the wind turbine is considered similar to the iron stakes put on renowned Korean mountains by Japanese imperialists to block the national spirit of Korea during the Japanese colonial era. Furthermore, local residents demonstrate nationalistic hostility towards foreign companies participating in the construction of domestic wind farms. Second, the noise generated by wind turbines marks the presence of the wind passing through them. A straight, strong wind with high-energy efficiency for wind power generation is considered inauspicious in terms of pungsu. As a result, the strong noise of wind turbines is a reminder of bad memories related to the inauspicious winds associated with ghosts or dogaebbi deities. Some elderly residents also view the light of the wind turbines as the fire of the dogaebbi deity they saw in childhood. The power of pungsu is influential in a clan community on mountainous areas with a high proportion of elderly population and low acceptance of wind farms.

## **Public Engagement and Social Learning in Local Energy Transition**

Prof. Shu-Fen Kao, Fo Guang University

In the process of transition to green energy, the government's determination and actions to move towards green economy development is rather critical on one hand. On the other hand, in order to break current reliance on existing energy structure, not only we must transform energy technology system, infrastructure, regulation and market, but also we shall change a wide range of energy-related lifestyles, social values and culture of energy governance to bring forth of transitions in all levels. Scholars of sustainability transition studies (Markard et al., 2012; van den Bergh et al., 2011) have pointed out that transition process being bound to be difficult and challenged in nature, the community, in the constant tried and error, is continually in a mode of learning and adaptation. Therefore, in the process of transition management, we must create mechanisms to facilitate mutual learning and public dialogues so that varied views can be exchanged and the existing system and ideology may be reflected, then in turn to shape the collective knowledge and consensus towards transformation path. In the endeavors of local energy transition, it is imperative to involve more local stakeholders in the attempt to discover barriers hindering successful local energy transition. Social learning is important in the process of local energy transition, unfortunately social learning neither is paid enough attention in the process of energy transition, nor is well discussed in the literature in this field. This paper first summarizes the concept of social learning and theoretical viewpoints, and then explain why public engagement is imperative to facilitate social learning, which has played a significant role in the local energy transition. Empirical data from in-depth interviews and focus groups with members from NGOs, government officials who are responsible for energy transition, advocates of people's power plants and community leaders ...etc. are employed to elaborate the author's arguments.

## **Can Green Energy Transformation be Put into Practice without Energy Saving? A Case Study of the Energy Service Companies in Taiwan**

Prof. Shirley Ou Yang, Ming Chuan University

The transformation of urban energy use is a pressing issue in an era of mounting climate risks. For many countries, to solve the high carbon emission problem as explained in the 2016 Paris Agreement, new strategies must be implemented in energy use, urban planning, and land use. Because urban areas are responsible for nearly three-quarters of global final energy demand, the discussion of energy use in urban areas is crucial to this cause. The purpose of this study is to examine Taiwan's public energy transformation practices. We argue that green energy and energy-saving are inseparable. To neglect the importance of the existing carbon lock-in structure (i.e., risk) overemphasizes the development of renewable energy initiatives (i.e., innovation). As a result of this unbalanced stress on one aspect of energy transformation, a state is not able to implement an ecosystem of green energy. In response to the global consensus on climate accountability in the Paris Agreement, Taiwan's government has proposed the Forward-looking Infrastructure Development Program in 2017. This plan's purpose is to advance the country's green energy transition. Drawing from both institutional theory and practice theory, we explore energy saving and green energy innovations, emphasizing the bridging of these two areas. In particular, we focus on Energy Service Companies (ESCOs). Taiwan's ESCOs have met with problems to find nation-wide implementation. In this study, we investigate the possible historical, cultural, and institutional barriers that have led to the currently suboptimal ESCO development in Taiwan. We also ask how ESCOs and renewable energy initiatives can work hand-in-hand to foster the diffusion of green energy governance practices? Under the context of a field dominated by small and medium sized enterprises (SMEs), our initial findings suggest that the diffusion of ESCOs in Taiwan is driven by the initiatives of private sectors on a small and fragmented scale. This is unlike most European countries, whose ESCO developments have been mostly fostered by the public sector on massive scales. The idea of low carbon, sustainable living and the practices of energy saving has yet to permeate the public and private sectors of Taiwan. We aim to enable an ecosystem of sustainable urban energy. From a theoretical standpoint, this study is a response to one of Fiss's calls (2008), specifically, that to understand both the changes and persistence of governance arrangements at the industry and national levels. Regarding Taiwan's institutional context, we provide a deeper understanding of the diffusion and enhancement of governance models as a shared cognitive frame. At a theoretical level, our study's contribution is in the combination of institutional theory and practice theory, specifically in the context of energy transformation in Taiwan; at a practical level, our study's contribution is in policy suggestions for the global transition toward green economies.

# **Environmental Perception & Environmental Behaviors**

**Friday, Oct. 20, 2017**

**15:40 PM - 17:30 PM**

**Chair: Prof. Kuo-Hui Chang, National Taiwan University**



## **Environmental Thinking and Ideological Construction of Environment in Japanese Society**

Prof. Mika Merviö, Kibi International University

The tradition of Japanese thinking on environment has developed in close interaction with both Asian and Western influences. However, Japanese society has created a new ideas and re-presentations of reality that reflect the actual environment and changes in society. Furthermore, the environmental thinking has served as an agent of change itself. The environmental conditions in Japan are markedly varied and quite different from any other places and it is no wonder that the nature/environment as well as animals have frequently been understood and depicted in ways that are quite different from the centres of culture. In particular, it is worthwhile to analyse changing relationship to environment as it is depicted in Japanese art and literature. However, artistic expression is also vulnerable to the ideological construction of past and present, and, as always with expression, ideas and depiction of ideas do not only stem directly from reality, such as physical nature, or experiences of people, but may also be part of a political or ideological agenda to reconstruct the past or present. It is not only in Japan where the nation-state has needed representations of cultural continuity, including those representing the physical environment. Romantic or nostalgic aesthetic nationalism is not a Japanese invention and Japanese nationalism in its more aggressive forms has not relied particularly heavily on visual iconography of Japanese environment/nature. In fact, the Japanese state has been rather clumsy in its efforts to 'use' high or low culture to its ends and arts certainly do not enjoy particularly strong support from the authorities and political/ social elite. However, the environmental awareness has been duly registered in Japanese art and culture after largely anthropocentric concerns about pollution and environmental risks to humans became widely voiced in Japanese society and Japanese politics since the 1960s. Instead of direct criticism of social, political and economic interests that contribute to environmental destruction Japanese environmentalist art and thinking are prone to promote various forms of symbiosis (kyôsei) and co-operation. More radical ideas of biocentrism and deep ecology are rarely voiced in Japanese environmental thinking and environmental movements. Meanwhile, older religious ideas about sanctity of nature and life are often ignored when modern ideological constructions of environment are created and reinforced in Japan. To understand why green political ideas receive so little support in Japanese politics it is important to analyse the ideological construction of environment in Japan.



## **The Traditional View on Nature-Society Relations Revealed in the Common-Pool Resources Management in Korea and its Implication: Beyond the Dichotomy**

Prof. Sun-Jin Yun, Seoul National University

What is the root cause of environmental degradation and destruction? Catton and Dunlap (1978), who initiated the academic discipline of environmental sociology, pointed out human exemptionalism paradigm (HEP) as one of the main causes of environmental problems and suggested new ecological paradigm (NEP) as an alternative to solve them. Recently, discussion and controversies surrounding HEP and NEP are not active, while HEP seems to be acknowledged as one of main causes. However, traditional societies did not experience environmental problems, although even all human beings, as well as non-human species, were not treated as equal living things with equal rights under classism. Thus, we may raise a question whether HEP is the origin of environmental problems and NEP is powerful alternative. This study explored traditional commons or common-pool resource management in Korea, including Song-Gye (pine tree associations), Eochon-Gye (fishing village association), and village common pasture association, and tried to identify perspectives on nature-society relations embedded in common-pool resource management. As a result, this study found that natural commons or common-pool resources such as common village mountain, village sea shore and village common pasture were managed as a means of livelihood with little recognition about intrinsic value of nature. Nevertheless, their carrying capacity was maintained. Traditionally, commons were utilized within its carrying capacity, while guaranteeing minimum standard of living of all community members with equal access to the commons. This approach resulted in symbiosis of nature and society. Thus, it is critical how to make symbiotic relationship with nature and how to make cooperative relations among people, beyond dichotomy dividing nature and society into detached things. This is an implication drawn from traditional common-pool resource management in Korea.

## **The Symbolic Struggle of Making “Nature”: Habitus and Field Constructions in Tea Industry of Pinglin, Taiwan**

Ms. Hsin-Hua Chiang, Division of Environmental Science and Technology, Graduate School of Agriculture, Kyoto University

In the trend of sustainable development, the concern of environment has become a critical issue in agriculture. The study introduced Pierre Bourdieu's theory of practice, field and symbolic struggle, in order to describe the active process from different perceptions among environment to the occurring conflicts during the construction of “pan-organic” (referring to organic, environmentally friendly or nature farming) field. The study took an intimate field work in Pinglin, a mountain village near Taipei, where has been a major tea productive area and also a major part of Taipei Water Source Domain. Since the first farmer opened up the organic tea production in 1990s, organic farming has remained a small share in the local industry. Through participatory observation of daily practice and in-depth interviews with tea farmers (including farmers taking conventional, pan-organic methods or both), I compared the structures of environmental perception between farmers taking conventional or pan-organic approach. The farmers' habitus and epistemology among nature could be divided into both ends of a spectrum: the body-oriented crop-centrism, and the nature-protective eco-centrism. Furthermore, I suggest that the idea of “nature” is not abstract or detached, but deeply embedded in bodily practice. In other words, the daily routine of labor in the tea farm and the perception among nature are mutually constructed. As the pan-organic farmers and sellers trying to establish a new field in the market, they tend to specify themselves as a more “natural” approach. However, in Pinglin's case, with regard to remain the production, organic farming often refers to more intensive input of cost and human labor. Accordingly, the motivation of choosing conventional or organic farming is not simply an ethical decision, but combined with economic or physical conditions and interests. Moreover, the barriers transferring the epistemology have created a new dilemma for pan-organic actors: think sacredly, but act secularly. In conclusion, while the pan-organic actors struggled to build up the autonomy of their field by creating distinct boundary and illusion, they failed to break away from the conventional structure, thus resulting in a new paradox.

## **A Bridge for an Island: a Solution for Isolation or a Tool of Domination?**

Dr. Kyoko Ueda, Sophia University

For islands, is a role of bridge to connect to the outside world 24hours and to smooth the traffic flow? Is a bridge always beneficial for them? The purpose of this paper is to discuss the socio-cultural effect of a bridge particularly for smaller islands' societies. Japan consists of 6,852 islands; 423 of them are the inhabited islands. Strangely, five of them are called Japanese "mainland" that are Hokkaido, Honshu, Shikoku, Kyusyu and mainland Okinawa and only the rest of 418 islands are officially "islands". This odd expression tells the simple fact that the difference between "mainland" and "island" is only a relative scale. As Cosgrove maintains "...even the greatest landmasses are islands at the largest scale" (Cosgrove 2009). Then what differentiate the islands from the continents? Is the island no longer island if it were bridged? In fact, 91 out of 418 Japanese "islands" became no longer islands institutionally after they are bridged to one of five "mainlands". Bridging the island, generally speaking, is more or less welcomed since it is "icons of prestige and engineering miracles" (Baldacchino 2007). Bridging the island, however, is often a process of merging into the connected mainland: the schools, the hospitals and the local means of transportation often disappear because of the intensified connectedness to the larger scale society. This paper attempts to look at a socio-cultural impact of a bridge by looking at Yagachi island placed in Okinawa. This island was bridged to Okinawa mainland in 1953 under the U.S. governance (during 1945 to 1972). After the bridge was once carried away by the attack of Tsunami in 1960, they need to wait three years until the bridge was newly built again. What did they need to do to adapt to unbridged situation of the island? What were the disadvantageous and also advantageous conditions for the people lived in the island? By understanding the island's wander between the bridged and unbridged situations, the paper attempts to understand the bridge as "a doubled-edged swords" and its socio-cultural effect.

## **Community Perceptions towards Risk and Benefits of a Mangrove Restoration Project: Learning from a Case Study in Malaysia**

Dr. Hiromi Yamashita, Ritsumeikan Asia Pacific University

Dr. Naoyuki Mikami, Hokkaido University

Various coastal wetland restoration projects have been conducted in recent years in an attempt to revitalize fish stocks, prepare for sea level rise or for mitigation purposes. Due to the need for long-term social support and investment in such schemes, as well as avoiding potential conflict, it is becoming increasingly important to take into account the various perceptions that exist in the community. When looking at the existing study results, although they clearly list what kinds of opinions have been expressed by citizens, they lack investigation into aspects of environmental justice, and risk communication. Citizens are sometimes branded as self-interested, hoping to receive short-term and tangible benefits but not caring for coastal wetland environments or future generations. This presentation shares the findings from an in-depth study in Malaysia which investigated various stakeholders' perceptions of the benefits or 'success', and risks or 'negative' impacts of a mangrove forest restoration project in Malaysia. The interviews with 10 people (twice each over 3 years to see the changes in perceptions), and questionnaire surveys across different communities which are close to the mangrove restoration project. The communities participated to the study included Malay fishing community, Chinese tourism industry community and Indian plantation community. This study is hoped to give insights into types and levels of people's perceptions towards restoration projects, and some thoughts for effective environmental communication and decision making for future.



# **Regular Sessions III**

## **Environmental Justice 1**

**Saturday, Oct. 21, 2017**

**10:30 AM - 12:10 PM**

**Chair: Prof. Ryoichi Terada, Meiji University**



## **From Evacuee to Citizen – Seventh Year’s Issue of Evacuation Caused by Fukushima Nuclear Accident-**

Dr. Atsushi Nozawa, Japan Society for the Promotion of Science

“Suffering” is one of the most fundamental concepts of Japanese environmental sociology. There has been an increasing momentum towards redefinition of this concept since 3.11 disaster, especially Fukushima Nuclear accident. The aim of this presentation is to make clear a new aspect of suffering and discuss its significance to the ES framework through analyzing “voluntary” evacuation issue caused by Fukushima nuclear accident. The analysis is based on interview surveys with people who evacuated “voluntarily” to Sapporo city, the capital of Hokkaido prefecture, northern Japan, and their advocates. “Voluntary” evacuation is a type of evacuation where people choose to move from a perceived area of risk to safety area. Deciding whether to move or not depends on each person’s risk perception. For that reason, people not from Fukushima are included in interview targets. The survey was conducted from 2013 to 2016, but will continue in the future. The analysis will show that evacuees have been forced to decide whether to remain Sapporo or to go back where they lived before the accident. Especially this “choice” weighs disproportionately on people who cannot return easily such as fatherless family, people with disability and elderly people. These vulnerable categories are forced to choice to remain, which means in many cases fall in to poverty. Because housing subsidies were withdrew on March 2017. In addition, some support and advocate activities by citizens were dissolved because of losing fund, lacking staff and decline of social interest. They lose and are deprived social resources to live. This situation can be said environmental unfairness. The experience in evacuation is a new phenomenon for ES framework. This is a kind of suffering different from that of environmental pollution like Minamata disease. However, sooner or later, “voluntary” evacuation as a type of evacuation will disappear. Someone will become citizen where they moved, others may return to Fukushima. Vulnerable groups will become more invisible. It is expected to become difficult to research this topic. In order to prevent them becoming invisible and to develop this concept, redefinition process of suffering concept needs to be conducted at first from the “voluntary” evacuation. This will contribute to the development of ES perspective.



## **A Comparative Study on the Energy Policies from the Perspective of Environmental Justice - Focusing on Energy policy of City of New York and Seoul**

Ms. Ju-Yeon Yoo, Seoul National University

Currently experiencing the physical, economic and psychological consequences of climate change, the world leads collaborative efforts to develop concrete measures for sustainable development. In 2015, the Sustainable Development Goals (SDGs) was established, and the Paris Agreement was ratified, leading to meaningful international consensus at COP21 in Paris. The damages of climate change occur in small units such as cities, which is more vulnerable than countries, calling for international efforts to achieve agreed strategies and goals. Therefore, as localization is as important as globalization, efforts at both national and local scale is called upon. This study aims to analyze 'Resilience', which is increasing in importance in recent years on local governments or cities. According to OECD, 'resilience' is defined by the ability to absorb, adapt, transform and prepare for the past and future impacts of economic, environmental, social, and institutional shocks and stresses. In addition, the international frameworks and initiatives on urban resilience such as the Rockefeller Foundation's '100 Resilient Cities', UNISDR's 'Making Resilient Cities' promote urban resilience and share successful stories to cities in other countries, being regarded as a harmonious realization of globalization and localization. The purpose of this study is to derive policy implications from the view of climate justice to promote urban resilience and to answer the following questions: Are urban policies well equipped to promote urban resilience in two selected cities with similar vulnerabilities? what are the similarities and differences when comparing policies of two cities from a climate justice point of view? What are their related actors' roles for the cities? As a comparative analysis, this research studies the distributional definition of climate justice, at the point of equity. This paper also examines whether the policy for improving urban resilience is well prepared to solve the problem of vulnerable people and geographical isolation and how the role of actors is defined in relation to policy and how networks are formed. In the United States, climate change vulnerable groups are selected based on their economic position in terms of climate justice, and many efforts are being made to create proper indicators on the selection of vulnerable groups of climate change impacts. Unlike the United States, in Korea, the concept of climate justice has not yet been established concretely in laws and institutions. Therefore, the absence of national laws and institutions has been reflected in urban policies, and thus there are many differences in policies between cities in the United States and Korea. Seoul and Los Angeles, are similar in vulnerability, but the difference in adaptive capacity causes differences in urban

resilience. Therefore, two cities are selected, and the policies related to urban resilience are analyzed and implications are derived. This study analyzes urban policy in conjunction with the concept of urban resilience. So, it has significance for the cities of other countries to realize urban resilience in conjunction with meaning of distributive climate justice. Overall, it would be an important case study to advance the resilience of cities from the perspectives of climate justice.

## **Environmental Movement and Labour Rights in Contradictory**

Prof. Hua-Mei Chiu, National Sun Yat-Sen University

In campaigning for environmental justice, what position and strategies should the environmental groups adopt towards the labour camp? Are workers and unions the oppositional side of environment protection, always acting as interest groups? Is it essentially confrontational between environmental (green) and labour (red) movements? The research conducted interviews with EJ campaigners, the union leaders in energy-consuming and polluted industries in Taiwan. It finds that the active union leaders and the EJ campaigns have been confronting each other in several well-known environmental disputes, such the anti-pollution campaign for shut down coal power plants and against enlargement of petrochemical plants. However, the both camps have hold some informal dialogues under the efforts of left-wing intellectuals. Although most unions did not endeavor to work on issues such as environment protection and industrial transition, they may notice the importance of the issues through union education programs and the dialogue with local environmental organizations in the past decade. A notable development is that the enlargement of social inequality and environmental degradation in recent years have stimulated the activists from both sides to participate in the campaign of Green party-Social Democratic Party Alliance in Taiwan's 2016 general election. The research finds that although the relationship between environmental and labour sides remained contradictory, the collaboration between the two sides might be possible through deliberative interactions.

# **Health Risk & Environmental Pollution**

**Saturday, Oct. 21, 2017**

**10:30 AM - 12:10 PM**

**Chair: Prof. Sang-Hun Lee, Hanshin University**



## **Food Contamination Health Damage and the Sufferers' and the Supporters' Movements: A Comparative Study of PCB Contaminated Rice Oil Cases in Taiwan and in Japan**

Mrs. Kyoko Hotta, The Japanese Association Environmental Sociology

The first purpose of this presentation is to describe the outline of rice oil contamination and health damage cases that occurred in Taiwan(Taiwan Yucheng) and in Japan (Kanemi Yusho) and subsequent sufferers' and supporters' movements. The second purpose is to analyze the relationship between the nature of sufferings, roles of sufferers' and supporters' movements, and development of policies for relief of sufferers. In 1968, Kanemi rice oil contamination event occurred in western Japan. Also, a similar rice oil contamination occurred in central Taiwan in 1979. In both cases, as the rice oil was contaminated with polychlorinated biphenyls(PCBs) and dibenzofurans(PCDFs, that are categorized as dioxin), the consumers of the oil were seriously poisoned. There were approximately two thousand sufferers in Taiwan. In Japan, approximately 14,000 persons consumed the contaminated rice oil. However, only about 2,300 have been formally certified as the patients of oil poisoning in 2016 in Japan. In both cases, this oil poisoning caused variety of symptoms such as cancer, reproductive organ disorder, pigmentation, thyroid disorder and other chronic diseases. Sufferings are not limited within personal health damage but they entail psychological troubles, difficulty in social relations and family relations, financial problems, and so on. Thus the victimization has been multiply structured. The question we have to ask here is whether or not the relief systems have been successfully constructed and they are really appropriate for the sufferers. The relief policy act for the sufferers was enacted in Japan in 2012 as well as a similar act was also enacted in Taiwan in 2015. We started research on Kanemi Yusho in 2006 and on Taiwan Yucheng in 2013. We interviewed the patients, supporters, journalists, writers, researchers, and local government officials. Through our research interview, we were convinced that sufferings were structured as we mentioned. We also found the intergenerational sufferers who were the children of the sufferers. Epidemiological research on the next generation has been conducted as long-running investigation in Taiwan. On the contrary, similar research has not been conducted in Japan so far. Regarding the supporting organization, the organization of victims' supporters were established both in Taiwan and in Japan in the early 2000s. In Japan, Yusho Support Center was established in 2002. In Taiwan, Yucheng Victims Support Society was established in 2009. In Japan, victims' organizations were also established, while there are none in Taiwan yet. Concerning the enactment of the relief law, the supporting organizations functioned as indirect pressure groups. Although the relief law for present time is an overall law and the concrete measures have to be

discussed among the stakeholders from now on. To conclude, we ascertained the succession of the events, the occurrence of the poisoning, establishment of the supportive organizations, the effort to find latent sufferers, and establishment of movements for construction of relief policies. There have been difficulties to surface the sufferings. We also ascertained that movements played an important role to prompt the latent sufferings to surface and to construct new institutions.

## **Reflections on Transnational Research Cooperation for Environmental Problem Solving in China**

Mr. Kenji Otsuka, Institute of Developing Economies

This paper aims to discuss what kinds of institutional and cognitive factors could promote or discourage transnational research cooperation for environmental problem solving through reflections on my own experiences involved in relevant projects in China as a Japanese researcher for about fifteen years, especially focusing on environmental pollution and health issues. This paper reflects two cases. The first case is a series of Japan-China international workshop on the environmental pollution disputes resolution, which were held jointly by Japanese and Chinese non-governmental organizations. The second case is a series of my field visits to a county in the Huai River Basin, where there have been observed a lot of ‘cancer villages’ suffered by heavy water pollution for a long period. Through reflections on these cases, this paper points out some common institutional and cognitive factors to promote or discourage transnational research cooperation between two countries. First, it is inevitable to share the values of environmental sustainability as well as human life and health to build and continue cross-border environmental cooperation. Second, Japanese experiences in ‘Kogai’ including severe pollution diseases as well as Chinese challenges now facing the same problems with or severer problems than those in Japan are important resources to promote mutual learning and cooperation for problem solving. Third, different standards and guidelines about environmental pollution control and prevention in terms of human health risk between two countries will make their cooperation complex. Fourth, there are found asymmetric but dynamic characteristics of geopolitics in terms of geography, economic development, and social and political liberty, which can provide both chances and challenges to promote bilateral cooperation. Fifth, transnational cooperation even though initiated by academic research institutes or NGOs can be affected by both domestic and international politics. Lastly, we can find a sort of transdisciplinary and interactive form of transnational cooperation in these cases, which could evolve a cooperative solution mechanism crossing boundaries of nations, sectors, disciplines, and cognition.



## **Science as Political Action: Asbestos Activism and its Challenge to Regulatory Science in South Korea**

Dr. Yeon-Sil Kang, KAIST

Asbestos activism in South Korea is a nation-wide activism demanding stricter regulation of asbestos and stronger protection of the victims. Participated by environmental activists, labor activists, patients, and sympathetic experts, asbestos activism made a significant contribution to the enactment of the compensation law for the asbestos victims in 2010 and the strengthening of regulations on asbestos pollution. A distinguished aspect of the asbestos activism is that it puts much emphasis on scientific investigation of asbestos pollution. While it is claimed as “citizen science” project by the activists and can be labeled so, we need to study the details of how science was performed within activism and what effects it has brought to the politics of environmental health risk. It is particularly pertinent in the East Asian context where the government plays a particularly strong role in risk governance. With the case of asbestos activism in South Korea, I argue that active engagement in science on the side of the civic sector would contribute to a more robust discussion on risk regulation by challenging the authority of science conducted by the government. Asbestos activists adopted analytical technologies that were neither legally standardized nor widely used in their investigation. With those technologies, they have drawn a map of asbestos risk in urban and rural regions that was different from the official studies performed by the government. Although the activists’ asbestos analysis has scientific merit in itself, it is yet to make a visible contribution to scientific knowledge in a traditional sense via, for instance, journal articles or conference papers. Instead, data that the environmental activists produced raised debates between the government scientists and activists on what constitutes the credibility of asbestos measurement, and to what extent should asbestos be considered hazardous thus be regulated--airborne only or asbestos in all forms. In a larger sense, thus, activists has affected science for regulation. More significantly, science performed by asbestos activism opened a black-box of science behind the environmental regulation, and in doing so, it is important political action to build a more democratic regulation of environmental risk.

## **Formosa and the Geopolitics of Industrial Hazards**

Prof. Paul Jobin, Institute of Sociology, Academia Sinica

Mr. Chee-Wei Ying, Graduate Institute of National Development, National Taiwan University

Mr. Shih-Hao Jheng, Department of Sociology, National Chengchi University

According to Bruno Latour (2017), the increasingly destructive consequences of modernization on the Earth requires us to reset our standard notions of land, territory, borders, and the sovereignty exerted by nation-states; in another words, to establish a brand new vision of geopolitics. Multilateral negotiations like the United Nations Climate Change Conferences aim to address the “new climatic regime,” as Latour calls this new age of severe environmental crisis. Yet, as argued in this paper, transboundary industrial hazards can provoke tensions with characteristics of both the old Westphalian sovereignty and the new climatic regime. The East Asian context, marked by persistent contentious memories from World War Two and the Cold War era, fosters such composite tensions. As a de facto sovereign but de jure non-sovereign state, located between tectonic plates as well as major geopolitical plates, Taiwan provides an emblematic case for studying how industrial hazards challenge the sovereignty of nation-states. As we will show through two examples, while Taiwan's government and industrial corporations are entangled in diplomatic binds that put huge constraints on its sovereignty, they are also pushed by environmental groups toward innovative solutions to cope with the new climatic regime. We will first discuss the case of air pollutants as a growing concern for public health. According to the government, emissions from China account for one third of the total. Large industrial concerns like the Formosa Plastics Group use this estimation as a pretext to disregard their own emissions, even though, according to some scholars, Formosa Plastics is the biggest emitter of carcinogenic air pollutants throughout Taiwan. The other case involves the marine life disaster that occurred in Vietnam in 2016 and has been attributed to Formosa Ha Tinh Steel Corporation, a subsidiary of Formosa Plastics, with backing of China Steel and the Japanese steelmaker JFE; it is currently named “Formosa,” the very word that used to signify Taiwan. So while the pollutants at issue are different, the two cases share a common stakeholder. This paper is based mainly on interviews, document analysis and a participating observation, since March 2016, of the mobilizations in Taiwan. The interviews include scientists, lawyers and plaintiffs who have sued Formosa Plastics, lawmakers, activists from environmental organizations and support groups of migrant workers.



# **Management and Use of Natural Resources 1**

**Saturday, Oct. 21, 2017**

**10:30 AM - 12:10 PM**

**Chair: Prof. Shin-Ock Chang, Jeju National University**



## **Systems Dynamics Approach to Understanding the Impacts of Aquaculture Closure Policies on Environmental Pressures and Fishermen's Incomes in Danjiangkou Reservoir, China**

Mr. Chen Wang, School of Public Administration, Hohai University

Prof. Guoqing Shi, Hohai University

Dr. Yongping Wei, University of Queensland

There is a practical demand to explore the trade-off between environmental conservation and sustainable fishery development due to the increasing implementation of aquaculture closure policies in inland waters. This paper aims to understand the impacts of four policy scenarios with different settings on aquaculture scale, solid wastes, nutrient yields and household incomes using system dynamic approach. Danjiangkou Reservoir, in the Middle Line of South-to-North Water Diversion Project is taken as an example. The major results show that higher closure policy intensity has the noticeable effects in improving water quality, while lower intensity results in retaining more aquaculture benefits. Specifically, the closure intensity in policy-scenario 2 that reserves half of aquaculture farm-sites under the 2 ‰ control of occupancy ratio for net-cages, reveals the most optimum outcomes. It leads to relatively lower waste and nutrition loads while preventing an irredeemable decline of fishermen's livelihood. Moreover, the long-range evolution of aquaculture scales, waste and nutrition discharges and incomes for each type of households (small, medium and large scales) engaged in aquaculture, possess a significant characteristic of heterogeneity. Major policy implications for balancing water security and fishermen development are discussed.

## **Green Response to Growing Urban Challenges in a Planned City (A Case of Chandigarh, India)**

Mr. Manoj Kumar Teotia, Centre for Research in Rural and Industrial Development (CRRID)

The processes of urbanization is putting pressure on cities for strengthening and sustaining green infrastructure and ecological services to meet the growing urban challenges such as air, water and land pollutions and climate induced challenges. The growing urban population density, expanding habitations in green open spaces, increasing polluting vehicles, cutting of trees for various development projects in and around the cities, poor sanitation and lack of adequate treatment facilities for solid and liquid waste, vehicular pollution, poor planning practices and inadequate provision of green spaces etc have been affecting the green infrastructure in the cities and towns in India including in Chandigarh, the first city of North-Western India planned by Le Corbusier. But at the same time city has been taking certain innovative ecological initiatives to enhance its green cover, mobilize and engage local citizens, mobilize resources, enhance tree cover, augment the level and quality of urban infrastructure and services (solid and liquid waste management/ treatment). ‘It is one of the greenest city of India with its 1400 green belts / parks/ gardens. An 8 Kms long linear-park, known as the Leisure Valley, runs through the city from its north eastern tip to its south-western end. The Rose Garden, Bougainvillea Garden, Shanti Kunj, Fitness Track, Topiary Park, Terrace Garden, Hibiscus Garden, Garden of Fragrance, Garden of Annuals, Garden of Herbs & Shrubs, Champa Park, Botanical Garden, etc. all form a part of this green belt in the city, combining modernity with ecology’ (City Development Plan of Chandigarh 2006). The Ministry of Environment and Forest (MoEF), Government of India has declared it most green city of the country. The city has won several awards for its enhanced greenery and eco initiatives. Ramdarbar, one of the largest rehabilitated colonies of Chandigarh, has regenerated its green infrastructure in participatory manner and as a result there has been remarkable improvement in its ecological conditions in Ramdarbar, which was highly segregated and deprived settlement in the past. The city seems to have developed better resilience due to its green infrastructure. The ecological conditions are much better today (Teotia, 2003, 2004, 2013, 2016). The paper is an effort to analyze the dynamics of innovative ecological response to growing urban challenges in Chandigarh and how these initiatives have influenced civic/ municipal management and quality of life in the only planned city of North-Western India.

## **Factors Underlying Differing Attitudes toward Tidal Flat Restoration Projects in Unused Farmland in Ago Bay: A Survey of Shima City Residents**

Dr. Naoyuki Mikami, Hokkaido University

Dr. Hiromi Yamashita, Ritsumeikan Asia Pacific University

In recent years, there has been a growing recognition of the importance of tidal flats due to their rich biodiversity and biological productivity, and some countries have initiated tidal flat restoration programs involving reclaimed land as a part of their efforts to rehabilitate the coastal environment. Although the restoration of tidal flats provides various benefits related to fishery resources, water purification, disaster reduction and so on, the reintroduction of seawater into existing reclaimed land can lead to dramatic changes in land use and potential conflicts among residents, landowners and other stakeholders. To date, however, there have been very few attempts to investigate the sociological implications of tidal flat restoration in existing reclaimed land, particularly with regard to stakeholders' perceptions of the risks and benefits of restoration projects and their potential impact on the community and local environment. In Japan, tidal flats have long been exploited to create new farmland as well as industrial and housing sites, but a significant proportion of the reclaimed land is now unused due to the recent decline in population. In response to this situation, Japan's first tidal flat restoration projects involving unused reclaimed farmland were started in Ago Bay in Shima City, Mie Prefecture, in 2010. To investigate the societal implications of these restoration projects, the authors conducted a questionnaire survey of citizens randomly selected from across the city in 2016. Respondents were asked a series of questions focused on their attitudes to and opinions of the tidal flat restoration projects and community development in general as well as their relationship to and memories of the sea. The questionnaires were sent to 1,500 citizens, with responses received from 27.8% (n=417). The results show that 50% of respondents were aware of the tidal flat restoration projects, with 74% of respondents in favor of the projects while only 4% were against and 23% undecided. Those who were well informed about the projects (61/417) were more supportive than the others, whereas among those who had never heard of the projects (204/417) around 35% were unsure whether to support the projects. Furthermore, the results indicated the existence of various other factors underlying the differing attitudes toward the restoration projects. One such factor was attitude toward community development as a coastal city. While a large majority of respondents supported the development of the fishery and tourism industries as well as the securing of public access to the sea, regardless of attitude to tidal flat restoration, there



was weaker support for the development of education and learning, both for children and adults, utilizing Satoumi resources (e.g., environmental education). Those who strongly supported the tidal flat restoration projects also emphasized the strategic importance of education and learning as part of community development to a greater degree than did the other respondents. Overall, the survey results suggest that attitudes toward the tidal flat restoration projects are influenced not only by the respondents' understanding of the projects but also, more broadly speaking, by other factors including their vision regarding community development.

## **Water Resources Protection Legislation of Japan from the Perspective of National Security**

Prof. Masumi Kikuchi, The University of Tokyo

Dr. Regina Hoi-Yee Fu, Hosei University

In recent years, forest lands in various parts of Japan have been acquired by foreign capitals. In many cases, the purposes of the acquisition and the usages of the lands are unrevealed. Moreover, it is difficult to identify the actual buyers, either individuals or corporations, of the forest lands because the transactions are often handled by multiple real estate agents. This research focuses on the forest land, which is not only a type of property, but also a valuable natural resource which provides timber and water, as well as an irreplaceable public goods. Many social problems of the Japanese society, such as the depopulation of the rural areas, the declining birthrate and aging population, and the recession of the forest industry, are having the largest impact on the forested rural regions of Japan. These circumstances make the forest land a very important subject for research. The Japanese perceive this situation of increasing area of forest land being acquired by foreign capitals as a phenomenon of the growing threat of the global water scarcity, and those foreign capitals buy forest lands in Japan with the purpose of securing water resources for the future global water business. This study covers topics on the Japanese domestic social problems, on the local governmental level water preservation regulations and on the national level water cycle basic laws. These regulations and laws target foreign capital. This study argues that the issues discussed are related to national security of Japan and it is necessary for Japan to conserve its own water resources and land.



# **Risk Communication & Risk Governance 1**

**Saturday, Oct. 21, 2017**

**10:30 AM - 12:10 PM**

**Chair: Prof. Shirley Ou Yang, Ming Chuan University**



## **Invisible Legacy of Morinaga Arsenic Milk Poisoning Case: One Aspect to Risk Governance of Food Safety Issues in Japan**

Dr. Takako Nakajima, Rikkyo University

This presentation analyzes Morinaga Arsenic Milk Poisoning Case from the point of view of risk governance in Japan. The case caused by Morinaga Milk Industry Co. that was/is the leading company among Japanese dairy industry, especially in the field of infant formula, is often referred as the origin of major food scandal in Japan after the WWII. Its scale of victims counts more than 100 infants' death and more than 10,000 affected as of 1955. During the aftermath of the official announcement of the case, fundamental revision of regulatory policy regarding food additives was taken place promptly. Concerning the fact that arsenic in question was carried by food additives that had met the regulatory standards at the time, it is not surprising that such a visible action had followed in line with risk governance. It should be noted that the first edition of official compendium about food additives, which was the landmark of the administrative response to the case was echoed to international standard setting organizations including Joint Expert Committee of Food Additives (JECFA). The tragedy of arsenic milk led to the advancement of regulatory policy of food additives in the world. On the other hand, the case left an invisible legacy to Japanese society in terms of the role of victims, expert and public in risk governance. Regarding the health hazard among survived victims, the official statement by the expert committee declaring that there would be no after-effects by arsenic milk had been firmly accepted in society for long time. In other words, social indifference put the period to the case. However, new trend generated from deep communication among survived victims' parents, experts of public health and home doctors had broken the prolonged silence about the case. A hand made report by school nurse, public health nurses, and medical students who visited survivors created sensation by highlighting the severe reality of forgotten survivors. Academic presentation based on the above report and home doctors' hidden data about health survey of survivors strongly suggested the presence of after-effects by arsenic milk. After the revival of the case, heated controversy had followed between 'volunteer experts' and 'authorized experts' with respect to the presence of after-effects among survivors. However, an unprecedented question that what kind of health hazard may be caused by exposure to arsenic at the very early stage of life could get the reasonable answer by an ideal epidemiological study supported by wider range of public, including those who satisfy the conditions as control group. So, volunteer experts' assertion had defeated authorized one in the end. The whole processes to reach a new notion about after-effects named 'Morinaga Arsenic Milk Syndrome' suggests that one of key elements to success the co-production of new scientific knowledge that is essential for risk governance is mutual trusts and common goal among stakeholders.

## **The Limits of Instrumental Risk Governance: the Case of Gyeongju Radioactive Waste Repository**

Mr. Min-Jae Kim, Seoul National University

This essay tries to analyze the mechanism and limits of risk governance through the case of Gyeongju ILLRW(intermediate and low-level radwaste) repository. Preceding studies about Gyeongju ILLRW repository mainly discuss about 'participation', which is a degree of involvement in the relationship between state and civil society. This essay argues that adopting dimension of 'scientific knowledge and expertise' - how to deal with uncertainty of risk - will help to understand the mechanism and problems of risk governance of Gyeongju. In order to do so, this essay develops a typology of risk governance based on two dimensions of 'participation' and 'scientific knowledge and expertise'. By using this typology, this essay describes the changes of risk governance and analyzes how the dimension of 'scientific knowledge and expertise' puts restriction on ranges and ways of 'participation'.

## **Organizing Distrust: A Critical Analysis of the Pesticide Maximum Residue Limit Regulation Event in Taiwan**

Mr. Chien Ming Hsu, National Development Institute, College of Social Science, National Taiwan University

Prof. Kuei-Tien Chou, Graduate Institute of National Development, National Taiwan University; Chief Director, Risk Society and Policy Research Center

“Farm to table,” is not a new idea, but how to manage this issue in a glocalized world is a hot potato for nation states. On March 20, 2017, a KMT legislator raised a question on the pesticide maximum residue limit (MRL) regulation amendment. He criticized the competent authority, the Food and Drug Administration (FDA), connived the pesticide companies use more pesticides on peoples’ daily food and drink which ignores peoples’ health. FDA replied that the new pesticide application process is within the law and the reviewing process was conducted by Council of Agriculture (COA). The amendment will also be sent to notice WTO for 60 days and then be announced. However, after a series of debates, the executive yuan finally decided to repeal the announcement even though it reiterates this amendment is science based. Although this is a storm in a teacup, this study is interested in how did COA and FDA cooperate with each other and how to implement risk assessment and risk management. In the discussion on environmental and food issues, some scholars propose these two parts need to be separated to regain the public trust on governance. The FDA had also invited the executive director of European Food to Taiwan to share their experiences and approach. However, by this event, we need to review the meaning and the conditions for the separation between risk assessment and risk management. From risk governance and communication perspectives, we will offer a discourse analysis at first and then discuss the issues on independence and accountability. In particular, the decision on this issue was decided by the executive yuan, which is a political decision. We will discuss this procedural issue in the conclusion.



## **From Gas Explosions to Earthquakes: Case Studies of Disaster Response in Taiwan**

Prof. Hsien-Ho Chang, Oklahoma State University

Four disasters struck Taiwan in the past three years. In one, propylene pipelines beneath the downtown area of Kaohsiung City broke during midnight on July 31st in 2014, eventually killing thirty-two people and injuring more than three hundred. An airplane crashed in a river outside of the downtown area in a second one in Taipei City in February of 2015, causing 43 casualties. In a third one in the summer of 2015, a powdery substance at an outdoor party that had attracted thousands of teenagers ignited, burning more than five hundred participants and overwhelming the capacity of local emergency response. An earthquake that occurred at the beginning of 2016 in the fourth one killed more than a hundred people when a high-rise building collapsed, created a nightmare for those who were awakened in the early morning. Although these disasters are different in type and scale, the response of the Taiwanese government to these disasters reveals common fallacies in its disaster response system, which places too much importance on firefighters. Taiwanese firefighters, for instance, tend to rely heavily on utilizing a hierarchical, command-and-control system to manage all personnel at the scene of disaster, and this type of system consequently puts unrealistic pressures and expectations on fire officers serving as Incident Commanders on the site. For example, one fire officer who had been placed in charge of overseeing all response activities during the 2016 earthquake collapsed as a result of mental and physical exhaustion due to lack of rest. The firefighter-based system also leads to chaos during disaster response. The airplane crash in Taipei City, for example, had two Incident Command Posts (ICPs) on-site. Since this airplane had crashed at the border of two cities, fire departments from both cities had established their ICPs without coordination, thereby creating confusion for all responders on site. This paper will discuss four disasters that struck Taiwan in the past 3 years. The lessons learned from these disasters demonstrate the need to have a response system that is able to incorporate people of different organizations and backgrounds. These lessons will collectively shape the Taiwanese national disaster management system in the near future.

# **Sustainable Consumptions and Behaviors 1**

**Saturday, Oct. 21, 2017**

**10:30 AM - 12:10 PM**

**Chair: Prof. Ying-Feng Chen, Chinese Culture University**



## **The Development of Green Living in Hong Kong: Everyday Practice and its Implications**

Mr. Felix Sai-Kit Ng, Humboldt University of Berlin

Green Living is nothing new in Hong Kong. This form of environment movement can be traced back to the 1960s. Since its nature is rather invisible, non-confrontational and mundane, people tended to ignore those who practice green living. However, during the Umbrella Movement, it gained much attention as an activist tactic of running occupation camps. In the past, there was some research done on the environmental movement in Hong Kong, but little attention has been paid to the form of lifestyle movement in Hong Kong. In particular, how it has been developed in Hong Kong is not yet clear. Facing environmental risk, it is also worth investigating how green-living people practice and promote environmentalism. Hence, this presentation will begin with a brief history of lifestyle environmentalism in Hong Kong, and then categorize its themes and action repertoires adopted by the green-living people. The paper will then conclude with a discussion of its implications for environmental governance.

## **Reducing Plastic Bags in Japan (1): Verifying the Nagoya “Eco-Capital” Attempt**

Mrs. Yui Kaminaga, Yokkaichi University

This study reveals the social experimental attempt to reduce plastic shopping bags consumed at the local governmental level. The City of Nagoya, a city holding a population of 2.3 million, is one of the three major metropolitan areas in Japan. Due to its dense population, Nagoya confronted a lack of a final disposal site in the late 90s, leading to the Mayor’s “Emergency Announcement for Garbage Reduction” in 1999. Since then, the Nagoya City Government has been working with the business sector and its residents towards a recycling-oriented society. Starting as a trial in one of its City wards in 2007, the environmental policy of charging fees for plastic shopping bags was introduced to this region. In 2009, the policy was extended to the whole City of Nagoya, which highly gained the interest from other municipals. To evaluate the impact of reducing plastic shopping bag consumption since its full introduction, we conducted a mail survey on August 2016 (289/730, response rate: 39.6%). In conclusion, based on a voluntary regional agreement, this Nagoya’s environmental policy seems to approach a limit. We, therefore, clarify the current condition of Nagoya after seven years since its introduction according to the collected data.

## **Reducing Plastic Bags in Japan (2): Voluntary Agreement and its Shift Change**

Dr. Atsushi Hamamoto, Japan Society for the Promotion of Science

This study examines the environmental policy of charging fees for plastic bags at retail shops in Japan. This policy has been introduced widely in the mid-2000s in each local government for the purpose of garbage reduction and saving natural resources. This is neither law nor regulation, it is rather based on voluntary agreement among supermarkets, cleaning shops, and non-profit organizations such as green consumer groups and women's association cooperated by each local government. This policy seems successful, however, some of the cases falls into bottleneck because it does not contain compulsory means. Not a few major stores left the voluntary agreement and recur for free distribution of plastic bags, which made it difficult to maintain the original regional agreement. Therefore some of the local voluntary agreements already shifted to the next phase. This presentation investigates several possibilities for the next phase based on case studies.

## **The Conflicting Nature and Potentiality of Food Bank as a Form of Aid for the Poor - A Case Study of Food Bank Kawasaki**

Ms. Miyuki Horibe, Japanese Association for Environmental Sociology

The purpose of this study is to examine the conflicting nature and potentiality in aid for the poor through a case study of food bank using participant observation and interview. The report of people starving to death as a result of unable to afford food after being stripped of their qualification for livelihood protection in 2007 sent a shockwave through the Japanese society. As DeFries (2016) has said "satiation is a crisis faced by mankind today just as starvation was in the past". In other words, many of the crises that had plagued mankind in the past were starvation caused by food shortages. However, what human beings are facing right now is not a simple problem of food insufficiency, but a dysfunctional food distribution which systematically overlooks certain corners of the society even when food itself is being produced in the masses. Incidentally, the annual food loss, or food waste, in Japan is about 6.32 million tons. So why are there still people unable to feed themselves to the point of starvation and even death even when there is such abundance of food being produced? One of the initiatives organized to improve such situation through distributing surplus food to the poor is food bank (hereinafter referred to as FB). Actions taken by FB normally involve a number of "food suppliers" who provide food to the "distributor (FB)" so that these foodstuffs may reach "users" free of charge. Food provided are those unopened/before expiration date but ready to be discarded (surplus inventory, etc.). By distributing unwanted food to people in need free of charges, this initiative is considered quite effective both in terms of social welfare and environmental conservation. Nevertheless, FB activities can result in contradiction. First of all, FB does not hold up the ideal of a sustainable support system although it offers support based on the ultimate goal to eliminate the number of the poor. Second, despite the possibility of FB being recognized as a social contributory organization, actual contribution by food suppliers are less known. FB investigated in this study has seen an increase in the amount of users and food supply, as well as the expansion of its office, signaling such activity can be effective if continued. Hence, this study looked at the factors that may have sustained FB activities in view of above contradictions. The result shows that FB has continued its aid because it has seen efforts made by users to break away from poverty.

# **Regular Sessions IV**

## **Environmental Justice 2**

**Saturday, Oct. 21, 2017**

**13:30 PM - 15:10 PM**

**Chair: Dr. Do-Wan Ku, Environment and Society Research Institute**





## **Toward the Extension of Analytical Frames for Environmental Justice- A Theoretical Attempt of a Triadic Model for Mobilization, Institutionalization, and Problematization Title-**

Prof. Ryoichi Terada, Meiji University

It is three decades since a monumental environmental justice (EJ) report, *Toxic Wastes and Race in the United States* was published in 1987. Environmental justice framework was constructed among the US people of color activists and scholars to address the cause for abolition of environmental racism in the beginning. In these days, however, EJ framing has been used in considerably wider context such as environmental inequality between the global north and the south, transferred toxic e-waste in Africa, monopolized agricultural resources like GMO seeds, climate justice, anti-globalization and anti-neoliberalism movements, and so on. EJ, in a nutshell, implies the fact that environmental burdens tend to be disproportionately allocated reflecting socio-economic disparity between societal units. Accordingly, it is applicable to wide range of environmental inequality in the world. However, when EJ is addressed for the issues with quite different social background, EJ as an analytical concept as well as movement rhetoric for mobilization might lose its effectiveness. Schlosberg(2007), for example, made distinction among three aspects of EJ, distributive, procedural, and recognition. Anti-environmental racism typically addresses the distributive aspect and participatory decision-making primarily implies procedural aspect of EJ. If we take a closer look at EJ issues in the developing countries, we notice, for example, environmental problems often occur when indigenous culture and rights are neglected. Recognition in this sense means to respect or to pay enough attention to native way of life. Here, I attempted to articulate EJ, not just different aspects, but into three-fold dynamic elements and three processes in between. The first element is conventional EJ framings as narrowly defined rhetoric for mobilization such as achieving racial justice in environmental issues, equal legal protection, information disclosure, and participatory decision-making. The second element is social, cultural, political, and historical background that makes EJ rhetoric, the first element, effective enough in a certain society. History of civil right movements in the US, “progressive” municipal governments in the 1960s in Japan, democratization movements in Taiwan and in South Korea are the examples. Between these two elements, there exists a “resonance structure” through which a certain type of EJ rhetoric is accepted with legitimacy among the public. This can be named as “mobilization process”. The third element is the nature of environmental issues of each society such as pollution and conservation. The EJ goals and the nature of issues, in turn, lead to the second process of policy-

making, institutionalization, shaping environmental principles such as “precautionary principle”. This is usually a purposeful process toward problem solution, however, it sometimes entails unintended results and even creates new problems. For example, the ban on mercury usage after Minamata disease, collected redundant mercury has been exported to the developing countries. The artisanal small-scale gold miners abuse mercury creating 37% of mercury air pollution today. This third process of “problematization” will, then, connected with the first social background element, leads to formation of EJ movements and rhetoric again. This triadic model of EJ hopefully gives a comprehensive and multi-cultural analytical framework.

## **Korean Third Way, the Just Sustainability, and 'Ecowelfare State Building' in South Korea**

Prof. Sang-Jin Hahn, University of Ulsan

Third way in western societies means the policy orientation from welfare to work in relation to the social democrats' adaptation to neo-liberal pressures. However, the situation of 'from welfare to work' could not be found in East Asian countries including Korea, for they had not experienced any genuine welfare state before introducing the workfare policies in the late 1990s. Therefore, the first aspect of Korean Third Way(KTW) might be defined as the combination of 'welfare and work', specifically expressed in the universal welfare policies supporting social economic reciprocal activities. Moreover, Hahn and McCabe(2006) interprets the concept of global third way comprising KTW with respect to the initiatives of 'third sector' which steers the political economic decision making process. Then, this paper discerns the second aspect of KTW as the deliberative democratic procedures by NGOs, residents and other stake-holders. Lastly, Korean people, like most East Asian communities, share the 'Asiatic viewpoint' which focuses on the harmonious human-nature relation, in the midst of overwhelmingly westernized lifestyles. So, I argue that the third aspect of KTW would correspond to the preference of the well-being and the social value to the welfare and the economic one. Just Sustainability(JS), named by Agyeman(2005), can be evaluated as composed of conceptual factors of the distribution, the procedure and the capability. This paper tries to connect three aspects of KTW with the those factors of JS respectively as an ideal type, and approaches theoretically to build 'ecowelfare state' based on the definition of KTW and the JS factors. I will elucidate the ecowelfare state to be helpful for the construction of the new social democracy which will actively pursue the degrowth strategy confronting 21st century environmental degradation.

## **Civil Action, Citizen Science and Air Pollution Governance in Taiwan**

Prof. Szu-Hung Fang, Department of Sociology

In the last few years, rising dissatisfaction with air quality in Taiwan has entered political agenda and raised public concerns. In the most-polluted middle and southern Taiwan, civil actions grows from awareness building to direct protest against coal power and petro-chemical industry. Meanwhile, the distrust toward official monitoring equipments is also growing. The introduction of hundreds of air boxes, a small air quality detector which provides real time reading, has fuelled civic action against laggard air pollution governance. This paper is going to broadly discuss the role and the limits of citizen science for civic action against air pollution in Taiwan. Meanwhile, this paper also intends to discuss the mentality/rationality within air pollution/quality governance in Taiwan, in which the arts of governance is also examined.

# **Nuclear Risks & Nuclear Waste Management**

**Saturday, Oct. 21, 2017**

**13:30 PM - 15:10 PM**

**Chair: Prof. Wen-Ling Tu, National Cheng Chi University**



## **How to Live Near a Nuclear Power Plant? A Programme that Listens to the People, Case Study in France**

Dr. Armelle Faure, International consultant

France is one of the nations that uses nuclear energy most. Most research in the social sciences in France have studied the notion of risk, and the communication process of the industry. This research focuses on local people and their activities related to natural resources in their family companies. How the economy and the social relations were transformed when the power plant was built? What do they say about the effect of such an industry in the territory? The interviews are collected with the official archives of the local government. It aims to conserve their words and descriptions. The accounts are told by the first generation of the people whose lives were transformed.



## **Anxiety among Residents over Nuclear Plants in its Location Area after the Great East Japan Earthquake- A Case Study of Onagawa Town -**

Mr. Takashi Tsuji, National Institute for Environmental Studies

In Japan, central government has promoted nuclear policies in a top-down manner. The 3.11. Fukushima nuclear accident damage the public's confidence in central government. After the accident, many citizens have been made objections to government's nuclear policies in a bottom-up manner. As the background of this trend, the accident raised citizen's anxiety about safety of nuclear energy. It has been pointed out that citizen who living in urban areas, that is, power-consuming areas began to feel this kind of anxiety after the accident. On the other hand, little attention has been given to resident's anxiety about nuclear plants in its location areas. Once a severe accident occurs, they would face a danger. Regardless of political conflict around issues of nuclear energy, plants continue to exist in its located communities at least several decades. It is necessary to reveal resident's anxiety about nuclear plants in its location areas to assesses nuclear energy risks adequately.

There has been a great discussion about citizen's risk perception about nuclear energy. Some studies based on nationwide survey have proved that proximity to nuclear plants, trust in the nuclear governance institutions, education and knowledge about nuclear energy determine citizen's risk perception. On the other, some studies based on community survey have proved that periods of residence, sense of place determine resident's risk perception.

In this study, we investigated Onagawa-town, where nuclear plants exist. This town was devastated by a tsunami, fortunately the nuclear plants were safe. After that, construction work to ensure security of the nuclear plants has been carried out. At the same time, resuming operation of the nuclear plants are being discussed. We measured resident's risk perception as their anxiety about the Onagawa nuclear plants by using a quantitative analysis. We conducted a questionnaire survey (N=731) in Onagawa-town on March 2015. We conducted contingency table analysis and multiple regression analysis with specific factors related to the nuclear plant location area to estimate resident's anxiety about the nuclear plants. The findings from the study were as follows;

First, even we excluded residents who work for a company of the nuclear plants from samples, the percentage of residents who feel anxious about the nuclear plants exceed those who don't feel anxious about that. Secondly, a significant interaction was found between variables related to socio-political environment in nuclear plants location areas: consciousness about benefit from nuclear plants, attitudes toward resuming of the nuclear plants, and the resident's anxiety about nuclear plants. Thirdly, even

though we controlled demographic variables, the consciousness about benefit from nuclear plants affects the resident's anxiety about the nuclear plants.

These findings suggest that various benefits from nuclear plants to the community is inseparable from the resident's anxiety about nuclear plants. One of the limitations of this study is that we were not able to analyze resident's anxiety about nuclear plants by social problems: unemployment, environmental pollution, etc. Qualitative investigation on various types of residents should be conducted in Onagawa-town and the other location of nuclear plants.

## **Nuclear Waste as Burdensome Legacy in Japan**

Dr. Yoichi Yuasa, Kanto Gakuin University

What is the specific factor to make the construction of the nuclear waste facility more difficult? The aim of this presentation is to examine a specific structure of the problem of nuclear waste disposal in Japan, from the perspective of “double standard” and “burdensome legacy”. A disposition of nuclear waste as burdensome legacy make the problem more complex by working with a criterion called double standard that host communities of nuclear facilities have. A characteristic relationship between central and local governments gives an impetus to this tendency. The Japanese government hasn’t changed the nuclear energy policy, even though the opinion poll has shown that over 50% of people oppose to restart of nuclear power plants. One of the reasons for this government’s posture is the retention of nuclear weapon’s technology. Another reason is nuclear waste management. Nuclear wastes such as spent fuels and vitrified containers are stored in Rokkasho village in Aomori prefecture where has nuclear fuel cycle facilities (Spent fuels are also stored in sites of nuclear power plant). Officials of Rokkasho village and Aomori prefecture have rejected to a construction of nuclear waste disposal facility. They have received spent fuels and vitrified containers because these are “materials” for the nuclear fuel cycle project. If the government withdraws from the nuclear fuel cycle, local authority of Rokkasho and local government of Aomori prefecture request to remove these former “materials”. The construction of nuclear waste facility can cause inequalities between urban and rural areas, current and future generations. Inequality between areas is more sensitive in the current Japanese situation. The Japanese government has been looking for a site for nuclear waste disposal but to no avail. Even communities, such as Rokkasho, where accept nuclear power plants and nuclear fuel cycle facilities have rejected it. This is because nuclear wastes are considered as the burdensome legacy. Accepting this kind of legacy put them into the most inferior position in the hierarchy of communities. Some more differences can be found between burdensome legacy and public bads like as dams, airports and nuclear power plants. Burden legacy doesn’t have any kinds of goods. Public bads contain something goods but with certain or fatal risk. On burden legacy, beneficiaries and defrayers are separated each other completely, especially in the aspect of time. On public bads, beneficiaries and defrayers are partly overlapped each other or separated but closer than burden legacy. Communities with public bads have been getting some benefit such as subsidies and tax revenue but rejecting the burdensome legacy. This means that they have a strategy with the criterion of “double standard”. On a construction of public bads, this strategy can work well under the characteristic relationship between

central and local governments. However, a burdensome legacy will be never accepted by this criterion. We will analyze this structure of the problem and examine a new strategy for central and local governments.

## **Commercialized Risksapes of Developmental State: The Case of Location Policy Regarding Nuclear Power Facilities in South Korea**

Prof. Sang-Hun Lee, Hanshin University

Dr. Jintae Hwang, Seoul National University Asia Center

This paper examines the strategy in which the Korean developmental state has managed physical risks from a nuclear power related facilities. By focusing on the case of location policy regarding nuclear power facilities(power plants and radioactive depository sites) in South Korea, we demonstrate that the Korean state could locate nuclear facilities by producing a commercialized riskscape that transformed physical risk into monetary terms for the local people. The risk was exposed rather than being concealed. The more detailed research questions are as follows. 1) How and through what type of processes does the Korean state manage potential physical risks from and people's oppositions to nuclear power operation? 2) How do non-state actors impact the state's nuclear policy orientation, and what changes to the nuclear policy will result from their impact? 3) What brought the change of strategy of developmental state in managing the risk from nuclear power facilities? 4) What kind of risksapes has been produced as a result?

# **Management and Use of Natural Resources 2**

**Saturday, Oct. 21, 2017**

**13:30 PM - 15:10 PM**

**Chair: Prof. Paul Jobin, Institute of Sociology, Academia Sinica**



## **Shifting Cultural Meanings of Conservation: Case Study of Zoning Plan Dispute in Hong Kong**

Dr. Hang Li, Hong Kong Shue Yan University

Boey Ho, Hong Kong Shue Yan University

In April 2016, the indigenous villagers in Sha Tau Kok of Hong Kong chopped down hundreds of trees in their villages to protest against a government zoning plan of preserving the area. Villagers opposed the zoning plan because the proposed site is their private land. They also claimed that the conservation plan was against their human rights. Despite the opposition from the villagers, the zoning plan for conservation was approved by the Hong Kong Government in January 2017. Conflicts surrounding environmental issues like the above case abound in East Asian countries. However, we usually observe pro-environmental policy outcomes but not vice versa. Conventional perspectives such as political economy assume interests are a priori and conflicts can hardly be reconciled for us to see pro-environmental policy outcomes unless strict enforcement is in place. On the contrary, the world society perspective claims that interests do not form in isolation, but instead reflect their institutional and political environments. Conflicts between institutions are also processes that lead to shifting cultural meanings on both sides. Pro-environmental policy outcomes could thus come in place without much coercion. Through the lens of world society perspective, this paper seeks to illustrate how the clash of interests between state and environmental NGOs on the one hand and the indigenous villagers in Sha Tau Kok on the other hand has resulted in shifting cultural meanings on how the area should be preserved.



## **Post-Disaster Co-Management of Natural Resources: A Case Study from Kitakami Area, Miyagi, Japan**

Prof. Taisuke Miyauchi, Hokkaido University

This study investigates the adaptability of a local socio-ecological system through the examination of post-disaster natural resource management in Kitakami area, Miyagi Prefecture, Japan. The study, conducted over a long period of time, since before the 2011 disaster, provides some insights on collectiveness, community, and post-disaster changes in natural resource management. It also examines relevant cultural resource management and associated changes, such as those in community rituals. The area enjoys successful collective management of various natural resources such as forest products, fish, seaweed, and river reed. Community organizations govern natural resources, culture, and residents. However, since the huge tsunami disaster in 2011, the area has experienced community reconstruction and reorganization. Some communities were dissolved, some divided, some depopulated, and some merged in this process. This situation, naturally, leads to reformation in natural resource management. Some processes in community governance and natural resource management changed while some did not. An analysis of these changes has revealed the following: 1. local collectiveness continues to exist, and it has some social factors; 2. natural resource management and its collectiveness have undergone changes; and, 3. with respect to community rebuilding, a collective management system possesses both positive and negative aspects.

## **Effects of Rainwater Utilization to Achieve a Water Soft Path: Focusing on the Perception of Rainwater Users in Schools in North Jakarta, Indonesia**

Prof. So-Yun Kang, Seoul National University

Prof. Sun-Jin Yun, Seoul National University

Conventionally, the centralized water infrastructure expansion has been chosen as a way to deal with various water-related issues in urban areas. However, infra-centered remedies are proven not able to solve the issues in effective and environmentally sound way. As an alternative to 'hard' water management, 'water soft path' which aims sustainable water management is proposed, and rainwater utilization is one of tools to achieve 'soft' water management. North Jakarta in Indonesia, where sustainable water management is in need, is facing numerous water issues such as flood, lack of clean water, excessive groundwater extraction. In this article, teachers from 7 elementary schools and 2 middle schools which are utilizing rainwater in schools have been interviewed about the experience of rainwater utilization, and the result has been analyzed in line with Water Soft Path theory. Rainwater users recognized that the increased amount of rainwater enabled the better hygiene management and contribute to enhance ecological sustainability by not using groundwater. Moreover, rainwater users showed high trust in quality of rainwater by drinking it and its portability had helped local people to survive during the emergency situation such as heavy flood. Lastly, rainwater utilization also gave economical benefits on school finance by reducing public utility charge and students played a significant role in rainwater management and dissemination of rainwater harvesting culture.

## **Governing the Halla Mt's Deer in Jeju Island: between the Dilemmas of Deer's Conservation, Tourism Development and Safeguarding Farmers' Livelihoods**

Dr. Shin-Ock Chang, Jeju National University

The wildlife deer of Halla Mt in Jeju Island has recently provoked social attention in South Korea. The attention came with the decision made by Jeju Island's government to extend another three years the authorized regulation that allows wildlife deer to be culled until their size is stabilized. The regulation was first introduced in 2013 following up the intensive complain made by agricultural farmers that the deer claimed their livelihoods. With the increasing size of the wildlife deer, their frequent appearance looking for food around the neighborhoods of agricultural households in the mountain is argued to have intimidated the livelihoods of farmers due to deer's damages of farmers' yearly products. In order to protect farmers, the island's government made it legal to kill deer. However, the government's decision provokes more controversy than agreements. That creates the ironical situation by which the previously enjoyed symbolic status of deer as a holy, legendary creature and a pure, timid animal – these allures being made in local ancient literature and by island's tourism developers (including the local government) – degrades as a harmful animal to farmers. Indeed, drawing upon the positive meaning making for deer for human life, deer were given active conservation measures in the past. Above all, it presents dilemmas in which governing aims of conserving wildlife deer, securing island's tourism industry and safeguarding the livelihoods of farmers seem to be impossible to reach out. This paper aims to examine the social, political contexts in which the conflict between farmers and deer is currently made. Further, it looks for best governance strategies to guard wildlife deer, tourists, and farmers at their best interests.

# **Risk Communication & Risk Governance 2**

**Saturday, Oct. 21, 2017**

**13:30 PM - 15:10 PM**

**Chair: Prof. Kuei-Tien Chou, Graduate Institute of National  
Development, National Taiwan University; Chief Director, Risk Society  
and Policy Research Center**



## **A Study on “Environmental Risk Concept” for General Public and the Way of Risk Management**

Dr. Hajime Kimura, Meiji University

In a risk society, it is important to control technologies under appropriate risk assessment and management systems, in order to ensure security and safety while enjoying abundance of new technologies. Kristin Shrader-Frechette (1991) described two poles: one is “naïve positivism” which attributes environmental risk to pure scientific facts and disregards democratic procedure, and the other is “cultural relativism” which attributes it to social construction and disregards scientific aspects. It seems to be preferable to make the current risk assessment and management systems closer (from the former) to the latter to balance, also from the perspective of environmental justice (especially procedural justice). Thus, it is crucial to understand "environmental risk concept" for general public (see below for further detail), and, based on the insights about it, to reconstruct the risk assessment and management systems.

Relatively many studies so far have focused on the cases where environmental risk “become apparent” like industrial pollution problems, and on the cases where environmental risk “increase” like opposition movements against installation of new chemical plants. In this study, the goal is to reveal "environmental risk concept" for general public in the cases where environmental risk “just be”, which seems to be implicitly and explicitly assumed in not a little chemical management systems. Here, “general public” means the people except the persons concerned in industrial pollution problems and opposition movements who might have little interest in environmental risk but perhaps account for the majority of the people. In this meaning, in order to get insights and to reconstruct the risk assessment and management systems, it seems to be important to reveal the general public’s values and the background structure including the trade-offs between the environment and the economy.

In ISESEA-6, case studies on risk assessment and management of industrial chemicals and genetic modified organisms are to be presented.

## **A Study on Risk Governance of Nuclear Powerplant -Focusing on Gori No.1 and Wolsong no.1 Cases-**

Dr. Eun-Ju Min, Dong A University

This study was conducted in order to find out the reason why Gori No. 1 in Busan was abolished, while Wolseong No. 1 in Gyeongju was decided to be extended even though the both cities were in the same situation in terms of politics and economy home and abroad. For which, the researcher focused on the relation of political and social power, considering that the interaction of the actors in the district and internal politics combining the resources and coordination between local government and non governmental area were differently activated, assuming that there is a combination of historical, cultural, geographical, political and social factors.

## **Reconsidering the Politics of NIMBYism and Environmental Solidarity in China: A Research Note**

Dr. Pin-Hsien Wu, National Pingtung University

In the latest decade, China has witnessed the emergence of several environmental campaigns. However, in association with it, NIMBY (not in my back yard) has become a fashionable term in the Chinese media and academia. The paper examines the (re)production of the language of NIMBYism in contemporary China to demonstrate the conceptualization of “environmental movements” by state authorities under which only certain actions are recognized as practices of “environmentalism” while others are not. It argues that the conceptualization of NIMBYism and the ideological construction of the unified identity in China share the same mechanism, which is to form the legitimacy of the state authority to represent unity and to define the public interest. Additionally, it draws attention to further investigating how the features of air pollution in contemporary China can provide alternatives for activists to reinterpret the discourse of solidarity and challenge the stereotype of environmental self-help campaigns.





# **Sustainable Consumptions and Behaviors 2**

**Saturday, Oct. 21, 2017**

**13:30 PM - 15:10 PM**

**Chair: Prof. Shu-Fen Kao, Fo Guang University**



## **Citizens' Preference for Green Electricity: A Case Study of Consumer Cooperative in Japan**

Prof. Yasushi Maruyama, Nagoya University

Dr. Makoto Nishikido, Hosei University

Prof. Tae Nakane, Aichi University of the Arts

This research aims to discuss the possibility and necessity of translation between global environmental discourse and other values through a case study concerning preferences for green electricity (GE) in Japan. The authors will clarify the factors to promote GE, based on a case study of consumer cooperative after Fukushima disaster in 2011 in Japan. After the disaster, there are various activities and policies to push more renewable energy. On the production side, a Feed-in tariff policy has been introduced which legally guarantees price of electricity from renewable energy(RE). It enables RE projects more stable and feasible. On the market side, a liberalized electricity market has started in 2016, which enables consumer to choose their own power supplier. However, the effect of market mechanism is ambivalent. It is possible that people promote more RE as a choice of consumer. However, people might look only on price and choose “cheap” electricity with conventional energy resources. We focus on members of consumer cooperative as a case of “ethical consumer” so that we can clarify if and how they choose green electricity. For this purpose, a questionnaire survey for the members are conducted. The forms were distributed to randomly select 5831 individuals out of about 300,000 members at the end of July 2015. 3039 responses were collected and valid response rate is 53.8%. The respondents were asked mainly to answer about if and how they are interested in changing to GE. We have also conducted conjoint survey, so that figure out the effective factors (e.g. price, rate of RE resources, enterprise body) to push consumers to change their power supplier. Results are also compared with similar survey conducted by national government. Compared with governmental survey, members of consumer cooperative are more interested in and willing to change to GE (70%). However, this is not only because they want more RE .Conjoint analysis shows that the most preferred factor is the membership which suggest a symbol of transparency, accountability, and responsibility. In conclusion, it is stated that diversity of values are more effective than one single strong value such as environmental, when we are to promote awareness and action for sustainable society. Climate change and sustainability has surely become a key political issue in this century. However, we cannot avoid uncertainty which brings many social actors lack of actuality. To overcome this dilemma, various bridgework and translation would be necessary

## **The Trend of “Community Power Movements” after Fukushima Nuclear Disaster**

Dr. Makoto Nishikido, Hosei University

Prof. Yasushi Maruyama, Nagoya University

The aim of this presentation is to review the trend of community power movements in Japan. In doing so, we explore answers to such questions; why have community power movements become popular in Japan? Who support them with what motivations? What kind of relations are the participants in anti-nuclear movements and the supporters of renewable energy? We make use of the survey data of the investors of the community power movements to explore motivations of the community power movement supporters. The community power movements in Japan have started in 2001 by local Non-Profit Organization in Hokkaido derived from Seikatsu Club consumer cooperative. They built a wind power plant in Hokkaido, by investments from people concerned nuclear power, and built up networks with various non-profit organizations and some of following projects were led by partnership with them. Since the nuclear disaster occurred in Fukushima in 2011 and feed-in tariff (FIT) system was introduced in 2012, the desire for renewable energy has been growing in Japan. As of 2017, community power movements have built 13 wind turbines, 12 photovoltaic (PV) arrays, and one small hydro power generator project that are working successfully. We have started to do the investor survey from 2003 to 2017. Therefore, we can understand the trend of investors' motivation and consciousness about a renewable energy and especially we also can grasp the change of opinion before and after the Fukushima Accident. The survey data showed that there are many kinds of motivations for investment: environmental motivations, social motivations, economic motivations, and ownership motivations. The survey data also seems to suggest that there are two kinds of investors who join the community power movements. One is those who joined the anti-nuclear movements to abolish nuclear plants, and the other is those who hope to create the renewable energy, but do not join social movements' activities and instead invest in renewable energy movements. It explains why community power movements cannot restrict the character of investors and need to encourage diverse motivations for investing. Community power movements have to provide various motivations for involvement to attract different kinds of people. This strategy of community power movements is quite different from past anti-nuclear movements. However, we can confirm that these tendencies of investors differ between Fukushima or the other area. It is significant that we have to analyze the relationship between community power movements and anti-nuclear movements in detail in order to consider the future of community power movements.

## **Socio-Technical Networks of Sustainable Innovation in Infrastructures and Lifestyles**

Prof. Fred Steward, Policy Studies Institute, University of Westminster

Dr. Midori Aoyagi, National Institute for Environmental Studies

Dr. Ritsuko Ozaki, Policy Studies Institute, University of Westminster

This paper argues for more sociological attention to sustainable innovation and transition. The global challenge of climate change is often framed as a contested 'problem' of risk. Yet, it also poses an urgent challenge for better understanding of the contested 'solutions' for environmental sustainability. The sociological STS repertoire includes not only critical perspectives on the socially situated nature of scientific knowledge but also relational theories of technological change & innovation. The latter range from social constructivist sociotechnical systems to associational actor network theory. This 'socio-technical network' approach offers an interactionist alternative to the common one-dimensional frames of technoscientific promises or socioeconomic determinism with significant implications for transformative innovation policy (Diercks et al 2017) This paper presents a socio-technical networks perspective to better inform the transition to sustainable consumption and production (SCP). It moves beyond a dichotomy between individual consumers and organisational producers to a more systemic approach (Eames et al 2008, Vergragt et al 2014, Cohen 2016). A socio-technical systems perspective on infrastructural innovation (Steward 2012) is combined with actor network related approaches to changes in practices and lifestyles (Ozaki 2104). This conceptual framework is employed in empirical research on transformative innovations in city wide infrastructural systems in Japan and its implications for new policies. (Aoyagi et al 2016) The focus is on a variety of strategies for mobility transitions with contrasting emphases on low emission vehicles or integrated mobility services. Through documentary and interview research we map out the sociotechnical networks of actors and actions to reveal the discourses of transformation and their policy implications. Aoyagi, M. (2016) 'Transitions in urban infrastructure for sustainable lifestyles ' (WP1.1, Subtheme 2.1). Policy design and evaluation for sustainable consumption and production patterns in the Asian region (Strategic Research Programme S-16) MOEJ Cohen, Maurie (2016) 'Sustainable Consumption Research and Policy: Retrospect and Prospect' Exploratory Workshop Report p7 Research Institute for Humanity and Nature, Regional Centre for Future Earth in Asia, Kyoto, Japan Diercks Gijs, Henrik Larsen & Fred Steward (2017) Transformative innovation policy: Conceptual diversity and the appeal of a socio-technical understanding, submitted to Research Policy Eames M., F Geels, A. Monaghan & F. Steward (2008) The Feasibility of Systems Thinking in Sustainable Consumption and Production Policy: A

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## **Household Survey on Use of Electronic Appliances and Energy Consumption in Vietnam**

Dr. Aya Yoshida, National Institute for Environmental Studies

Head, Tomohiro Tasaki, National Institute for Environmental Studies

Research Associate, Eiko Kojima, National Institute for Environmental Studies

Tran Ngoc Hoang, The Hanoi SWM Study Specialist Team

In Asian emerging countries, including Vietnam, modernization of living environment is progressing along with economic development. According to the household survey conducted by the General Statistical Office of Vietnam, in both urban and rural areas, penetration rates of consumer electronics such as air conditioners (ACs), mobile phones are rising. In this research, electricity demand from ordinary households in Vietnam and current environmental load Purpose and policy proposals on lifestyle and energy conservation to reduce environmental burden. We visited 30 households in Hanoi and Long An province in 2016. We conducted an interview survey (qualitative survey) using questionnaires on the usage of electronic appliances and energy conservation awareness. In Hanoi, ACs, refrigerators, washing machines, electric water heaters were popular in urban areas even in low income households. In rural areas of Hanoi, ACs are limited to high-income families, and ordinary households use natural winds and electric fans. Refrigerators were popular in all households except low-income households in rural areas. In Long An Province is an area where located at the entrance of the Mekong Delta near Ho Chi Minh and unlike Hanoi the weather is warm all year around. Therefore, except for wealthy household, households do not own electric water heaters. Most people, excluding old people and infants are taking a cold shower throughout a year. Some households were rebuilding from a traditional leafing house to a brick and concrete house and the numbers of households that are installing ACs in the bedrooms also increasing. Main reasons for introducing ACs are taking care of their children, especially while they are studying and sleeping comfortably. Energy conscious awareness was high in general; it is based on saving money. The recognition of energy-saving labels was low. The people usually buy their appliances by cash at once. Although most people answered that there are few interests in buying secondhand electronics, there is large demand for imported secondhand ACs from Japan. Concerning the future demand for ACs and energy increase, it is important that the government advertise the energy level and develop a policy for purchasing energy saving products such as installment payments.





# **Regular Sessions V**

**Sustainable Development and Public Participation**

**Saturday, Oct. 21, 2017**

**15:40 PM - 17:20 PM**

**Chair: Prof. Ming-Sho Ho, National Taiwan University**



## **Sustainability of Temperate Orchard in Lishan, Taiwan: In the Context of National Development and Agriculture under Globalization**

Ms. Junko Hoshi, Ibaraki university

The aim of this paper is to examine the sustainability of temperate orchard in Lishan, Taiwan, located in the Subtropical zone. Exploring the history of Lishan development, this paper also shows why this orchard issue has emerged from political as well as economic perspective, and finds that being confronted with retreat policy, the region is still possible to survive as a small temperate orchard, supported by new tourism and consumers. Lishan, around 2,000m high altitude region located in central Taiwan, had been developed by the Republic of China(ROC) government to raise such high value products as temperate orchard and tea estate, for mainland Chinese people's commodity consumption and for veteran soldiers employment. On the one hand, because of its high altitude climate, President Chiang Kai-shek used to love the area and represented the authentic national identity, and this pseudo-Chinese space made a strong reason to maintain Lishan district, despite its high-risk development without risk mitigation. On the other hand, high value in temperate fruit brought a big economy in Lishan, grown by veterans. In mid-1970s, the farmers invented an expertise to connect a trimmed-off pear shoot in Lishan to the pear trees to fulfill dormancy in Dongshi, Taichung, which is located on the foothill of Lishan and had functioned as a base camp of the development. This new pear economy in Dongshi flourished through 1980s and 1990s. Lishan region was thus maintained both politically and economically, despite its dangerous development. However, democratization and indigenation process in Taiwan throughout 1990s reduced the significance to maintain Lishan area as a symbol of the ROC. Simultaneously, a big earthquake hit the central area of Taiwan on September 21, 1999 and the main route to enter Lishan from Guguan has been stuck by landslide. Moreover, Dongshi pear production grew so big that it started importing pear shoot from Japan in 1980s, thus became independent from Lishan. Followed by numerous landslides even after the earthquake in 1999, diminishing political significance to maintain the ROC symbol, and handling impact on domestic agriculture after joining the WTO in 2002, the national bureau of forestry, who owns most of the farmland in Lishan, gradually withdrew its farmland from the tenant peasants to minimize landslide risk, and transitioned into forestry and ecotourism. This resulted in decline in temperate orchard in the region. Nevertheless, consciousness on food security, threat of globalization and government-led land expropriation made some consumers to support domestic agriculture. This opened a new opportunity for farmers to plant high-quality temperate fruit tree for these consumers. Moreover, the snow

mountain tunnel from Taipei to Yilan, built in 2006, opened a new quick route from Taipei to Lishan via Yilan, making Lishan a convenient spot not only for ecotourism and the ROC tourism, but also agritourism. In spite of inevitable risk, there still is tourism power and consumers and farmers' power to maintain Lishan and small farming in the region.

## **"Sustainable" Local Initiatives and Diverse Aspirations: a Model Village of Organic Farming in the Northeast Thailand**

Dr. Atsushi Watabe, Institute for Global Environmental Strategies

An increasing number of national and local governments are developing their strategies on sustainable development, due partially to the recent international agreements aiming for a medium and long-term transition toward sustainable societies. These strategies sometimes highlight local/community-scale initiatives as their key drivers to achieve “sustainability.” However, ground-level actions often stem from unique concerns among the local people on (non-)sustainability, which is noticeably different from those discussed among the policy makers. This study analyses such coincidental matches between the ground-level initiatives and the local/national strategies to better understand the discrepancies of concerns on (non-)sustainability, taking a case of a village in Thailand where all farmers shifted to organic farming recently. The national government acknowledges the village as the “sufficiency economy model village,” and their activity is also aligned with the city’s strategy to promote low carbon and greener development. However, most villagers shifted to “organic” not from their concern for the environment. It is among the various tactics taken by the elderly farmers who stay in the village to continue agriculture with less labour and financial inputs while most of the youth currently work in the cities. A group of 30 farmers are keen on further promoting the organic farming, while the other villagers are uncertain whether the village-wide organic farming is a “sustainable” option for their living, on account of the further expected changes in the labour market, family structures, and climate. From this case, the study proposes four key points of analysis. Firstly, people combine diverse activities including which the external experts or governments often appreciate as “sustainable”, and what they denounce as the cause of threat to the sustainability of the local environment, economy and society. These “unsustainable” activities, e.g. pursuit of the opportunities of off-farm jobs in the cities, are often the key activities which enables the “sustainable livelihoods” in reality. Therefore, secondly, we should carefully look into the discrepancies of the concerns on non-sustainability, rather than the coincidental matches on the awareness of sustainability, to capture the unique threats of the conventional patterns of development to the local societies as well as people’s livelihoods. Thirdly, in spite of such discrepancies, governments’ labelling of “sustainable actions” to the ground-level initiatives is not meaningless. Acknowledgements by the authorities may provide different viewpoints to the local actors on their challenges as well as the resources to cope with them, and give them further opportunities to collaborate with wider stakeholders. Lastly, such interactions between the local

initiatives and the local/national/global strategies of sustainability indicate an important fact that some of the challenges to sustainable societies may not occur in the exact order of the economic development as we tend to imagine. Even in the remote areas of developing countries, people sense the necessity to cope with challenges of ageing, depopulation, overconsumption, most of which were considered as the issues of developed countries until recently. For the above reasons, we should not just praise their virtues of “sustainable” actions, but try to look into the unsustainability sensed in their everyday living.

## **Democratization Promotion or Expertise Enhancement? The Consensus Conference in the SEA on Sea Reclamation by Solid Disposals**

Prof. Ying-Feng Chen, Chinese Culture University

Ever since the EIA/SEA systems had been adopted in Taiwan, many have questioned the lacking of both “citizen’s participation” and “scientific expertise”. Recently, the EPA has lost a series of administrative lawsuits and forced to revoke the EIA verdict. In 2009, “expert’s meeting” has been introduced in strengthening the capacity in robust scientific reviews, while the results received inconsistent evaluations. In 2012, the SEA on a new policy, Sea Reclamation by Solid Disposals, also encountered great social suspicion. Therefore, in addition to remaining expert’s meetings on the expertise side, the EPA also held a precedent consensus meeting in order to fill the gap of democratic deficit. This article explored the influence of consensus meetings on this SEA, and found lay citizens were capable of delivering reasonable guidelines for scientific risks issues after deliberations. In addition, the consensus meeting held by neutral third party lent a hand in shaping mutual trust, and the principle guidelines also assisted to build focuses in in-depth discussion among experts. Therefore, this article concluded the lacking of scientific expertise, including little focus and consensus could be made, in the EIA was mostly resulted from lacking of civil participation. In other words, the deficit of democracy led to the deficit of expertise. Therefore, in order to fundamentally solve the controversy of scientific risk issues, it was suggested that public participation, instead of being viewed as a red tape procedure in experts’ domination, should be a channel of empowerment in providing social rationality via transforming citizens into informed, responsible, and active participants and discussants. The final goal is to enable citizens to choose and imagine different forms of risk regulations and risk perspectives.





# **Management and Use of Natural Resources 3**

**Saturday, Oct. 21, 2017**

**15:40 PM - 17:20 PM**

**Chair: Dr. Hang Li, Hong Kong Shue Yan University**



## **Where Does Illegally Logged Timber Come from and Where Does it Go? : Environmental Sociology of Tropical Timber Trade**

Dr. Kentaro Kanazawa, Shinshu University

East Asia is the world's largest tropical timber importing region, and Southeast Asia is the world's largest tropical timber exporting region. However, there have been endless reports about illegal logging of tropical timber in Asia up until now. In the EU, the United States, and Australia, laws to prevent the distribution of illegally logged timber are already enforced; why then is there no progress in Asia? Who is carrying out illegal logging and how is it exported? Who imports it and how is it used? This report discusses the environmental sociological issues in the tropical timber trade.

## **Conditions for the Success of Environmental Creations with Resident Participation: Two Case Studies of Restoration Ecology in Rice Paddies**

Ms. Satsuki Tanikawa, Nagoya University

The purpose of this paper is to clarify the condition for succeeding environmental creations by residents' participations in the comparative survey. Recently, in addition to environmental conservations that protect natures from exploitation pressures, the movement that intends to restore lost natures is increased. Among lost natures, the environment around rice fields gathers attentions especially because this environment is near by living areas and important ecologically. The environment around rice fields called the secondary nature, and this environment is different from the wild life in that it created and managed by human activities. Because the secondary natures have the feature like this, the natures need a re-creation including relations with human. Thus, the secondary natures restoration are needed residents' participations. This paper verifies how environmental restorations could adopt residents' participations from the comparative between case-A, which were based on ecological knowledge, and case-B, which were embedded in residents' common life. In the case-A, the A-prefecture started the nature restoration projects including rice fields by that a lake registered with the Ramsar Convention. Then, the prefecture started the joint project with a research institution and a nature restoration conference had been instituted. Members of this conference were people who were interested in the nature restoration of the lake or stakeholders, for example, researchers, the government, local environmental groups, fishermen's cooperatives, farmer's cooperatives, and organic famers. In the case-B, the nature restoration of rice fields started for the purpose of managements of agricultural ditches including non-farmers. The B-prefecture offered this project to a village because this village was famous for its frequent activities, then the project was become done as the neighborhood association's event. Therefore, participants were residents who were members of the neighborhood association or the sub association. In the case-A, although subjects that were interested in nature restorations and obtained benefits from environmental improvements participated the project, residents' participation was limited. On the other hand, in the case-B, many residents participated the activity because it fixed as an event. Among participants, there were people who were not interested in the nature restoration directly. In this case, some effects remarked such as the creation of concern between rice fields and non-farmers, decreasing management tasks for farmers, the environmental conservation by decreasing pesticides, producing ecofriendly rice because of obtaining residents' participations. As the reason why the case-B could obtain residents' participations,

this paper highlight that this case did the project in the neighborhood association and the residents had the motivation that is based on not ecological knowledge but common benefits. By the comparison, it was revealed that even though nature restorations were based on ecological knowledge or not, it was not the main factor which decide residents' participations, or residents' participations could be limited if the project devoted to such a knowledge too much. Thus, the condition for succeeding environmental creations by residents' participations is the closeness of the activities for the life-world.

## **Environmental Movement Discursive Frame and Forest Conservation in Indonesia: Problems of Reconciling the Interest of Nature and Society**

Prof. Afrizal Afrizal, Universitas Andalas

There are two types of environmental movements in Indonesia: one that focuses on environment conservation and another that focuses on the protection of peoples' rights in environmental management. As their interests contradict each other (conservation vs. indigenous managed areas), this article addresses the following questions: How the movements resolve their divergences in environmental conservation? What are political-administrative changes that create diverging and converging trajectories for these movements? What are the potential ramifications of this divergence for both indigenous rights and conservation in the future? Using qualitative study findings on discourses and activities of influential Indonesian national environmental movement organizations and their local counterparts, it is argued that forest conservation and indigenous peoples' managed areas are two influential discursive frames of environmental movement organizations in Indonesia. Those are contradictory each other and therefore both of them attempt to achieve contradicted interests. The availability of solutionary schemes approved by the government are conditional upon whether they are in cooperation or in opposition. The available community-based forest management schemes such as Village Forestry, Community Forestry, and Customary Forestry provide them with foundation to cooperate and build alliances to satisfy their interests, but these compromises contradict the course of environmental movements and forest conservation in the country.

# **Risk Society and Policy Research Center, National Taiwan**

## **University.**

### **History**

In this period, the center introduced the methodology of social quality index originating from European research institutions, conducting a comparison survey and study of Asian societies and providing the basic data for the further study. In addition to that, the centre held a series of public conferences and symposia in the events of 2008 financial crisis, 2009 disaster caused by Typhoon Morakot and 2011 Fukushima nuclear disaster. With the help of international academics, we focused on the discussion of reconstruction strategy and the experience of adopting a policy of reaction. The practical suggestion we provided in these events reflects the concerns we have over society.

Due to the growing urgency of dealing with globalized risks, such as climate change and the need to foster dialogue among community, government and industry for better, evidence-based policymaking, the research center was later re-structured. The 2785th university-level administration meeting, re-structured and renamed the center as Risk Society and Policy Research Centre (RSPRC) in November 2013. The current and first Director General after its re-structuration is Professor Kuei-Tien Chou.

This center is part of the NTU's long-established tradition of research excellence. It also draws on donations and funding from social-responsible enterprises to pursue its research goals.

### **Our Vision and Mission**

In an ever-changing world with of globalized risks, Taiwanese society faces a wide-range of major, interrelated issues. These include: climate change and the energy transition, green economy and low carbon innovation, food scandals, risk perception and trans-dimensional risk (i.e. risk of emerging technologies and of financial crisis) as well as new social risk (social inequality, aging and shrinking population, migrant integration). Our expertise in social, technological and environmental policies lie at the heart of these issues. These issues need to be understood in a systemic way and require a practice-focused research approach.

The new kinds of risk emerging from a globalized world cross institutional boundaries. With this in mind, our ambition is to bridge the traditional separation of society and academia and attract young,



bright minds to this task.

RSPRC sets its course to work as an essential platform of bridging the broader public and the excellent research expertise for Taiwanese society. The working of RSPRC is to bring all different kinds knowledge together, including the theoretical inspiration, the history and experience of social practice, the expertise in administration area and most important, the reflection of current situation of governance. Interdisciplinary study is located at the core of our agenda, reflecting the blurred boundary of contemporary risk challenges. Facing all the challenges and its formidable potential consequences, the public has the right to know the reasoning and process of agenda-setting, implementation and evaluation in policy-making process. RSPRC wants to take the public approach of risk study, to facilitate the analysis, accumulation and reflection of risk governance in Taiwanese society. Being a platform of open and deliberative discussion and negotiation, our goals is to make politics and society informed, knowledgeable and accountable.



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