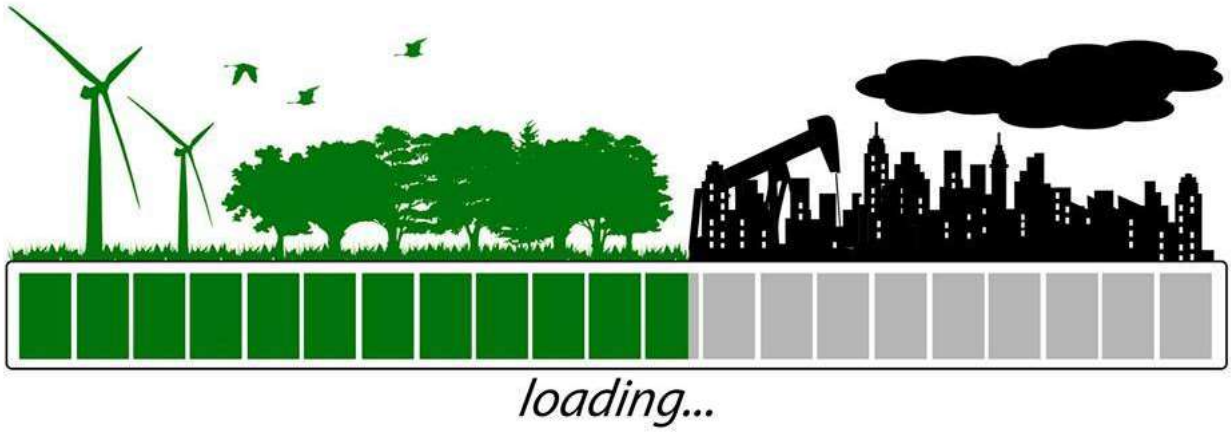
CEU CENTRAL EUROPEAN UNIVERSITY

Department of Environmental Sciences and Policy

P R E S E N T S

# The Intersection of Crisis and Transition: Sustainability in the Age of the Sustainable Development Goals

The 9th Environmental Policy, Society and Law Module Student Conference



## Introduction and Acknowledgements

Over the past four months, 42 people coming from 42 different backgrounds gathered in Budapest to discuss and learn about a variety of environmental issues. These months were full of challenges, learning opportunities, and intense class discussions. We were all able to gain knowledge from our professors and classmates, and share the knowledge we already had with the same people. This conference represents the fruit of all the learning that we have done so far. Today, some of us will present on topics that we already loved and were passionate about, while others will present on topics that they just learned about in the past few months. Either way, every one of us presenting today has worked hard all semester long to get to this point, and today is the conclusion of that work.

I would like to thank professor Alexios Antypas for his guidance throughout our work on this conference, as well as all the professors who have mentored and advised students as they worked on these presentations. Special thanks to our amazing coordinators Gyorgyi Puruczky, and Kriszta Szabados.

Lastly, the biggest thank you to the members of the organizing committee, Carly and Sahar who took care of catering, Caroline, Tieza and Kevin who took care of marketing and outreach, and Jackie, Jelena and Julie who took care of planning the conference day, and making this beautiful booklet and the accompanying agenda.

*Thank you*
*Hadil J.S. Ayoub*
*Organizing Committee Chair*

## ROOM N15 101


### Role of Policy in DISASTER RISK REDUCTION: a Case Study in NEPAL

*Rituparna Majumdar*

Disaster loss is on the rise with the grave consequences of survival, dignity and livelihood. With climate change and growing world disaster risk is increasingly posing threat to us. This, then compounded by the vulnerabilities and exposure of people to hazard prone areas, socio-economic condition, poorly planned or unplanned urbanization. Disaster risk reduction is founded on the belief that whilst natural hazards are inevitable, the suffering and loss of life associated with them is not. There is now international acknowledgement that disaster risks must be systematically integrated into policies, plan and programme for sustainable development. The importance of promoting disaster risk reduction efforts on the international and regional levels as well as the national and local levels has been recognized in the past few years in a number of key multilateral framework and declaration. The Yokohama strategy for a safer world was adopted in 1994. It provided landmark guidance on reducing disaster risk and the impacts of disasters. The world conference for disaster risk reduction or the Hyogo framework for action, 2005 provided a unique opportunity to promote a strategic and systematic approach to mitigate vulnerabilities to risk and hazards. Recently, the Sendai framework for disaster risk reduction, 2015 brings the political will and the scientific input together to mitigate the risks of disasters.

Bringing a case study of Nepal earthquake, 2015 I will focus on role of policies on the path of risk to resilience.

## Towards the Implementation of the Paris Agreement: Learning from the success of the Montreal Protocol

*Nacanieli Bolo Speigth*

The Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal Protocol) entered into force in 1987 and substantially amended in 1990 (London), 1992 (Copenhagen), 1995 (Vienna), 1997 (Montreal), 1999 (Beijing) and 2016 (Kigali). It was designed to eradicate the production and consumption of ozone depleting substances. By most account, the Montreal Protocol is a success story for its effective and successful approach to addressing stratospheric ozone depletion. Climate change and ozone depletion have a lot of similarities driving replication efforts. Attempts have been made in the Kyoto Protocol following the approach applied by the ozone regime to curb greenhouse gas emissions but it did not yield the same successful outcome. As states transit into the implementation of the much celebrated Paris Agreement to address the climate crisis, much is still to be learned from the success of the Ozone regime despite Kyoto. Based mostly on literature review, this paper examines why Kyoto Protocol was a failed attempt and how the Paris Agreement can still consider some of the lessons learnt from the Montreal Protocol to ensure its effective implementation globally. This includes the application of the principle of common but differentiated responsibility engaging developing countries in the emission reduction scheme, scientific cooperation and consensus at all levels, flexibility in compliance mechanisms and matters relating to technology transfer. The paper concludes with recognition of the continued challenge of collaboration in both regimes that requires strong political leadership.

## From Copenhagen to Paris: Why Copenhagen was a failure and Paris is a success

*Jelena Zigic*

"Copenhagen is a failure" which is generally stated when 2009 Copenhagen climate accord is brought up. Today, in 2016, when the Paris agreement is already accepted, Copenhagen has to be (re)viewed from a different point of view. It should not be questioned anymore why it did not succeed, rather it should be stated that the Copenhagen was a tipping point and a basis for the change in the global climate politics. From the Copenhagen in 2009 until the Paris in 2015 significant changes in the global climate politics were established. One of the biggest changes was brought up in 2011 with the Durban platform which founded statement that a climate agreement has to be "applicable to all Parties". Annex 1. and Non-Annex 1. from the Kyoto Protocol were questioned as a basis of the future climate agreements. Historical heritage in emissions and pollution, as well as current development ratio of the countries, were intersected with the issue of the common but differentiated responsibilities (CBDR). Therefore, climate change issues needed an ambitious, effective and durable plan that had to be both strong and flexible. Accordingly, Paris agreement was adopted as an answer. Nevertheless, is the Paris agreement mere a stand-alone success or is the progress achieved by it actually based on the Copenhagen accord and what happened afterwards?

## CITES and Illegal Pet Trade: Case Study of Barbary Macaques (Macaca sylvanus)

*Luna Milatovic*

The illegal wildlife trade is the 4th most lucrative illegal market in the world, surpassed only by trade in drugs, counterfeit goods, and human trafficking. Despite the signing of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in March 1973, the number of illegal trade transactions has increased by over a million and is estimated to be billions of dollars. Although the Convention has led to the protection of over 35,000 plants and animals, the illegal trade market still operates globally and CITES is confounded by numerous challenges in its ability to operate across transnational boundaries. Further, as recently as 2015, the UNDP included the fight against the illegal trafficking of protected animals as part of its sustainable development goals (SDGs). The need for CITES and its parties to build on its perceived success on the ability to meet this key SDG is vital to protecting global biodiversity. I identify key aspects of CITES, its links with the SDGs, and the importance of combating the global illegal pet trade market. I utilize the Barbary macaque (Macaca sylvanus), classified as 'endangered' since 2009 by the IUCN, as a case since it is the most seized CITES mammal in the EU, accounting for almost 25% of live mammal related seizures. It is the only primate found in North Africa and two thirds of the increasingly declining and fragmented population is restricted to the Middle Atlas Mountains, Morocco. This species serves as an example of the ease in which the illegal pet trade continues to operate in one of the most developed, and restricted, economies.

N15 101

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|---|---|
| 11:30 | WASTE |
| 11:30 | Besieged by Waste: Why Municipal Waste Classification Doesn't Work in China?<br>Yifei Zhao |
| 11:45 | Inefficient Solid Waste Management Systems: The Case of Poor Governance and Irresponsible Social Practices in Lebanon<br>Alice Al Baghdadi |
| 12:15 | Crisis in the island of Enchantment: the AES Coal Ash Waste Depositing Predicament<br>Bryan A. Vicente-Ortiz |
| 12:30 | The Strategy Behind a Waste(d) Opportunity: Going Beyond the EU Waste Directive<br>Antoine Lucic |
| 12:45 | Q&A |

## Besieged by waste: why waste classification doesn't work in China?

*Yifei Zhao*

With 750 million urban populations, 668 cities, more than 200 million tonners' municipal solid waste (MSW) being produced annually, China has become the world's largest waste generator and facing with unprecedented challenges in MSW management. Urbanization, population growth and industrialization are the three key factors behind the large magnitude of increasing waste generation in China. Compared with its rapidly developing economy, China's MSW management status is not as optimistic. Around 91% of the MSW being collected are landfilled, with more than half of them being illegally landfilled around the cities without any treatment. This has caused serious environmental pollutions and lead to the crisis that one third of the country's cities are facing: besieged by waste. Are there any solutions to save the cities from being besieged by waste? The most efficient and environmental-friendly one in the long-term is MSW classification and recycling. In 2000, Chinese government came up with the policy on MSW classification, now sixteen years has been past from the first conduction of MSW classification policy, yet there is no significant change happened in MSW management in the country. Why waste classification has never been really successful in China? Lack of market stimulation, public participation and gaps between central and local governments policy implementation are some of the main reasons. By giving insights to the social-political implementations of the MSW classification practices, this study tries to answer the question: why municipal waste classification doesn't work in china?

## Inefficient Solid Waste Management Systems: The Case of Poor Governance and Irresponsible Social Practices in Lebanon

*Alice Al Baghdadi*

Lebanon has been experiencing a municipal solid waste (MSW) management crisis since summer 2015. Following the closure of the main landfill site for Beirut and Mount Lebanon (BML) region without providing an alternative, the streets of the capital and its neighborhood were choking with piles of uncollected rotting waste. Neither does the country have a national MSW management strategy nor an effective legislative framework, and it is heavily burdened by corruption and sectarianism. Moreover, population growth, increased consumption and citizens' irresponsible practices in waste generation and management intensified the problem. Under the emergency plan of 1996, a private company was granted monopoly over the collection and treatment of BML waste and a temporary landfill was approved as part of the plan. During its 18 years of service, the landfill received thrice the amount it was designed for. The closure deadlines were always deferred with continuous extension of the company's mysterious contract until July 2015 when the landfill was shut for good. Besides waste, residents and activists filled the streets of Beirut Central District inveighing the government incompetency and failure to address the waste crisis. Despite their achievements in rebelling against some suggested solutions, the formulated movements could not unify their agendas and started losing public support which empowered political parties in alliance. Onto 2016, the cabinet decided on a four-year plan which only keeps the SWM crisis status quo with no agreement on long-term effective solutions. The incapacity of the government to find a sustainable solution puts the health of the environment and individuals at stake especially with an expected come-back of the crisis in 2018. In light of the escalating Syrian conflict and the influx of refugees into Lebanon, increasing the population by one-third, more pressure is being exerted on the already weak infrastructure and public services. A question of injustice is inevitable as drastic impacts on the environment will compromise the livelihoods of the current and future population.

## Crisis in the island of Enchantment: the AES Coal Ash Waste Depositing Predicament

*Bryan A. Vicente-Ortiz*

The multinational (Applied Energy Services) AES Corporation came to the commonwealth of Puerto Rico with the aim of establishing electricity generating plants in the island. The company's power plants started functioning in November of 2002. Presently, producing about 15% of the electricity generated in Puerto Rico. But, along with that goal, an environmental problem arose. The power plants have been producing an exuberant amount of the by-product, coal ash. For years, the company issued that the waste wasn't toxic and could be used for landfilling and as material for road construction, as an aggregated product named "Agremax", as well as being deposited in vacant areas around the island. They based their argument on the Environmental Protection Agency (EPA) that classifies coal ash as a non-hazardous waste. NGOs protested and demanded chemical analysis on the waste. The EPA complied and revealed high levels of the toxic metals, Arsenic and Chromium, within the waste. Still, even with these results, the agency has not classified the AES coal ash waste as a hazardous waste. This is not the first time that AES has deposited waste near communities. During 2003-2004, they deposited the waste in a community in Dominican Republic, resulting in health and environmental impacts afflicting the residents and the surroundings. Currently, the AES is pushing to deposit their waste near low-income communities in Puerto Rico, which has alarmed the residents. The residents want the company to

stop the coal ash depositing, a plea for their human rights, and the waste to be sent to a hazardous waste landfill. All this happening, while the local government remains static and overlooks potential alternatives to address the waste management crisis.

## The Strategy Behind a Waste(d) Opportunity: Going Beyond the EU Waste Directive

*Antoine Lucic*

With the growing momentum around Serbia's prospect of joining the European Union, the country must recognize the inherent link between the use of resources and waste management. Although the EU's Waste Directive serves as the backbone of Serbia's national strategy, its authorities should not rest upon the directive as a means to compliment a business-as-usual scenario. As a predicament of the low commitments Serbia has agreed to under the UNFCCC's Intended National Determined Contributions, political will remains a challenge in both achieving and going beyond expected EU harmonization goals. Pilot projects, such as the SWIFT initiative which coupled the economic and social empowerment of marginalized communities, exemplify a circular economic model that focuses on reducing the environmental costs attributed to waste through the means of repairing, reusing and recycling. The important innovations that have occurred in the waste management sector, coupled with greater collaboration among stakeholders could help Serbia buffer against the growing equity challenges faced across Europe. However, evidence of a growing political elite endangers the social, economic and environmental fabric of the region. In relation to the themes of this conference, Crisis and Transitions, this work will explore the intricacies of the EU and Serbian waste strategies, as well as their challenges and opportunities.

N15 101

| | ENERGY |
|---|---|
| 14:15 | England & Scotland: Low Carbon Energy Transitions<br>Robin Mace-Snaith |
| 14:30 | An assessment of the EU's biofuel policy: what should be the way forward?<br>Szabolcs Vágvölgyi |
| 14:45 | Decoupling as a way of driving the green growth discourse - an example of Sweden<br>Caroline Heinz |
| 15:00 | Drivers and obstacles of developing renewable energy in Kazakhstan<br>Yerzatkhan Ablaikhanov |
| 15:15 | The Trade-Off Between Food Security and Energy Security: Biofuel Production in Ghana<br>Saada Amadu |
| 15:30 | Q&A |

## England & Scotland: Low Carbon Energy Transitions

*Robin Mace-Snaith*

The UK is an island with relatively little natural resources and has one of the highest population densities in the world, placing intense pressure on energy security. Historically the UK has been a world leader in energy technologies such as steam engines. It has transitioned itself from an industrial economy based on coal to one of the first countries to generate consumable electricity from nuclear power. At present, the country must meet the targets set out in its Climate Change Act 2008 of an 80% reduction in greenhouse gas emissions by 2050 and the even bigger commitments it made by ratifying the Paris Agreement. This requires a rapid transition to a low carbon economy. In the run up to Paris the government pledged to close all coal-fired power stations by 2025. The government now finds itself distracted with the Brexit negotiations and as such the chancellor omitted much of the promised discussion on energy from his autumn statement. This has brought about great concerns over the uncertainty of UK energy policy and highlighted the potential for a huge energy gap in the UK, leading to headlines of 'when will the lights go out'. Meeting the energy demand that will come about from closing all UK coal power plants presents a difficult challenge as coal still represented approximately 26% of the UK energy mix in 2015 and UK North Sea gas nears depletion. I will investigate this potential energy crisis and demonstrate how two different paths are being taken by Scotland versus the rest of the UK, in moving to low carbon energy sources and ensuring the 'lights don't go out'.

## An assessment of the EU's biofuel policy: what should be the way forward?

*Szabolcs Vágvölgyi*

Just as in other aspects of the fight against climate change, the EU put the decarbonisation of its transport sector early on the agenda as well. The first attempt in doing so though now appears to be a dead end: in light of the recently published 'Winter Package' the EU is planning to phase out first generation biofuels so that second and third generations can step up and fill the gap until

large scale rollout of EVs and other alternative means of mobility. Second and third generation biofuels, however, have not demonstrated so far tangible outcomes in terms economic and large scale production and consumption, which begs the question: what should be the way forward for the EU's biofuel policy? In answering the question, the past practices and potential future pathways of EU biofuel policy is analysed using secondary literature sources. The research reviews problems and issues identified with first generation biofuels, then argues that just as any policy instrument, dynamic mechanisms should be adopted that recognize the changing environments in which biofuels, and in fact any alternative sources of fuel compete against fossil sources of energy. Based on recent EU publications, some first generation biofuel feedstocks have the capacity to cut GHG emissions by more than 50% (iLUC included), whilst the global carbon footprint of the oil sector is expected to rise, with more non-conventional sources to be produced than ever before.

## Decoupling as a way of driving the green growth discourse - an example of Sweden

*Caroline Heinz*

The discourse of green growth has been able to attract a lot of consensus within the business, industrial and political world. Looking at one of the mechanisms it puts forward, decoupling implies the possibility of separating economic growth from ecological harm. Often put in the context of a reduction of energy intensity several international organisations have confirmed first successful cases. Thereby, Sweden is often celebrated as a leading example of how an energy transition can go hand in hand with a stable revenue related to GDP. However, while various documents emphasise the success of green growth, the question raised by the presentation is if the use of decoupling to strengthen the green growth discourse is used in a too simplistic way?
Therefore, the presentation will investigate various examples of decoupling in order to draw out some of the flaws in the measurements of its effects and to challenge the overall discourse of green growth. The analysis then looks at Sweden, as a case that supposedly achieves the goals of successful decoupling. The discourse suggests that the main benefits of this should be attributed to the implementation of carbon taxes and the use of clean technologies. However, when depicting the various elements, it becomes clear that the consumption logic of displaced emissions is only moderately considered. Consequently, the analysis argues for the consideration of a consumption based accounting, which suggests that decoupling has often come at the expense of increased emissions elsewhere and thus a net growth in global greenhouse gas emissions.

## Drivers and obstacles of developing renewable energy in Kazakhstan

*Yerzatkhan Ablaikhanov*

This presentation covers main divers and obstacles of developing renewable energy in Kazakhstan. About 50 percent of Kazakhstan's territory has an estimated average wind speed of about 4-5 m/s with the overall wind potential estimated at around 18,000 GWh per year. The southern regions of Kazakhstan could provide as much as 2,500 to 3,000 hours of sunshine each year. But nowadays the main source of energy in Kazakhstan is domestic fuel that has a negative impact on the environment. That is why the development of renewable energy is important in terms of environmental protection now and for the future. The research was conducted in three different areas of development: techno-economic, socio-technical, and political aspects. These methods help us with totally overviewing an energy sector of country and with finding answers to our questions. Economic situations, technological capability, national programs of developing in given country as well as country's participation in international policy were taken into account. As a

result of this study it can be concluded that the main driver of developing renewable energy in Kazakhstan is a place in international arena which this country wants to take. And the main obstacle is that economy of this country lower than necessary.

## The Trade-Off Between Food Security and Energy Security: Biofuel Production in Ghana

*Saada Amadu*

As the potential consequences of climate change become prevalent, production of biofuels are considered a safer alternative to reduce our ecological footprint. Biomass accounts for approximately 64% of Ghana's primary energy supply; Large-scale biofuel production facilities started appearing all across the country in 2008. Production of liquefied biofuels is a concern for many developing countries and it is particularly worrying for a country such as Ghana which has over 5% of its population considered to be food insecure. These large-scale biofuel plantations are built on so-called marginal lands. Considering the fact that the agricultural sector employs 55% of the economically active population and accounts for 34% of the GDP of Ghana, these plantations have raised concerns among various civil society organizations in the country. The push for alternative and cleaner energy sources has led to dramatic increase of biofuel production at the expense of food crops. In the case of Ghana, arguments have been made for production of, Jatropha, a second-generation biofuel energy source. The government of Ghana and private companies are encouraging farmers to cultivate Jatropha because the plant is not a food crop and it is also drought resistant. This presentation will discuss the socio-economic impacts of large-scale biofuel production, especially Jatropha, on the livelihoods of the locals living near the plantations. The presentation will focus on land grabbing and food security on one side and biofuel production on the other side. Considering the impact of large-scale biofuel production on local livelihoods is mostly negative, a policy recommendation which will ensure sustainable production of biofuels as well as provide and support local livelihoods, will be presented.

## ROOM N15 106

N15 106

| | POLICY IMPLEMENTATION |
|---|---|
| 9:45 | Understanding India's Dairy Sector and its Present and Future Challenges<br>Jacqueline Moore |
| 10:00 | Enhancing Climate Resiliency in vulnerable ASEAN Member Economies through Energy-Water-Agriculture Nexus: Summons of a Mekong Rising<br>Tieza Mica Santos |
| 10:15 | Shortcomings in Implementation of Environmental Acts in India<br>Shushant Vashisth |
| 10:30 | Global Governance of Ocean Acidification<br>Gáspár Békés |
| 10:45 | Q&A |

### Understanding India's Dairy Sector and its Present and Future Challenges

*Jacqueline Moore*

The United States and India are number one and two at milk production but their production functions look completely opposite of eachother. The United States produces at a surplus with millions of gallons wasted each month. They have a fraction of India's cows but produce just as much. India has been producing to meet current demand and has little extra for export as it is one of the least dairy exporting countries in Asia and has strict dairy import regulations (Dairy Asia 2016). Fortunately for India, they are meeting demand with low technological capital. They receive half the volume of milk per lactation as the global average, while cows in the United States are about 10 times more productive than Indian dairy cows (Dairy Moos 2013). India's undernourishment stands at 15% today, its lowest in at least 25 years, as many rely on milk products for calcium, proteins and fats (World Bank 2016). In fact, the poorest milk producing households consume four times that of non-producing households with other dietary intakes less multiplied, suggesting that milk has been an important commodity for public health. Dairying is an important source of family income with relatively inexpensive inputs. Leftover crops are used as feed and it is a less seasonally impacted source of funds compared to produce and cereals. When times are hard, the family can sell the assets. There are 70 million involved in dairy creation and most are essentially landless, at 70%, and own 2-4 animals. Low quality feed, lack of availability for public credit, management practices and bans on more efficient cross breeding have limited lactation as well as low market prices for milk limiting farmers attempts to scale. These challenges need to be met to increase production due to urbanization, population increases, and a greater demand for animal products.

## Enhancing Climate Resiliency in vulnerable ASEAN Member Economies through Energy-Water-Agriculture Nexus: Summons of a Mekong Rising

*Tieza Mica Santos*

Majority of the climate vulnerable ASEAN member economies are re-evaluating their approach towards risks and resiliency, through integrated policy and governance. Specifically, member economies along the Mekong River System, in an effort to enhance climate resiliency, are facilitating cooperative measures to address transboundary issues over key resources: water, energy, and agriculture. Central to policy and governance of resources are the concepts of limits and competition, which serve as the key conflict in the discourse. While multi-stakeholder collaboration is proven to be effective, environmental crises are no longer constrained locally, but is now increasingly transboundary in nature, going beyond traditional security discourse. Governance and policy challenges should no longer be discipline-based and sector-specific. The study intends to examine how the Water-Energy-Agriculture Nexus framework can shape integrated governance options and redefine climate resiliency perspective. Studies show a complex intersection of the three systems as made apparent in the case of the Mekong ecosystem. According to the Food and Agriculture Organization (FAO) of the United Nations, "The Water-Energy-Food Nexus describes the complex and inter-related nature of our global resources systems" (FAO 2014, 3). Anchoring policy and governance initiatives to the nexus approach will require greater cooperation, tighter political commitments among key actors, and facilitated departure from the silo-thinking through synergy-building and integration.

## Shortcomings in Implementation of Environmental Acts in India

*Shushant Vashisth*

India, as on May 2016, is the second most populous country in the world with a population of 1.3 billion (Worldometers, 2016), growing at a rapid rate. Most cities of India grew around rivers or other water sources. With increase in population, need of natural resources like water also increased; creating strain on water resources. To combat this issue acts and policies with clear goals, strategic planning and implementation framework needs to be in place. Two such acts to save water resources are Water (Prevention and Control of Pollution) Act, enacted in 1974 for prevention and control of pollution of water and The Water (Prevention and Control of Pollution) Cess Act, enacted in 1977, for collection of revenues and tax on water consumed by person or industries. However, these acts are not proving fruitful to control pollution of river Ganga - a river considered sacred by Hindus, serving an estimated about 500 million people (Emily Wax, 2007). River Ganga serves nearly 40% of Indian population and receives 2900 million litres of sewage on a daily basis (Hindustan Times, 2015) because of various human activities like bathing, washing clothes, bathing of animals, various industrial wastes etc. Various schemes and projects have been taken up by the government since 1985, to curb this major problem. Billions of dollars of money has been pumped in, but in vain, without getting any positive result since last 30 years. Cleaning of river Ganga, has an important place in every government's agenda but none have been able to achieve success in this field. This case study tries to emphasize on various loopholes and shortcomings in these schemes and projects built up till date. I would like to emphasize on role of institutions to handle the present crisis situation, where governance plays an important role in curbing the problem. Through this study, I would also like to find out what achievements were

made, the main reasons of failure and what could have been possibly done to save the holy river of India.

## Global Governance of Ocean Acidification

*Gáspár Békés*

Governance of Ocean Acidification Ocean acidification is one of the many contemporary problems caused by CO2 emissions. However, it has unique characteristics which are preventing an effective solution- general neglect for the ocean environment and the lack of awareness about acidification. The latter can be explained by the complexity of the problem: Land-based emissions are effecting ocean-based conditions and organisms; the lack of acknowledgement to connect the dots leads to a blindspot of international relations, which has governance, legal and management aspects as well. To understand the problem effectively, the presentation will show that existing treaties and frameworks are unable to offer a satisfactory solution. To achieve this, both land-and-ocean based factors will be discussed, supported with a historical overview on the human activities related to the oceans. In the end, key points will be identified were improvements could be made to alleviate the pressure on oceanic environments. For the analysis, both qualitative and quantitative tools will be used to provide an accurate picture of a complex topic. For reflective purposes, data quality and limitations will also be discussed. To support the presentation's understanding, a short overview will be given of ocean acidification, so that the audience can familiarize itself with a not well-known topic.

N15 106

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|---|---|
| 11:30 | SOCIAL JUSTICE |
| 11:30 | The Criminalization of Civic Activism: A Case Study of the Wiener Neustädter Tierschutzprozess<br>Sara Pruckner |
| 11:45 | The Right to Public Participation of Indigenous Communities: the Victory of the Mayan Beekeeping Communities in Mexico<br>Ana Ruth Martinez Rizo |
| 12:15 | Envisioning Inequality: Transitions in Eco-Justice and Placing Ourselves in a Global Context<br>Elizabeth Loudon |
| 12:30 | Standing Rock: Land Ownership, Sovereignty, and the Global Indigenous Movement<br>Kristina Catomeris |
| 12:45 | Q&A |

## The Criminalization of Civic Activism: A Case Study of the Wiener Neustädter Tierschutzprozess

*Sara Pruckner*

Terrorism can threaten people's lives and our democracy as a whole. Pointing at recent terrorist attacks e.g. in Turkey, Germany or France, it is once again among the most discussed topics and the fight against terrorism serves as reasoning behind many political decisions. States need to prevent harmful attacks and should be able to do so effectively– this is often supposedly achieved by anti-terrorism legislation that makes governmental action more flexible. Austria's §278a (the so-called "mafia paragraph"), for example, allows the state to convict people that are part of criminal organizations or that encourage or finance them, even if there is no evidence about themselves committing crimes. Together with these anti-terrorism laws, their misuse has emerged as well. Instead of protecting the public from terrorism, civic activists who practiced public disobedience have been accused of being part of criminal organizations, like in the Wr. Neustädter Tierschutzprozess that serves as a case study. Thirteen animal rights activists of the NGO "VGT" have been in custody and then in court for a total of over three years where no NGO work was possible. Even after acquittal of all charges, they are bankrupt and can hardly sustain their work. Public participation and the freedom of speech are important parts of democracy. Through demonstrations, protests and other forms of non-violent activism people can raise concerns (like animal protection in this case) and participate in the very essence of democracy: making rules by the people, for the people. Many basic rights today were only introduced due to public disobedience. All of this is at stake through the very laws meant to protect our democracy. This poses a lot of questions: can peaceful protesters be treated as terrorists? What can be done to prevent the misuse of anti-terrorism laws, and what function do they really serve?

## The Right to Public Participation of Indigenous Communities: the Victory of the Mayan Beekeeping Communities in Mexico

*Ana Ruth Martinez Rizo*

Mexico is the world's 6th biggest producer and 3rd larger exporter of honey in the world. Almost 40% of its honey is produced in the Mexican State of Yucatan by Mayan indigenous communities. On June 2012 these beekeeping communities filed protection lawsuits against Mexican government for illegally granting permission to Monsanto Corporation to plant genetically modified soybeans in 253,500 hectares in their territory. The grounds for the complaint was the violation of the community's human rights regarding: i) prior consultation and free participation, ii) healthy environment, and iii) right to work. In 2015 the Supreme Court in Mexico granted injunction against the Ministry of Agriculture of Mexico. Although the resolution expressly recognized the right of prior consultation and free participation of indigenous communities under the Convention 169 of the International Labor Organization, it failed to pronounce on the issue of the community right to a healthy environment and the effects of the introduction of GMOs. Even though this resolution represents a big step towards environmental justice for indigenous communities by recognizing its cultural conditions, it fails to guarantee their right to a healthy environment. This presentation attempts to explain why there is still a long way to go in order to achieve environmental justice as a matter of recognition, participation and distribution.

## Envisioning Inequality: Transitions in Eco-Justice and Placing Ourselves in a Global Context

*Elizabeth Loudon*

The emergence of "sustainable development" ideology resulted from tensions between the Global North and South regarding fair resource distribution and use. The study of intersections between environmental policy and thought confronts students with the concept of eco-justice, challenging them to consider how environmental problems and socio-economic disparity are linked. Many students ascribe to environmental worldviews that are impacted by their origins, upbringing, and resource use privilege. Although Environmental Science and Policy students at Central European University are aware of global inequality, they have not had the opportunity to gauge their individual experiences and place themselves in regional and global contexts. Students' perceptions of the environmental goods/services that are available to the most vulnerable populations in their home countries vary due to regional differences, urban development, technology availability, and the norms of society. This project examines 32 students' responses to a survey that records their resource use and access in their home countries. After completion of this task, students were asked to adopt the imagined perspective of a fellow compatriot who fits socioeconomically into the bottom 20% of their population. Each participant created a record from this perspective by responding to the same survey. This data aided students in comparing themselves to their expectations by prompting them to visualize inequality, yielding insights about the resource use categories that students feel are most unbalanced. The results discussed in this presentation highlight some trends, comparing student visualizations to worldwide realities. The feedback from participants will be shared to explain the value of this activity for inspiring reflection and transitions towards greater awareness. In the conclusion, the presentation addresses further questions that can be used to continue a meaningful dialogue about eco-justice.

## Standing Rock: Land Ownership, Sovereignty, and the Global Indigenous Movement

*Kristina Catomeris*

The construction of the Dakota Access Pipeline (DAPL) has been the center of a massive protest concerning the inherent rights of the Standing Rock Sioux people. Built in order to support the United States' recent oil boom, the DAPL crosses many sacred burial grounds as well as the Missouri river, threatening the primary fresh water source of the Sioux people living downstream. The Sioux have argued that the federal government did not adequately engage them during the pipeline's permitting process, which is required by Federal law, and disregarded the Treaty of Fort Laramie in order to obtain access to their lands' shale fields. The federal misuse of indigenous land is nothing new, yet the unprecedented scale and success of this protest has changed both indigenous and environmental movements forever. In this presentation, I will briefly recount the Sioux people's history with environmental protection, and argue that the conflict over the DAPL is a direct consequence of unresolved and undefined indigenous land rights. Ensuring the rights of indigenous people to their land is crucial to their cultural integrity and socioeconomic development, as well as overall environmental health. The halting of the DAPL's progress demonstrates that the American government is finally being held accountable for the occupation and destruction of indigenous land, and indicates the development of a nationally coordinated American environmental movement.

N15 106

| | RESOURCES in/of the WATER |
|---|---|
| 14:15 | Marine Stewardship Council: Is it just blue-washing?<br>Shwetha Nair |
| 14:30 | Transboundary Conflict in Water Use in the Nile Basin. A Case of Tanzania and Ethiopia<br>Francis Nyamhanga |
| 14:45 | Water Management and Transboundary Water Issues in Afghanistan<br>Maruf Khalid |
| 15:00 | Indus Waters Treaty: Revisions Possible in Near Future?<br>Waleed Chaudhry |
| 15:15 | Circular economies and nutrient cycles: Opportunities for Environmental Resilience<br>Anita Lazurko |
| 15:30 | Q&A |

## Marine Stewardship Council: Is it just blue-washing?

*Shwetha Nair*

The world's marine fisheries output has more than quadrupled in the last sixty years. However, this has been in tandem with many fishery stocks crashing and damage to the marine environment due to inefficient fisheries management. In the last two decades, eco-labeling has been used as a regulatory instrument to incentivize responsible resource use in the absence of stringent environmental regulations. The Marine Stewardship Council (MSC) is one such certification program which is the most widely used conservation tool to provide consumers with environment friendly seafood and incentivize fishers and fishery managers to transition to sustainable fisheries. While MSC is known to provide benefits to stake holders from price premiums, community empowerment and reputational benefits there is piling evidence that it has misplaced its initial vision of protecting the oceans. MSC is also known to marginalize the southern fisheries in low income countries. This paper reviews the pitfalls of this certification method with relation to its three main principles: sustainability of target fish stock, low impacts on ecosystem and effective management using multiple examples. It also attempts to address the effectiveness of MSC certification in developing countries by discussing the traditional, sustainable pole and line tuna fishery of Lakshadweep Islands, India. Lastly, it also presents alternative conservation initiatives to raise awareness among seafood consumers.

## Transboundary Conflict in Water Use in the Nile Basin. A Case of Tanzania and Ethiopia

*Francis Nyamhanga*

The Nile is one of the longest rivers in the world with 5,611 kilometres from its White Nile source in Lake Victoria (East Africa) and 4,588 kilometres from the Blue Nile source in Lake Tsana (Ethiopia) with catchment area of 2,900,000 square kilometres. The Nile basin countries had a combined population of 443 million in 2012 with a projected population of 726 million in 25 years. During colonial time some agreements regarding water use in the Nile basin were signed. 1929 Nile Water Agreement between Great Britain and Egypt on the use of the waters for irrigation purposes. In 1959 Egypt and Sudan signed an agreement, which guaranteed that 55.5 billion cubic meters per year would flow into Egypt without any hindrance from Sudan. All these two agreements provided exclusive rights to Egypt and Sudan over the use of the Nile waters while excluding the upper riparian countries. In 1960's most of the upper riparian countries gained their independence and realized the need of using Nile basin resources for their development. The unilateral move taken by Tanzania to abstract water from Lake Victoria and the construction of the Grand Ethiopian Renaissance Dam (GERD) in the Blue Nile with the electricity generation capacity of 6000 Megawatts (MW) by the Ethiopian government, explicitly indicate total rejection to the treaties which were signed during colonial times. Despite some regional agreements within the basin; no agreement on water allocation between the riparian countries is accepted by all. Egypt and Sudan uphold the principle of "acquired rights" and the validity of the Agreement of 1929 and 1959; the upstream countries seek to negotiate a new Nile waters agreement. This presentation will discuss the implication of the past and present agreements in the management of the Nile basin and recommend for the establishment of the legal regime which will ensure scarce water resources are used in an equitable, peaceful and sustainable way.

## Water Management and Transboundary Water Issues in Afghanistan

*Maruf Khalid*

Water management and trans-boundary water issues in Afghanistan Abstract: Afghanistan is landlocked country located within the central and south Asia. Decades of conflict hugely affect the water infrastructure system in this country, thus water management is a serious issue nationwide, also the climate change has negatively impacted the water sector. Afghanistan is considered to be among the 33 most water scarce countries in the world while most of its precious water flows to neighboring countries. A research by Afghanistan Research and Evaluation Unit (AREU) indicates that Afghanistan uses only 33 percent of its 57 billion m3 of surface water available each year. Barely half of the irrigable land is intensely cultivated, while the rest is only seasonal irrigated. On hydro power energy generation, it produces only 670 MW power which is about 20% of power demanded by its population yet its hydro power potential is estimated at 23000 MW. In Afghanistan, the water management and transboundary water issue is critical because its main river basins has poured north to central Asia, east to Pakistan or west to Iran and there is no water sharing agreement or treaty with the neighboring countries except one with Iran (1973 Helmand River Treaty). The water infrastructure is extremely poor and it has one of the lowest water-storage capacities in the world, means that large parts of the country cannot make use of their own water resources. Frequent droughts, localized further affect the population, causing food shortages and migration. e.g., In 2008 wheat production declined by 40% to 55% because of lack of precipitation. Considering the above noted points for the long-term development of the water sector in Afghanistan, the presentation will focus on water management and trans-boundary water issues and recommends improvement of the system efficiency and productivity through

enhancing infrastructure, increasing the equality of water allocations and developing water storage systems, enhance system operation and maintenance, increase sustainability of water resources through development of integrated catchment management plans and sustainable environmental management.

## Indus Waters Treaty: Revisions Possible in Near Future?

*Waleed Chaudhry*

The topic 'Indus Waters Treaty: Revisions Possible in the Near Future?' basically highlights the famous Indus Waters Treaty signed between Pakistan, India and the World Bank in the 1960. River Indus which is one of the longest rivers in Asia, and its tributaries, holds utmost importance for India and especially for Pakistan. The conference topic provides an insight on how the two countries, after gaining independence in 1947, led to signing the treaty by which they divided the rivers of the Indus Basin among themselves in order to avoid any water conflicts arising in future. The topic will also explore how the two rival countries, which are often at conflict with each other, set a very good example of cooperation for over 50 years (even during the period of three wars) and for what reason the treaty is considered to be successful. The topic also sheds light on the aspects such as climate change and population increase which are not considered in the treaty and how such issues of today’ s world impact the Indus Waters Treaty that was signed in 1960. Lastly, the conference presentation concludes with the discussion if revisions are necessary at this point of time or not, and if it is possible in the near future.

## Circular economies and nutrient cycles: Opportunities for Environmental Resilience

*Anita Lazurko*

The pressure of rising commodity prices, population growth, and the need for development, is exposing the inadequacies of the current economic system. The circular economy is a viable alternative: a restorative industrial economy that eliminates waste by optimizing the cyclical flow of resources through the economy. In practice, circular economies facilitate tighter circles of reuse through efficient collection and remanufacturing, maximize the number of consecutive cycles of products through value chains, cascade the use of resources across value chains, and keep materials as pure as possible to enable effective redistribution. China and the European Union are already moving forward with circular economy policies and strategies, demonstrating the practical value of the model for a sustainable future. The circular economy has found a new application with the cycles of nitrogen and phosphorus through the biosphere. Human involvement has created massive inefficiencies in the nutrient cycle that negatively impact the environment and human health. With phosphorus supply projected to peak in the first half of the 21st century, a circular economy is necessary to achieve a sustainable resource future. The phosphorus cycle in Finland will be used as a model to map the current versus ideal system of nutrient flows, supported by real-world examples of actions that are currently being taken globally to move toward an ideal system. The presentation will conclude with a look into the future, by identifying the most significant barriers to overcome and indicating specific actions for government, the private sector and everyday citizens, that will help transition the world toward a circular and sustainable nutrient economy.

## ROOM N15 105

N15 105

| | CITIES |
|---|---|
| 9:45 | Abandoned human settlements due to environmental crises: Which ones are next?<br>Emma Gothár |
| 10:00 | Urban Green Space as Environmental Justice Indicator<br>Hadil Ayoub |
| 10:15 | Eat Greener! Policy: Obstacle or Helping hand on the Road to Sustainable Eating?<br>Dorottya Oláh |
| 10:30 | The Promotion of Cycling Transition in the Public Policy Sector in Copenhagen<br>Hippolyte de Bellefroid |
| 10:45 | Q&A |

### Abandoned human settlements due to environmental crises: Which ones are next?

*Emma Gothár*

Abandoned human settlements due to environmental crises are known from historic times. However, the effects of present climate change, enhanced anthropogenic impact on the environment and the uncontrolled development, driven by artificial overcapitalization — China's ghost cities are a case in point — have increased the number of unpeopled cities. There are several natural factors that can make a city vulnerable to gradual disintegration, or even force it to abandonment and near disappearance. Natural disasters, such as volcanic eruptions, hurricanes and earthquakes have shown their power to destroy cities and their ability to force their inhabitants to migrate. Water, temperature and sand also have the potential to render cities abandoned. However, anthropogenically induced environmental crises seem to have been the most common causes of a city's disintegration. Once a city becomes a ghost town, nature begins to reinvade. Focusing on the two main categories of abandoned cities, the ones became unpopulated due to environmental crises and the ones, which have never been inhabited, the presentation intends to demonstrate crises and transition through the example of the abandoned cities of China. Although China's recently built ghost cities are not deserted due to environmental crises, their construction, future inhabitation or disintegration all create further environmental issues. The analysis aims to explore some of the main characteristics of cities' pathway towards abandonment and cities, which seem to have made steps towards this path. As I argue, the vulnerability of a city and the potential of the evolvement of new ghost cities depend not just on environmental aspects, but also on the society's cultural characteristics, on political and economic systems and the policy solutions to avert them.

## Urban Green Space as Environmental Justice Indicator

*Hadil Ayoub*

Throughout the evolution of environmental movements in the United States and elsewhere, the concept of Environmental Justice (EJ) started developing as a means of describing and identifying environmental inequalities in terms of access and impact. A range of indicators has been used to identify environmental injustices, such as air, water, and waste. These environmental indicators are then compared to demographic indicators such as income, race/ethnicity, language, and age to see if there is a correlation between the two sets of indicators. Urban Green Spaces (UGS) are any open piece of land that is undeveloped and open to the public. The Berlin Environmental Atlas used UGS as one of the core indicators for EJ in Berlin. This paper introduces the concept of EJ, while giving case examples of what environmental injustices look like in cities. It also introduces the concept of UGS, and stresses the importance of having those spaces in modern cities. Lastly, it makes an argument for the importance and the effectiveness of using UGS as EJ indicator, particularly within modern cities. The author recommends that other cities across the world where research on urban EJ issues is taking place adopt UGS as an indicator for EJ in their research.

## Eat Greener! Policy: Obstacle or Helping hand on the Road to Sustainable Eating?

*Dorottya Oláh*

According to the Paris Agreement, the goal is to keep the increase of global average temperature under 2°C. In order to do that, the transformation of our current food systems becomes necessary, since food and climate change are interconnected in many ways. Emissions of food production, processing, transportation and consumption contribute to the increase of greenhouse effect, production of foodstuffs use land, water and energy, generate solid waste and pollute water bodies. Hungary has no specific policy addressing food waste, it is only mentioned in the National Waste Management Plan, which allows a little space for restaurants and associations to treat their food waste in sustainable ways. Although authorities support the shortening of supply chain, rigorous policies make local sourcing complicated. The need for a shift towards sustainable food production systems is clear, but policy measures seem to be fragmented, sometimes contradictory and unfeasible to follow, which can prevent businesses to adopt sustainable methods. This study takes on the quest of assessing the existing policies and evaluating whether they help restaurants to be more sustainable or rather form obstacles which will halt these initiatives in terms of supply chain and waste management. Background information of existing policies and instruments are provided from literature review and a case study of a Budapest based sustainable restaurant and catering service provides an example of implementation of sustainable food service. We can conclude that a more flexible and synchronized policy system would be able to help reduce the environmental impacts of food production and restaurant industry.

## The Promotion of Cycling Transition in the Public Policy Sector in Copenhagen

*Hippolyte de Bellefroid*

The bike has nowadays become in many cities an alternative to the car to serve big cities. The transition from the use of car to bicycle represents then a solution to pollution, traffic jam, safety and space occupation. This work will address how cycling can be encouraged by public policy. It will therefore analyse the policies taken in Copenhagen this last decade. Copenhagen is taken for this work because in 2016 it is the second city after Amsterdam where the number of bikes circulating in the capital has exceeded the number of cars. The analysis will be made through three different factors: the setting up of bike infrastructures such as bike parking, pro-bike policies and programs such as restricting and taxing car ownership, and the promotion of bike in public opinion through campaigns. The analysis of these factors will show that Copenhagen set up a large range of infrastructures for bicycles to first increase safety. It also restricted cars and encouraged the citizens to cycle through campaigns. This analysis will show how the transition to bike in cities is intrinsically linked with policies concerning cars. It will highlight that the transition to bicycle requires a decrease in cars in the city.

N15 105

| | |
|---|---|
| 11:30 | CLIMATE CHANGE |
| 11:30 | The Inception and Current State of the EU Emissions Trading System (EU ETS)<br>Julie Emmrich |
| 11:45 | Permafrost Thawing in the Russian Federation: Time-bomb for the Indigenous Communities<br>Koloskova Evgeniya |
| 12:15 | The Evolution of Education and Outreach in the UNFCCC<br>Eva Lukonits |
| 12:30 | President Elect Trumps's Energy Agenda versus Paris Agreement<br>Zhibek Issakyzy |
| 12:45 | Q&A |

## The Inception and Current State of the EU Emissions Trading System (EU ETS)

*Julie Emmrich*

Climate change is one of the very crucial aspects of environmental issues. Indeed many international environmental policies deal with climate change. This is partly due to the type of resource our atmosphere is, that we all share all around the globe. Therefore this presentation looks into the emersion of climate change concerns. It then describes how the climate change regime was created, from the Stockholm conference in 1972 to the Rio conference 20 years later. It further shows the growing concern over carbon dioxide emissions and how they became the central aspect of the climate change regime. In a next step, the presentation explains how, mainly through Kyoto '92, many parties ratified the carbon dioxide emission reduction efforts and hard law was created. The creation of the policy instrument that is carbon trading is explained and discussed in detail, why was it chosen to create a new commodity. The presentation analyses the EU's Emissions Trading System (EU ETS)'s implementation, its development and current states. It also looks into the system's successes and weaknesses. Furthermore, the presentation turns to the system's loopholes and its consequences, positive and negative. Finally, this presentation evaluates the implications of the carbon trading systems and its effect to transit towards more sustainable development. Concluding this presentation discusses the prospects of carbon trading and how it might grow further.

## Permafrost Thawing in the Russian Federation: Time-bomb for the Indigenous Communities

*Koloskova Evgeniya*

The circumpolar region has been experiencing the most severe climate-driven changes in the last few decades. One of the most pronounced consequences of climate change in this region is the thawing of permafrost, which induces carbon feedback, soil erosion, water contamination, destroying infrastructures, etc. Approximately 4 million people reside in the Arctic, and almost half of this number lives in the northern regions of the Russian Federation. There are indigenous communities of the Russian North, mostly herders, who are facing serious difficulties in adapting

to the rapid environmental change. These rural isolated communities are especially vulnerable to changes because of their strong dependence on the environment for food, traditional way of living and culture. Some of the impacts of the permafrost thawing were predicted but not taken under control, some came as an unexpected issue and need a fast response right now. In this presentation, few cases of such consequences are discussed and possible responses – regarding both mitigation and adaptation - considering the impact on indigenous herders are given. The focus is on the issue of bacterial viruses that might be preserved in the permafrost, but with its thawing are released. The past summer anthrax exposure induced by permafrost thawing affected peoples' health and killed 2300 reindeer, on which communities' lives depend. The problem could be mitigated if the officials did not cancel the compulsory vaccination in the region few years ago. Decision-makers suggest adaptation methods providing people with equal distribution of goods, but without recognition of differences. The complexity of addressing such problems and injustice of the indigenous people being affected are in the focus of the presentation.

## The Evolution of Education and Outreach in the UNFCCC

*Eva Lukonits*

Education and outreach have a significant role in global climate disputes. It is essential for governments, societies and economies to understand the concept of climate change and how it effects our future. Climate change is a common concern of mankind, so in 1992 the UNFCCC's Article 6 pointed out the importance of climate education and public awareness-raising. Over the past two decades since New Delhi (2002), through Doha (2012) and Lima (2014), to Marrakesh (2016) it has been an emerging focus point of the Conference of the Parties and has been negotiated at the meetings of the Subsidiary Body of Implementation. Resulting amendments and decisions on Article 6, like the New Delhi or the Doha work programme, and the latest decision of the COP21 in Marrakesh this year, which has been made on improving the Doha work programme and strengthen the implementation efforts. In 2002 in New Delhi at the COP8, six different key elements were defined in two focus areas; the first area consists of education and training, and the second consists of public access to information, public participation and public awareness; and international cooperation interweaves both. During the years of discussion on Article 6 of UNFCCC, several platforms have been established to support the development and implementation of the statements, inter alia United Nations Alliance on Climate Change Education, Training and Public Awareness and NAZCA. Furthermore, there are several successfully running projects worldwide. However, Article 6 seeks to reduce the impact of climate change by enabling society to be a part of the solution. It would need significant commitments nationally and high level international cooperation, but with more effective promotion and inclusion of NGOs and the public, climate education and raising public awareness could be one of the focus points of the global transitions.

## President Elect Trumps's Energy Agenda versus Paris Agreement

*Zhibek Issakyzy*

As the Paris Agreement on climate change successfully entered into force this November and have been ratified by the biggest emitters as China and the US, next year it may face invalidation. President-elect Trump of the United States of America would have a full reign over the US position on Paris starting from January 2017 and may completely shot down the US pledge to decrease carbon emissions. As a candidate Mr. Trump has already questioned an existence of climate change and wanted to pull out of the Paris even before the US officially signed it. “Canceling” the Paris Agreement by the US would have consequences not only for the States, but also for the world. Being a second biggest emitter of greenhouse gas emissions that is trying to move forward with implementing SDGs, the US’s new administration poses a great threat to the energy transition from fossil fuels to the renewables in the country. Trump’s energy agenda does not consider any climate change mitigation per se, even more wants to unleash American oil and gas extraction, making the country energy independent from foreign import.

## ROOM N15 104

N15 104

| | HUMAN BEHAVIOR |
|---|---|
| 9:45 | Environmental Crisis and Hinduism in India -An Exhortation for Reconsidering Human Responsibilities in the 21st century<br>Kevin Valsan Hymavathy |
| 10:00 | Eco-gamification: the Application of Digital Games in Environmental Education and Beyond<br>Katalin Tarr |
| 10:15 | The Future of Ecological Migration and Its Social and Political Impacts: The Sudanese Dilemma<br>Steven M. Rozowicz |
| 10:30 | Towards Understanding the Development of Green Parties in Democratic Regimes: Case Studies of Germany and Japan<br>Dalya Hashweh |
| 10:45 | Q&A |

### Environmental Crisis and Hinduism in India -An Exhortation for Reconsidering Human Responsibilities in the 21st century

*Kevin Valsan Hymavathy*

Hinduism -The practice of an eternal religion has a quintessential impact on India to evolve as a nation with substantial culture, values, and traditions. Over a millennia Hindu literature and beliefs taught us not only the Pancha Mahabhutas (The five great elements), Vedas, Dharma (Virtue or duties), Ahimsa (Non-Violence) etc. but also it became a moral compass to guide us to co-exist peacefully in this pristine environment. Various Hindu concepts in architecture (Vastu Shastra), Environmental ethics or code of conduct (Dharma), Objectives of 'Padma Purana' can be used as a tool which humanizes and personalizes choices towards environment and help better decision making on complex environmental issues and for a better understanding of our responsibilities towards nature; especially to accomplish the '2030 agenda for Sustainable development' of United Nations. Goals like Ensure availability and sustainable management of water and sanitation for all, Make cities and human settlements inclusive, safe, resilient and sustainable, Ensure sustainable consumption and production patterns, Conserve and sustainably use the oceans, seas and marine resources for sustainable development, Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss are taken into consideration here.

## Eco-gamification: the Application of Digital Games in Environmental Education and Beyond

*Katalin Tarr*

As the intersection of human behavior and technology is increasing, digital games have become powerful contemporary tools of storytelling, human interaction, and learning. Several eco-games are being designed to promote pro-environmental consumer behavior, to increase interest towards environmental issues, and to mobilize activists. These games vary from individual interactive applications to massive multiplayer online games and crowd-sourced research projects. The presentation will argue that digital games are adequate tools for various environmental applications, such as education, research, and communication. General game design elements, such as purpose, loss/reward dynamics, and collaboration, and gamer skills, like solution-orientedness, ethical conduct and intrinsic motivation provide a useful framework to address complex and planetary-scale environmental problems. To demonstrate that, the online game "Garbage Dreams" will be analyzed, in which players take on the role of garbage collectors in Cairo's neighborhoods and learn about recycling and the globalized economy. While acknowledging some points of criticism to our argument – like the risk of disconnection from "real" physical actions or the "anti-environmental" narratives prevailing in mainstream games – we argue that digital games are great tools which should be exploited for environmental purposes. Digital gamification is likely to intensify and spread geographically in the future, and the technology, time and effort invested in gaming can be useful resources for environmental education, communication and research.

## The Future of Ecological Migration and Its Social and Political Impacts: The Sudanese Dilemma

*Steven M. Rozowicz*

Humanity has been defined by its mobility as far back as anthropological records extend. Therefore, migration in its eclectic forms and driving forces has been omnipresent throughout the world and must be recognized not as a new phenomenon, which it has been portrayed as, but as an integral part of our species. Ecological migration, also known as environmental migration or climate migration has also been deemed something relatively new since the emergence of western climate concern in the late 1980s. This is also a misconception that has been heavily politicized as of late with current climate and geopolitical instability in the Pacific Island Nations, Middle East, and Saharan and Sub-Saharan Africa. Humans have been displaced by changes in their environmental surroundings, again, as long as the record permits. From the Irish Potato famine to the Sundarbans flooding, humanity has always been at the whims of the natural processes surrounding us. Sudan is currently going through climatic changes coupled with high levels of geopolitical instability that highlight current global trends in both internal and external displacement and climate shifts that are facilitating strife in social, political, demographic and economic sectors. The complex history and potentially even more complicated demographic composition of Sudan coupled with government sanctioned religious persecution only adds to the natural stressors already inflicted by increased sandstorms, drought, and soil degradation.

## Towards Understanding the Development of Green Parties in Democratic Regimes: Case Studies of Germany and Japan

*Dalya Hashweh*

This presentation examines the development of Green parties in democratic political regimes. Although Green parties are reputable political parties in many developed and democratic nations, they have failed, in other countries, to make any electoral headway. Factors such as the electoral system of the country, the nature of party competition, significance of post-materialism, and the type of social milieu (groups encompassing people with the same opinions) providing the support base for the Green party have been proposed in literature in order to explain their development as well as their success or failure. The case studies of Germany and Japan, chosen for this presentation, offer contrasting examples of the success and failure of Green parties in democratic regimes, respectively. What explains the lack of any significant Green party in Japan, although it is an industrialized country, whereas Germany has a prominent one? In this presentation, I shall identify potential reasons behind the failure of Green parties in Japan in contrast to Germany. I shall argue that the nature of the electoral system or political regime may not be grounds enough to explain the success of Green parties. Instead, I shall argue that the type of social milieu supporting a Green party in a given country is the most influential factor in determining the emergence, development, and success of a Green party.

N15 104

| | RESOURCES on LAND |
|---|---|
| 11:30 | Forest Stewardship Council - An Approach towards Responsible Supply Chains<br>Sahar Sajjad Malik |
| 11:45 | Indonesian Palm Oil - Assessment of Current Government Policy and Transitionary Solutions to the Resulting Deforestation Crisis<br>Wolfgang E. Haider |
| 12:15 | Development and Thailand's World Heritage National Parks<br>Darunee Sukanan |
| 12:30 | Parks are People Too: The Te Urewera Case Study from National Park to Legal Person<br>Carly Soo |
| 12:45 | Q&A |

## Forest Stewardship Council - An Approach towards Responsible Supply Chains

*Sahar Sajjad Malik*

Delivering profitable growth by creating positive impact on people and planet forms the basis of sustainability in business. With growing economies, businesses are incorporating sustainability practices at all levels of operations but have identified supply chains to be the most complex as well as the most significant. Responsible Supply Chains - managing the environmental, social and economic impacts and encouraging practices of good governance throughout the product's lifecycle - is a new concept, yet very challenging and valuable at the same time. The concept emerged to cater the sustainability mega trends like population growth, climate change, resource scarcity, governmental regulations and consumer pressures. One of the most important approaches towards responsible supply chains is Forest Stewardship Council (FSC), an international non-profit forest certification, ensuring the responsible management of forests from where the forest products are procured. FSC tries to promote environmentally appropriate, socially beneficial and economically viable management of world's forests. FSC certification requires the forest owners and managers to follow ten principles and criteria to ensure responsible management of forest. These principles and criteria are pertinent worldwide and applicable to different ecosystems and forest areas, as well as political, cultural and legal systems. FSC certified products has significant advantages; credibility, environmental protection, community engagement and access to markets. All of these advantages demonstrate that FSC is a right approach towards building responsible supply chains.

## Indonesian Palm Oil - Assessment of Current Government Policy and Transitionary Solutions to the Resulting Deforestation Crisis

*Wolfgang E. Haider*

In 2015, the Indonesian government laid out a plan to double its palm oil production while simultaneously eliminating deforestation by the year 2020. With a business as usual mindset to its

policies, this goal will be impossible to achieve. Oil palm has been expanding in Kalimantan (Indonesian Borneo) since the 1960s, leading to the devastation of the tropical forests on the island. The expansion of oil palm has numerous consequences including water pollution from agrochemicals, air pollution in the form of carbon emissions from deforestation (exacerbated when peatland is destroyed), wildfire haze, and perhaps most importantly the detrimental loss of biodiversity. Oil palm is an incredibly efficient oil being used for food and biofuel with global demand increasing. As a result, Indonesia wishes to expand its export of the product to reap the economic benefits. After the fall of Suharto in 1998, the oil palm economy transitioned from state run to more privately owned enterprises, including small-holders and larger companies. The new government promoted the expansion of the industry with a tax reduction on the export of the crop. The Indonesian government is attempting to curb the negative impacts oil palm produces with program such as in InPOP (Indonesian Palm Oil Platform) and ISPO (Indonesian Sustainable Palm Oil) certification, however the country lacks the capacity to enforce and monitor policies and laws, before one even takes corruption into consideration. With a population of 250 million, ranked 4th in the world, it is no surprise the developing country is struggling to grow its economy while improving the livelihoods of its inhabitants. To improve standards, I propose changing some policies, diversifying the economy and improving infrastructure to implement and monitor sustainable practices.

## Development and Thailand's World Heritage National Parks

*Darunee Sukanan*

The Dong Phayayen-Khao Yai Forest Complex in Thailand is composed of 5 national parks: Khao Yai National Park (KYNP), Thap Land National Park (TLNP), Pang Sida National Park (PSNP), Ta Phraya National Park (TPNP) and Dong Yai Wildlife Sanctuary (DYWS). The five almost connected protected areas are home for a number of endangered species as well as threatened and vulnerable flora and fauna. The forest complex has been listed as a UNESCO World Heritage site since 2005. However, the forest complex has come under increased pressure because Thailand lacks the capacity to tackle rampant illegal logging, stop the poaching of endangered species, manage tourism more effectively and prevent increased encroachment. Highway 304 transverses Khao Yai National Park and Thap Land National Park, bisecting the areas. As a result, the road obstructs animals by preventing them from crossing from one part of the forest to another so as to forage for food and find mates. This threatens the health of local ecological systems. UNESCO has recommended that Thailand establish wildlife corridors on Highway 304 to maintain the integrity of local forests. Road number 304 connects three major urban and economic sites (the capital Bangkok, the Northeast and industrial areas on the Eastern Sea Board). In 2015 a plan to expend the highway was proposed and ultimately approved by the country's cabinet as the government claimed that the road could boost economic activities and productivities and would reduce road accidents in the area. Even though the expansion of the highway was proposed to be coupled with 2 wildlife corridors, UNESCO and others still raised concerns because the widening of the highway would lead to an increase in traffic and noise, which would add to the stress on wildlife. The widening of the road, therefore, worries the public that it would contribute to more harm than benefit.

## Parks are People Too: The Te Urewera Case Study from National Park to Legal Person

*Carly Soo*

In Christopher Stone's seminal 1972 text 'Should Trees Have Standing?', he proposed that natural objects should be granted legal rights through a guardian in order to defend their interests and safeguard their future. More than 40 years later, the New Zealand Government granted legal personhood to the Te Urewera National Park, sacred home of the local Tūhoe iwi (an indigenous Māori tribe). As a result, Te Urewera is no longer owned by the Government or owned by the Tūhoe people. Instead Te Urewera is a legal entity, endowed with the same rights, powers and duties of a legal person. The innovative law that gives Te Urewera this status, the 'Te Urewera Act 2014', recognizes the spiritual and intrinsic values of the land by putting it beyond human ownership. Rather, the law aims to protect Te Urewera in a way that reflects New Zealand's culture and values by providing stronger legal protection and changing the co-governance structures between the Government and Tūhoe people. The Te Urewera Act was part of a wider redress settlement for historical indigenous rights of the Tūhoe people under the Treaty of Waitangi and is a revolutionary moment in New Zealand's legal history. This presentation outlines the significance of the Te Urewera Act; namely, its challenge to the traditional assumptions about human sovereignty over the environment and its recognition of cultural and spiritual indigenous world views. The presentation then considers the broader implications and future applicability of this approach to nature conservation within New Zealand and internationally. It concludes with an examination of an answer to the question: Is Te Urewera a realization of Stone's original thesis?

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