UCRSEA PARTNERSHIP UPDATE, JANUARY-APRIL 2017

UCRSEA Partnership Project;

;

IDRC Grant/ Subvention du CRDI: 107776-001-Urban Climate Resilience in Southeast Asia Partnership

Urban Climate Resilience in Southeast Asia Partnership

UCRSEA

Partnership Update: January – April 2017

Congratulations to UCRSEA Partnership Project members

Dr. Chanrith Ngin, Dr. Melissa Marschke Redwood, and Furqan Asif on having their paper "Assessing the potential of a low-carbon future for Cambodia" published in the *Journal of Renewable and Sustainable Energy.*

Their study, which was also featured in a story by *The Cambodian Daily,* argues that Cambodia, as the lowest producer of CO_2 per capita in the GMS, has a "unique window of opportunity" to further lower its carbon footprint through sustainable energy and improved transportation systems.

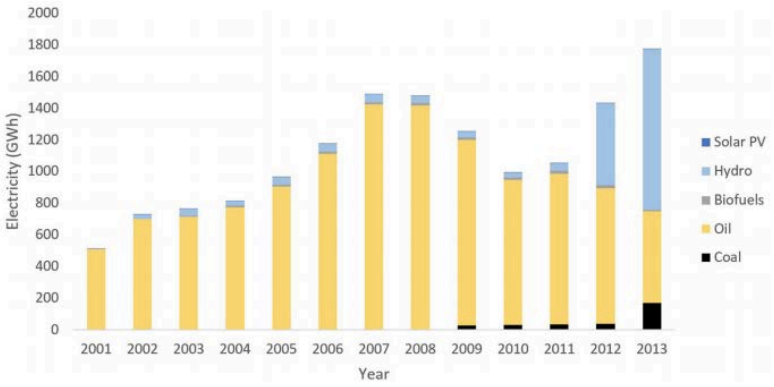


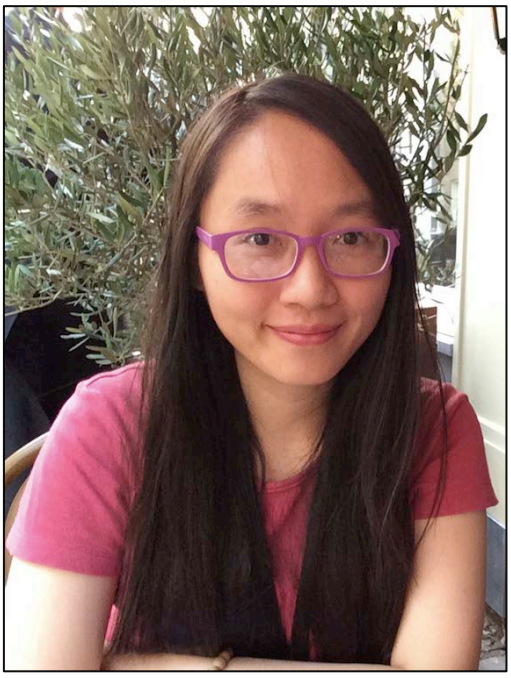
FIG. 3. Energy sources for Cambodia's electricity generation (in GW h). Source: IEA (2007; 2012; and 2016). Extracted from International Enegery Agency database on Nov. 5, 2016.

Read *The Cambodian Daily* overview of their article here: https://www.cambodiadaily.com/news/cambodia-has-unique-chance-to-cut-carbon-study-says-128483/

Or, find the entire article here: http://aip.scitation.org/doi/pdf/10.1063/1.4978495

UCRSEA's 1st Graduate Research Fellowship Recipient

Thi Phuong Linh Le is UCRSEA's first Graduate Fellowship recipient from Southeast Asia. She arrived at the University of Toronto on February 19th to spend part of the 2017 Winter Term as an International Visiting Graduate Student. Phuong Linh, a second-year Master student in Traffic and Transport from the Vietnamese-German University, has three years of experience working on an urban planning and transportation project in Ho Chi Minh City. Her interests are in transport geography, spatial planning, traffic-related air pollution and urban health.



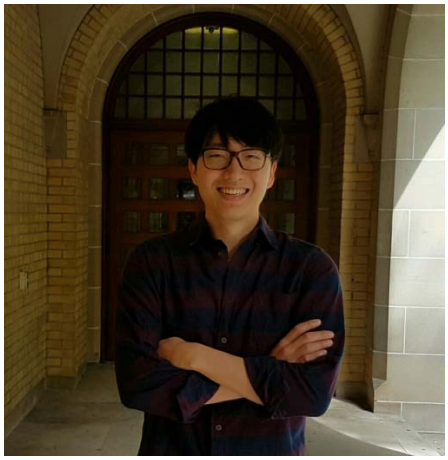
While at the University of Toronto, Phuong Linh is carrying out her masteral research, which concerns the relationships between transportation development, urban form and CO2 emission in Ho Chi Minh City. She is also expected to participate in UCRSEA activities and in events around the campus relevant to her field of study.

The UCRSEA Graduate Fellowship is a self-directed fellowship that focuses on individual research and study related to urban climate change and resilience in Southeast Asia.

University of Toronto Graduate Students to Spend Internships at Mercy Corps and MSU

Three graduate students from the University of Toronto will undertake their summer internships at Mercy Corps Myanmar and Mahasarakham University (MSU), Thailand, from May 15th to August 4th. They are Tammy Chou, Woo Jin Cho and Taylor Whitfield.

Tammy, who will be based at Mercy Corps Myanmar, is currently completing her Master of Science in Planning and Collaborative Program in Community Development. She also holds a Bachelor of Environmental Studies, major in Urban Planning, from the University of Waterloo. She is interested in exploring how social equity can be achieved throughout the planning process. During her internship, she will undertake research on the socio-political and environmental impacts of development within the Dawei Special Economic Zone (SEZ) in Myanmar.



Woo Jin Cho, a graduate student at the Department of East Asian Studies, and Taylor Whitfield, a Master of Science in Sustainability Management student, will be based at MSU. They will be both working on research projects in the Pralab Sub-district in Khon Kaen. Cho will provide research support through a situational analysis of the urban wastewater system/management in the Pralab Sub-district and its impact on the vulnerability of communities to urban flood.

Meanwhile, Taylor will assist in a comparative analysis of water consumption patterns of one community in the urban area of Khon Kaen and one community in the peri-urban area of Pralab Sub-district and its relevance for extreme drought events.

UCRSEA's Summer Internship Program is currently in its third year.

Project News

1st Regional Curriculum Development Workshop

7-8 February 2017, Thailand Environment Institute (TEI), Bangkok, Thailand

Co-hosted by Mahasarakham University (MSU) and TEI under the Urban Climate Resilience in Southeast Asia Partnership (UCRSEA)

The workshop, facilitated by Dr Pakamas Thinphanga, Co-Director and Programme Manager at the Thailand Environment Institute, and Dr Yanyong Inmuong, Dean at FERS-Mahasarakham University, proposed to influence teaching and research agendas in the Greater Mekong Sub-region. Specifically, a key output was to design a new degree program in Sustainable Science that focused on addressing emerging challenges in urban climate resilience and regional and global sustainable development goals.

The 29 participants, who represented academic leaders from 5 Mekong region countries, began the process of brainstorming a new curriculum could help academics and universities contribute to the United Nations' Sustainable Development Goals:

SDG 11: "Make cities and human settlements **inclusive, safe, resilient and sustainable"**

SDG 13: "Take urgent action to combat **climate change** and its **impacts**"

In particular, the participants discussed the gaps in existing university curricula. They considered the questions: what theories and teachings, what academic services, what methods, methodologies and tools, and what skills are needed to contribute to achieve the SDGs 11 and 13? In brainstorming how a new curriculum might address those gaps, the participants created a list of "Very Important Subjects" that they considered necessary for any new Sustainable Science Program:

1. **Sustainability theory and practices** – including issues in urban, social, gender, economics, environmental governance and politics;
2. **Climate change as trans-disciplinary**: Adaptation, mitigation, transformation and trans-boundary;
3. **Environment and natural resource management** – including issues in waste water, energy, soil and air;
4. **Environmental management approaches**: EIA, SEA, EQA, HIA, ecological economics;
5. **Sustainability policy and planning** - including law/regulations, ethics, public policy, advocacy, regional policy, decision-making, land use planning and public participation;
6. **Technical tools for environmental assessment**: GIS-spatial technology, remote sensing, environmental modeling, environmental planning;
7. **Research and internship** – including research methodology and data analysis;
8. **Skills**: Communication, problem-solving and critical thinking, and ethics.

There was also agreement that any new degree program must be trans-disciplinary due to the complex nature of studying urbanization and climate change.

In the 2nd Regional Curriculum Development Workshop on 12-13 May, the same group of participants will gather again to continue their conversation and plot out the concrete steps necessary for making a Sustainable Science degree program a reality.

Air Quality Monitoring Workshops

In January and February, UCRSEA organized five air quality monitoring workshops in five cities: Ninh Binh (Vietnam), Khon Kaen (Thailand), Phnom Penh (Cambodia), Battambang (Cambodia), and Yangon (Myanmar).

In each of these workshops, participants were introduced to an environmental measurement device called the Airbeam. It is based on the open-source AirCasting platform for collecting, displaying and sharing environmental data using a mobile device. The Airbeam device allows users to measure four variables: humidity, sound level, particulate matter (PM2.5), and temperature, and share the data with others online.

Participants were taught of how to find the AirCasting App, set it up, and connect the Airbeam to a user's phone or tablet. After the device was paired to a phone or tablet, groups were then taught how to collect air quality data and upload it to the AirCasting website. In each workshop, participants also broke into groups and walked around their city, collecting air quality data which they then uploaded to the AirCasting website. This enabled participants to learn how to use the website, and also generated discussions about the air quality in the cities where the workshops happened.

The AirBeam is useful as a teaching tool because it teaches methods of scientific investigation and the hands-on aspects of maintaining a research project, and also raises students' awareness the importance of air quality as an environmental and public policy issue.

The AirBeam is also useful as a research and advocacy tool to encourage community engagement in dealing with urban environmental issues. By being able to accurately gauge urban temperature and pollution, citizens can use these findings to engage in shared learning dialogues with municipal officials and other actors about how their cities should address these issues. At the end of each workshop, UCRSEA gave local partners in each country two devices.

Each group of participants also came up with a plan of research that will utilize the AirBeam devices and AirCasting website:

- Dr. Arika Bridhikitti of Mahasarakham University is currently employing the Airbeam devices in a short term project to assess the urban heat-island effect in Mukdahan city. The device has been mounted in the moving cars running from Mukdahan' suburb and passing various land covers, including woods, concrete road, community park, sandy grassland, surface water and rice field. Dr. Pridhikitti also plans to introduce the Airbeam into her "Air and Noise Pollution for Environmental Management" class taught in the August semester. Students will be assigned to employ this device for their experiments.

- The Center for Environment and Community Research (CECR) (Vietnam) will first train their team to use the devices and collect air quality information around Hanoi city. Then the CECR team will serve as trainers for 30 households of local women and their family members to understand and measurable the Air quality inside and outside of their houses. Along with the audit tool, women and other family members will have a best practice to keep their houses clean with air quality in acceptable index. Since February 2017, CECR team members have been collecting data from Hanoi, Ninh Binh and surrounding towns on bicycle and on foot during various times of day.

- The Center for Natural Resources and Environmental Sciences (CRES) (Vietnam) will use to Airbeam as a tool in their study of Ninh Binh. It will strengthen their data on the environmental impacts of the nearby industrial one on local communities. Led by research Ha Ly, they will measure the dust 2.5ppm as the indicator of the air pollution around the industrial zone. The collected data on air quality around Ninh Binh city will be presented to the local community as well as the local policy makers at the commune and city level in a form of a meeting. At the meeting, he device and its function and how to use it will be introduced to the participants. This will hopefully inspire them to monitor their own environment, and collectively come up with solutions for improving their environment, such as planting trees and other methods to prevent the adverse effects of dust on human health.

- Dr. Yin Soriya of the Royal University of Phnom Penh (Cambodia) plans to conduct an additional training workshop for twenty new participants. Air pollution is one of the largest environmental challenges for sustainable development in Cambodia yet there is limited understanding and awareness about it among the public. The proposed air pollution assessment training aims to raise awareness on the causes of air pollution, impacts and how to assess the level of air pollution among Cambodian students and researchers. Following the structure of the original workshop, participants will learn how to use the Airbeam device and AirCasting platform. They will then contribute to a report that tracks the air quality in Phnom Penh during different times of year.

- Dr. Saw Win, Central Committee Member of the Renewable Energy Association Myanmar (REAM) and Retired Rector of Maubin University, Ministry of Education, Myanmar will conduct an Airbeam Myanmar project to fill the gap between scientific data collection in various States and Divisions in Myanmar and citizens based research in Bago, Dawei, Mandalay, Myitkyina, and Naypyitaw cities. The project will conduct more trainings for university faculty and students, high school teachers and students, regional government officials, Civil Society Officials and local urban communities. The narrative reports, discussion papers, briefing notes produced by these various groups will be shared among the participants and given to the policy makers and regional decision making officials as well as distributed to the media for more awareness of concern for environmental conditions.

Urban Planning Research in Lao PDR

There has been a Lao-shaped hole within the UCRSEA program of research. So Daniel Hayward took up the challenge to engage with different stakeholders in Vientiane and learn more about processes of urbanization in the country. As a result, a research project has been fostered with the National University of Laos. This follows a commission by Vientiane City Government to develop comprehensive district-level planning. UCRSEA will facilitate and shadow a pilot project creating planning for Hadxaifong district south of the city-center.

Village cluster meeting with students from Utrecht University, 1st March 2017, Hadxaifong District (photo: Daniel Hayward)

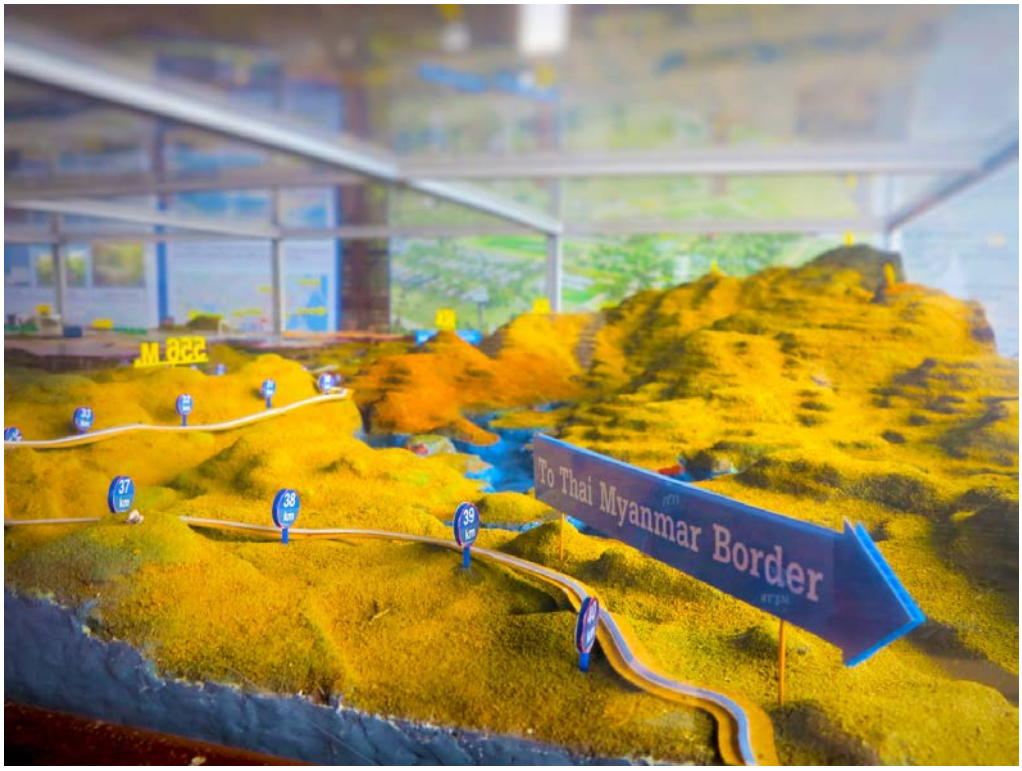
At the moment, two Master's students in International Development from Utrecht University, Esther van Duin and Mathilde Speeckaert, are conducting fieldwork in Hadxaifong. They are looking at the impact of emerging land markets (using the lens of gender), and the development of community-based tourism. Meanwhile, Daniel Hayward is taking a helicopter view of the whole project to see how a government-academia partnership can engage inclusive urban development.

Stay tuned for the results of this new research collaboration.

Comparative Research Project:

Map Tha Phut Industrial Estate, Thailand and the Dawei Special Economic Zone, Myanmar

For over 20 years Map Tha Phut Industrial Estate (MTPIE) in Rayong District, Thailand has been the site of major socio-environmental and economic debates. Academic research, NGO reporting, and government intervention is nothing new for this region, where in the late 1980s and early 1990s (2532-2533 BE) Thailand developed one of the world's largest petrochemical industrial hubs. To date, research has typically focused around a trichotomous relationship between three of four commonly researched pillars: society, economics, environment, or policy.



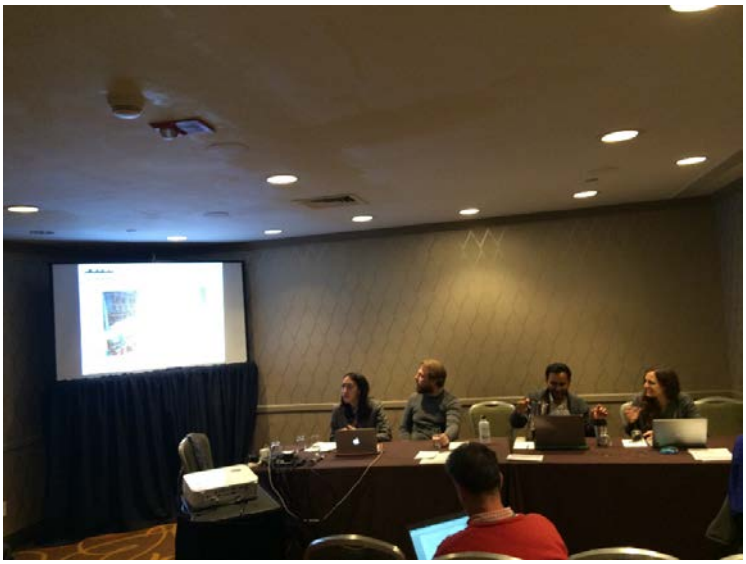
Dawei SEZ. Photo: Jonathan Rhodes

Jonathan Rhodes and support personnel from UCRSEA will use a political ecology approach examining the relationships and interactions of all four pillars. They hope to bridge the information gap by examining changes in environmental governance since the 2009 (2552 BE) court case, which briefly halted the operation and construction of many industrial sites in MTPIE. Mercy Core Myanmar in partnership with UCRSEA is engaged with key stakeholders to conduct research based on vulnerability assessments of the Dawei Special Economic Zone conducted in year one of the UCRSEA partnership. Data driven from this Map Tha Phut research project will fill in gaps, and contribute towards insights and lessons learned for the upcoming Dawei Special Economic Zone work.

Fieldwork for this project will be carried out in the coming months.

UCRSEA Panel Session at the Association of American Geographers (AAG) 2017 Conference

The UCRSEA Partnership Project held a panel session, "Addressing the Challenges of Urban Climate Change Resilience and Vulnerability in Southeast Asia", at the Association of American Geographers 2017 Conference on April 9, 2017 in Boston, Massachusetts, USA.



Among the presenters were the following project staff and students who focused on their respective field research conducted under UCRSEA:

- Nathan Stewart, University of Toronto: Pushed to the Edge: Citizenship, Vulnerability, and the Temporal Allocation of Rights and Protections in the Informal Settlements of Khon Kaen, Thailand
- Angelica de Jesus, University of Toronto: The cascading impacts of migration and environmental challenges: Experiences of Myanmar labour migrants in Phuket, Thailand
- Dr. Gwenn Pulliat, University of Toronto/IRASEC-Research Institute on Contemporary Southeast Asia: Urban agriculture and environmental justice. Towards a gentrification of agriculture in Southeast Asian cities?
- Furqan Asif, University of Ottawa: Leaving the coast: the interplay of migration, well-being and resilience in Cambodian coastal fishing communities

Prof. Amrita Daniere, UCRSEA Co-Director, chaired the session.

City Highlight: Battambang, Cambodia

Each issue, we will highlight one of the eight UCRSEA focus cities. This issue, the highlighted city is Battambang, which recently hosted UCRSEA's 3rd Annual Workshop.

Battambang is the second largest city in Cambodia after Phnom Pehn and the main economic hub of Northwest Cambodia, connecting the entire region with Phnom Penh to the south and Thailand. The town of Battanbang is situated at the junction of National Road 5 and National Road 57 and the northwestern branch of Cambodia's national railway system, making it an ideal economic and trade center.

Built on the banks of the Sangke River, Battambang has historically suffered multiple instances of severe flooding. Since 2000, floods have occurred with increasing frequency and intensity. In particular, there was very severe flooding in 2011 and 2013 that devastated much of Battambang.

Battambang's population is increasing rapidly as the city grows into a regional economic hub. The increase in population means that the infrastructure of the city must also expand to accommodate the additional people, or else face issues such as

lack of space for proper waste disposal. Local resources such as land and water are also under increased pressure and a number of protected areas in Battambang province, such as the Roneam Dousar wildlife sanctuary and Sam Lout Multiple Use Area and Tonle Sap Multiple Use Area, have already lost substantial area to commercial development and farming.

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To face these challenges, Battambang has developed a master plan of urbanization from 2008-2022 (supported by the Asian Development Bank, Cities Development Initiative for Asia, and German International Corporation). Battambang has also received some funding from the Ministry of Environment to put towards developing a solution for waste management.

All photos for this city highlight are courtesy of Try Thuon

Upcoming Events and Announcements

Canadian Association of Geographers 2017 Annual Conference

Monday, May 29, 2017 (all day) to Friday, June 2, 2017 (all day)

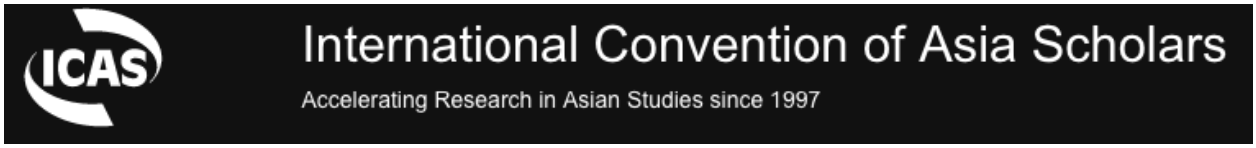
2017 Annual Conference of the Canadian Association of Geographers,
29 May–2 June, 2017, Toronto, Canada

The UCRSEA Partnership Project is organizing a session at the Canadian Association of Geographers (CAG) Annual Conference on May 29-June 2. Presentations will include field research carried out by both project staff and students under the project, which assesses urban vulnerability and enhance governance around the impacts of climate change in Southeast Asia. The conference will be held at York University, Toronto, Canada and has for its theme, "*Toward a Just and Sustainable World"*, reflecting the values of York University's Department of Geography and the CAG.
For more information on the program, please go to http://cag-acg2017.apps01.yorku.ca/wp-content/uploads/2017/05/CAG2017_Program_May11-formatted.pdf.

13th International Conference on Thai Studies: Globalized Thailand? Connectivity, Conflict and Conundrums of Thai Studies
15-18 July 2017, Chiang Mai University, Chiang Mai, Thailand

The 13th International Conference on Thai Studies aims to encourage Thai and international scholars to reflect upon Thai society, politics, economics, culture, and environment in the context of globalization that concerns relationships between Thai and other Tai-speaking groups residing in and outside of Thailand.

UCRSEA Co-director Dr. Pakamas Thinphanga and UCRSEA researcher Dr. Richard Friend will present a panel on urbanization and climate change issues in Thailand along with other Thai academics.
For more information, visit the conference website: http://www.icts13.chiangmai.cmu.ac.th/



International Convention of Asian Scholars (ICAS 10)
20-23 July 2017, Chiang Mai, Thailand

The International Convention of Asia Scholars (ICAS) is the largest international gathering in the field of Asian Studies.

ICAS attracts participants from over 60 countries to engage in global dialogues on Asia that transcend boundaries between academic disciplines and geographic areas.

At ICAS 10, UCRSEA will host a panel discussion on the need for understanding urbanization, regionalization and climate change in the Mekong region. Presenters include:

Pakamas Thinphanga, Co-Director of UCRSEA and the panel chair, will share an introduction to climate vulnerability implications of urbanization and regionalization in the Mekong region.

Arika Bridhikitti, Faculty of Environment and Resource Studies at Mahasarakham University, Thailand, will present her study of the potential climate vulnerabilities associated with the Mukdahan Special Economic Zone.

Daniel Hayward, RCSD, Chiang Mai University, Thailand will present on a pilot study of urban development planning in the Hatxaifong district bordering the capital city of Vientiane spearheaded by the National University of Lao PDR.

Hoa Lo Thanh, Centre For Environment and Community Research, Vietnam will present on the challenges facing women in Ninh Binh as the area develops as a major tourism hub for the nearby Trang An World Heritage Site.

Ei Shwe In Phyo, University of Yangon, Myanmar will present her research on the causes of urban flooding in Bago, Myanmar and the community's response.

Try Thuon, RCSD at Chiang Mai University/Royal University of Phnom Penh, Cambodia will present on the political ecology of urbanization and climate change using Battambang, Cambodia as a case study.

ICAS 10 will be held at the Chiang Mai International Exhibition and Convention Centre (CMECC) in Chiang Mai, Thailand and is organized by the Regional Center for Social Change and Sustainable Development (RSCD), with support from the Faculty of Social Sciences of Chiang Mai University. For more information, visit the conference website: http://icas.asia/icas-10-chiang-mai-2017

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We want to hear from you!

If you, or your organization, have any upcoming events, news, or announcements you'd like us to include in the next issue of the UCRSEA newsletter, please contact us at ucrsea@mail.com.

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