The Department of Environmental Sciences and Policy presents

The 2012 Master’s Program Student Conference:

The Intersection of Crisis and Transition

14 December 2012

Central European University

9 Nador Utca
# Conference Schedule

## Keynote

**Dániel Barcza** - Director of the Design Institute at Moholy-Nagy University of Art and Design, Budapest  
Nador u. 11, Room 4  

**9:00 – 9:30**

## Session 1

**Agriculture 1**  
Faculty Tower 608  
**Moderator:** Noemi Gonda  

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<td>Moving towards sustainable agriculture: Lessons to learn</td>
<td>Katrin Tomova</td>
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<td>From conventional agriculture to organic cultivation: The transformation policy of Taiwan’s certification</td>
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<td>Do GMO’s meet the challenges of food and agricultural crises? : Reviewing the discourse on GMO’s in Brazil</td>
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## Energy 1

**Faculty Tower 708**  
**Moderator:** Dora Almassy  

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<td>The effect of Chernobyl on international nuclear legislation</td>
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<td>The straw that broke the camel’s back: Fukushima and nuclear energy in Germany</td>
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## Pollution

**Faculty Tower 808**  
**Moderators:** Anna Ruban and Ariadne Collins  

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<td>Improving the policy on PM 2.5 control in China</td>
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## Urban Sustainability

**Faculty Tower 809**  
**Moderators:** Rika Cossey and Amada Winter  

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<td>Ecolabeling: Environmentally Sustainable Consumption in Macedonia</td>
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<td>Benefits and Barriers to Sustainable Building: Lessons from Greensburg, KS</td>
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<td>Sustainability of Urban Transportation Policies</td>
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## Session 2

**11:30 – 13:00**

### Agriculture 2

**Faculty Tower 608**

**Moderator:** Amanda Winter

- Francesca Favorini-Csorba - The low price and high cost of corn: Agricultural subsidies and their impact on health and the environment in the United States
- Haiya Zhang - What’s for dinner: Tibetan Yak Mozzarella
- Nikolai Beresnev - Expansion of oil palm in Indonesia: An environmental crisis or sustainable development?
- Maria van Veldhuizen - Food security in Pacific atoll states: Threats and policy responses

### Energy 2

**Faculty Tower 708**

**Moderators:** Dora Almassy and Rika Cossey

- Tamar Antidze - Transitions to sustainable energy systems in developing countries: Evidence from India and Brazil
- Saurabh Saraf - Shale gas “revolution” in Poland
- Sandra Wessman - International policy frameworks for unexplored gas and oil reserves in the Arctic

### Conflict

**Faculty Tower 808**

**Moderator:** Noemi Gonda

- Maria del Pilar Restrepo Orjuela - Transition from armed conflict to peace in Colombia: Dynamics of land tenure
- Thor Morante - A not-so-shiny El Dorado: The environmental and social depredation of illegal gold mining in the Peruvian Amazon
- Jimena Montané Azpiri - Fighting for the right to water: The case of the Zapatista army of Mazahuan women in defense of water
- Adjani Peralta - The social and environmental determinants of health for the Cowichan tribe in British Columbia, Canada: An integrated model of watershed-based integrated water resources management (IWRM) and ecohealth

### Wildlife

**Management**

**Faculty Tower 809**

**Moderators:** Anna Ruban and Ariadne Collins

- Jonathan Shawyer - Wildlife management in South Sudan
- Benedict Omare - The role of the newly established Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services in mitigating biodiversity loss
- Matteo de Besi - The phased approach to REDD+ implementation: An adequate mechanism for success?
- Erika Navarro Ang - Evaluation of current policy instruments for the conservation of vaquita in the Upper Gulf of California
### Lunch

**Session 3**

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<td>Community and Education</td>
<td>Erik Hansen - Incorporating nature into civics: Perennial environmentalism Orsolya Ujj - Responsibility: Our duty to respond Sophia Kuepers - Queer potential in environmental crisis Manavi Bhardwaj - Non-formal education in the developing world: A transformative tool towards sustainable development</td>
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### Reception

**Facility Tower 609**

**Keynote Speaker Bio**

**Dániel Barcza** is the director of the Design Institute at Moholy-Nagy University of Art and Design, Budapest. He is also the founder of MOME EcoLab, the University’s sustainability research lab. He will be speaking about EcoLab’s project in Bódvalenke, a small village in Borsod county of Hungary, this June. The goal of the project is to provide support for small communities living in deep poverty with the help of sustainable design.
Tamar Antidze - Transitions to sustainable energy systems in developing countries: Evidence from India and Brazil
The benefits offered by the renewable energy sources compared with fossil fuel are obvious, especially at a time when sustainable development, climate change and energy security are important in the global agenda. High costs of renewable energy technologies and non existence of the effective energy policies are the main barriers that impede countries’ transition to the renewable sources. However, a number of developing countries have considerably progressed in growth of the renewable energy capacities recently. This presentation aims to disclose the main instruments for renewable energy policy success that could aid environmental policymakers in developing countries, specifically by focusing on Wind energy technology in Brazil and India. Through analyzing legislative and economic mechanisms of these countries, the research will review and determine the paths which have led them to progress. Main factors including economic, historical and incentives that contributed to progress in the selected countries will be reviewed and assessed. At the same time, the presentation will highlight main barriers for development of this field and analyze mechanisms necessary to support effective renewable policies in developing countries.

Nikolai Beresnev - Expansion of oil palm in Indonesia: An environmental crisis or sustainable development?
The production of palm oil in Indonesia has experienced remarkable growth over the last 50 years, with Indonesia overtaking Malaysia as the world’s largest producer in 2006. This growth can be attributed to growing domestic and global demand for palm oil, availability of plantable land and labour, and direct and indirect government support to the palm oil industry. According to national statistics, the industry generates significant foreign exchange earnings and employment (particularly among smallholders), and is a major driver of poverty alleviation in rural areas. However, the industry has also been criticised by environmental groups for its perceived environmental and socio-economic impacts. The major allegations include rainforest and peatland destruction, contribution to climate change, eradication of threatened and endangered species, and marginalisation of local communities (including losses of access to forest resources and ecosystem services). Using desk research, this study seeks to evaluate the costs and benefits of the industry by verifying these economic, social and environmental claims. The study also examines the likely future developments in the industry – including the impact of the Roundtable on Sustainable Palm Oil and the emergence of private and public sector sustainable procurement policies – and discusses possible solutions to the identified negative impacts.

Manavi Bhardwaj - Non-formal education in the developing world: A transformative tool towards sustainable development
The urgent need for a change in the way humans see, think and act is fundamental for the transition towards sustainable development. ‘Education for sustainable
development’ (ESD) has been identified as a critical input to facilitate this transition. While much emphasis has been laid on formal education, the side events of Rio+20 reveal that non-formal education has been mostly overlooked with regard to ESD. To make ESD a transformative tool in transitioning society towards sustainability, non-formal education at the grass roots level is crucial to acknowledge the impact of individual action. The vulnerability of local communities in the developing world to direct negative environmental impacts makes them an important target for such an effort. By suggesting a theoretical framework and drawing empirical evidence from successful case studies in the developing world, this presentation makes a strong case for (i) the need to focus on non-formal methods of ESD at the grass roots level in developing countries, and (ii) ‘learning for empowerment’ translating into leadership within this context. This discussion becomes extremely relevant against the backdrop of the follow-up to the ‘United Nations Decade of Education for Sustainable Development (2005-2014)’ and the drafting of the ‘Sustainable Development Goals’.

In the last decade energy efficiency, as an important sustainability indicator, has gained utmost attention in the European Union. After the dubiously successful regulation with the Action Plan for Energy Efficiency (APEE) that set the EU on track to achieve only half of the energy efficiency reduction planned by the year 2020, the European Parliament has approved the new Energy Efficiency Directive (EED). The APEE and the recently introduced Energy Efficiency Plan 2011 were voluntary and therefore the Member States (MS) could not be enforced to comply with the EU requirements. The EED, on the other hand, will bring forward legally binding measures to establish proper energy efficiency obligations schemes in all MS. This presentation highlights the main weaknesses of the APEE such as lack of legal power and difference of energy efficiency standards in the MS, analyzes enhancements introduced by the EED and expected positive effect on the EU energy efficiency trend. The most significant development of the EU energy efficiency, namely the mechanisms for implementation and legal enforcement, are assessed. Based on this analysis, the conclusion states the need for unified legally binding EU policy for achievement of sustainability goals set by the EU.

Shu-Yuan Chang - From conventional agriculture to organic cultivation: The transformation policy of Taiwan’s certification
Agriculture has been Taiwan’s fundamental industry for a long period. The country’s economic miracle was achieved on the basis of agricultural development. However, the practices of conventional agriculture are not only a threat to the nature itself, but they also jeopardize the quality of life for human beings. As a consequence, the organic agriculture has become more popular in the past few years due to the increase of the population’s income and living standard, as well as to the change of food-consuming habits and consumption patterns. In order to assure the quality of
organic products, the government introduced a new organic agriculture certification system. However, when creating this new system, the government simply copied the western countries, did not take into consideration Taiwan’s local needs and characteristics.

This presentation will analyze the public authority’s action towards organic agriculture certification for the sake of better adjusting this new policy to Taiwan’s local characteristics and goods. In this presentation, I will argue that organic production and organic certification shall be integrated and that supervision by consumers should be a key factor in the promotion of organic agriculture. In this process, policy transformation and the implementation of legislation would play a crucial role in reforming and developing organic agriculture.

**Timothy Cycyota - NEPA and e-governance: Potential and methods for public participation in environmental impact assessment**

This presentation explores the possibilities, limitations, and ramifications of employing e-governance techniques in the fulfilment of United States Federal agency environmental reviews under the National Environmental Policy Act (NEPA). E-governance applications and practices have the potential to greatly improve the quality and speed of NEPA reviews, as well as increase public participation in environmental policy issues, but strong technical and regulatory development is necessary in order to realize this potential. The National Park Service’s Planning, Environment, and Public Comment System (PEPC) demonstrates the value that a coherent online system for NEPA review may have not only for the general public, but also for managers and researchers in determining how the general public engages with environmental review. Since its implementation in 2004, public comments on environmental reviews by the Park Service have substantially increased in both total volume and geographic range, incorporating a greater range of environmental opinions that ultimately improve the quality of environmental review.

**Matteo de Besi - The phased approach to REDD+ implementation: An adequate mechanism for success?**

REDD+ is a climate change mitigation strategy aimed at stopping the destruction of the world’s forests by adding financial value to the carbon stored in trees. It incentivises forest protection over forest destruction. This initiative has come under intense criticism since its proposal in 2005, with fears that a market based carbon trading system could privatise forests and jeopardise the human rights of local communities whose livelihood rely on it. The response by the UN was to propose a phased approach to REDD+ implementation, with the aim to assist participating nations in establishing a fair, equitable and transparent REDD+ project. This approach allows nations to adapt strategies to their particular national circumstances and also increase capacity building and stakeholder engagement. This presentation will analyse whether, the phased approach established by the UN will successfully overcome the fundamental criticisms concerning REDD+. It will examine
how already established and successful local REDD+ projects have managed to achieve this, and ask the question, ‘Can REDD+ successfully work on a national scale?’ Many participating nations have already entered phase two of the approach. This presentation will also analyse how successful the initial phase of these nations has been.

**Ariel Drehobl, Masahiro Suzuki - Post-Fukushima Japan: Looking towards a Non-Nuclear Future?**

Since the oil crisis of 1973, Japan has increased its reliance on nuclear energy in order to move towards energy self-reliance. Other mainstream sources of energy have been coal, for electricity, and oil, for transport. “The Strategic Energy Plan of Japan,” adopted in response to the Kyoto Protocol in 2010, aimed to increase nuclear energy supply from 30% to 50% in electricity supply by 2030 as a climate mitigation measure. However, the 2011 Fukushima disaster provided a devastating blow to this plan, prompting the Japanese government to completely change its policy. Japan’s September 2012 “Revolutionary Energy and Environment Strategy” policy aims to phase out all the nuclear by sometime in 2030s. Is this a feasible policy and if so, how can it be implemented? This study explores the future of Japanese energy sector by constructing scenarios based on historical and contemporary energy policy in Japan. The three scenarios foresee Japan maintaining its nuclear capacity and forgoing renewable energy development, replacing nuclear entirely with renewable technologies, or a slow replacement of nuclear with a combination of fossil fuel and renewable energies. Each projection determines the feasibility, public and political interest, and costs and risks associated with its implementation. Although the second projection currently appears to be the politically implemented choice, the third option would be the most likely scenario for the nation.

**Francesca Favorini-Csorba - The low price and high cost of corn: Agricultural subsidies and their impact on health and the environment in the United States**

Farming practices in the United States have changed drastically in the past fifty years, beginning with the Green Revolution. More recently, with the implementation of agricultural subsidies since the 1980s—most notably those on corn production—agricultural practices have created both an environmental and health crisis in the United States. Largely due to subsidies, monoculture has become the modus operandi, which has cascading effects on the surrounding environment. In addition, corn has flooded the food market in untraditional and unhealthy ways, primarily in the form of corn syrup.

This presentation will explore how the policy of corn subsidies has contributed to creating these crises, as well as examine the current agricultural policies that have allowed them to continue. In order to examine these policies, the presentation will focus on the agricultural policy-making process in the United States, the impact the process itself has on the policy outcome, and therefore, its impact on the environment and the health of Americans. The presentation will argue that the attempts to placate the large number of stakeholders in agricultural policy-making
(farmers, commodity-specific groups, environmental and public health groups), and the “logrolling” this has led to in the policy-making process, have significantly contributed to and perpetuated this environmental and health crisis in the United States.

**Kata Fodor - Ombudsman for Future Generations: A possible tool towards long-term sustainability?**

A technocratic democracy is short-sighted by its nature. Yet the necessities for intergenerational justice and sustainable development have both been widely recognized by many institutions and legal systems. In an effort to meet these needs the Hungarian Parliament established the uncommon office of Ombudsman for Future Generations. The Ombudsman has a mediator role between the government and the public to ensure that the public’s interest is well represented in the decision-making. It does this by working on three different platforms: handling constitutional considerations, advocating the public’s concern in the parliament, and conducting research on long-range environmental threats, such as for example climate change. The idea is that a long-term environmental position that is outside the short-term cyclic election cycle of modern democracies is an effective way of insuring long-term vision in environmental crisis. Considering the importance of such a body in international decision-making, the World Future Council took the Hungarian example to the Rio+20 Earth Summit to discuss the possibility of establishing a similar institution on a global level. By examining the merits of the Hungarian Ombudsman Office more closely we can gain insight in a possible long-term shift in the democratic environmental decision-making process.

**Loana Gronbach - The straw that broke the camel’s back: Fukushima and nuclear energy in Germany**

In 2010, ten years after the German government had first announced the phase-out of nuclear power (by 2021), Chancellor Merkel described nuclear power as a “bridge-technology”, crucial to ensure that energy needs would be met over the coming two decades. Reversing the previous government’s legislation, she extended the operating period of nuclear plants by fourteen years. Four days after the nuclear disaster of Fukushima in March 2011, the German government ordered the countries’ seven oldest nuclear power plants to be shut down, with the remaining nine to be phased-out by 2022. Previous to the phase-out, nuclear power provided 22% of the electricity consumed in Germany; approximately 10% of the total electricity was produced by the seven plants that were shut down. Those 10% needed to be replaced immediately and the overall replacement of nuclear energy would have to be sped up. The big energy companies predicted power shortages and a steep increase in electricity prices, which have yet to occur. The road to a more sustainable energy mix is long and not without obstacles, however. This presentation will explore Germany’s past developments and the country’s current challenges in creating an appropriate policy framework to achieve this transition.
**Erik Hansen - Incorporating nature into civics: Perennial environmentalism**

Environmental participatory democracy has the potential to change the very way individuals conceptualize, and therefore value, nature. These projects have real, positive, and immediate effects on communities and community space, but also serve as educating and socializing tools. The participatory democracy system developed in Porto Alegre Brazil is a promising example of how community involvement can be integrated into the civics of a society. Rooted in this system is the potential for bolstering a community’s connections and understandings with their environment. Empowering the community, and increasing their feelings of responsibility on environmental issues.

The basic idea is that by incorporating active participation in the management of small local “natural” spaces into the civics of a community, communities gain a real say in how a natural area is managed, and by educating them on the long term consequences of mismanagement (sometimes through trial and error), a community’s conception of the environment to change in a way that will cause them to demand similar respect of the environment from decision makers on the whole. This shift in action stems from a shift in basic conceptions. How one understands the world cannot help but affect how they behave in it.

**Elana Hawke - Shark Finning- Cut It Out!**

Sharks are apex predators and play a crucial role in regulating marine ecosystems. Between 70-100 million sharks are killed per year as a result of shark finning. Finning is the harvesting of sharks and removal of their fins. Commonly the shark’s body is disposed of back into the ocean and not utilised. The detached fins are shipped mainly to parts of Asia for processing, resale, and final consumption. Fins are used in culinary dishes such as ‘shark fin soup’, and in alternative Asian medicines. Fin products are expensive and considered a status symbol. The increase in demand for fins is attributed to the tremendous growth in prosperity of the Asian middleclass since the 1980s. Shark stocks in areas that have traditionally been finned have been decimated, thereby leading the industry to look for new areas for finning. Many of these areas are in developing countries where people’s livelihoods are based on artisanal subsistence fishing.

This presentation investigates the cultural aspects and discourses behind the finning trade; analyses its socio-economic components; examines the current instruments in place to manage finning; and makes suggestions as to what needs to change within the legal and political environment to transition towards sustainable shark stocks.

**Omniah Hegazy - Addressing policy dilemmas: Behind the black cloud crisis in Cairo**

Black Cloud phenomenon has been affecting Cairo each autumn since 1998. The main causes are meteorological factors, topographical factors, and uncontrolled emissions. It forms a continuous crisis especially for a mega city, like Cairo, affecting population health and economy. In order to identify solutions for this problem, analysis of the legislative and procedural situation was taken. Although there is an
environmental law but there is still lack of enforcement and commitment as well as absence of clear policy for combating such a crisis. Many measures were taken by several entities but the problem still persistent. Dealing with environmental issues in Egypt always takes a reactive shape rather than a proactive one, at the time of the crisis there is always a status of incomplete efforts due to lack of coordination and cooperation between relevant stakeholders. The Ministry of Environment, although has the coordinator role according to law, cannot enforce other ministries and governorates to implement plans to face the problem. It is always blamed for not solving this problem although it is a multilateral issue. There is an urgent need for a clear high level policy identifies each party's role. Providing appropriate funding and public awareness are also core factors in the problem solution.

Shannon Jones - Policy revision through litigation: A case study of US CAFO regulation
Rapid population growth has been accompanied by concerns of a food crisis, leading to examinations of food systems and agricultural production. Such an analysis in the United States reveals a transition from smaller independent farms to larger industrial farms, including concentrated animal feeding operations (CAFOs). The US Government Accountability Office estimates that from 1982 to 2002, the number of large farms increased 234%. Concentrated wastes from CAFOs are an environmental concern, linked to air and water pollution. Since 1976, the US Environmental Protection Agency (EPA) has regulated CAFO discharges to surface waters. EPA did not update their rules until sued in 1989 by the Natural Resources Defense Council, which resulted in the 2003 CAFO rule revision. Subsequent lawsuits by both environmental groups and farm industry associations led to further revisions in 2008 and 2012 in what may be considered partial victories for both sides in how CAFOs are subject to requirements. This presentation will identify relevant stakeholders and review the effects of litigation on CAFO framework and policy development. In the case of CAFOs, litigation has served as the driving force in evolving policies, but this reactionary approach to policy formation is time consuming and inefficient.

Gabor Kiraly - Do GMO's meet the challenges of food and agricultural crises? : Reviewing the discourse on GMO's in Brazil
Current crises in global agriculture and food systems have been considered as one of the most severe challenges that humans have to tackle in the very near future. The scientific agricultural industry has positioned genetically modified organisms (GMOs) as the only solution to tackling these crises. But both global and local NGOs and civil society movements have criticized and disputed these technologies for imposing external knowledge systems on farmers, for their harmful consequences in human health, social inequalities, and the degradation of agro-ecology. These debates have resulted in an intensive discourse representing a wide range of voices addressing the GMO issue. This presentation focuses on the question of how GMOs affect the chance to meet the challenges of food and agricultural crises, by reviewing the
correspondence between the major standpoints of the actors formulating this discourse and the actual social and environmental impacts experienced by communities having used GMOs. The findings presented contribute to understanding of whether GMOs have problem solving or problem causing influence on current crises in global agriculture and food systems.

Sophia Kuepers – Queer potential in environmental crisis
How can queers contribute to tackling crises of our natural environment? Bauhardt claims that the environmental crisis, the economic crisis and the “crisis of social reproduction” are closely interlinked. While traditionally associated with struggling for social recognition and equality, it appears that queers can provide a unique contribution to tackling environmental crises. When Schlosberg highlights the three pillars of environmental justice, namely: “equity in distribution,” “recognition of diversity of people,” and “participation in political processes” to queers, recognition and participation are the most crucial elements. This presentation aims to describe queer interventions challenging the persisting nature-culture dichotomy and an essentialization of heterosexuality in environmental discourse. With exploring four real-world queer projects and their way of shaping perspectives on the environment, this presentation will envision queer potential in providing solutions for environmental crises. Performances queering male space, celebrating love relationships with Earth, rendering explosive drag political and approaching environmental education research from a queer perspective will be striking examples of queer intervention and interaction.

Boris Kupchik - Internet awareness-raising campaign in Moscow implemented as a municipal energy efficiency-improving instrument
According to the 2007 report by the Intergovernmental Panel on Climate Change, anthropogenic intensification of the greenhouse effect caused the changes in climate last decades with 90 percent probability. The increase in the greenhouse effect is due to a rise in greenhouse gas emissions combined with an increased rate of deforestation. Improving the energy efficiency of the municipal economics is one of the most efficient methods of reducing greenhouse gases emissions. Internet awareness-raising campaigns are becoming widespread in the developed countries, such as the United Kingdom, Denmark, and Canada. The purpose of this presentation is to analyze the existing Internet campaigns and the effectiveness of the campaign in Russia. The Moscow campaign is based on the greenhouse gases emission calculator. Calculator promotion activities will start only in 2013, because of the changes in Moscow Government. Therefore only 3000 people used the calculator, but approximately one third of the respondents returned to the campaign’s website to compare their new greenhouse gas emissions totals after responding to the calculator’s recommendations of their previous results. Total average reduction of the greenhouse gases emission for Moscow citizen is 1.52 tonnes. Popularity of the energy efficiency improving technologies will increase in the next decade due to price growth for utilities in Russia. Internet awareness-raising campaigns are really
Chih-Ching Lan - A hope for sustainable tuna fishing: A review of tuna management in the Western and Central Pacific Ocean

After the depletion of Atlantic tuna, the tuna fishing industry has turned to Western and Central Pacific Ocean, which was once one of our healthiest oceans and now provides more than half of the tuna in the world. As a result of over-exploitation, highly migratory species are now threatened in the Pacific Ocean as well. Its tuna population is dropping for all age classes, which shows a sign of serious problems if no effective management measures are set immediately.

This presentation reviews the most important adapted Conservation and Management Measure for Bigeye and Yellowfin Tuna in the Western and Central Pacific Ocean by The Western and Central Pacific Fisheries Commission (WCPFC), and then further analyzes possible factors of their failure and challenges on achieving desired results regarding effective action to conserve valuable big eye and yellowfin tunas. Lastly, this presentation gives some recommendations for achieving measures on conservation and sustainability of the tuna resources in Western and Central Pacific region in the near future.

Jiayi Li - Improving the policy on PM 2.5 control in China

In 2010, the exacerbation of air pollution in Beijing aroused extensive public concern in the Chinese society, bringing PM 2.5 to the spotlight. PM 2.5, which is defined as particle matters with diameter less than 2.5 micrometer, can have serious impact on human health, but is rarely regulated in developing countries. Before the peak PM2.5 events, because of inefficient reporting and monitoring mechanism, as well as poor policy transparency, the environmental policy making process in China has barely been influenced by the general public. This presentation would illustrate how, in this case, public participation affected decision-making process and how policy responded to public concern. The prevailing net citizen comments and the power of online media are considered to be important driving forces promoting policy changes. The two factors are also new channels for people, from grassroots to elite group, to have equal and stronger say on environmental issues. Public participation in this case has played an essential role in promoting policy changes, while technocracy also served to provide solutions and refine regulations so as to reconcile development and environment. The case implies the possibility of allying democracy to technocracy in policy making and revision process. The presentation also proposes a possible model for future environmental policy making, involving both democratic and technocratic approaches.

Qing Miao - Electric vehicles in China

At present, there are roughly a billion motor vehicles on the planet. Within twenty years, this number is expected to double, largely as a consequence of China's and India's explosive growth. This will have serious consequences for both global climate and national energy security of China (which does not have its own oil resources) the
deployment of electric vehicles is speeding up as a way to offset pressure from booming automobile capacity. The Chinese government’s 12th Five Year Plan targets the numbers of electric vehicles to reach 5 million by 2020. Yet, there are only 1,000 such vehicles registered in the third quarter of 2011. With respect to its number of electric vehicles, China fell from the third place in July 2010 to the fifth in Feb 2012, behind Japan, the US, France and Germany. Meanwhile, a survey conducted by Deloitte global manufacture group in 2011 demonstrated that over 85 percent of consumer segments (including “Potential first movers” and “Might be willing to consider”) shows interest to purchase. Thus, electric vehicles still have enormous potential in China. This presentation will analyze the root cause of the gap between reality and the government’s goal based on the comparison between China, US, Japan and Germany. Also, the existing stimulate policy of electric vehicle market will be analyzed through China’s individual city case. Finally, the presentation will make policy suggestions to stimulate China’s electric vehicle industry.

Jimena Montane-Azpíri - A social fight for the right to water: The case of the Zapatista army of Mazahuan women in defense of water
The Mazahua indigenous communities of Mexico’s State of Mexico have been deprived of access to water since the Cutzamala hydraulic system was established in the late 1970’s, diverting around 480 million m$^3$ of water from de Mazahua territories to the Metropolitan area of Mexico City. In 2003, after over 25 years of demanding water services and compensation for the lands lost, an overflow of the Malacatepec River caused the flooding and loss of 300 hectares of crops, triggering the Movement for the Defense of Human Rights and Natural Resources of the Mazahua People. One year later, the Mazahua women took the lead of the movement, founding the Zapatista Army of Women in Defense of Water. From their unique social positions, they linked the gender, indigenous and environmental movements in the fight for the human right to safe drinking water. As a result, they got the Federal Government to negotiate their demands: clean water, monetary compensation and a plan for sustainable development in their communities. This presentation examines the intersection of human rights and the environment in this case. It also analyzes the effects of this social movement upon the Mazahua communities, the larger society and the political agenda, and how the fight for water affected the social and human capital within the community.

Thor Morante - A not-so-shiny El Dorado: The environmental and social depredation of illegal gold mining in the Peruvian Amazon
The most biodiverse region of Peru’s Amazon, Madre de Dios, is suffering the devastating effects of illegal gold mining. More than 32,000 hectares have already been deforested by an ever-increasing number of informal gold miners that today surpass 30,000. Thus, this presentation deals with the analysis of the causes and impacts of a problem that not only affects local biodiversity and pollutes the rivers with mercury —affecting the regions’ population health— but also generates child
trafficking and child prostitution, among other environmental and social conflicts. At the same time, its purpose is to get to the series of measures that the Government of Peru is performing to solve the diverse problems. These issues range from defined areas for the mining activity and formalization of the miners to alternative development projects and law enforcement, among others. By analyzing their effectiveness and emphasizing on the economical shortcomings of this governmental scope—regarding increasing international gold price which favours the continuation of this informality in comparison to the smaller economical benefits the proposed alternatives bring—, this presentation also deals with presenting viable economical solutions such as environmental services or favoured-by-the-State eco-tourism investment mechanisms as alternatives to consider to solve the problem.

**Erika Navarro Ang** - Evaluation of current policy instruments for the conservation of vaquita in the Upper Gulf of California

The vaquita (*Phocoena sinus*) is a porpoise endemic to the upper Gulf of California in Mexico, and is currently believed to be the most endangered marine mammal species in the world (estimation of 245 individuals in 2008). Bycatch in gillnets used in artisanal fishing techniques by local communities represent the major threat for the vaquita. The species is included in both Mexican and US legislation for endangered species, CITES Appendix I, and in the IUCN Red List. Conservation policy efforts started in 1993 by decreeing the Biosphere Reserve of the Upper Gulf of California and Colorado River Delta, followed by the setup of the International Committee for the Recovery of the Vaquita in 1997, and the establishment of the Area of Refuge for the Protection of Vaquita in 2005. Despite these achievements, vaquita population is rapidly declining.

This presentation evaluates applicable conservation policies at a local, regional (North America) and international level, with particular focus on the Mexican legislation and how it compares to other instruments in terms of specific actions and rigorousness. Actual implementation of each strategy is also contrasted. Finally, recommendations for the improvement of the effectiveness of vaquita conservation policies are provided.

**Emily Nilson** - Sustainability of Urban Transportation Policies

World population is expected to reach 9.3 billion by 2050, an increase of 2.3 billion from 2011. Much of that increase is expected to be absorbed into urban areas, which are expected to increase 2.6 billion to 6.3 billion in 2050. By 2050, about 67 per cent of the world’s population will be living in urban areas. This growth will be notable in developing countries, which are currently undergoing a transition from rural to urban economies.

In the advent of this urbanization crisis, much attention needs to be focused on making our existing cities more sustainable in order to absorb the impending population growth. Transportation is one of the main causes in air pollution in cities and vehicular emissions contribute significantly to greenhouse gas emissions into the
atmosphere. Any effective long-term urban sustainability plan will need to focus on policies and legislation to redesign current transportation options in our urban areas. This presentation will compare and contrast multiple sustainable transport case studies in urban centers. It will investigate the policies that brought about changes in public transportation, rapid bus transport, bicycle programs, vehicular volume reduction, and the overall urban transportation sector. It will compare and contrast these policies and examine efficiencies gained and emissions reductions.

**Benedict Omare - The role of the newly established Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services in mitigating biodiversity loss**

In response to the serious threat to human health and wellbeing caused by biodiversity loss as a result of habitat destruction, land conversion for agriculture and development, climate change, pollution, invasive species amongst others; governments established IPBES in Panama in 2012 to strengthen the science-policy interface on biodiversity, ecosystem services and long term human well-being. IPBES, said to be the IPCC of biodiversity, requires urgent, effective and long-term actions across sectors through active, accountable, equitable and transparent involvement of many stakeholders relevant to the multi-dimensional nature of biodiversity beyond the IPCC 1980s science-elitist approach exemplified by HLPE. The challenge faced by governance and policy in dealing with rapid biodiversity loss and constantly changing causes needs to redirect and accelerate these processes in a desired direction that requires long-term goal seeking governance strategies beyond existing routines, thought, and physical and intellectual barriers of individuals. This presentation will show how IPBES would fit within existing biodiversity related conventions to provide appropriate assessments supported by governments and suggest how it could engage with stakeholders to come up with shared strategies and long-term societal goals for the necessary fundamental changes at the individual, organizational, community and ultimately societal level.

**Umashree Pancholy - Sea Level Rise and Displacement: The Maldives**

Sea level rise has been recognized as the biggest threat to the future occupancy of the Maldivian Islands, which hold the possibility of being completely submerged with the current trends in rising sea levels. Global warming and its effect on sea level rise are being studied all over the world today but its implications are worst felt in the most vulnerable areas of small low lying islands states. The people of these states will have to abandon their country of origin to look for lands to settle on in other countries. As they migrate, they will face the crisis of being climate induced refugees and the transition will come with hardships. This presentation seeks to reflect on firstly, the legal status of climate refugees, and why there is a need to address the issue of having a legal status so urgently; secondly, about the legal rights and the protection measures for these environmentally displaced people, if they can maintain the identity of being one nation without really living in their nation’s
original geographical location; and thirdly, to understand long term legal issues with relocation and as to who is legally responsible for environmentally displaced people and put some workable suggestions to address the issue in the end.

Adjani Peralta - The social and environmental determinants of health for the Cowichan tribe in British Columbia, Canada: An integrated model of watershed-based integrated water resources management (IWRM) and ecohealth

Although researchers recognize the need to investigate the multifaceted relationships between human health and adverse environments, no current conceptual framework addresses both the temporal and spatial heterogeneity among communities, policy-makers and institutions. Previous management strategies are organized spatially around human institutions like cities and health municipalities, but disregard important ecological structures. Thus, the traditional model fails to connect health issues and ecosystems. A watershed-based integrated water resource management (IWRM) approach incorporates the social and ecological aspects of health into a common conceptual framework. IWRM identifies watersheds as the appropriate organizational unit to manage ecosystems, natural resources and health outcomes while ecohealth asserts that human health is both a cause and an effect of proper ecosystem management. The frameworks employ flexible policies that reduce ecosystems’ susceptibility to natural hazards, promote collaborative decision-making and establish sustainable ecosystem services. In Canada, climate shifts around the Cowichan Watershed affect the livelihoods, cultural practices, and health of the Cowichan tribe. The project investigates a flexible strategy to deal with flood and drought risks, improper sewage disposal, and water system violations on biodiversity and indigenous health. This case study analyzes an effective and feasible framework for community-based research and ecosystem management with IWRM and ecohealth.

Aaron Perry - Benefits and Barriers to Sustainable Building: Lessons from Greensburg, KS

The Leadership in Energy and Environmental Design, or LEED, certification is a rating system for ‘green’ buildings. Using LEED and other sustainable building practices can reduce energy and water use, leading to lower operating costs. For this reason, as well as the addition of government regulatory standards in some countries, the use to sustainable building practices has been increasing over the years. However there are still some practical, market, and institutional barriers to more widespread adoption of sustainable building practices. Crisis can provide an opportunity to overcome many of these barriers, as was the case with Greensburg, Kansas which, after being hit by a devastating tornado, was committed to rebuild into a green city. Looking at Greensburg and other sustainable building initiatives around the world allow us to find ways to overcome some of the barriers to sustainable development.
Martin Petrushevski - Ecolabeling: Environmentally Sustainable Consumption in Macedonia

Policies that encourage citizens to adopt environmentally friendly activities on a day-to-day basis are necessary to achieve sustainable solutions and adequate environmental protection. Given that many daily human activities occur in markets, making consumerism and production processes more eco-friendly would have a significant positive impact on the environment. Eco-labeling provides incentives for consumers and producers to engage in consistent environmentally friendly activities. It does so by providing information to consumers about consequences of their market activities, stimulating environmentally responsible consumption policies. In turn, this provides incentives for producers to engage in more sustainable production in order to remain competitive on the market leading to an overall positive impact on the wellbeing of the environment.

The need to implement sustainable products in the Macedonian market exists, and implementing one of the eco-labeling models used in some EU member states will help in resolving this issue. With so many products increasingly making green claims, it can be difficult to determine which system of eco-labeling to incorporate in the market system of Macedonia. The adopted eco-labels in Macedonia so far are for tourist accommodation quarters and eco-labeling of detergents. There is still no national eco-label for products from food and consumer goods, energy, business and clothing sectors. This presentation will explore the prospects of incorporating some of the working models in the European Union, such as the “EU Ecolabel” and “EU organic products label” from the European Commission, which are implementable on a voluntary basis. The Republic of Macedonia’s lack of administrative capacity, limited access to finance and a lack of environmental public awareness render the implementation of eco-labeling systems a great challenge in the future.

Dana Pop - Sustainability reporting and regulatory change

This presentation will focus on how sustainability reporting has developed over the past decades and how regulatory changes can contribute to both driving the private sector towards a more sustainable business model and reducing long-term risks for stakeholders. The presentation will commence by exposing the main drivers for sustainability reporting, namely the general public (customers), governments (regulations) and the investment industry. It will continue by discussing the pros and cons of both voluntary and mandatory reporting requirements and it will describe how recent studies have shown that the later can positively impact the performance of a company. Subsequently, it will focus on how regulations, and more explicitly stock exchange requirements, have initiated a shift away from the customary voluntary approach to sustainability reporting to a mandatory approach, based on the “report or explain” principle. The principle was acknowledged as a factor that underpins sustainable development in the Rio+20 outcome document, “The Future We Want”. The presentation will conclude by presenting a few examples of
Sustainable stock exchanges initiatives, such as the Johannesburg Stock Exchange and the BM&FBOVESPA and describe some of the challenges that lie ahead.

**Sergio Rejado Albaina - The common fisheries policy reform: A last opportunity for European fisheries?**

During the last few years, much has been debated about European fisheries: the precariousness of the stocks, the management regime, the discards, the excessive fishing capacity, the importance of the fish imports, etc. Whatever their point of view, all parties agree on one point: European fisheries are in a critical situation. Most stocks are currently either overexploited or exploited at the maximum level, mainly as a consequence of the present allocation system for fishing opportunities: the annual catch quotas based on historical fishing rights.

In December 2012, a reformed Common Fisheries Policy is due to be approved. Negotiations have been ongoing since July 2011, and the subsequent strong debate has revolved around two main points: the discard ban and the transition from the annual catch quota system to new long-term management plans, in the political framework of the co-decision system. This presentation will give a deeper insight on these two main issues and their current negotiation status and most plausible results. Finally, it will provide an overview on how the new Policy is expected to affect the future of European fisheries.

**María del Pilar Restrepo Orjuela - Transition from armed conflict to peace in Colombia: Dynamics of land tenure**

Since October 2012, Colombia has embarked upon one of the most important processes in its history by launching peace dialogues with the major guerrilla group FARC. This process is expected to start the transition from war to peace, ending an armed conflict that started in 1964. An important part of this process will involve a significant transition in land tenure issues based on the introduction of the Land Restitution Act that seeks to return ownership of these lands, from FARC to the families that were displaced. In the period 1993-2000 the displaced families left a total of 4 million hectares. It is estimated that between 1999-2003, the cost of lost productivity to displaced families was US$8.2 billion. During the conflict, FARC had illegally appropriated land for coca cultivation and engaged in money laundering related to the production of natural resources such as oil, gold, banana and oil palm crops. In 2006, guerrilla obtained US$67 million from the cocaine market in an area of 488 hectares. This presentation seeks to explore the relationship between the Land Restitution Act and the dynamics of land tenure in which coca cultivation generates seven times more income than any other agricultural product.

**Saurabh Saraf - Shale gas “revolution” in Poland**

Poland’s interests in shale gas exploitation are linked to energy security, reducing carbon emissions and generating revenue streams for the Government. At the moment over 50% of energy needs of the country are met from coal and around two-thirds of the natural gas is imported from Russia. At the same time, the US Energy Information Administration estimates that it has the largest reserves of Shale gas in Europe. To promote renewables, the Government has set a national target of
15% as a share of renewable sources in gross final consumption by 2020. In order to reduce uncertainty and foster investments in the shale gas sector Poland has proposed a new taxation & royalty regime that would cap taxes at 40% of profits and has re-directed some R&D funding from renewable’s to shale gas.

This presentation aims at understanding the policy considerations that Poland would need to make with regard to its shale gas strategy. It compares shale gas with other energy options such as renewable sources, thermal power and imported gas across institutional, environmental and economical aspects as well as policy feasibility.

**Jonathan Shawyer - Wildlife management in South Sudan**

South Sudan’s wildlife management faces a steep learning curve to install effective protocols to take stock of current natural capital and to set future goals. The elected government indicated in 2006 that it would seek to do everything it could to protect and propagate its flora and fauna. Key biologically diverse habitats are severely threatened and to avert severe biological losses the resource extraction and infrastructure construction sectors must integrate conservation objectives, policies, and management planning. This presentation explores the opportunity to align new instruments of wildlife governance with efforts are most successful regionally in the landscape of: land concessions, sparse pastoral human populations and key mega fauna migratory routes (white-eared kob and topi).

Expertise from non-governmental organizations is part of a solution to bridge knowledge gaps but those in this field in South Sudan are well placed to guide new policymaking. It is beneficial that little research on wildlife policy effectiveness exists: it gives a chance for clarity in purpose and future accountability without bureaucratic restraints and dilution of purpose from having too many stakeholders. A culturally and academically sensitive approach is most likely to succeed, taking account of the goals of business, humanitarian concerns and politics at regional levels. Nationally, stability of borders and binding oil agreements with Sudan seem to be largely achieved but a return to larger numbers of tourists enjoying the second most spectacular migration in Africa is a medium term goal with accessibility and standard setting being two key stumbling blocks.

**Masahiro Suzuki – Post-Fukushima Japan: Looking towards a Non-Nuclear Future?**

*(See page 8, “Ariel Drehobl, Masahiro Suzuki - Post-Fukushima Japan: Looking towards a Non-Nuclear Future?”)*

**Katrin Tomova - Moving towards sustainable agriculture: Lessons to learn**

As the world population continues to grow, the problem with feeding this population is becoming bigger and bigger. Therefore, producing food in environmentally sustainable ways will be one of the key challenges we will face in the future. Many European and international regimes, such as the Rio Summit, the Single European Act, the Common Agricultural Policy (CAP) and others, recognize the need to integrate environmental concerns into agricultural policies and agree that the
transition towards sustainable agriculture is fundamental, regarding the food crisis we are facing today. Yet, so far, the policies applied have not been effective enough. Often, it is assumed that Europe is at the cutting edge of environmental policies, but in some ways the multi-country governance structure slows things down so it become more about producing policies on paper than actually making changes on the ground. Meanwhile, for some developing countries, such as Cuba agriculture is the sector that has the potential to transcend from being a problem to becoming the solution for food insecurity. Consequently, through analyzing and comparing the difference in policies, state supported and alternative practices, this presentation will observe the lessons that EU can learn from the experience that some developing countries have in terms of agriculture.

Orsolya Ujj - Responsibility: Our duty to respond

Our current ecological crisis, like any major crisis, is at the deep root a philosophical problem because it is connected with the very basic questions of philosophical thinking: our conception on human existence and ethical considerations. First, the recent transformation of the nature of human activities has broadened and increased our responsibility and has led to a definitive turn in our ethical considerations. Contrary to certain understandings, responsibility is not a simple token of obligations restricted to the individual but rather a characteristic of interpersonal relations. Ecological philosophy reassigns the emphasis of responsibility from a formal scant catalogue of individual tasks and duties to interpersonal relations. On the grounds of these truly humanistic foundations, humans—endowed with increased power, in the current society of production, of interwoven networks, of impersonal social and economic mechanisms of bureaucracy, with the fitting vehicles of global communication systems—are not capable to control or influence the results of their actions. Man is not aware of who is affected by his actions; notwithstanding, he is incapable to review all the temporal and spatial consequences. This presentation will outline the current basic dilemmas of responsibility, what the increased responsibility of ours entails, and give a critique of the revolving concept of collective responsibility on the ground that it only causes chaos in the subject, direction and promissory of responsibility.

Maria Van Veldhuizen- Food security in Pacific atoll states: Threats and policy responses

Achieving food security in Pacific atoll states has always posed an immense challenge. Existing obstacles and threats such as the islands’ lack of (fertile) land, remoteness, dependence on rain for freshwater, vulnerability to extreme weather events and high population density are expected to be exacerbated in the near future by both climate change and population growth. Another problem is the disinterest of the people in growing crops, caused by the fact that it is hard work that generates relatively little income. This presentation will attempt to answer two questions: why is this decrease in agriculture perceived to be a problem, and how successfully are atoll state governments at attempting to turn the tide?
Island governments try to achieve food security for a number of reasons, including the wish to reduce the trade deficit and the poor quality of imported foods and the consequent detrimental impact on the health of pacific island populations. Proposed policy responses to these problems consist primarily of promoting subsistence agriculture among populations, recording and disseminating traditional knowledge and plant species from different islands, decentralising government institutes dealing with agriculture to better reach the outer islands and developing more resilient and varied crop species. Up until now most of these strategies appear to be still in the planning phase.

In international development plans, such as the National Adaptation Plans of Action prepared by LDCs for the GEF, the importance of the agricultural sector is frequently exaggerated, as is the role of climate change as a threat.

**Snejana Vladimirova- The effect of Chernobyl on international nuclear legislation**

The Chernobyl catastrophe occurred on April 26th 1986 in the Chernobyl Nuclear power plant near the city of Pripyat, Ukraine (then part of the Soviet Union). The reason for the accident was a mismanaged safety experiment. The consequences were of major economic, social and environmental cost. Chernobyl crisis triggered an immediate international reaction on reforming the current legislative status. Only a few months after the catastrophe, two of to-date's most important conventions in the field (Early notification of a Nuclear Accident and the Assistance Convention) were adopted. In the following years some new conventions were created, as well as major improvements were made to several already existing ones. One of them - the Nuclear Safety Convention (1994) was a milestone in global nuclear law. This major restructuring of international legislation transformed previously non-binding and somewhat vague customary norms into articulate binding agreements.

This presentation demonstrates case studies of different national politics in regard to nuclear energy that drastically changed as a result of the Chernobyl catastrophe. It further examines the evolution of the ideas and concepts in international nuclear law, as well as the shift in the attitude and preparedness for co-operation of both nuclear and non-nuclear countries after the accident. It analyses the motives behind some key features of the newly created or amended documents.

**Jing Wang- Prevention and cure of heavy metal pollution in China**

Many severe heavy metal pollution accidents have emerged in China in recent years. The crisis negatively influences not only the natural environmental resources including air, water and soil, but also human life probably for hundreds of years. The Chinese government has formulated relevant regulations and laws to prevent and respond to the crisis. However, there are still loopholes and gaps in the specified regulations, standards and laws on heavy metal pollution. Since little research has been conducted so far on Chinese heavy metal pollution policies, this presentation will analyze the strength and weakness of the current
Chinese environmental regulations, standards and laws on heavy metal pollution to see how China could improve in the future and develop a long-term, sustainable approach to solving the crisis.

Cases of pollution by different heavy metals (such as Pb, As, Cd, Cr) that have occurred since 2000 in China will be used to illustrate the weakness in current laws and policy in this paper. The successful experience of other countries or areas, esp. the developed ones like Japan, European Union, United States will also be studied as possible reference points for improving Chinese laws and policy in this field.

**Sandra Wessman - International policy frameworks for unexplored gas and oil reserves in the Arctic**

This presentation examines the current drive to exploit oil and gas resources in the Arctic, and analyzes the policy and legal frameworks within which this is occurring. The Arctic region has roughly 90 billion barrels of undiscovered, technically recoverable oil, 1,670 trillion cubic feet of technically recoverable natural gas, and 44 billion barrels of technically recoverable natural gas liquids. Because of ice melting in the region and advances in engineering expertise the race to start oil and gas extraction has accelerated. Canada, Norway, Russia, Greenland and the U.S are the countries that have territorial claims in the region. All parties have signed licenses for companies to start exploring their territory. As Norway and Russia have NOCs (National Oil Companies) they will use these in joint ventures whereas the other countries have signed licenses to IOCs (International Oil Companies). This presentation will argue that the existing policy framework to protect these areas from an environmental perspective is inadequate. Furthermore, this presentation will argue that there is a need for an international regime to prevent a potential crisis from happening in the region due to oil and gas exploration. Such a governance regime must have appropriate institutions for the special needs of the region. I argue that the Arctic Council would be a preferable option to govern such a regime because it already has legitimacy among actors in the region. This regime should distinguish responsibility and accountability among the parties involved. The most difficult task, according to my argument will be the ability of the regime to create trust and cooperation among the parties involved: NOCs, IOCs, civil society, local communities and the different states, which all have competing claims.

**Heleana Zambonino - Main trends of adaptive management policy making focused on climate change in Latin America**

The United Nations Framework Convention on Climate Change describes shifts of climate as a phenomenon “attributed directly or indirectly to human activities”. Climate around the Earth is changing, and the average temperatures are subject to anomalies on typical patterns. Therefore, consequences and environmental impacts are burden globally. As answer to these changes, adaptation towards climate change is conceived as how human systems should react to climate variability effects on tolerable levels without threatening mid-term and long-term beneficial development
opportunities. Thus, policy-making processes should respond with accurate approach that helps reducing the risks of adverse effects.

An adaptive management approach is necessary to manage the uncertainties than may appear. Constructive processes that contextualize the social, economical and ecological settings on policy decisions need to be implemented. Likewise, natural resource management is priority when policy fits the agenda set by local and regional governments, according to economic growth interests. Furthermore, knowledge gaps are subject to be filled by right allocation of funds to research about how to mitigate the risks that climate change may bring down to population promoting the implementation of adaptation measures to climate variability. Thus, this presentation will focus on how adaptive management approach is being carried towards forestry management of tropical rainforest in Latin America and the principal trends of adaptive management policy-making focused on climate change.

Haiya Zhang - What’s for dinner: Tibetan Yak Mozzarella

While the economy is flourishing on the east coast of China, western China is left behind. Many ethnic minority communities are forced out of their traditional livelihood. The Tibetan village Langdu is no exception. Traditionally producers of Tibetan dairy product, Langdu Tibetans are facing the fate of leaving home and working as migrant workers. In order to address this crisis, a few local villagers established a yak cheese factory with help from two international NGOs. Experts from Wisconsin, USA, were brought to the village to help and making yak mozzarella and yak cheddar, which are then marketed to high-end shops abroad. Revenue goes back to the community in Langdu.

This presentation will explore the implications of the locally produced and globally marketed yak cheese industry. Changes may affect the cultural function and significance of cheese in the community. The cheese factory helps the community to strive economically, and demonstrates a unique example as how a marginalized economy could turn the table around and adapt to the globalized market.