

SEAGA 2025

**Sustainability and The Future of
Southeast Asia**

Programme Booklet

4th - 7th November, 2025

Enabling Village, Singapore

Maps & Venue Information

Main Venue

The Opening Ceremony and Parallel Sessions will be hosted at the following locations:

- **UOB Ability Hub (Zone A)**
- **Vista Classrooms 4-1 & 4-2 (Zone B)**

Venue for Registration

Participant registration takes place at the **UOB Ability Hub**

Getting from UOB Ability Hub to Vista Classrooms

Click **HERE**

Getting from Vista Classrooms

To UOB Ability Hub

Click **HERE**



To find directions to Enabling Village, please refer to this video guide:

<https://www.instagram.com/reel/CfYq9E5jnTD/>

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Welcome Notes



Prof. Chang Chew Hung

President, SEAGA

In 2025, **the Southeast Asian Geography Association (SEAGA)** commemorates its 35th year as an esteemed association comprising geographers and professionals in related fields such as history, the geosciences, environmental sciences, urban planning, and other disciplines in academia, education, government, and the private sector within the region. **The SEAGA Conference 2025** marks the 16th biennial conference since the association's establishment in 1990.

The conference theme, “Sustainability and the Future of Southeast Asia” has been carefully selected to encompass a diverse range of issues that scholars, policy makers, entrepreneurs, and educators will be interested in. The primary objective of this conference is to facilitate a comprehensive discourse on issues pertaining to Sustainability in Southeast Asia. By doing so, we aim to provide valuable insights that inform decision-making processes and inspire action among societies, private enterprises, and governments. Featuring keynote sessions, panels, workshops and open session papers, the conference promises to present multidimensional perspectives on issues of Sustainability prevalent in Southeast Asia. Over the course of four days, nearly a hundred presentations will be delivered, with an anticipated attendance of academics, teachers, and students from various countries across Asia and beyond.

As an association and as individual researchers, we eagerly anticipate collaborating with colleagues from the region and beyond on matters pertinent to Southeast Asia. We extend a warm welcome to the conference and the networks of research and discourse that **SEAGA** aspires to foster with your participation. We have invited distinguished and expert speakers from public as well as private sector to address the issues that citizens like you and I must face in the future, and for the future.

Acknowledgements

We extend our heartfelt gratitude to all those who have made **SEAGA 2025** possible. To our partners, thank you for your invaluable collaboration and belief in our vision. To our sponsors, your generous support has provided the resources and opportunities needed to bring this event to life. To the organising committee, your dedication, planning, and countless hours of effort have shaped every detail behind the scenes. And to our volunteers, whose energy and commitment have ensured the smooth running of this event, we are deeply grateful.

Together, your contributions have not only made **SEAGA 2025** a reality, but also a platform for knowledge-sharing, meaningful connections, and lasting impact.



SEAGA

Southeast Asian Geography Association



An Institute of



Organising Committee

Chang Chew Hung

Das Diganta Kumar

Kamalini Ramdas

Edward Park

Yang Peidong

Tan Geok Chin Ivy

Tricia Seow

Tran Duc Dung

Zhang Jiajie

Wang Jingyu

Programme at A Glance

Day 1 (Tuesday, 4 November)	
Time	Programme
08:00 – 08:45	Registration outside UOB Ability Hub
08:45 – 09:00	Opening Ceremony & Welcome Remarks at UOB Ability Hub
09:00 – 10:30	Keynote Address by Prof. Winston T. L. Chow* at UOB Ability Hub
10:30 – 11:00	Coffee Break outside UOB Ability Hub
11:00 – 12:30	Parallel Session A at UOB Ability Hub, Vista 4-1, Vista 4-2, & Vista 3
12:30 – 13:30	Lunch outside UOB Ability Hub
13:30 – 15:00	Parallel Session B at UOB Ability Hub, Vista 4-1, & Vista 4-2
15:00 – 15:30	Coffee Break outside UOB Ability Hub
15:30 – 17:00	Plenary Discussion at UOB Ability Hub
17:30 – 19:00	Networking Dinner at UOB Ability Hub
Day 2 (Wednesday, 5 November)	
Time	Programme
08:30 – 09:00	Registration at UOB Ability Hub
09:00 – 10:30	Keynote Address by Prof. Jonathan Rigg* at UOB Ability Hub
10:30 – 11:00	Coffee Break outside UOB Ability Hub
11:00 – 12:30	Parallel Session C at UOB Ability Hub, Vista 4-1, & Vista 4-2
12:30 – 13:30	Lunch outside UOB Ability Hub
13:30 – 15:00	Parallel Session D at UOB Ability Hub
15:30 – 16:00	Coffee Break outside UOB Ability Hub
16:00 – 17:30	Parallel Session E at UOB Ability Hub, Vista 4-1, & Vista 4-2

Day 3 (Thursday, 6 November)	
Time	Programme
10:00 – 12:00	Field visit – four options*
Day 4 (Friday, 7 November)	
Time	Programme
08:30 – 09:00	Registration at UOB Ability Hub
09:00 – 10:30	Keynote Address by Associate Prof Dr. Fuangarun Preededilok* at UOB Ability Hub
10:30 – 11:00	Coffee Break outside UOB Ability Hub
11:00 – 12:30	Parallel Session F at UOB Ability Hub
12:30 – 13:30	Lunch outside UOB Ability Hub
13:30 – 14:30	Award Ceremony & Closing Ceremony at UOB Ability Hub
14:30	End of Programme

Note:

- All times are in Singapore local time.
- Click the highlighted text marked with an * for details in this booklet.
- Each session is 90 minutes so please plan for a **15-minute presentation plus 5 minutes for Q&A** for paper presentations. **The chair of the session may adjust the timing accordingly.**
- Please note that the conference programme may be subject to change.

Detailed Programme

Keynote Speakers

1. Professor Winston T. L. Chow



Dr. Winston T. L. Chow, Professor of Urban Climate at Singapore Management University (SMU), leads the Urban Systems Pillar at the SMU Urban Institute. His work examines urban heat, climate risks, and sustainable city design. He co-chairs the IPCC Working Group II (2023) and was a Lead Author for the 6th Assessment Report on cities and coasts.

Keynote 1: Science, Cities, and Solutions for Southeast Asia's Changing Climate

Day 1 (Tuesday, 4 November), 09:00 – 10:30h, at UOB Ability Hub

Southeast Asia is an incredibly diverse region that has undergone significant development and transformation. It is home to rapidly growing cities, critical ecosystems and defining cultures. Yet, it is also a region incredibly vulnerable to the impacts of climate change. We see the impacts of climate change on our region today – rising sea levels, extreme weather, biodiversity loss and pressures of urbanization are shaping the lives of millions. Of further concern is that such impacts are projected to be more severe in the future given the challenges and disruption arising from climate change. Yet, there is also immense potential to advance sustainable development and climate resilience on every front, especially in Southeast Asia's dynamic cities.

In this keynote, I will share geographical insights on how global climate science weighs on Southeast Asia's future. Scientific information from previous and upcoming IPCC assessments are important, but it must also be integrated with strong social science and humanities research in developing solutions that enables climate resilience. I will also explore my work with Cooling Singapore, and how findings from this project can be translated into practical solutions, from nature-based adaptation to resilient urban planning. I will also highlight ways in which geographers in Southeast Asia can make sense of global climate assessments and also how our region can contribute to global climate efforts while also acting with our local contexts in mind.

2. Professor Jonathan Rigg



Dr. Jonathan Rigg, Professor (Chair) of Human Geography at the University of Bristol, specializes in livelihoods, migration, and rural-urban change across Southeast and South Asia. A former Director of the Asia Research Institute (National University of Singapore), he is a Fellow of the British Academy (2022) and recipient of the Royal Geographical Society's Victoria Medal (2020).

Keynote 2: Personalising Sustainability: Everything Everywhere All at Once

Day 2 (Wednesday, 5 November), 09:00 – 10:30h., at UOB Ability Hub

How do we come to understand and interpret 'sustainability'? In this paper, I do so through the lives and experiences of individual workers and farmers, young and old, men and women, rich(er) and poor(er). These are the protagonists that render the word 'sustainability', meaningful. Drawing on work undertaken over four decades among smallholder farmers in Thailand, minority shifting cultivators in Laos, migrant women in Sri Lanka, outdoor workers in Vietnam, and earthquake and landslide survivors in Nepal, I ask: what does the discourse of sustainability mean and, importantly, do for – and to – them? And equally, what does it unintentionally miss or intentionally omit? Finally, I want to explore our role, as geographical educators and researchers, in this theatre of sustainability.

3. Dr. Fuangarun Preededilok



Associate Prof Dr. Fuangarun Preededilok, Lecturer and Head of the Department of Educational Policy, Management, and Leadership at the Faculty of Education, Chulalongkorn University, Thailand, focuses on education for sustainable development (ESD), participatory approaches in school management, and models of autonomous schooling. She has engaged with UNESCO and the UN Sustainable Development Solutions Network on teacher capacity and sustainability initiatives across the region.

Keynote 3: Educating for Sustainability: Shaping the Future of Southeast Asia

Day 4 (Friday, 7 November), 09:00 – 10:30h, at UOB Ability Hub

Southeast Asia is undergoing rapid socio-economic transformation while simultaneously confronting pressing environmental challenges, with climate change at the forefront. Within this dynamic context, education emerges as a crucial instrument to cultivate the knowledge, skills, values, and attitudes necessary for fostering sustainable development. Education for Sustainable Development (ESD) offers a holistic framework that integrates environmental, social, and economic dimensions, equipping learners to become active contributors to sustainable futures. Anchored in the Sustainable Development Goal 4.7, the agenda emphasizes that by 2030 all learners should acquire the competencies needed to promote sustainable development, including sustainable lifestyles, respect for human rights, gender equality, global citizenship, and appreciation of cultural diversity.

Anchored in the global framework of the Sustainable Development Goals, particularly SDG 4.7, education for ESD emphasizes fostering competencies that enable learners to promote sustainable lifestyles, respect human rights, achieve gender equality, cultivate a culture of peace and non-violence, and embrace global citizenship. By mainstreaming SDG 4.7 into national education policies, curricula, teacher education, student assessment, and monitoring systems, countries in Southeast Asia can ensure that sustainability is not an add-on but a core principle guiding educational reform and practice.

Equally important is the recognition that education for sustainability must target diverse groups—across age, gender, profession, and geography—ensuring inclusivity and equity in learning opportunities. Partnerships among governments, academia, private enterprises, and civil society are essential to building capacity and scaling impact across the region. Furthermore, digitalization in education presents both challenges and opportunities for expanding access, enhancing innovation, and fostering collaborative learning networks across national borders.

By positioning ESD at the heart of Southeast Asia's development trajectory, education can serve not only as a means of individual empowerment but also as a catalyst for collective resilience and transformation. Through the critical integration of sustainability into educational systems, coupled with regional and global cooperation, Southeast Asia can cultivate a generation of citizens prepared to navigate complexities, embrace cultural diversity, and drive the region toward a sustainable and resilient future.

Plenary Discussion

Diversity, equity, and inclusion - are we doing enough for sustainability?

Day 1 (Tue, 4 November), 15:30 to 17:00h, at UOB Ability Hub

The United Nations Sustainable Development Goal 10 mentions the importance of empowering and promoting the social, economic, and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion, or economic or other status" However, the approach to sustainability issues are often designed by people in the mainstream for people in the mainstream. Many approaches land on giving a seat at the table to show diversity of views and representation rather than a true inclusive approach to consider the standpoint and positionality of people from different backgrounds and with different needs. Are these "other" voices heard and represented? So the question is, are we doing enough and how can we do better? How can the future be sustainable for all?

About our speakers



Ms. Tan Sze Wee is currently the Executive Director of Rainbow Centre, an organisation dedicated to creating opportunities and enabling meaningful lives for persons with disabilities in Singapore. Ms. Tan began her career as a social worker in community mental health before moving into the disability sector. Over the years, she has served in diverse roles—from direct practice to programme management to organisational leadership—guided by her belief that social workers can effect transformative change at every level: for individuals, communities, organisations, and society at large. Beyond Rainbow Centre, Ms. Tan serves on the boards of YMCA Singapore and the Singapore Association of Social Workers.



Mr. Lim Puay Tiak, a prominent advocate for disability rights, serves as the current Chairman of the ASEAN Disability Forum (ADF) and a board member of the International Disability Alliance (IDA). As a wheelchair user himself, he has dedicated over 40 years to the social service sector in Singapore, where he was involved in policy and capability building for disability services within the Civil Service from 1981 to 1995. As a founding member of the ADF, he has been instrumental in the organization's advocacy efforts, particularly in the development and implementation of the ASEAN Enabling Masterplan 2025, a key initiative aimed at mainstreaming the rights of persons with disabilities throughout the ASEAN community. His work champions the principle of "Nothing about Us Without Us," striving to empower individuals with disabilities to become active and contributing members of society.



Professor Chang Chew Hung is a geography and environmental education researcher. He serves as the President of the Southeast Asian Geography Association, and Prof Chang's expertise is in curriculum and teaching within geography education, with a focus on correcting students' climate change misconceptions and in technology-enabled instruction. He has published widely in the areas of geography, geographical education, and environmental education. Representing the voice of a caregiver to an elderly parent with a disability, he will be discussing the perspective of sustainability for all and sustainability by all.

Fieldwork Options (Day 3, Thur, 6 Nov)

1. The Carbon Gallery – Carbon in Daily Life

Theme: Carbon, Sustainability, & Climate Literacy

The Carbon Gallery provides an engaging exploration of carbon & sustainability, linking strongly with geography themes. This interactive gallery highlights the role of carbon in ecosystems, the hidden carbon footprints of daily life, and the wider impacts of climate change. By blending scientific knowledge with behavioural insights, the gallery demonstrates how complex environmental issues can be communicated accessibly to the public in a Southeast Asian city context.

Time: 10:00 – 12:00

Meeting Point: 3A Pasir Ris Drive 6, #01-33, Singapore 519422

Group Size: 20 pax

Lead: Dr. Tricia Seow

Transport: Two-way shuttle bus from Enabling Village, Singapore



2. Little India – Urban Landscape Exploration

Theme: Heritage, Culture, & Multiculturalism

Little India, one of Singapore's key heritage districts, is a vibrant urban landscape characterised by colourful shop houses, spice shops, eateries, & Hindu temples. The area represents the coexistence of heritage and modernity, offering academics a strong case study in multiculturalism, urban place-making, heritage preservation, & tourism.

Time: 10:00 – 12:00

Meeting Point: Little India MRT Station (Race Course Road, Exit Gate E)

Group Size: 20 pax

Lead: Dr.Diganta Das

Transport: Meet directly at the Meeting Point



3. Sungei Buloh Wetland Reserve – Mangrove Ecosystems

Theme: Physical Geography, Coastal Dynamics, & Blue Carbon

This excursion will explore Singapore's premier mangrove ecosystem. Participants will examine coastal processes, tidal dynamics, and the role of mangroves in carbon storage and shoreline protection. The trip will showcase distinctive landforms, vegetation zones, & human-environment interactions, making Sungei Buloh a living laboratory. The session will also highlight ongoing research on blue carbon, sea-level rise, and wetland conservation.

Time: 10:00 – 12:30

Meeting Point: Sungei Buloh Wetland (Reserve Visitor Centre)

Group Size: 10 pax

Leads: Dr. Edward Park & Dr. Tran Duc Dung

Transport: Meet directly at the Meeting Point



4. Tiong Bahru Walkabout – Encountering the Old & the New

Theme: Urban Heritage, Memory, & Change

Join us on a two-hour guided walk through Tiong Bahru, one of Singapore's earliest public housing estates and now a vibrant, gentrified neighbourhood. We will trace its evolution from 1930s Streamline Modern flats built by the Singapore Improvement Trust to today's eclectic mix of kopitiams, wet markets, indie cafés, and stylish boutiques. Along the way, we will reflect on how heritage conservation, everyday memories, and globalisation intersect in reshaping urban life. This walk invites participants to encounter both the old & the new, and to critically consider what is gained and lost in Tiong Bahru's transformation.

Time: 10:30– 12:30

Meeting Point: Tiong Bahru MRT Station (EW17; Exit B) – Gather outside McDonald's at Tiong Bahru Plaza

Group Size: 20 pax

Lead: Dr.Zhang Jiajie

Transport: Meet directly at the Meeting Point



Agenda

Day 1 – Tuesday, 4 November

Highlight: A day dedicated to **the Sustainability Education Symposium (SES)**, exploring how education drives sustainability and resilience in Southeast Asia.

Time	Programme
08:00 – 08:45	Registration <i>Venue: UOB Ability Hub</i>
08:45 – 09:00	Opening Ceremony & Welcome Remarks by SEAGA President Prof. Chang Chew Hung , Nanyang Technological University <i>Venue: UOB Ability Hub</i>
09:00 – 10:30	Keynote Address by Prof. Winston T. L. Chow* Moderator: A/P Edward Park <i>Venue: UOB Ability Hub</i>
10:30 – 11:00	Coffee Break <i>Venue: UOB Ability Hub</i>
11:00 – 12:30	Parallel Session A <i>Venue: A1 – UOB Ability Hub, A2 – Vista 4-1, A3 – Vista 4-2, A4 – Vista 4-3</i>
12:30 – 13:30	Lunch <i>Venue: Outside UOB Ability Hub</i>
13:30 – 15:00	Parallel Session B <i>Venue: B1 – UOB Ability Hub, B2 – Vista 4-1, B3 – Vista 4-2</i>
15:00 – 15:30	Coffee Break <i>Venue: Outside UOB Ability Hub</i>
15:30 – 17:00	Plenary Discussion <i>Venue: UOB Ability Hub</i>
17:30 – 19:00	Networking Dinner <i>Venue: Outside UOB Ability Hub</i>

Parallel Session A (11:00 – 12:30)

Time	Session A1	Session A2	Session A3	Session A4
	Sustainability Education & Human Development Venue: UOB Ability Hub Chairperson: Chew Hung Chang	Innovative Pedagogies & Sustainability Education Venue: Vista 4-1 Chairperson: Harold Lam	Inclusive and Experiential Sustainability Learning Venue: Vista 4-2 Chairperson: Gillian Kidman	Sustainability Education through Games Venue: Vista 4-3 Chairperson: Tricia Seow
11:00 – 12:30	ID 65: Exploring the Connotations & Practical Pathways of Sustainable Education in Study Tours: Reflections Based on the Implementation of Field Trip in China Yushan Duan* Jianghao Hu	ID 101: Towards Ambisyon 2030: Teaching & Application of Sustainable Tourism Methods to Geography 1 Students of UP Diliman for a Sustainable Future of Pundaquit, San Antonio, Zambales Fernand Francis Hermoso*	ID 12: Navigating Place-Based Learning: Enhancing Field-Based Pedagogies for Sustainability Education in Southeast Asia Gillian Kidman* Hazel Tan	ID 71: Getting to Zero – Workshop about climate policy options through gamification Tricia Seow *
	ID 63: An empirical study of middle & high school students' sustainability competence in China Sheng Miao* Yushan Duan Lan Liu	ID 57: Localizing Sustainability: A Comparative Study of Educators' Understandings in the Philippines & Vietnam Quynh Pham* Marlon C. Pareja Anh Nguyen	ID 13: Mapping Numeracy: Integrating Mathematics & Geographic Inquiry for Sustainable Development Education in Southeast Asia Hazel Tan* Gillian Kidman	
	ID 89: Sustainability Education through the Singapore Eco Stewardship Programme Chew Hung Chang* Tricia Seow Josef Tan	ID 49: Developing a Strength-Based Sustainability Education Programme for Children with Autism Spectrum Disorder Ho Wang Harold Lam* Lok Ching Tsoi	ID 22: Field-Based Learning in Singapore's Higher Education: Insights from SUSS Harng Luh Sin*	
	ID 67: Living Standards of Residents in Tan Dong Hiep Ward, Ho Chi Minh City, Vietnam Pham Dung Phat Huynh* Thi Hien Dang			

Lunch (12:30 – 13:30, outside UOB Ability Hub)

Parallel Session B (13:30 – 15:00)

	Session B1	Session B2	Session B3
Time	Sustainability, Economy and Culture in the AI Era Venue: UOB Ability Hub Chairperson: Geraldine Chong Li Hoon	Pedagogical Approaches in Geography Education Venue: Vista 4-1 Chairperson: Songguan Han	Geographical Inquiry for Sustainable Futures Venue: Vista 4-2 Chairperson: Jeremy Ong
13:30 – 15:00	ID 46: Sustainability & Cultural Heritage: the Case of Singapore's Hawker Culture Sitongyao Liu*	ID 60: Climate Change Education Practices Amid Ambiguous Curriculum Standards: Insights from Lower Secondary Geography Teachers in China Shanshan Liu* Yushan Duan	ID 25: Repositioning Geographical Investigation in the AI Era: Sustainability Education & Field-Based Inquiry in Punggol Northshore, Singapore Frances Hock Lin Ong Jeremy Ong*
	ID 5: i5 enhanced Inquiry Approach: World as Place based classroom for Sustainability & AI Future Ready students – Geography comes alive! Geraldine Chong Li Hoon* Oh Boon Teck Wong Qi Shan Alan Lim Hock Chye	ID 36: Serve, Reflect, Grow: Assessing the Impact of Curriculum-Integrated Service-Learning on Senior High School Students at De La Salle University – Dasmariñas, Cavite, Philippines Marlon Pareja Jonna May Berci * Ma. Luisa Cuaresma Josephine Lejos-Cruz Maha Dilangalen	ID 26: Managing the 2024 Rice Crisis in Indonesia: A R.I.C.E. Framework Approach to Agricultural Sustainability & Food Security Frances Hock Lin Ong*
	ID 45: A Comparative Analysis of Carbon Markets Development in Major Southeast Asian Economies Xinyu Wang*	ID 73: Thinking Geographically in the Field: Using Place-Based Education to Teach Threshold Concepts Songguang Han * Jared Wong Julian Chang	ID 62: The stories people tell: a geonarrative analysis of spatial lives in the Philippines Dominique Sasha Amorsolo Joseph Palis* Lou Angeli Ocampo Darlene Gutierrez

Coffee Break (15:00 – 15:30, outside UOB Ability Hub)

Panel Discussion (15:30 – 17:00, at UOB Ability Hub)

Networking Dinner (17:30 – 19:00, outside UOB Ability Hub)

Day 2 – Wednesday, 5 November

Time	Programme
08:30 – 09:00	Registration <i>Venue: UOB Ability Hub</i>
09:00 – 10:30	Keynote Address by Prof. Jonathan Rigg* Moderator: A/P Diganta Das <i>Venue: UOB Ability Hub</i>
10:30 – 11:00	Coffee Break <i>Venue: Outside UOB Ability Hub</i>
11:00 – 12:30	Parallel Session C <i>Venue: D1 – UOB Ability Hub, D2 – Vista 4-1, D3 – Vista 4-2</i>
12:30 – 13:30	Lunch <i>Venue: Outside UOB Ability Hub</i>
13:30 – 15:00	Parallel Session D <i>Venue: E1 – UOB Ability Hub, E2 – Vista 4-1, E3 – Vista 4-2</i>
15:30 – 16:00	Coffee Break <i>Venue: Outside UOB Ability Hub</i>
16:00 – 17:30	Parallel Session E <i>Venue: UOB Ability Hub, Vista 4-1, Vista 4-2</i>

Parallel Session C (11:00 – 12:30)

	Session C1	Session C2	Session C3
Time	Geography, Society, and Sustainable Development Venue: UOB Ability Hub Chairperson: Mylene De Guzman	Spatial Insights for Sustainable Environments Venue: Vista 4-1 Chairperson: Carl Grundy-Warr	Intercultural Exchange & Resilient Communities Venue: Vista 4-2 Chairperson: Peidong Yang
11:00 – 12:30	ID 27: <i>Interdisciplinary Strategies & Lessons for Geography Education</i> Kamalini Ramdas Menusha De Silva*	ID 35: <i>Field-Based Experiential Learning as "Alternative Intelligence": Exploring Life Cycles & Learning Cycles in Southeast Asia</i> Carl Grundy-Warr*	ID 39: <i>"The Grass is Greener Further Away, Right?" – Socio-Geographic Imaginaries & Psycho-Social Motivations of Short-Term Student Mobilities in Southeast Asia</i> Peidong Yang* Ming Wei Ang Yan Yun Toh
	ID 90: <i>Integrating Service-Learning in Geography in Philippine Higher Education</i> Mylene De Guzman* Ma. Simeona Martinez Emmanuel Garcia Joseph Palis Vanessa Joy Anacta Jake Rom Cadag Dominique Sasha Amorsolo Lou Angeli Ocampo Darlene Gutierrez	ID 77: <i>Reframing Geography Learning in Higher Education Through Photovoice</i> Frank Elie Morales* Enrico Garcia	ID 15: <i>Fostering Intercultural Competence & Sustainability Awareness through Global Dialogues: Insights from Hong Kong Prospective Teachers</i> Sally Wai-Yan Wan* Fuangerun Preededilok Janet Orchard Cherry Chan Suzannie Leung
	ID 41: <i>An interactive toponymic map of Singapore</i> Shashvat Shukla*	ID 31: <i>Discharge-Sediment Dynamics In Peninsular Malaysia: A Multi-Basin Analysis Based on National Datasets</i> Jiachun Huang* Edward Park Jingyu Wang Adam D. Switzer Chow Ming Fai Xianfeng Wang	ID 83: <i>UI GreenMetric Framework and DLSU-D: Perceptions of Compliance from Teaching and Non-Teaching Personnel</i> Maylene Pakingan
	ID 40: <i>Forestry Teacher Project: Strategy for Awareness of Forest Resource Conservation in Thailand</i> Doungkamol Bangchuad* Buntarika Bulpakdi	ID 43: <i>Teachers' Recontextualisation of Geography in Singapore and Japan</i> Naoyuki Ito Yoshiyasu Ida Ivy Tan* JaYeon Yang Melanie Lum Gowri N. Ng ChenYee	ID 61: <i>Evaluating Short-Term GHI Forecasting Under Varying Sky Conditions in a Tropical Region: A Case Study of West Java, Indonesia</i> Afina Zahra* Rifdah Azzahra Pranda Garniwa Hyunjin Lee Indra Aditya Iwa Garniwa Muhammad Dimiyati

Lunch (12:30 – 13:30, outside UOB Ability Hub)

Parallel Session D (13:30 – 15:00)

Time	Session D1	Session D2	Session D3
	Transforming Urban and Environmental Futures Venue: UOB Ability Hub Chairperson: Diganta Das	Voices, Inclusion, & Well-Being Venue: Vista 4-1 Chairperson: Yany Lopez	Cultural Heritage, Identity & Sustainability Venue: Vista 4-2 Chairperson: Ho Wang Harold Lam
13:30 - 15:00	ID 103: <i>AI Urbanism in Singapore: Exploring Geographies of Technology & Society relationships</i> Diganta Das*	ID 58: <i>Locating Resistance: Human Rights Defenders through Digital Storytelling</i> Yany Lopez*	ID 50: <i>Spatial patterns of cultural & creative industries in Jakarta</i> Adib Ahmad Kurnia Jan Zenka*
	ID 94: <i>Indonesia's new capital (Nusantara) & the intensification of sand & gravel mining in Kalimantan & Sulawesi</i> Kai Wan Yuen* Edward Park	ID 102: <i>Translating Policy into Practice: The Intermediary Role of the Event Industry in Disability Inclusion in China</i> Yiren Liang*	ID 44: <i>Exploring The Application of Geographic Information Systems in Historical & Cultural Research In China & Implications For Literary Studies In Vietnam</i> Hai Vuong Van* Hung Duong Vinh
	ID 75: <i>Greening the jeepney? Changes in the Philippine transport system</i> Yves Boquet*	ID 86: <i>Contested Visions of Green Urbanism in Singapore & Qatar: Research Agenda(s)</i> Yannis-Adam Allouache*	ID 70: <i>The Social Value of Vacant Urban Spaces: Social Return on Investment of Short-Term Community Projects in Vacant Urban Spaces in Hong Kong</i> Ho Wang Harold Lam*
	ID 96: <u>Tourism impact on livelihood assets and sustainable solutions for coastal areas of Đak Lak Province, Viet Nam</u> Nhuan Tran Quoc Dung Doan Thi My	ID 84: <i>The Influence of Ocop Program on Agricultural Products of Vietnam</i> Hiep Vo Thi Kim* Binh Pham Thi	

Coffee Break (15:00 – 15:30, outside UOB Ability Hub)

Parallel Session E (15:30 – 17:00)

Time	Session E1	Session E2	Session E3
	Rural Transformations, Spatial Transitions and Sustainability Venue: UOB Ability Hub Chairperson: Bing Sheng Wu	Geography Education (WORKSHOP) Venue: Vista 4-1 Chairperson: Gillian Kidman	Climate, Environment and Resilience Venue: Vista 4-2 Chairperson: Ramanatalia Parhusip
15:30 – 17:00	ID 8: Comparing Paper & Digital Cartographic Representations for Tracking Divergent Pathways of Spatial Cognitive Construction Bing Sheng Wu* Da-Chun Chiang	ID 20: Getting Published in Geographical Education: Conversations with Editors Gillian Kidman* Chang Chew Hung Katie Peace	ID 78: Investigating the Impact of Greenhouse Gases on Surface Air Temperature in West Sumatra: A Multi-Satellite Analysis with Sentinel-5P & MODIS Iqbal Putut Ash Shidiq Ramanatalia Parhusip*
	ID 2: Towards local just transitions in Southeast Asia's rural spaces: Preliminary insights from the Philippines & Thailand Edo Andriesse*		ID 82: Assessing the Sustainability of Livelihoods Based on Tobacco Production & Consumption in Cao Bang Province, Viet Nam Thi Ngoc Quynh Pham* Thi Van Anh Nong
	ID 91: Globalising nickel: A study of production & financial networks Dariusz Wojcik* Neil Coe Theodor Cojoianu Lian Sinclair Morag Torrance		ID 9: Comparative Study on Changes in Flood Inundation Areas with the Development of Urbanization in Asian Monsoon Regions since Modern Times Shinji Miyamoto* Nityananda Deka Chandra Prasad Pokhrel Md. Rashedur Rahman
	ID 104: Patterns, Processes, and Drivers of Rural Settlement Space: Evidence from the Literature (2019 – 2025) Lingling Chen* Firuz Begham Mustafa		ID 7: Improving SHS Students' Achievement and Motivation to Learn Chemistry Using REACT Strategy Marie Kristine Ramirez

Day 3 – Thursday, 6 November

Field visit: 10:00. – 12:00 (Singapore local time)

Participants may choose one from four thematic field visits, each highlighting the conference's focus on sustainability, heritage, and geography education in Southeast Asia:

1. The Carbon Gallery – Carbon in Daily Life*

Theme: Carbon, Sustainability & Climate Literacy

2. Little India – Urban Landscape Exploration*

Theme: Heritage, Culture & Multiculturalism

3. Sungei Buloh Wetland Reserve – Mangrove Ecosystems*

Theme: Physical Geography, Coastal Dynamics & Blue Carbon

4. Tiong Bahru Walkabout – Encountering the Old & the New*

Theme: Urban Heritage, Memory & Change

Note:

- Participation is free of charge
- Registration will be announced later



The Carbon Gallery



Little India



Sungei Buloh Wetland Reserve



Tiong Bahru Walkabout

Day 4 – Friday, 7 November

Time	Programme
08:30 – 09:00	Registration <i>Venue: UOB Ability Hub</i>
09:00 – 10:30	Keynote Address by Associate Prof Dr. Fuangarun Preededilok* Moderator: A/P Ivy Tan <i>Venue: UOB Ability Hub</i>
10:30 – 11:00	Coffee Break <i>Venue: Outside UOB Ability Hub</i>
11:00 – 12:30	Parallel Session F <i>Venue: UOB Ability Hub</i>
12:30 – 13:30	Lunch <i>Venue: Outside UOB Ability Hub</i>
13:30 – 14:30	Award Ceremony & Closing Ceremony ✓ SJTG Early Career Paper Award Special Session <i>Venue: UOB Ability Hub</i>
14:30	End of Programme

Session F (11:00 – 12:30)

Time	Session F1	Session F2	Session F3
	Geospatial Technologies for Sustainable Environments Venue: UOB Ability Hub Chairperson: Thuong V. Tran	Sustainability & Green Transitions Venue: Vista 4-1 Chairperson: Nathaniel Trumbull	Cultural Heritage & Sustainable Development Venue: Vista 4-2 Chairperson: Junqi Li
11:00 - 12:30	ID 34: Interferometric Synthetic Aperture Radar for Monitoring Vertical Land Motion in Coastal Ecosystems: Insights from Bibliometric Analysis Thuong V. Tran* Ruth Reef	ID 93: Reconsidering The Quasi-Public Status of a Large Ferry Line: A Framework of Comparison for Ferry Lines in North America & in Southeast Asia Nathaniel Trumbull*	ID 29: Voices from Government Officials: The Sustainable Development of Li Zhuang Cultural Tourism Town Junqi Li*
	ID 64: Changing Colors, Continuing Cultures: Rethinking Color as Cultural Sustainability in Urban Heritage Yueru Zou*	ID 28: Nanotechnologies & sustainable regional development: barriers & social acceptance Jan Zenka* Jan Píša Jan Macháček David Vogt Simona Bartosova Stastna Marie Cviková	ID 1: Mixed Reality in the Classroom: Immersive Learning Experiences & Interactive Opportunities for the Future of Education Daniela Schmeinck*
	ID 59: Apply machine learning and remote sensing on Google Earth Engine (GEE) to estimate PM _{2.5} concentration in Ho Chi Minh city Nhi Nguyen Hoang Tuyet Van Tran Thi Hoang Thong Nguyen*	ID 95: Conservation & Promotion of the Value of the Dong Cam Phu Yen Irrigation Dam (Dak Lak) of Viet Nam Nhuan Tran Quoc*	ID 100: Reimagining Cold War Heritage: Advancing the SDGs of Peace, Sustainability, & Partnership Jiajie Zhang*

Lunch (12:30 – 13:30, outside UOB Ability Hub)

Award Ceremony & Closing Ceremony (13:30 – 14:30, at UOB Ability Hub)

ABSTRACTS

Submission ID: 1

Mixed Reality in the Classroom: Immersive Learning Experiences and Interactive Opportunities for the Future of Education

Daniela Schmeinck

University of Cologne, Cologne, Germany

Abstract

In the world of education technology, there are always innovations that are seen as having the potential to transform learning and teaching. Mixed reality headsets are one such example. Among other things, they allow the real and virtual worlds to merge, providing learners with immersive learning experiences and new, interactive learning opportunities. By combining real and virtual elements, they create immersive learning experiences that increase student interest and motivation. Virtual field trips, historical simulations, or interactive science experiments can make complex concepts tangible and understandable. However, the use of these technologies not only promotes individual learning, but also supports collaborative and inclusive learning approaches. The presentation will highlight the potential and limitations of mixed reality technologies for creating innovative learning environments in the classroom. It will present practical examples and didactic concepts that illustrate the added value of Mixed Reality in the classroom and how teachers can effectively integrate these technologies to enable future-oriented learning.

Submission ID: 2

**Towards local just transitions in Southeast Asia's rural spaces:
Preliminary insights from the Philippines and Thailand**

Edo Andriessse

Seoul National University, Seoul, Korea, Republic of

Abstract

The term *Just* Transitions has become a popular term with respect to phasing out fossil fuels and transitioning to greener modes of economic growth. Nevertheless, it remains hard to find models of just transitions that are inclusive and viable in the long run, given complicated patterns of employment and continuing environmental stresses. As one study concluded: Climate policy ‘without progressive redistribution policies would increase the poverty headcount’. This paper 1) investigates the concept of just transitions from a local perspective in Southeast Asia and 2) focuses on the ambitions to create green growth in rural and coastal spaces. The main question to be answered is: How can local just transitions in rural Southeast Asia be better designed and implemented, and what governance options are available to simultaneously address environmental and socioeconomic concerns? After an overview of just transition initiatives and associated challenges in Southeast Asia, this paper zooms in on Thailand and the Philippines. Several initiatives are scrutinized. Some cases are based on secondary data, and two cases are fieldwork conducted in 2024. This paper offers insights into the continuing challenges of inclusively transforming rural and coastal spaces. Climate change adaptation and mitigation is easier said than done due to unintended consequences, persistent poverty and vulnerability, the lack of alternative employment options, as well as environmental stresses. As such, this paper provides a locally grounded analysis of just transitions imperatives and adds to the body of literature on Geographies of Rural Transition as well as development geography more broadly.

Submission ID: 5

i5 enhanced Inquiry Approach: World as Place based classroom for Sustainability and AI Future Ready students- Geography comes alive!

Geraldine Chong Li Hoon, Oh Boon Teck, Wong Qi Shan,
Alan Lim Hock Chye
Anglo-Chinese School (Barker Road), Singapore, Singapore

Abstract

Since the Humanities Inquiry Approach presentation at SEAGA 2010, Hanoi, as a pedagogy in the Singapore Geography syllabus 2013 to develop 21st Century competencies - critical thinking skills in students - the world has changed dramatically in 15 years - Covid-19, Ukraine war, AI Artificial Intelligence technology, amidst climate change and natural disasters in the world, with its implications in the learning of Geography, sustainability, and future of Southeast Asia and the world.

We do not know what the future holds. But as Geography educators, we can equip our students with critical, adaptive, and inventive thinking skills, using today's issues to model and solve future sustainability issues that we do not know today.

One ground-up proposal to deliver better teaching and achieve the Geography learning outcomes of knowledge, skills, and attitude is to enhance the Inquiry approach with the i5 approach, Place-based Learning approach, and teacher fronting, leveraging the AI Artificial Intelligence Model approach to enable Human intelligence to flourish.

This i5 enhanced Inquiry Approach: World as (Place-based) classroom for (Sustainability and AI) Future Ready students- (Geography) Volcano comes alive! lesson package was implemented in the teaching of 3 classes of 72 Secondary 3 Humanities (Geography Elective) students of mixed abilities (about AL 9-22) on the risks and benefits of volcanoes - shield vs stratovolcanoes and across topics in 2024.

More than 80% of the students strongly agree/agree that the i5 enhanced Inquiry Approach has helped them to learn, resources were useful for their learning, and they enjoyed learning using this approach.

Submission ID: 7

Improving SHS Students' Achievement and Motivation to Learn Chemistry Using REACT Strategy

Marie Kristine Ramirez

De La Salle University, Manila, Philippines

Abstract

Chemistry plays an essential role in various aspects of life and has numerous practical applications. However, it is often perceived as a challenging subject. Many students struggle to understand it because they do not see its connection to their everyday lives emphasized during class discussions. To address this, the REACT Strategy was implemented in this action research to improve Grade 12 STEM students' comprehension of chemistry, specifically focusing on Stoichiometry and Gas Laws. The study also examined the strategy's impact on students' motivation in chemistry and their perceptions of its effectiveness.

The study included three General Chemistry 1 classes taught by the researcher. The study used a Plan–Do–Study–Act (PDSA) action research methodology with a concurrent mixed-method design. To assess students' conceptual understanding and motivation, quantitative data was collected through the Chemistry Achievement Test (CAT) and the Context-Based Chemistry Motivation Scale (CBCMS) before and after implementing the REACT Strategy.

After implementing the REACT Strategy, the results showed a significant improvement in both students' motivation and achievement scores. Additionally, students' journal entries emphasized that the strategy was engaging, collaborative, relatable, and conducive to critical thinking. These findings suggest that integrating real-world contexts and practical applications into lessons can enhance student engagement. Educators can adopt similar strategies by integrating relevant examples and activities that link theoretical concepts to students' daily experiences.

Submission ID: 8

Comparing Paper and Digital Cartographic Representations for Tracking Divergent Pathways of Spatial Cognitive Construction

Bing Sheng Wu, Da-Chun Chiang

National Taiwan Normal University, Taipei, Taiwan

Abstract

The ubiquity of mobile devices has increased reliance on digital navigation applications during wayfinding activities. While research indicates spatial cognition differs between printed and digital maps, there remains a gap in understanding the cognitive mechanisms during active wayfinding processes. This study examines differential cognitive processes when using paper versus 2D digital maps on mobile devices, using spatial information processing and cognitive load theory as frameworks. 26 participants (ages 18-25) navigated an unfamiliar urban environment while wearing eye-tracking glasses to capture real-time spatial cognition development. The glasses recorded environmental scanning patterns, fixation duration on landmarks, and attention allocation behaviors. Post-navigation surveys and interviews assessed route accuracy, spatial knowledge acquisition, and subjective experiences. Results reveal paper maps enhance long-term spatial memory, improving information storage and creating stronger impressions of specific environmental features. Conversely, digital maps facilitate better understanding of spatial directions and increase wayfinding efficiency. This study delineates the distinctive cognitive processes underlying different wayfinding approaches and their impacts on spatial cognition development. The methodological framework offers opportunities for assessing spatial cognition in educational contexts and advancing spatial literacy within geography education.

Submission ID: 9

Comparative Study on Changes in Flood Inundation Areas with the Development of Urbanization in Asian Monsoon Regions since Modern Times

Shinji Miyamoto¹, Nityananda Deka², Chandra Prasad Pokhrel³, Md. Rashedur Rahman⁴

¹Okayama University of Science, Okayama, Japan. ²Gauhati University, Gauhati, India.

³Tribhuvan University, Kathmandu, Nepal. ⁴Bangladesh Agricultural University, Mymensingh, Bangladesh

Abstract

In recent years, we have been conducting comparative studies on disasters in Japan, which achieved modernization at an early stage, and in the developing South Asian region. We have studied the historical changes of flood inundation areas in Japan since the modern era. As a result, it was found that river improvement has been carried out in Japan with the development of urbanization after the modern era. As a result, (1) flood damage to urban centers by mainstream rivers has decreased. However, (2) the flood damage to surrounding farmlands caused by tributary rivers tended to increase afterwards.

Furthermore, (3) even in the Tokyo metropolitan area, where river improvement has been implemented at an early stage, the trend of inundated areas remained unchanged.

On the other hand, flooded areas in the plains of South Asia (Bangladesh and Assam (North East India)) are “adapting to and living in harmony with floods” because of the vast plains and the lack of engineering river development throughout the country compared to Japan. However, for example, in Dhaka, the capital city of Bangladesh, the trend of flood inundation area has been decreasing due to engineering river improvement, but the trend has remained high, which is the same as the case in Japan as a result of river improvement.

The above shows the evolution of flood inundation areas on the plains, and it is clear that engineering river improvement policies do not necessarily result in disaster mitigation.

Submission ID: 12

Navigating Place-Based Learning: Enhancing Field-Based Pedagogies for Sustainability Education in Southeast Asia

Gillian Kidman, Hazel Tan

Monash University, Melbourne, Australia

Abstract

Field-based geography education is crucial in fostering place-based learning, environmental awareness, and spatial thinking, particularly in the context of sustainability challenges in Southeast Asia. This paper explores innovative pedagogies for field-based teaching, emphasizing experiential learning, geospatial technology, and interdisciplinary inquiry to enhance students' understanding of land-use change, climate resilience, and ecological sustainability. Drawing on case studies of urban green spaces in Singapore and agricultural landscapes in Indonesia, this presentation demonstrates how field-based learning integrates scientific inquiry with local knowledge systems to promote actionable sustainability solutions.

This presentation also examines the role of digital mapping, participatory GIS, and environmental modelling in extending fieldwork beyond traditional observation methods, enabling students to collect, analyse, and visualise real-world sustainability data. The discussion will highlight pedagogical innovations, including project-based learning, inquiry-driven field investigations, and student-led research collaborations with local communities. By critically evaluating the effectiveness of these pedagogical strategies, this presentation will contribute to the broader discourse on how field-based geography education can support sustainability literacy and empower future decision-makers in Southeast Asia.

Submission ID: 13

Mapping Numeracy: Integrating Mathematics and Geographic Inquiry for Sustainable Development Education in Southeast Asia

Hazel Tan, Gillian Kidman

Monash University, Melbourne, Australia

Abstract

Numeracy and spatial analysis are essential for understanding sustainability challenges, yet their integration in geography education remains underutilised. This presentation examines how mathematical and numeracy-based approaches can enhance sustainability education in Southeast Asia, providing students with the quantitative skills necessary to analyse climate trends, resource management, and socio-economic inequalities. Using geospatial data, statistical modelling, and mathematical reasoning, this paper presents interdisciplinary frameworks that merge geography and mathematics to develop evidence-based solutions to pressing environmental and development issues.

This paper explores how numeracy skills, such as data visualisation, predictive modelling, and spatial statistics, can be applied to sustainability education through GIS, remote sensing, and environmental simulations. Examples include using statistical analysis to assess flood risks in Singapore and mapping deforestation rates in Borneo. The paper will also discuss strategies to integrate quantitative reasoning into geography classrooms, such as project-based learning, interactive data literacy exercises, and real-world applications of mathematical geography. By demonstrating how numeracy-driven geographic inquiry can deepen students' understanding of sustainability challenges, we highlight the transformative potential of integrating mathematics into geography education to advance sustainable development goals in Southeast Asia.

Submission ID: 15

Fostering Intercultural Competence and Sustainability Awareness through Global Dialogues: Insights from Hong Kong Prospective Teachers

Sally Wai-Yan Wan¹, Fuangarun Preededilok², Janet Orchard³, Cherry Chan⁴, Suzannie Leung¹

¹The Chinese University of Hong Kong, Hong Kong SAR, Hong Kong.

²Chulalongkorn University, Bangkok, Thailand. ³University of Bristol, Bristol, United Kingdom. ⁴City University of Hong Kong, Hong Kong SAR, Hong Kong

Abstract

The Global Dialogue Project (GDP) is a cross-cultural teacher education programme designed to cultivate intercultural competence and promote education for sustainable development. This paper shares insights from the project implementation, which connects prospective teachers, teacher educators, and practitioners across diverse cultural contexts, including Southeast Asia, the UK, and beyond, through structured online dialogues focused on global sustainability challenges. Utilizing video conferencing and collaborative digital tools such as Padlets, the GDP facilitates sustained intercultural conversations where participants share perspectives on education for sustainable development, with a specific focus on nature conservation. The project emphasizes mutual respect and open-mindedness, in which participants attempt to explore complex global challenges through multiple cultural lenses. Participants also engage in creative activities, such as co-creating artworks, to deepen their emotional engagement and reflection. Drawing on qualitative reflections from Hong Kong prospective teacher participants, this paper highlights how the GDP fosters transformative learning by fostering empathy, critical thinking, and pedagogical skills relevant to sustainability education. The dialogues empower future teachers to integrate global perspectives into their teaching practice, thus enriching local curricula with broader socio-environmental contexts. There will be a discussion of practical strategies for scaling and optimising the GDP model within diverse educational settings in Southeast Asia, as well as its potential to prepare future teachers for global citizenship and collaborative problem-solving. By showcasing the project design, facilitation methods, and participant experiences, this paper aims to contribute to the advancement of intercultural and sustainability education in the region.

Submission ID: 20

Getting Published in Geographical Education: Conversations with Editors

Gillian Kidman¹, Chew Hung Chang², Katie Peace³

¹Monash University, Melbourne, Australia. ²Nanyang Technological University, Singapore, Singapore. ³Taylor and Francis, Singapore, Singapore

Abstract

This 90-minute workshop offers aspiring and experienced authors a unique opportunity to engage directly with editors from key platforms in geographical education publishing. The workshop starts with presentations (30–40 minutes) from both the Co-Editors of the journal *International Research in Geographical and Environmental Education* (IRGEE), and the Commissioning Editor from the Routledge Education Books. The presentations will explore insights into the publication process. These include the preparation and submission of manuscripts, the peer review process, revisions, proofreading, and even preparing for open access publication. The editors will then share insights on what makes a successful paper or proposal, highlight common pitfalls to avoid, and discuss current trends in research publication. Participants will be engaged in a Q&A with the editors, offering a rare opportunity for them to ask questions, clarify doubts, and discuss ideas. There will be short table exercises to help participants reflect on their own publishing goals and provide them with an opportunity to receive peer input. Whether it is preparing for one's first manuscript or looking to turn one's doctoral research into a book, this session is designed to clarify the publishing process and support one's academic publishing journey.

Submission ID: 22

Field-Based Learning in Singapore's Higher Education: Insights from SUSS

Harnng Luh Sin

Singapore University of Social Sciences, Singapore, Singapore

Abstract

This paper presents a preliminary exploration of the role of field-based learning in undergraduate education in Singapore, drawing on observations from NIE351 Interdisciplinary Global Learning, a compulsory module introduced in 2023 at the Singapore University of Social Sciences (SUSS). Designed to encourage students to engage with global and local issues through experiential learning, the module includes an overseas field component that forms part of the university's efforts to enhance students' understanding of contemporary global challenges.

Rather than focusing on any single disciplinary theme, NIE351 invites students to consider issues through an interdisciplinary lens, using real-world observations and stakeholder encounters to support learning. For many students, this module represents a highlight in their university education, and is one of several key opportunities within the SUSS Core Curriculum to allow and encourage students to have sustained engagement with field-based learning beyond the classroom.

This paper considers the possibilities and limitations of field-based education in the Singapore context, including logistical challenges, varying student receptivity, and the institutional frameworks that shape such experiences. These observations offer initial contributions to ongoing discussions on youth education, global engagement, and geography teaching in Southeast Asia.

Submission ID: 25

**Repositioning Geographical Investigation in the AI Era:
Sustainability Education and Field-Based Inquiry in Punggol
Northshore, Singapore**

Frances Hock Lin Ong, Jeremy Ong
Mayflower Secondary School, Singapore, Singapore

Abstract

In an era dominated by AI-generated content and curated digital realities, field-based Geographical Investigation (GI) in secondary education requires renewed focus. This paper presents a case study of students conducting GI in Punggol Northshore, a model precinct in Singapore’s “Designing for Life” sustainable urban initiative. The study argues that GI is vital for developing students’ geographical thinking, spatial literacy, and ethical awareness of sustainability in their environment.

The investigation followed inquiry-based learning, supported by digital tools like online surveys, but centred on field observation, data collection, and critical reflection on how green features—such as coastal boardwalks, energy-efficient housing, and active mobility infrastructure—appear in real contexts. Students explored the gap between idealised digital representations and on-the-ground realities, learning to evaluate rather than accept sustainability narratives passively.

Using Immanuel Kant’s epistemology—specifically his “Two Objects” and “Two Aspects” views—this study shows how GI enables students to distinguish the “noumenal” (the true realities of urban planning) from the “phenomenal” (how these are perceived or portrayed). This philosophical framework deepened students’ cognitive engagement, helping them navigate between physical realities and digital representations.

The findings highlight the enduring importance of field-based GI in geography education, especially when combined with EdTech tools. This blended approach empowers learners to critically interpret their surroundings and engage meaningfully in discussions about sustainability and livability in Southeast Asia’s fast-changing urban landscapes.

Submission ID: 26

Managing the 2024 Rice Crisis in Indonesia: A R.I.C.E. Framework Approach to Agricultural Sustainability and Food Security

Frances Hock Lin Ong

Mayflower Secondary School, Singapore, Singapore

Abstract

Rice lies at the heart of Indonesia's agricultural identity, culture, and food security. Yet, despite past self-sufficiency, the nation remains vulnerable to rice shortages and inflation. In 2024, Indonesia faced another rice crisis, marked by rising prices, public protests, and disrupted imports. This paper applies the R.I.C.E. framework—Rules and Regulations, Infrastructure, Climate Change, and Education—to examine Indonesia's multi-pronged response and its broader implications for sustainable agricultural development.

Drawing on mainstream media reports, FAO and World Bank data, and historical parallels, this study analyses how infrastructure projects, such as the Gumbasa Dam, and adaptive practices like the System of Rice Intensification (SRI), are being deployed in response. The

R.I.C.E. framework allows for a structured evaluation of both internal government control (rules and physical infrastructure) and external disruptions (climate change and education needs), illuminating the interplay between state capacity, environmental risks, and public understanding.

The analysis reveals the strengths and limitations of Indonesia's current strategy. While infrastructural and educational investments offer long-term potential, political manipulation, policy incoherence, and environmental vulnerability continue to undermine sustainable rice security. The paper also acknowledges the limitations of the R.I.C.E. framework in addressing deeper structural issues such as corruption, land-use conflicts, and electoral incentives.

This study calls for a more holistic and transparent policy approach, while positioning the

R.I.C.E. framework as a flexible tool for evaluating food crises and agricultural transitions in Southeast Asia.

Keywords: rice crisis, Indonesia, food security, agricultural policy, climate change, R.I.C.E. framework, sustainability

Submission ID: 27

Interdisciplinary Strategies and Lessons for Geography Education

Kamalini Ramdas, Menusha De Silva

National University of Singapore, Singapore, Singapore

Abstract

The recent push towards interdisciplinary learning at the National University of Singapore has provided challenges and opportunities for geography educators. On the one hand, there has been greater competition, resulting in fewer students majoring in geography. On the other hand, there have been opportunities to engage with other disciplines, thus generating new pathways into the study of geography. Our collaborative research project with academics from theatre studies and communications resulted in strategies centred on embodiment, emotions, and empathy for teaching urban livability. This experience revealed (1) conceptual entry points that demonstrated geography's expansive capacity to engage with other disciplines, and (2) novel strategies that enlivened the classroom and enabled us to engage with students differently.

Submission ID: 28

**Nanotechnologies and sustainable regional development:
barriers and social acceptance**

Jan Zenka, Jan Píša, Jan Macháček, David Vogt, Simona Bartosova
Stastna, Marie Cviková University of Ostrava, Ostrava, Czech Republic

Abstract

The main aim of this contribution is to develop a conceptual framework allowing for identification of factors affecting acceptance, diffusion, and application of nanotechnologies in (old industrial) regions. Novelty of this approach is a combination of three dimensions: individual (final consumers, households), organizations (private companies and public institutions), and, most importantly, regional level. While the theories of technology acceptance at individual/organizational level are well developed, there is no comprehensive framework available for cities and regions. Potential effects of the position of cities and regions in urban-rural continuum and core-periphery structure will be discussed, together with industrial structure and associated types of agglomeration economies: localization economies in specialized regions with fragmented firm size structure, related variety, urbanization economies, or potentially adverse effects of regional industrial structure will be presented. Besides, particularities of regional institutional frameworks and modes of strategic coupling will also be discussed. Apart from the theoretical arguments, anecdotal comparison of European and South (East) Asian regions from the viewpoint of nanotechnology acceptance and barriers of their development will be provided.

Submission ID: 29

Voices from Government Officials: The Sustainable Development of Li Zhuang Cultural Tourism Town

Junqi Li

Nanyang Technological University, Singapore, Singapore

Abstract

In recent years, achieving sustainable development in cultural tourism presents critical challenges across Asia (including Southeast Asia), as cultural and heritage-rich communities struggle to balance economic growth with environmental and cultural preservation. China's Li Zhuang Cultural Tourism Town in Sichuan Province exemplifies this trend. It aims to revitalise the rural community and local economy through heritage-based tourism under China's national-level rural revitalisation strategies. However, such projects encounter multiple sustainability challenges: over-commercialisation, ecological degradation, social disruptions that undermine long-term viability, largely as a result of rapid tourism development.

Focusing on the perspectives of government officials in Li Zhuang cultural tourism town, this research investigates the efforts that the local government made to tackle these challenges and achieve sustainable outcomes. Through in-depth interviews with local officials conducted from August to October 2025, this study seeks to collect and analyse primary data concerning officials' views and the strategies they adopt for promoting cultural tourism development with long-term sustainability goals. The analysis explores how these strategies advance broader United Nations' Sustainable Development Goals, notably SDG 8 Decent Work and Economic Growth, and SDG 11 Sustainable Cities and Communities. Although centred on a Chinese case, this research provides valuable comparative lessons for Southeast Asian countries, where governments also strive to balance development and sustainability in culturally significant tourism sites. By integrating insights on local governance into the context of regional sustainable development, this research contributes to enriching the SEAGA conference's dialogue on politics, policy, and the pursuit of a sustainable future for Southeast Asia.

Submission ID: 31

Discharge-Sediment Dynamics In Peninsular Malaysia: A Multi-Basin Analysis Based on National Datasets

Jiachun Huang^{1,2}, Edward Park^{3,2}, Jingyu Wang^{1,2}, Adam D. Switzer^{4,5},
Chow Ming Fai⁶, Xianfeng Wang^{5,4}

¹National Institute of Education, Nanyang Technological University, Singapore, Singapore. ²Earth Observatory of Singapore, Nanyang Technological University, SINGAPORE, Singapore. ³National Institute of Education, Nanyang Technological University, SINGAPORE, Singapore. ⁴Earth Observatory of Singapore, Nanyang Technological University, Singapore, Singapore. ⁵Asian School of the Environment, Singapore, Singapore. ⁶School of Engineering, Monash University, Sunway City, Malaysia

Abstract

River flow and sediment transport shape fluvial systems, yet region-wide, multi-basin insights are lacking for Peninsular Malaysia's tropical monsoon rivers. Here, we analyze multi-decadal daily rainfall, discharge, and suspended-sediment records from 11 major basins, covering diverse geomorphic and climatic settings. Data were aggregated to monthly and annual scales, with trend and spectral analyses identifying monsoon, El Niño-Southern Oscillation (ENSO), and Indian Ocean Dipole (IOD) influences.

Principal component and regression analyses attribute sediment yield variability primarily to geomorphic and land-use factors (~58 %), followed by climate (~25 %) and infrastructure impacts. Over 80 % of annual sediment flux occurs during the Northeast Monsoon (Nov-Mar), and major reservoirs and floodplains retain 30-50 % of sediment loads. Spectral signals align with ENSO (2-7 years) and IOD (4-6 years), indicating their regional influence on discharge. These findings elucidate the interplay of natural and human drivers in tropical monsoon sediment dynamics and establish a quantitative basis for sustainable river-basin management.

Submission ID: 34

Interferometric Synthetic Aperture Radar for Monitoring Vertical Land Motion in Coastal Ecosystems: Insights from Bibliometric Analysis

Thuong V. Tran, Ruth Reef

School of Earth, Atmosphere and Environment, Monash University, Clayton, VIC 3800, Australia

Abstract

Coastal vertical land motion (VLM) is a critical factor influencing relative sea-level rise, flood risk, and ecosystem resilience in the world's most vulnerable shorelines. Here, we present the first bibliometric synthesis of 269 peer-reviewed publications on Synthetic Aperture Radar (SAR)-based VLM monitoring over the past two decades. It highlights a clear methodological progression, from early, localised applications of Differential InSAR (DInSAR, 11.5%) to the widespread adoption of advanced time-series techniques such as Persistent Scatterer InSAR (PSInSAR, 25.7%), Small Baseline Subset (SBAS, 20.8%), and hybrid multi-sensor approaches (22.7%). The combination of InSAR with GNSS, LiDAR, tide gauges, and hydrological data has significantly enhanced our ability to understand the causes of land movement from both natural events and human activities, which helps in assessing risks and adapting to climate change. Geographically, research is concentrated in China (26.8%), Italy (15.6%), Indonesia (8.6%), and the United States (5.6%), with a pronounced focus on Asian megadeltas and rapidly urbanising coasts such as the Yangtze, Yellow River, Mekong Delta, Shanghai, and Jakarta. Subsidence rates frequently exceed 5–80 mm/year, dramatically surpassing global mean sea-level rise, and underscore the urgency of translating InSAR science into actionable coastal policy. To realise the full societal and environmental benefits of SAR-based coastal VLM monitoring, future priorities should include expanding research to underrepresented regions, advancing multisensor and automated processing workflows, and strengthening collaborations with stakeholders and policymakers. Addressing these priorities will be essential for supporting effective climate adaptation, disaster risk reduction, and sustainable management of coastal zones worldwide.

Submission ID: 35

**Field- Based Experiential Learning as "Alternative Intelligence":
Exploring Life Cycles and Learning Cycles in Southeast Asia.**

Carl Grundy -Warr

Department of Geography, National University of Singapore, Singapore, Singapore

Abstract

Field-based experiential learning is vital in an era of increasing AI technology and remote learning. To demonstrate the deep connections between experiential learning and direct, grounded, and immersive "alternative intelligence", I share ideas based on student research projects focusing on different types of life cycles that encompass ecological, hydrological, indigenous, nonhuman, physical, social, and cultural relations. For the purposes of this presentation, I focus on three specific cycles that have informed the experiential learning of different groups of students over 25 years of running field courses in Southeast Asia. These are namely: the life cycle of *Opisthorchis viverrine*, an endemic parasite (or liver fluke) in the Mekong region, associated with livelihoods, food cultures, and health issues relating to a fatal bile-duct cancer; hydro-social cycles of the Lower Mekong, illustrated by student projects about plastic matter in the Tonle Sap, the Great Lake of Cambodia. Finally, investigating sacred spaces in the landscape and spiritual rituals as part of indigenous worldviews and cycles of life. I argue that field-based experiential learning is a vital form of "alternative intelligence" critical to exploring a range of real-world issues with the ultimate aim of deepening collaborative and empathetic bonds with communities. The paper argues that life cycles and learning cycles interrelate and can help form the basis for inquiry-driven, participatory, and co-creative learning projects for students and communities in the region.

Submission ID: 36

Serve, Reflect, Grow: Assessing the Impact of Curriculum-Integrated Service-Learning on Senior High School Students at De La Salle University–Dasmariñas, Cavite, Philippines

Marlon Pareja, Jonna May Berci, Ma. Luisa Cuaresma, Josephine Lejos-Cruz, Maha Dilangalen
De La Salle University - Dasmarinas, Dasmarinas City, Philippines

Abstract

This study examined the impact of a community-service program integrated into the senior high school curriculum of De La Salle University–Dasmariñas. Using a mixed-methods approach, survey data and student reflections were analyzed to evaluate outcomes in faith formation, civic engagement, community building, and personal growth. Findings reveal consistently high levels of student affirmation, indicating that the program fosters Lasallian values and supports holistic development. Key recommendations are offered to enhance reach, depth, and sustainability of the initiative.

Submission ID: 37

From loss to transformation? Towards pluralistic and politicised agrarian climate futures

Submission ID: 39

“The Grass is Greener Further Away, Right?”—Socio-Geographic Imaginaries and Psycho-Social Motivations of Short-Term Student Mobilities in Southeast Asia

Peidong Yang¹, Ming Wei Ang², Yan Yun Toh³

¹NIE/NTU, Singapore, Singapore. ²Independent, Singapore, Singapore. ³NTU, Singapore, Singapore

Abstract

There is significant policy interest across Asia to foster inter-Asian student mobility. Yet, achieving this can be challenging. In Singapore, undergraduate students greatly prefer European (rather than Asian) destinations for semester-long exchange programmes. Drawing on interviews with 63 undergraduates across three Singaporean universities, this research investigates what animates such preferences. Using Causal Layered Analysis to focus on meaning-making processes, we found that Singaporean students' preferences for Europe are discursively sustained by interlocking perceptions of cosmopolitan normativity, Asian homogeneity, and essentialized Asianness of Singapore's identity. These worldviews are in turn stabilized by metaphors of distance (like “broadening horizons”) and the bildungsroman mythical journey of a fledgling leaving the nest, contextually salient to life stage experiences of Singaporean young adults. Our findings underscore the importance for higher education regionalization research and policymaking to consider the interplay between socio-geographic imaginaries, psycho-social motivations, and diversity of mobility programme types in shaping student mobility dynamics.

Submission ID: 40

Forestry Teacher Project: Strategy for Awareness of Forest Resource Conservation in Thailand

Doungkamol Bangchuad, Buntarika Bulpakdi

Faculty of Education, Chulalongkorn University, Bangkok, Thailand

Abstract

Forests are fundamental to life and a vital element for sustainable development; however, in Thailand, forests are facing significant challenges due to climate change and competing demands from various sectors. Over the past 50 years, Thailand's forest area has declined dramatically from 50 percent to 32 percent, primarily because of forest concessions and ongoing deforestation, leading to biodiversity loss, soil and water degradation, and negative impacts on local economies and livelihoods because of conflicts over natural resource use. In response to these challenges, the Ministry of Natural Resources and Environment has implemented the Forest Teacher Project, which aims to develop an integrated understanding and enhance awareness among children in forest-adjacent communities regarding the conservation and sustainable use of natural resources. This initiative operates through a school network that promotes learning and knowledge exchange, with instructors from the Department of National Parks, Wildlife and Plant Conservation collaborating closely with schoolteachers. Since 2021, the project has engaged 180 schools across Thailand, yielding tangible outcomes such as the construction of small check dams and the establishment of school-based forest gardens, thereby fostering practical conservation efforts and environmental stewardship among young learners.

Submission ID: 41

An interactive toponymic map of Singapore

Shashvat Shukla

University College London, London, United Kingdom

Abstract

The semantics of many toponyms in Singapore has shifted away from their natural geographic referents (such as names of hills) towards elements of the built environment (such as MRT stations). At times, this shift has led to the identity of the natural referents being lost from public imagination. This project is motivated by the belief that a better understanding of place names in Singapore supports multiple educational objectives, such as a sense of ownership over local place, appreciation of the natural environment, understanding of other cultures, and understanding of local history, which further sustainability and other desirable social outcomes. We present Namely Singapore, an interactive map that allows users to click on a place and obtain the etymology and history of the place name. This paper describes the motivation and conception of the project, as well as the design of the system and reports of user experiences. This project was also partly conceived to demonstrate the potential of Large Language Models (LLMs) in humanities research and education. The meanings and etymologies of thousands of toponyms were automatically researched and written by LLM agents.

Submission ID: 43

Teachers' Recontextualisation of Geography in Singapore and Japan

Naoyuki Ito¹, Yoshiyasu Ida², Geok Chin Ivy Tan³, JaYeon Yang⁴,
Melanie Lum⁵, Gowri N.⁵, Ng ChenYee⁵

¹Naruto University of Education, Tokushima, Japan. ²University of Tsukuba, Tsukuba, Japan. ³Nanyang Technological University, Singapore, Singapore.

⁴Kansai Gaidai University, Hirakata, Japan. ⁵Ministry of Education, Singapore, Singapore

Abstract

'Recontextualisation' has attracted attention in international geography education research (Fargher, et al., 2021). Although there are various significant stakeholders involved in recontextualisation in geography education, such as academics, teachers, and pupils, this research focuses only on the geography teachers' involvement in recontextualisation. We define recontextualisation as the act of teachers taking knowledge extracted from other contexts and replacing it within the context of their own classroom practice (pedagogy).

The main research questions are:

1. What do geography teachers in Asian countries consider geography as a subject for?
2. How do teachers think that knowledge and competencies should be balanced in their own pedagogical process?
3. How do recontextualizations of teachers differ in their contexts (regions, schools, and pupils)?

This is a qualitative research study involving the collection of data through classroom observations, interviews, and international comparisons between Singapore and Japan over the next three years. In Singapore, 2 teachers participated in the research study. There were two stages in which the teacher participants were involved. Stage 1 was compulsory, and Stage 2 was optional. For Stage 1, the two teacher participants were observed two times when they were teaching in the classroom. Thereafter, the teacher participants were interviewed. Both teacher participants were invited to Japan to participate in lesson observations and seminar discussions (in September 2024 and June 2025). The aim of this presentation is to share the preliminary observations on how teachers recontextualise teaching of geography in Singapore and in Japan.

Submission ID: 44

Exploring the Application of Geographic Information Systems in Historical and Cultural Research in China and Implications for Literary Studies in Vietnam

Hai Vuong Van, Hung Duong Vinh

Ho Chi Minh City University of Education, Vietnam, Ho Chi Minh City, Vietnam

Abstract

Geographic Information Systems (GIS) have demonstrated remarkable efficacy in historical and cultural research in China, enabling interdisciplinary approaches through the digitization of ancient maps; analysis of historical climate patterns; reconstruction of rural settlements during the Qing Dynasty; and mapping of literary chronicles. By integrating diverse data sources—including ancient maps, archaeological records, and historical documents—GIS facilitates the visualization of spatial patterns and elucidates the interplay between geography, history, and culture. This study employs a literature review and an interdisciplinary methodology, combining social sciences with GIS technology, to evaluate these applications and derive lessons for Vietnam. In the Vietnamese context, GIS holds significant potential for literary studies, particularly in creating spatial literary maps, reconstructing authors' creative journeys, and analyzing shifts in cultural centers. However, challenges such as the digitization of ancient texts, a shortage of interdisciplinary expertise, and the lack of standardized databases must be addressed. Proposed solutions include implementing GIS training programs, developing a Vietnamese Literary Digital Mapping Platform, and initiating pilot projects to reconstruct literary spaces. Beyond research, GIS can support education, cultural tourism, and heritage preservation. Future prospects involve integrating artificial intelligence (AI) and virtual reality (VR) to create immersive literary landscapes. The study outlines a strategic roadmap for GIS implementation in Vietnam, encompassing training initiatives, data digitization, and international collaboration, to advance literary research and promote the country's cultural heritage on a global scale.

Keywords: Geographic Information System (GIS), Literary Geography, Chinese Cultural History, Vietnamese Literature, Literary Map

Submission ID: 45

A Comparative Analysis of Carbon Markets Development in Major Southeast Asian Economies

Xinyu Wang

Hunan University of Humanities, Science and Technology, Jinan, China

Abstract

Southeast Asia, with a population of nearly 700 million and many fast-developing economies, will play an important role in global efforts to reduce greenhouse gas emissions and strive to achieve net-zero emissions. This paper focuses on the development of carbon markets in six major economies in the region, namely, Singapore, Thailand, Vietnam, Malaysia, the Philippines, and Indonesia. By researching, summarizing, and comparing key policies and developments relevant to carbon markets, it is found that Singapore and Indonesia appear more advanced in this journey. Singapore leads the region with a mature and innovative approach, positioning itself as a carbon trading and climate finance hub with strong regulatory and market infrastructure. Indonesia is rapidly advancing, demonstrating robust policy momentum and expanding its market mechanisms across sectors. Vietnam is steadily building its carbon market foundations, moving from pilot initiatives to more structured planning and legal frameworks. Thailand takes a strategic and collaborative path, focusing on comprehensive market design and gradual sectoral inclusion through international partnerships. Malaysia remains in the exploratory phase, engaging stakeholders and studying feasibility but with limited concrete action so far. The Philippines is at an early stage, concentrating on policy research and stakeholder consultations, and is closely observing regional trends before committing to specific market mechanisms. This paper also argues that Southeast Asian countries have the potential to learn from and collaborate with each other in advancing towards a more sustainable region.

Submission ID: 46

Sustainability and Cultural Heritage: the Case of Singapore's Hawker Culture

Sitongyao Liu

University of Nottingham (Ningbo), China, Ningbo, China

Abstract

In 2020, Singapore's hawker culture was included in the Representative List of the Intangible Cultural Heritage of Humanity by UNESCO. This cultural form is not only central to daily life but also offers a unique perspective on sociocultural sustainability, setting an example for the Southeast Asian region in preserving cultural heritage amidst challenges of globalization and modernization. Previous research has primarily focused on the reasons for recognizing hawker culture as cultural heritage, emphasizing its role in promoting community identity and economic inclusivity, as well as the cultural promotion effects brought by UNESCO recognition. Based on a critical analysis of existing literature, this paper explores how Singapore works towards the sustainable transmission of hawker culture within its limited historical context, as well as its contributions to economic, social, and environmental sustainability. Findings reveal that there is a synergistic mechanism whereby policy support, international recognition, and community participation played a vital role in facilitating the sustainable transmission of hawker culture as shown in the balancing of modernization and tradition. In other words, Singapore has created a successful framework of sustainable transmission for hawker culture through the National Environment Agency (NEA) Hawker Centre Modernization Program and its UNESCO designation. Moreover, community activities rooted in strong cultural identity have effectively attracted younger generations and strengthened community cohesion, thereby contributing to the overall social sustainability of hawker culture to a certain extent. However, the environmental sustainability issue and the declining interest hawker industry among the younger generation remain major challenges.

Submission ID: 49

Developing a Strength-Based Sustainability Education Programme for Children with Autism Spectrum Disorder

Ho Wang Harold Lam, Lok Ching Tsoi

The University of Hong Kong, Hong Kong, Hong Kong

Abstract

Objectives: Strength-based learning is a paradigm shift from a deficit-focused approach to autism towards one that leverages autistic strengths in psychosocial interventions. This study (1) proposes a strength-based sustainability education programme centred on spatial and mapping skills, and (2) identifies the mechanisms of change through which the programme enhances self-confidence, social skills, and sustainability education outcomes.

Methods: Seven children with Autism Spectrum Disorder (ASD), aged 10-14, participated in a strength-based programme consisting of eight GIS workshops on community needs analysis and sustainable urban planning. Data were collected through draw-and-tell activities, where children illustrated their envisioned communities, along with semi-structured interviews with both children and their parents, exploring children's learning experiences and engagement with sustainability concepts.

Results: Analysis of pre- and post-programme drawings revealed a shift from narrow, self-focused interests (e.g. metro routes) to broader, community-oriented observations (e.g. accessibility features, spaces for different age groups), showing improved social awareness. Parental feedback indicated that children became more confident after having the opportunity to share their mapping work with the community. Most parents reported behavioural changes, including greater openness to new experiences and increased initiative in interacting with others.

Conclusions: The results suggest that strength-based education programmes that leverage ASD children's spatial abilities can effectively support their personal growth. This approach offers an evidence-based model for inclusive sustainability education and strength-based psychosocial support.

Submission ID: 50

Spatial patterns of cultural and creative industries in Jakarta

Adib Ahmad Kurnia^{1,2}, Jan Zenka¹

¹University of Ostrava, Ostrava, Czech Republic. ²National Research and Innovation Agency (BRIN), Jakarta, Indonesia

Abstract

Drawing on the detailed film-level database ‘Sensus Ekonomi’, the authors investigated localization patterns of cultural and creative industries (CCI) in Jakarta Special Region (JSR) on microregional (‘kelurahan’ level). While existing literature on CCI location patterns is predominantly skewed towards the cities of the Global North (and Indonesian literature on Bandung and several smaller Java cities with a rich cultural tradition), empirical evidence on JSR is surprisingly limited. The aim of this contribution is not only to map, but also explain recent localization patterns of CCI in JSR: focusing on potential differences between the localization preferences of ‘modern’ creative industries (advertisement, media) and ‘traditional’ cultural industries (crafts and arts, e.g. Batik). Therefore, CCIs are categorized into two groups: (a) CIGN—sub-sectors recognized as creative industries both globally and in Indonesia, and (b) FTCL—Fashion and Traditional Cultural Industries, which play a significant role in JSR’s creative economy. Spatial regression models at the kelurahan level were employed to test the effects of potential localization factors, including population density, accessibility, industrial structure, land use, or local cultural heritage. Results show distinct patterns of CIGN compared to FTCL and an important role of economic diversity.

Submission ID: 57

Localizing Sustainability: A Comparative Study of Educators' Understandings in the Philippines and Vietnam

Quynh Pham¹, Marlon C. Pareja², Anh Nguyen¹

¹Hanoi National University of Education, Hanoi, Vietnam. ²De La Salle University – Dasmarinas, Cavite, Philippines

Abstract

This study explores how educators' understandings of sustainability are shaped by local contexts, including geography, culture, and institutional environments, through a comparative analysis of schoolteachers in the Philippines and Vietnam. Using a mixed-methods design, we surveyed 129 educators through Likert-scale items and open-ended questions, complemented by two focus group discussions involving 12 participants (six from each country) conducted in 2025. Quantitative findings reveal that Filipino educators consistently express stronger alignment with localized and culturally relevant sustainability principles, particularly in acknowledging the importance of local needs, community context, and cultural diversity. Regression analysis identified country of origin as the strongest predictor of sustainability perceptions, followed by school location (urban vs. rural). Radar plots and regression heatmaps visually highlighted the divergence in perception patterns between the two countries. Qualitative insights further emphasize these differences. Filipino teachers tend to articulate holistic, community-oriented conceptions of sustainability, while Vietnamese teachers more often emphasize environmental protection framed within centralized curricular structures. These differences are not merely individual, but reflect how national policies, institutional autonomy, and school geographies mediate educators' agency and pedagogical orientations. The study highlights the need for culturally responsive, place-attuned professional development and curriculum design in sustainability education. To effectively localize global sustainability goals, teacher training must engage with educators' lived realities, address fragmented policy implementation, and support pedagogical approaches that resonate with local environmental and socio-cultural conditions. These insights advance comparative sustainability education research and stress the importance of teacher agency in recontextualizing global agendas to local realities.

Submission ID: 58

Locating Resistance: Human Rights Defenders through Digital Storytelling

Yany Lopez

Department of Geography, University of the Philippines, Quezon City, Philippines

Abstract

This study discusses the narratives and experiences of at-risk populations through the lens of digital and spatial methods, with a particular focus on KoboCollect. It is an open-source mobile data-gathering application designed for use in challenging environments. It is employed in this study to document lived experiences and socio-spatial realities of communities often excluded from mainstream discourse. Through KoboCollect, this study explores how mobile-based digital tools can facilitate the visibility of these communities' narratives. It is on this regard that KoboCollect becomes both a methodological and political tool for amplifying voices from the margins.

The presentation also reflects critically on the challenges and limitations of deploying KoboCollect. While the app supports online data collection, issues of digital access, data literacy, and local participation continue to shape who can effectively engage with such tools. The discussion extends to the ethical responsibilities involved in using KoboCollect and similar digital methods, particularly around informed consent, data ownership, and the safeguarding of vulnerable populations. The potential of KoboCollect to democratize research and support community-driven documentation is significant, but so too are the risks of data extraction, surveillance, and harm if not employed responsibly. By situating KoboCollect within broader debates around digitally-mediated research, the study foregrounds both the potentials and perils of digital tools in capturing the spatiality of marginalization. It calls for a collaborative approach among scholars, practitioners, and communities to ensure that digital and spatial methods like KoboCollect do not merely collect data, but contribute to empowerment, visibility, and justice.

Submission ID: 59

Apply machine learning and remote sensing on Google Earth Engine (GEE) to estimate PM2.5 concentration in Ho Chi Minh city

Nhi Nguyen Hoang Tuyet

Van Tran Thi

Hoang Thong Nguyen

Ho Chi Minh, Ho Chi Minh, Vietnam

Abstract

Every year, around 7 million deaths are due to exposure from both outdoor (ambient) and household air pollution, which is a major environmental risk to health. In this study, we focus on the PM2.5 concentration, one of the main factors in air pollution affecting health. Particulate matter of a diameter smaller than 2.5 significantly determines air quality. This research aims to calculate PM2.5 levels in Ho Chi Minh City for the year 2024 by combining the open-source remote sensing data available on the Google Earth Engine (GEE) platform and a machine learning model. Ground-based PM2.5 data from the South Centre for Environmental Monitoring (SCEM) was used to train and validate the machine learning model. Using the XGBoost algorithm and splitting the datasets into 70% training and 30% testing, the models achieved good results ($r^2 = 0.784$, $MAE = 2.53 \mu\text{g}/\text{m}^3$). The mappings give us a visual representation of PM2.5 concentration over time and show the method's effectiveness in estimating and monitoring air pollution.

Submission ID: 60

Climate Change Education Practices Amid Ambiguous Curriculum Standards: Insights from Lower Secondary Geography Teachers in China

Shanshan Liu, Yushan Duan

East China Normal University, Shanghai, China

Abstract

Climate change has become a pressing global environmental crisis. Education is widely recognized by the international community as a key pathway to addressing the climate crisis. However, in many national contexts—including China—climate change education (CCE) has not yet been systematically integrated into basic education curriculum standards. Therefore, Chinese geography teachers' practice of CCE relies largely on their independent integration. Grounded in the ecological model of teacher agency (Priestley, Biesta, & Robinson, 2015), this research explores how teachers enact CCE by drawing upon past experiences, responding to present structural and cultural conditions, and projecting their educational goals into the future.

Based on in-depth semi-structured interviews with 15 lower secondary geography teachers in Shanghai, this qualitative study captures teachers' everyday practices and decision-making in CCE. Thematic analysis shows that most embed climate-related content—such as the greenhouse effect, global warming, extreme weather, and carbon neutrality—within existing textbook units, especially those on climate systems, environmental issues, and sensitive regions like the polar areas. Lessons are often enriched with multimedia materials and localized examples. Some teachers have also begun experimenting with AI tools to enhance engagement and visualization. Teachers' agency in CCE implementation is shaped by multiple factors, including professional development, environmental awareness, student interest, and peer collaboration. However, vague curriculum standards, exam pressures, and limited institutional support constrain more systematic implementation. This study contributes to growing scholarship on climate pedagogy by highlighting how teachers navigate uncertainty to embed climate content in meaningful and context-responsive ways.

Submission ID: 61

Evaluating Short-Term GHI Forecasting Under Varying Sky Conditions in a Tropical Region: A Case Study of West Java, Indonesia

Afina Zahra¹, Rifdah Azzahra¹, Pranda Garniwa¹, Hyunjin Lee², Indra Aditya³, Iwa Garniwa¹, Muhammad Dimyati¹

¹University of Indonesia, Depok, Indonesia. ²Kookmin University, Seoul, Korea, Republic of. ³Perusahaan Listrik Negara (PLN) Research Institute, Jakarta, Indonesia

Abstract

The growing electricity demand in Indonesia underscores the urgency of integrating renewable energy sources, particularly solar photovoltaic (PV) systems. However, in tropical regions, persistent cloud cover causes high spatiotemporal variability in solar irradiance, which challenges the reliability of short-term forecasts. This study evaluates the performance of a hybrid Global Horizontal Irradiance (GHI) forecasting approach that combines optical flow and a semi-empirical model under four sky condition categories in a tropical setting. The analysis was conducted in West Java Province using GK-2A satellite imagery and AERONET-derived atmospheric parameters, and the resulting predictions were evaluated using ground-based observations from three BMKG stations. Accuracy was assessed using relative Root Mean Square Error (rRMSE) and relative Mean Bias Error (rMBE), with the best results observed under clear and partially cloudy conditions where rRMSE reached as low as 25 percent. Spatial case studies revealed that highland areas, despite their theoretical solar advantage, often receive lower irradiance due to frequent orographic cloud formation. Meanwhile, lowland regions showed more consistent GHI patterns due to stable atmospheric conditions. The findings emphasize the importance of evaluating forecast models within specific atmospheric and geographic contexts in tropical regions and provide empirical insights that can support more reliable solar energy planning in Southeast Asia.

Submission ID: 62

The stories people tell: a geonarrative analysis of spatial lives in the Philippines

Dominique Sasha Amorsolo, Joseph Palis, Lou Angeli Ocampo, Darlene Gutierrez

University of the Philippines-Diliman, QUEZON CITY, Philippines

Abstract

According to the Storying Geography Collective, the “practice of creating, writing, and recounting stories [should be done in] ethical ways and with care about places and relations” (forthcoming). Similarly, we approach stories of places – or geonarratives – as an analytical and methodological intervention to diverse environments, experiences, and encounters. This presentation draws from various fieldwork in the Philippines that uses geonarratives to provide a nuanced understanding and engagement with field-based mapping and ethnographies. From the miners of an upland area to urban children’s multi-scalar encounter with homes and community-level adaptation to local climate regimes in island settings, these experiences reflect how various stories become living documents of people’s rootedness in their spatial lives. These stories are collected and made available in online formats for pedagogical purposes. The methods employed to gather stories are used as alternative enrichment to traditional data gathering methods to provide a more complete picture of how people, places, and communities strive for common sustainable futures.

Submission ID: 63

An empirical study of middle and high school students' sustainability competence in China

Sheng Miao¹, Yushan Duan², Lan Liu¹

¹Shanghai Normal University, Shanghai, China. ²East China Normal University, Shanghai, China

Abstract

Though education for sustainable development (ESD) has become an important focus in global education, existing ESD assessment tools lack rigorous design and validation. This study utilized quantitative and qualitative approaches, with expert consultations in ESD. We conducted in-depth interviews with high school geography teachers in Shanghai. We developed an indicator for sustainability competence tailored for middle and high school students, created a reliability-validated assessment scale, and implemented a questionnaire survey involving 539 students across four high schools in Shanghai. Data analysis was performed using SPSS 20.0, while structural equation modeling was conducted with AMOS 26.0 for parameter estimation and path analysis of the hypotheses.

The main conclusions of this study are as follows:

Firstly, the overall level of sustainability competence among middle and high school students in Shanghai is relatively high, with strong capabilities and positive attitudes. However, there exists a disconnect between knowledge about sustainable development and actual sustainable behaviors.

Secondly, significant differences were observed in both the total scores and individual factor levels of sustainability competence among students based on gender, grade, age, and parental education attainment.

Thirdly, sustainable development attitude and sustainable development ability significantly affect the sustainability competence of middle and high school students; sustainable development knowledge has no significant impact on the sustainable development ability of middle and high school students.

Finally, sustainable development attitude of middle and high school students has a direct positive effect on their sustainable development ability and behavior.

Submission ID: 64

Changing Colors, Continuing Cultures: Rethinking Color as Cultural Sustainability in Urban Heritage

Yueru Zou

University College Dublin, Singapore, Singapore

Abstract

With accelerating globalisation and urban modernisation, the architectural colours of historic districts and buildings are undergoing renovation, repainting, and redesign. This visual transformation is both a result of urban renewal and influenced by multiple factors such as economic development, tourism expansion, and evolving aesthetic preferences. The change in colour can be regarded as a form of cultural continuity and reinterpretation, potentially opening new possibilities for the cultural sustainability of cities. This paper examines the social, cultural, and identity implications underlying changes in building facade colours by referencing cases from Singapore's historic districts (e.g. Chinatown, Little India, and Kampong Glam). Through literature search, visual comparison analysis, and image observation, combined with quantitative data on colour changes in a large number of buildings from existing research, the analysis reveals that while many historic districts exhibit 'non-traditional' colour characteristics after renovation, these changes actually strengthen residents' emotional attachment to the local area while enhancing tourist appeal and commercial vitality. Colours can thus be regarded as a dynamic socio-cultural carrier, a form of cultural expression with communicative and participatory qualities. The paper also suggests that colour should be incorporated into the governance framework of cultural sustainability as an important medium connecting tradition and the present in urban environments.

Submission ID: 65

Exploring the Connotations and Practical Pathways of Sustainable Education in Study Tours: Reflections Based on the Implementation of Field Trip in China

Yushan Duan, Jianghao Hu
East China Normal University, Shanghai, China

Abstract

As global education systems evolve in response to the Sustainable Development Goals (SDGs), effectively integrating Education for Sustainable Development (ESD) into basic education has become a critical priority. Field trips, as a bridge between school learning and the real world, offer unique advantages for implementing ESD by immersing students in natural environments and fostering their understanding of human–nature relationships.

This study examines the connotations and practical pathways of sustainable education within the context of China's field trip initiatives. It highlights the experiential, interdisciplinary, and contextual features of field trips that contribute to the development of ecological awareness, a sense of responsibility, and action-oriented capacities among students. With value identification, practical internalization, and responsible engagement as core objectives, field trips closely align with the aims of ESD. Building on China's theoretical and practical advancements in field trip education, this research proposes a comprehensive framework for sustainable learning across four dimensions: (1) Content architecture, integrating ecological and sustainability themes into learning goals; (2) Subject architecture, promoting collaboration among teachers, students, and local communities; (3) Pathway architecture, leveraging experiential learning to facilitate value internalization and behavioral change; and (4) Interdisciplinary architecture, combining multiple disciplines to address complex real-world issues. Field trips can thus serve as a key platform for localizing and deepening the implementation of sustainability education.

Submission ID: 67

Living Standards of Residents in Tan Dong Hiep Ward, Ho Chi Minh City, Vietnam

Pham Dung phat Huynh, Thi Hien Dang

Ho Chi Minh City University of Education, Ho Chi Minh City, Vietnam

Abstract

This article assesses the living standards of residents in Tan Dong Hiep Ward, a comprehensive indicator of the overall quality of life within the community. Specifically, this encompasses economic, social, and environmental dimensions. The analysis of residents' living standards plays a pivotal role in identifying the current situation, determining influencing factors, and consequently serves as a basis for proposing policy solutions to enhance residents' livelihoods and foster sustainable socio-economic development.

Utilizing a survey methodology targeting 311 household heads within the ward, this study provides an empirical overview of the living standards of residents in this area. The collected data indicates that the average per capita income of households has reached a moderate level, accompanied by a significant decrease in the poverty rate. However, a segment of households still faces challenges such as daily expenditure and inadequate housing conditions. Notably, significant investment is prioritized in education and healthcare, reflecting the community's commitment to improving the overall quality of life. The research findings also reveal a distinct differentiation in living standards among the various neighborhoods within the ward.

The findings from this research constitute a crucial scientific basis for the formulation and implementation of innovative policies and solutions aimed at improving residents' living standards, thereby contributing to the comprehensive development of the ward.

Submission ID: 70

The Social Value of Vacant Urban Spaces: Social Return on Investment of Short-Term Community Projects in Vacant Urban Spaces in Hong Kong

Ho Wang Harold Lam

The University of Hong Kong, Hong Kong, Hong Kong

Abstract

Vacant Urban Spaces (VUSs) can consist of vacant land and abandoned structures. In recent years, some cities have begun to use VUSs as temporary community amenities before long-term land development takes place. There has been a growing interest in exploring whether these amenities, often with short service life yet high construction costs, are cost-effective or not. However, only a handful of studies have assessed the social impact of VUS projects, none of which examined VUSs in an Asian context.

This study aims to extend this line of work to an Asian city and makes two key contributions to urban land governance. First, it conducts a social impact assessment of three VUS projects in Hong Kong (a community farm, a community centre, and an ethnic minority centre), offering empirical evidence of whether interim VUS revitalisation is a cost-effective way of using idle land resources. Second, it introduces a methodological innovation by applying Social Return on Investment (SROI), a framework widely used in social policy, to assess VUS projects in an urban setting.

The SROI model showed that a ten-year VUS project can achieve an SROI ratio of around 1.8 (every \$1 invested generates \$1.8 in social value). Key drivers of social value include improved social support and wellbeing among users. These findings support the case for integrating short-term community projects into urban land policy, especially in complex Asian cities. The study also demonstrates how SROI can help evaluate urban initiatives with non-market benefits that are often underconsidered in the planning process.

Submission ID: 71

Getting to Zero - Workshop about climate policy options through gamification

Tricia Seow

National Institute of Education, Singapore, Singapore

Abstract

In this workshop, participants will:

1. Understand the different climate policy options involved in getting to net zero, and the potential advantages and trade-offs involved in their implementation on a national/institutional scale.
2. Experience inquiry-based learning through a game format and supporting discussion and reflection activities.
3. Learn to create an engaging student-centred environment that enables participants to feel comfortable engaging with big concepts.

About the Game:

Using principles of gamification, Getting to Zero game is designed to help players develop an understanding of how to navigate an increasingly carbon-constrained world. In this game, participants have to make decisions to implement climate change policies, and to ensure carbon emissions reduction in a cost-effective manner.

Submission ID: 73

Thinking Geographically in the Field: Using Place-Based Education to Teach Threshold Concepts

Songguang Han, Jared Wong, Julian Chang
Temasek Junior College, Singapore, Singapore

Abstract

This paper explores how overseas geographical fieldwork can be used as signature pedagogies (c.f. Shulman, 2005) to help students engage with threshold concepts (Brooks, 2013; 2017) to cultivate geographical thinking for better understanding of the world.

Drawing on place-based education and the geographical palimpsest metaphor (Marvell et al., 2024; Maude, 2024), we argue that well-designed overseas fieldwork enables students to encounter places as complex assemblages, interpret and analyse dynamic phenomena through relational thinking, and thereby becoming active participants in making sense of, and even constructing geographical understandings. Using our 2024 and 2025 iteration of a student-centric fieldwork to Kuantan, Malaysia, we show how diverse Geosites (e.g. Teluk Cempedak and Batu Hitam) and reimaged urban spaces (e.g. Kuantan Art Street, Sungai Lembing) offer fertile ground for exercising geographical thinking. These textured places, rich in geomorphological, socio-economic, and urban histories, allow students to enact relational thinking by tracing how physical landscapes, events, places, people, and different drivers interact across space and time. This echoes the Fairgrievean principle of 'planned incidentalism' in geographical education: beginning with systematic geography and culminating in areal synthesis through the lens of place. In a culminating performance task, students actively select threshold concepts as interpretive anchors, demonstrating how conceptual development is scaffolded through the incidental richness of real places.

Inquiries encourage students to address future scenarios, rethink value systems, and develop transferable competencies through cooperative learning and reflection. Field inquiry thus becomes a route to transformative learning, where students shift from novice to integrative disciplinary understandings of place.

Submission ID: 75

Greening the jeepney? Changes in the Philippine transport system

Yves Boquet

Université de Bourgogne-Europe, Dijon, France

Abstract

Public transportation in the Philippines has been dependent on the jeepney since World War II. These iconic vehicles are used in cities as well as in the countryside. However, they are clearly recognized as contributors to air pollution, and the “king of the Philippine road” is now threatened by a combination of extremely reduced production by a handful of vehicle makers, an aging fleet, and new air quality regulations encouraging the use of electric vehicles. The battle for clean air has led to many strikes in recent years by jeepney operators who cannot afford the higher costs of the new vehicles. This presentation will show some of the changes underway and the challenges for better transport in the country and its cities.

Submission ID: 76

Teaching Relatedness: Staying with Trouble through Food Waste Pedagogies in Asian Contexts

Daren Leung

Lingnan University, Hong Kong, Hong Kong

Abstract

This paper examines how experiential learning through community food waste collection fosters sustainability literacy and ecological relatedness among university students in Hong Kong. By directly engaging with "disgusting others," students participate in a bottom-up intervention addressing urban food waste crises while simultaneously unlearning colonial attitudes toward waste and reimagining human-waste relationships. Situated within a critical framework of environment-cared pedagogy co-created by educators, students, community partners, and non-human actors, this approach creates "stinky and sweaty" learning experiences that challenge students' sensory perceptions and ontological assumptions. Drawing on feminist ecological scholarship on intimate entanglements, this research documents how embodied techniques of learning with and through waste become transformative sustainability education practices. The findings contribute to regional discourses on decolonial pedagogies by proposing material-affective methodologies for exploring alternative ways of relating to waste within specific Asian socio-cultural and ecological contexts. This case study illuminates how higher education institutions can foster sustainable response-ability through pedagogies that acknowledge material interrelatedness and nature-culture concepts, ultimately preparing students to address complex sustainability challenges facing the region. By situating this Hong Kong case study in dialogue with broader Southeast Asian sustainability education initiatives, this research offers transferable insights for regional educational practice.

Submission ID: 77

Reframing Geography Learning in Higher Education through Photovoice

Frank Elie Morales¹, Enrico Garcia²

¹Bataan Peninsula State University, Balanga, Philippines. ²Philippine Normal University, Manila, Philippines

Abstract

This study aimed to develop a pedagogical model to enhance geographical thinking skills among college students by employing a sequential explanatory mixed-methods design. In the quantitative phase, 324 students were assessed using the Geographic Inquiry Process Skills Scale (GIPSS), which revealed high proficiency in acquiring and analyzing information, but moderate proficiency in organizing and communicating geographic data. The qualitative phase engaged 14 purposively selected students in a Photovoice project, guided by the ASSURE instructional design model and SHOWEd method for reflective inquiry.

These participatory and visual activities revealed critical gaps in students' spatial understanding and visual literacy, which informed the development of the SEEN Model– See, Engage, Evaluate, Narrate– a metaphorical visual display, grounded in constructivist and experiential learning theories. The SEEN model integrates critical observation, spatial analysis, inquiry, and storytelling, supporting student-centered geography instruction attuned to real-world contexts. By synthesizing quantitative and qualitative data, the study offers a holistic understanding of challenges in developing geographic thinking and proposes practical strategies for addressing them. The findings affirm the value of visual inquiry and critical reflection in geography education and provide empirical and theoretical support for integrating Photovoice into social science instruction. Thus, this research contributes to Sustainable Development Goal 4 (Quality Education) and advances the practice of sustainability education within the Philippine higher education context.

Submission ID: 78

Investigating the Impact of Greenhouse Gases on Surface Air Temperature in West Sumatra: A Multi-Satellite Analysis with Sentinel-5P and MODIS

Iqbal Putut Ash Shidiq, Ramanatalia Parhusip

Department of Geography, Universitas Indonesia, Depok, Indonesia

Abstract

Greenhouse gas (GHG) dynamics and their impact on air temperature are central to the global climate crisis, demanding in-depth understanding in vulnerable regions. West Sumatra Province, Indonesia, serves as a critical focal point, experiencing increased maximum solar radiation intensity and significant GHG contributions over the past five years. This research presents an original approach to investigate the spatial and temporal influence of carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), and methane (CH₄) concentrations on surface air temperature.

We utilize high-resolution Sentinel-5P satellite data for GHG monitoring and MODIS data for surface air temperature, leveraging the historical archives of both sensors. This methodology demonstrates rigor by quantitatively analyzing the correlations and spatio-temporal patterns between increasing GHGs and observed temperature anomalies, transcending conventional ground-based monitoring. Historical data from the last five years will be analyzed to uncover underlying trends and mechanisms driving this complex relationship within a dynamic tropical environment.

The findings of this study will provide crucial insights into the localized warming effects of GHGs and regional climate dynamics. This contribution is highly relevant for supporting evidence-based decision-making for government and stakeholders in West Sumatra. The results will aid in formulating more effective mitigation and adaptation strategies, fostering sustainable development and climate resilience in Southeast Asia.

Submission ID: 82

Assessing the Sustainability Of Livelihoods Based on Tobacco Production and Consumption in Cao Bang Province, Viet Nam

Thi Ngoc Quynh Pham, Thi Van Anh Nong

Faculty of Geography, Hanoi National University of Education, Hanoi, Vietnam

Abstract

Tobacco production remains a controversial economic activity as it presents a complex trade-off for rural development in many low-income settings. While it offers income-generating opportunities for rural households, it also poses long-term health risks and raises serious environmental concerns. In Cao Bang province, Vietnam, farming households have long relied on it as a key income source, and it is credited with supporting poverty reduction goals under the New Rural Development Programme. Concerns about health, environmental impacts, and market instability, exacerbated by widespread smuggling, cast doubt on the sustainability and long-term viability of livelihoods that depend on it. This study employs the DFID Sustainable Livelihoods Framework and a qualitative methodology, drawing on 25 in-depth interviews and field observations conducted in July 2025. The findings highlight that while tobacco production strengthens financial, human, and social capital for many households, it is also undermined by volatile market conditions and a lack of viable alternatives. Additionally, the tobacco market in the region is frequently destabilized by unfair competition from low-cost smuggled tobacco products transported through informal border crossings. The study calls for targeted interventions to support livelihood diversification and promote more sustainable agricultural practices in the region. It offers empirical evidence for policymakers navigating the tensions between short-term economic gains and long-term sustainability in rural livelihoods.

Keywords: *Sustainable livelihoods, tobacco economy, rural development, informal trade, Cao Bang, Viet Nam*

Submission ID: 83

UI GreenMetric Framework and DLSU-D: Perceptions of Compliance from Teaching and Non-Teaching Personnel

Maylene Pakingan

De La Salle University Dasmarinas, Dasmarinas, Philippines

Abstract

The study evaluated the compliance of De La Salle University - Dasmariñas (DLSU-D) with the UI GreenMetric framework based on perceptions from teaching and non-teaching personnel. Utilizing a survey and a quantitative research design, the study collected responses from 120 participants. The research aimed to identify specific aspects of DLSU-D's sustainability programs that were perceived positively or negatively, determine the strongest and weakest categories according to respondents, and explore common themes for potential improvements. The study also examined the role of awareness and understanding of sustainability practices in shaping perceptions. Results indicated that both teaching and non-teaching personnel generally perceived DLSU-D's compliance as partial across most categories, with Waste management being the highest-rated. Both teaching and non-teaching personnel saw significant room for improvement in the areas of Energy and Climate Change and Water. The study's conclusions aim to guide DLSU-D administrators in enhancing their sustainability policies and initiatives, ultimately fostering a more environmentally conscious academic community.

Submission ID: 84

The Influence of OCOP Program on Agricultural Products of Vietnam

Hiep Vo Thi Kim¹, Binh Pham Thi²

¹Nguyen Tat Thanh, HCM city, Vietnam. ²HCMUE, HCM city, Vietnam

Abstract

OCOP program plays a pivotal role in sustainable rural development in Vietnam today. Based on the analysis of collected secondary and primary data, this paper will: (1) review the status of OCOP program in Vietnam; (2) clarify the advantages and limitations, opportunities, and challenges of Vietnamese agricultural products in the integration period through SWOT analysis. The paper's results will provide more reliable bases for planning and orientation of agricultural brand building, developing multi-valued agricultural products for rural areas. This emphasizes the need to develop an international market for agricultural products of Vietnam in the integration times.

Submission ID: 86

Contested Visions of Green Urbanism in Singapore and Qatar: Research Agenda(s)

Yannis-Adam Allouache

National University of Singapore, Singapore, Singapore

Abstract

Across Arabia and Asia, ‘green’, ‘eco’, and ‘sustainable’ visions are rapidly transforming built and natural landscapes in response to climate change. These transformations are driven by the speculative character of green urbanism and nationalist tropes that enable statist greening schemes and ‘sustainability’ agendas. Contemporary Singapore and Doha boast spectacular green infrastructures, attracting capital and international prestige. The ‘green’ turn is entrenched in economic and planning authorities, with coalitions of investors, developers, and consumers making ‘sustainability spectacles’ a fixture. Faced with similar climate vulnerabilities, Singapore and Qatar offer critical insights into how climate adaptation and mitigation are shaped and experienced in urban contexts. However, these projects also depend on the extraction of materials and natural resources, along with global supply chains that impact plant availability, complicating ‘sustainability’ claims.

This paper presents developing research on the socio-political and economic processes, struggles, and demands emerging in response to urban environmental challenges in Singapore and Qatar. I bring urban political ecology, political economy, and labour-centric frameworks into conversation, generating insights into the interconnectedness of labour and resource exploitation. This paper advances urban environmental geographies and Arabia–Asia research through a developing agenda examining labour processes, resource flows, and struggles underpinning contested visions of ‘sustainability’—a crucial lens for understanding how cities in Asia and the Arabian Peninsula adapt to, mitigate, and respond to climate change.

Submission ID: 89

Sustainability Education through the Singapore Eco Stewardship Programme

Chew Hung Chang¹, Tricia Seow¹, Josef Tan²

¹Nanyang Technological University, Singapore, Singapore. ²Ministry of Education, Singapore, Singapore

Abstract

Sustainable development aims to promote environmental, economic, and social well-being for current and future generations. Generally, teachers' instruction is guided by their subject matter knowledge and disciplinary thinking, but sustainability education encompasses multi- and interdisciplinary discourse that should be taught through various subjects. In Singapore, the Eco Stewardship Programme (ESP) offers the opportunity for teachers to do so. The ESP seeks to nurture Eco Stewards through the curriculum, culture, community, and campus. ESP promotes sustainability learning inside and outside classrooms, and within or across subjects. This study aims to identify sustainability content in the formal curriculum and explain how educators can build on subject matter knowledge to design coherent learning activities in support of the Eco Stewardship Programme. The research methodology involves content analyses of Singapore curricular documents of subjects across all levels of study. The findings show that sustainability content is covered in various subjects, more so in Secondary Science, Geography, and Social Studies, when compared with other subjects and levels. Sustainability content is most often featured in subjects' learning outcomes that are related to the idea of a student being a 'good, informed, and responsible' citizen. The findings help us look at how to enhance the implementation of the Eco Stewardship Programme by aligning curriculum subject matter with the desired outcomes of the programme.

Submission ID: 90

Integrating Service-Learning in Geography in Philippine Higher Education

Mylene De Guzman, Ma. Simeona Martinez, Emmanuel Garcia, Joseph Palis, Vanessa Joy Anacta, Jake Rom Cadag, Dominique Sasha Amorsolo, Lou Angeli Ocampo, Darlene Gutierrez
University of the Philippines Diliman, Quezon City, Philippines

Abstract

The presentation highlights the initiatives undertaken by the Department of Geography at the University of the Philippines Diliman to integrate service-learning in the undergraduate and graduate programs. The authors reflect on the processes involved in the department's service-learning activities that span nearly three decades, from 1995 to 2024. Service-learning combines academic instruction and pedagogy with meaningful community engagement, and is an essential feature of several courses that are offered in both the B.S. and M.S. Geography programs. Service-Learning in Geography (SLG) courses enable students to acquire practical work experience using techniques, knowledge, and ideas learned as geography students while serving different stakeholders within the community. The SLG courses primarily include fieldwork, which is an indispensable aspect of geographic research. In the field, students are trained to collect and analyze empirical data using geographic theories, concepts, analytical techniques, and methods. As an extension or public service activity, SLG courses rely heavily on available material and human resources along with effective pedagogical tools to ensure constructive public service and knowledge dissemination in communities where it is most needed. The article examines the incorporation of service-learning into the undergraduate and graduate curricula, reflects on the challenges that faculty handlers have faced, and charts novel ways of conducting geographic research that incorporates service-learning in Philippine higher education.

Submission ID: 91

Globalising nickel: A study of production and financial networks

Dariusz Wojcik¹, Neil Coe², Theodor Cojoianu³, Lian Sinclair², Morag Torrance⁴

¹National University of Singapore, Singapore, Singapore. ²Sydney University, Sydney, Australia. ³Singapore Management University, Singapore, Singapore.

⁴Oxford University, Oxford, United Kingdom

Abstract

Nickel is a critical mineral, with growing use in battery production necessary for electrification, and a concentrated geography of supply and demand, with Indonesia as the largest producer and China the largest buyer. Despite a concentrated geography, there is no global price of nickel, as the main stock exchange trading nickel instruments, LME in London, does not include nickel from the biggest producers: Indonesia and the Philippines. The latter are instead linked closely and directly, with buyers in China, without relying on a centralised and transparent market. Our paper analyses and explains this segmentation of the nickel production and financial networks, based on the analysis of granular data on nickel flows and related financial instruments including offtake agreements. We argue that the seemingly strange absence of a global price and market for one of the world's strategic commodities is conditioned by the materiality of nickel (including its product differentiation), but equally by political and geopolitical realities, including economic protectionism and the strategy of developing the electric vehicle industry in Indonesia, as well as the contradictions of the Chinese political economy, which make it impossible for China to become the centre of the global financial network for nickel. We also show how Singapore is trying to fill this void and establish itself as the financial centre of the Asian (and potentially global) nickel network, building on its strengths in trading other commodities. As such, the case of nickel is a microcosm of the global economic and political shifts, with major consequences for sustainable development.

Submission ID: 93

Reconsidering the Quasi-Public Status of a Large Ferry Line: A Framework of Comparison for Ferry Lines in North America and in Southeast Asia

Nathaniel Trumbull

University of Connecticut, Storrs, USA

Abstract

(Research problem/objective) The quasi-public ferry operator Steamship Authority (SSA) carries more than 3 million passengers in southern New England, United States. The ferry currently is plagued by poor levels of service, cost overruns, labor disputes, and negative environmental externalities. This paper poses the question of how a quasi-public agency might be privatized after six decades in operation in order to improve economic and environmental outcomes. The paper provides a point of comparison for other ferry lines globally. (Theoretical insights) Much like the Triborough Bridge Authority (New York City) of Robert Moses, it is critical that 21st-century planners and decision-makers not be overly reliant on the quasi-public model. Quasi-public agencies were widely endorsed over a half-century ago in the U.S., but they appear to have run their course. (Methodology) A quantitative and qualitative approach examines the operations, operators, clients, leadership, and other stakeholders of the SSA, including a series of crises plaguing the SSA in recent years. The analysis focuses on the determinants of the deficiencies of the quasi-public agency up through today. The study includes a social and environmental analysis of the SSA's carbon footprint. (Findings/results) The analysis finds that the quasi-public model no longer provides acceptable social outcomes or decreased environmental impacts. (Discussion/conclusion) The quasi-public model appears to have outgrown its previous public acceptance as goals of sustainability resilience are sought in a changing world. The paper provides a point and framework of comparison for similarly large ferry lines in Southeast Asia.

Submission ID: 94

Indonesia's new capital (Nusantara) and the intensification of sand and gravel mining in Kalimantan and Sulawesi

Kai Wan Yuen, Edward Park

Nanyang Technological University, Singapore, Singapore

Abstract

Indonesia's decision to relocate its capital will further degrade the ecosystems in Kalimantan and Sulawesi as a large volume of sand and gravel will be mined to provide building materials for the new capital. Our analysis of government data and the most recent satellite imagery showed that the areal extent of riverine mining activities may increase by eight times in Kalimantan and up to 15 times in Sulawesi if mining were permitted in all the areas with sand reserves. Demand for riverine sand will be met by mining the sediment-rich rivers of Kalimantan and the alluvial and braided river deposits in Sulawesi. Meanwhile, the area permitted for marine mining may see a 15-fold increase. While the size of the riverine and marine mining area is expected to increase at a faster rate should mining intensify, inland mines still occupy a larger geographical area in both Kalimantan and Sulawesi. Currently, the percentage of concessions with illegal mining in Kalimantan ranged from 35% for reserve concessions to 44% for operational concessions and 47% for concessions under exploration. Illegal mining in Sulawesi was about 20% higher than in Kalimantan. Overall, the environmental and ecological impacts associated with sand mining activities are likely to be severe even as jobs are created. Nusantara is one of the many mega building projects across the world, and we hope that our work will spur discussions on the implications of mining a large quantity of sand to support the construction of new cities and infrastructure.

Submission ID: 95

Conservation and Promotion of the Value of the Dong Cam Phu Yen Irrigation Dam (Dak Lak) of Viet Nam

Nhuan Tran Quoc

Education University, Ho Chi Minh, Vietnam.

Mien Trung University of Civil Engineering, Tuy Hoa, Vietnam.

Phu Yen University, Tuy Hoa, Vietnam.

Luong Van Chanh High School, Tuy Hoa, Vietnam

Abstract

Exploiting and using natural and cultural resources to serve socio-economic development, environment, climate change response, and natural disaster mitigation is a common trend of countries in the world today. The Dong Cam Dam heritage of Dak Lak province, Vietnam, has the strength to exploit appropriately in the direction of development in the period of Industrial Revolution 4.0 (5.0). To exploit the natural and cultural resources of Dong Cam Dam effectively, the author has combined the use of qualitative and quantitative research methods, through sociological investigation, field survey, consulting experts, collecting and analyzing secondary survey data of agencies and departments. The research results of Dong Cam Dam contribute to promoting socio-economic development, ensuring sustainable exploitation of environmental resources, improving the material and spiritual life of the people. The research results serve as a basis for managers to plan socio-economic policies, plan the exploitation and use of resources effectively and economically; at the same time, serve as research materials for teachers, students, and pupils to raise awareness on conservation and the use of resource and environmental values in current and future socio-economic development.

Keywords: Dong Cam, potential, solutions

Submission ID: 96

**Tourism impact on livelihood assets and sustainable solutions
for coastal areas of Đak Lak Province , Viet Nam**

Nhuan Tran Quoc

Dung Doan Thi My

Education University, Ho Chi Minh, Vietnam

Abstract

The coastal areas of Dak Lak province from Song Cau to Dong Hoa are a locality with many tourist facilities, creating jobs and increasing income for local people. However, during the operation process, there have been conflicts of interests and livelihoods between the community and tourist facilities. Risks and negative impacts on livelihood assets have increased. The study used field survey methods, in-depth interviews, community consultations, and analysis based on the DFID sustainable livelihood framework (2001) to analyze vulnerability factors and tourism impacts on livelihood assets as a basis for proposing livelihood solutions for coastal fishermen from Song Cau to Dong Hoa. Research results are the basis for urban development policy planning and documents for research and study.

Submission ID: 100

Reimagining Cold War Heritage: Advancing the SDGs of Peace, Sustainability, and Partnership

J.J. Zhang

National Institute of Education, Nanyang Technological University, Singapore, Singapore

Abstract

Since 2009, the Kinmen Tunnel Music Festival – curated by Kinmen National Park – has transformed the Zhaishan Tunnel from a Cold War military relic into a vibrant cultural venue that fosters cross-strait dialogue and mutual understanding. This presentation explores how the festival leverages the tunnel's unique acoustics and symbolic history to promote rapprochement between Taiwan and China. Drawing on empirical research and audience narratives, I will examine how music evokes emotional resonance, collective memory, and a sense of shared humanity among attendees. Framed within the context of the UNESCO Sustainable Development Goals (SDGs), the discussion exemplifies how difficult heritage, and creative cultural practices can support SDG 16 (Peace, Justice, and Strong Institutions) by promoting peaceful encounters and cultural diplomacy. It also aligns with SDG 11 (Sustainable Cities and Communities) through its adaptive reuse of heritage infrastructure and SDG 17 (Partnerships for the Goals) by fostering collaboration between government agencies, artists, and cross-strait communities. Ultimately, this case demonstrates that difficult heritage is not only something to be preserved, but something that activates – materially, affectively, and politically – in ways that contribute to sustainable peace and well-being.

Submission ID: 101

Towards Ambisyon 2030: Teaching and Application of Sustainable Tourism Methods to Geography 1 Students of UP Diliman for a Sustainable Future of Pundaquit, San Antonio, Zambales

Fernand Francis Hermoso

University of the Philippines - Diliman, Quezon City, Philippines

Abstract

Sustainability is something that the Philippines yearns for. The need for a sustainable country intensifies with every typhoon, calamity, and security threat faced by the Philippines. It is the author's desire, then, to help promote sustainability among the students of the University of the Philippines by teaching them about the theories of sustainable development and helping them apply what they learn to the partner community of Pundaquit, San Antonio, Zambales. For two years, different batches of Geography 1 students, an elective course offered by the Department of Geography at UP Diliman, were sent to conduct fieldwork along the coastal areas of Pundaquit. The students were taught about sustainability, sustainable development, and the Six Capitals of Value Creation, adapted from the Integrated Reporting Framework of the International Financial Reporting Standards Foundation (IFRS). The six capitals—manufacturing, natural, social, human, financial, and intellectual—guide the students as they help assess and investigate the current state of tourism in the area. In addition to the Six Capitals, the students were also taught how to align the findings with the United Nations' 17 Sustainable Development Goals (SDGs) and use the S.O.A.R. Analysis (Strengths, Opportunities, Aspirations, Results) to devise concrete recommendations to the Municipality of San Antonio on how to approach the findings. Lastly, the results of the fieldwork for the last two years will be presented by January 2026 to the people of Pundaquit.

Submission ID: 102

Translating Policy into Practice: The Intermediary Role of the Event Industry in Disability Inclusion in China

Yiren LIANG

National Institute of Education, Nanyang Technological University, Singapore, Singapore

Abstract

Models of disability are used to "characterise disability identity and sometimes also to determine who is eligible to assume this identity" and "explain why individuals are disabled". The social model is widely adopted in academia and has inspired and directed many disability movements; however, it originates from Western contexts and may not fully suit or reflect the lived experiences of people with disabilities (PwDs) in non-Western societies. This study explores the social inclusion of PwDs in China, particularly within the event industry—a domain inherently rooted in social interaction and participation. In contrast to the West, where disability empowerment has often emerged from grassroots anti-discrimination movements, China's approach has largely been top-down. The China Disabled Persons' Federation, through its close political ties with the state, has driven policy reforms and awareness efforts. Nevertheless, cultural traditions rooted in Confucianism continue to shape societal attitudes and discourage self-advocacy among PwDs. As a result, many PwDs remain unaware of their rights and are less likely to participate actively in social life. This study, drawing on semi-structured, in-depth interviews with ten event professionals, argues that event accessibility is also shaped by government policy rather than by PwDs-led initiatives. The industry functions as an intermediary, translating policies into accessibility practices; some events with official backing contribute to empowering otherwise passive PwDs. Nevertheless, these efforts face challenges, such as high implementation costs and concerns about the dissatisfaction of others. The study also highlights the industry's growing optimism about the role of emerging technologies in improving accessibility.

Submission ID: 103

AI Urbanism in Singapore: Exploring Geographies of Technology and Society relationships

Diganta Das

Nanyang Technological University, Singapore, Singapore

Abstract

This paper examines the ways in which Singapore's Smart Nation initiatives, particularly the deployment of artificial intelligence (AI)-driven technologies, are reshaping the rhythms and practices of everyday urban life. Focusing on the adoption of online and QR-based payment systems, the study investigates how these digital infrastructures have reconfigured economic practices, with special attention to their impact on elderly Singaporeans. Drawing on extensive ethnographic fieldwork conducted across multiple sites in Singapore, the paper presents preliminary findings from in-depth observations, interviews, and conversations, highlighting both the opportunities and frictions that accompany the transition to a technology-mediated urban economy. In doing so, it contributes to broader debates on digital governance, financial inclusion, and the socio-cultural implications of AI-driven urban transformation.

Submission ID: 104

**Patterns, Processes, and Drivers of Rural Settlement Space:
Evidence from the Literature (2019–2025)**

Lingling Chen^{1,2}, Firuza Begham Mustafa¹

¹Universiti Malaya, Kuala Lumpur, Malaysia. ²Fuyang Normal University, Fuyang, China

Abstract

Rural settlements are undergoing substantial change. Effective planning and long-term development require a clear understanding of the patterns, processes, and drivers. This review surveys studies published since 2019 and indexed in Web of Science and Scopus that examine the spatial configuration and transformation of rural settlements. Topography, hydrology, natural disasters, climate, economic factors, location, transportation, population, culture, policy, and security were all highlighted as important elements in the analysis. Three broad results emerge. First, most studies analyze changes over the preceding two to four decades and focus largely on developing countries. Second, literature places greater emphasis on human factors, such as population, economic conditions, public policy, and locational context. Third, interdisciplinary perspectives are common; methods are predominantly quantitative with qualitative analyses as complements. Across studies, factor effects are scale-dependent and exhibit marked spatiotemporal heterogeneity, and facility-oriented as well as multifunctional development trajectories are increasingly evident. We argue for explicitly multi-scalar designs and greater incorporation of farmer-centered evidence. These insights advance understanding of rural settlement space and provide a robust evidential basis for policy and practice in rural development and sustainable management.

Contact Us

Southeast Asian Geography Association



+65-6790-3861



seaga@nie.edu.sg



<https://www.seaga.org/>



National Institute of Education, 1 Nanyang Walk, Singapore 637616

