University of the Philippines LOS BAÑOS

DCERP

APRU SCL

Association of Pacific Rim Universities
Sustainable Cities and Landscapes

×

ICHSPD 2024

International Conference on Human
Settlements Planning and Development

Advancing SUSTAINABLE CITIES & COMMUNITIES through SCIENCE, TECHNOLOGY, and INNOVATIONS

6-8 AUGUST 2024

SMX Convention Center Aura
Taguig City, Philippines

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ABOUT THE CONFERENCE

APRU SCL x ICHSPD

The Department of Community and Environmental Resource Planning from the College of Human Ecology of the University of the Philippines Los Baños is the host of the 7th Annual Conference of the Association of Pacific Rim Universities – Sustainable Cities and Landscapes (APRU-SCL) and the 3rd International Conference on Human Settlements Planning and Development (ICHSPD) on August 6 – 8, 2024 in Manila City.

With the complex problems faced by the world today – disasters, rapid urbanization, international conflict and urban governance issues among others, the upcoming conference shall provide a venue for actors to collaborate, form partnerships and respond to global risks most felt among cities and communities. This three-day event focuses on ***Advancing Sustainable Cities and Communities through Science, Technology, and Innovation (STI).***

For its third installment, ICHSPD aims to achieve the following:

1. Discuss vital issues and challenges on human settlements planning and development;
2. Identify solutions, best practices, and opportunities in addressing sustainability and resiliency of human settlements; and,
3. Foster linkages and partnership among organizations and institutions working towards achieving safe, inclusive, resilient, and sustainable cities and communities.

ABOUT THE CONFERENCE

APRU SCL x ICHSPD

Moving forward in advancement and sustainability requires a comprehensive approach focused on resiliency and adaptation. Baseline data gathered in the first conference and experiences shared about the pandemic during the second conference paved the way for the third conference to focus on how we can advance through Science, Technology, and Innovation. As we advance sustainability in our cities and communities, STI is seen to make our efforts **aimed, accessible, and advanced.**

Aimed

Utilizing Science, Technology and Innovations gives direction to efforts in human settlements planning. Thorough research and careful planning are the foundation of advancing sustainable cities and communities. STIs provide the tools required to ensure these processes of advancement are cohesively aimed.

Accessible

Technology allows the accessibility of data. It is through the review of previous works or experiences, sharing of best practices, and collaboration across borders that advancements in human settlements planning can be made successful.

Advanced

Beyond recounting experiences and responding to present concerns, STIs allow us to proactively address foreseeable issues and come up with advanced solutions. The pursuit for sustainability requires foresight that STIs can provide.

ABOUT THE ORGANIZERS

University of the Philippines LOS BAÑOS

DCERP

The International Conference on Human Settlements Planning and Development is organized and hosted by the **Department of Community and Environmental Resource Planning (DCERP)** of the College of Human Ecology, University of the Philippines Los Banos. DCERP was founded in 1983 and functions within the harmonizing framework of humans in relation to their environment. Its ultimate aim is to contribute towards the national goal of improving the quality of life and general well-being of the Filipino people. Its vision is to be a leading institution providing high quality education, research, and public service in human settlements planning towards sustainable development; with the mission to develop and promote sustainable and resilient human settlements through:

1. Education of environmental planning professionals with holistic and interdisciplinary perspective;
2. Knowledge generation in situational analysis, planning, implementation, monitoring and evaluation of development plans; and
3. Provision of technical assistance to various institutions.

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ABOUT THE ORGANIZERS

APRU SCL

The Association of Pacific Rim Universities – Sustainable Cities and Landscapes Hub has been conducting an annual conference since 2018 with the mission to “advance the sustainability of human and earth systems through co-production of knowledge that leads to actionable plans for enhancing supportive relationships between cities and their local and regionallandscapes.” There are four (4) sets of processes that are primarily investigated by APRU-SCL participants and partners namely: 1) those internal to cities, 2) those occurring within surrounding landscapes, 3) those occurring across urban-rural boundaries, and 4) the transfer of goods and services that connect cities to distant landscapes and economies. The team is guided by five (5) core principles: 1) scholarship for transformative action, 2) common issues and localized solutions, 3) broad geopolitical representation, 4) support for underrepresented communities and vulnerable populations, and 5) the centrality of climate change.

Last 2023, the APRU-SCL 6th Annual Conference held in Galapagos focused on tackling concerns of urban settlements situated in natural protected areas. The archipelago provided a good venue for knowing and understanding the complex relationship between human development and natural protected areas.

This year, the APRU-SCL 7th Annual Conference focuses on rethinking the cities and communities while helping the government and companies in making decisions based on reliable information amid uncertainties and in dealing with ethical concerns related with the digital economy. With proper guidelines and policies, cities and communities will be able to embrace the endless possibilities provided by AI technology while being mindful of unwanted consequences. Through continuous research and development, the use of this technology will be maximized for the greater good.

There will be Working Groups in the APRU-SCL 7th Annual Conference. Working Groups are the core of the APRU-SCL conferences and represent an important opportunity for delegates to participate in collaborative research in partnership with members of the APRU network, develop new researcher collaboration and cross-disciplinarity, and contribute towards finding solutions to the pressing problems of this century.

ABOUT THE ORGANIZERS

APRU SCL

All participants are enjoined to be part of a Working Group to engage with other experts, expand network, and produce collaborative outputs. There will be Working Groups that
include the following areas of interest:

- ➢ Children Youth and Environments
- ➢ Civic Engagement and Community Design
- ➢ Food Nutrition Security
- ➢ Future Energy Landscapes
- ➢ Indigenous Knowledge and Wisdom
- ➢ Landscape and Human Health
- ➢ Smart Cities
- ➢ Sustainable Urban Design
- ➢ Transitions in Urban Waterfronts
- ➢ Urban Landscape Biodiversity
- ➢ Urban-Rural Linkages
- ➢ Vulnerable Resilient and Climate Justice Communities
- ➢ Water and Waste Management
- ➢ Aging and Health

Websites: https://apru.org/
https://apru-scl.uoregon.edu/

Messages

Atty. Angelo A. Jimenez

President, University of the Philippines

Welcome to the 7th Annual Conference of the Association of Pacific Rim Universities– Sustainable Cities and Landscapes (APRU-SCL) and the 3rd International Conference on Human Settlements Planning and Development (ICHSPD) 2024.

I am honored to join everyone who has gathered in the capital of the Philippines for this initiative. The outcomes expected from the APRU-SCL and ICHSPD are more important than ever, given the frequency and intensity of the ecological and developmental crises faced by the Philippines and the rest of the world today. No doubt, the theme of this year's conference— "Advancing Sustainable Cities and Communities through Science, Technology, and Innovation (STI)"—resonates deeply with all of us.

The rapid pace of urbanization presents us with complex issues related to sustainability, from environmental degradation and resource depletion to social inequality. These challenges are intricately linked, demanding an integrated approach that combines diverse perspectives and innovative solutions. This conference serves as an essential platform for fostering interdisciplinary dialogue and exploring actionable strategies.

Academic institutions, particularly the universities represented in this event, play a crucial role in this dialogue. We are uniquely positioned as hubs of knowledge creation, community engagement, and policy influence. Through interdisciplinary research centers and collaborative projects, we bridge the gap between theory and practice, fostering sustainable solutions that address both urban and rural challenges. Our role extends to educating future leaders, engaging with communities, and influencing policy to drive meaningful change.

The University of the Philippines Los Baños (UPLB), with its Department of Community and Environmental Resource Planning, exemplifies this commitment. The department's efforts in integrating various fields to tackle urban sustainability challenges reflect the broader mission of our institution to contribute to societal well-being through research, education, and community partnership.

As we embark on this conference, I encourage you all to actively participate in the discussions, workshops, and networking opportunities here. Your engagement is vital for advancing our collective understanding and developing innovative solutions for sustainable urban futures. Thank you for joining us, and I look forward to the impactful exchanges and discoveries that will arise from the cooperation fostered by this event.

Dr. Jose V. Camacho, Jr.

Chancellor, University of the Philippines Los Baños

On behalf of the University of the Philippines Los Baños (UPLB), I extend my warmest greetings and welcome to everyone participating in the *3rd International Conference on Human Settlements Planning and Development (ICHSPD)*, hosted by UPLB's Department of Community and Environmental Resource Planning, College of Human Ecology (DCERP-CHE), in partnership with the Asia Pacific Rim Universities– Sustainable Cities and Landscapes (APRU-SCL).

Held in conjunction with the *7th Annual Conference of APRU-SCL*, this year's ICHSPD theme, "Advancing Sustainable Cities and Communities through Science, Technology, and Innovation," presents both a challenge and a clarion call to all of us. As we gather to share knowledge and forge new pathways, we are reminded of our collective commitment to the 11th UN Sustainable Development Goal—making cities and human settlements inclusive, safe, resilient, and sustainable.

UPLB, through DCERP-CHE, is proud to host this prestigious event. We are thrilled to bring together a diverse group of thought leaders, researchers, policymakers, and practitioners from around the globe to engage in critical discussions that drive forward the frontiers of urban planning and development.

As you participate in this conference, I encourage each of you to leverage the insights gained and collaborations formed here to foster innovations that address the unique challenges faced by urban environments. Through your contributions, we can envision and create sustainable cities that thrive economically and serve as bastions of social inclusivity and environmental resilience.

We are excited to see the outcomes of this conference inspire actionable solutions and influence global and local policies. Your endeavors during and after this gathering will undoubtedly contribute significantly to transforming our urban landscapes into models of sustainable development.

Thank you for your dedication to advancing our cities and communities. May your discussions be fruitful and your resolutions steadfast as we strive to achieve a more sustainable and equitable world.

Dr. Jennifer Marie S. Amparo

Dean, College of Human Ecology
University of the Philippines Los Baños

We would like to welcome you all to Manila, Philippines from August 6 to 8, 2024. The College of Human Ecology, University of the Philippines Los Baños is honored to host this year's 7th Annual Conference of the Association of Pacific Rim Universities – Sustainable Cities and Landscapes (APRU- SCL) in conjunction with our 3rd International Conference on Human Settlements Planning and Development (ICHSPD).

I would like to congratulate the Conference Organizers (APRU SCL and DCERP CHE UPLB) and our partners for this engaging and enriching three-day conference covering 9 Plenary Speakers, 8 Working Groups, 13 Organized Sessions, and 6 parallel sessions and 3 student sessions. The 2024 APRU SCL Conference X ICHSPD is a manifestation of co-production across various partners from the government, academe, non-government organizations, and private sector working on advancing sustainable cities and communities through science, technology and innovation. It is an opportunity for us to co-learn, co-design, and co-produce impactful solutions to complex challenges confronting cities and communities.

This November 2024, we will be celebrating the CHE's 50th founding anniversary. The College of Human Ecology was instituted as a response to the need for a 'program that will deal with the whole scope of environmental problems which impinge on human as we develop and grow into a whole being; neither are there programs and courses that are so integrated to provide a complete study of human as they affect the total environment' (UPLB, 1974[1]). Through the years, CHE has developed innovative teaching, research and extensions programs that address sustainability challenges. Most of the recent works (e.g. social technologies, innovative engagement platforms and tools, case studies) will be presented in this conference. We hope to expand and scale up our impact in the Asia Pacific region as we work together to develop more self-reliant and sustainable cities and communities that contribute to the development of a desirable quality of life for all.

Congratulations and looking forward to engaging with you all in this conference.

Dr. Edgar M. Reyes, Jr.

Overall Conference Director

In our rapidly changing world, reimagining the interplay of science, technology, and innovation (STI) in trailblazing the disruptive, volatile, uncertain, ambiguous, and diverse (D-VUCAD paradigm) urban landscape is essential. Putting this in perspective, the Association of Pacific Rim Universities Sustainable Cities and Landscapes (APRU SCL) and the International Conference on Human Settlements Planning and Development (ICHSPD) 2024 seek to create a platform for STIs to assert their significance and make the Sustainable Development Goals (SDGs) attainable.

This back-to-back conference is a strategic and opportune time to harmonize efforts and create an enabling environment for collaborations, partnerships, and the co-design of solutions to recurring and wicked human settlements and development problems. As a leading higher education institution, the University of the Philippines and all its partners are setting up this global stage for like-minded international audiences in an engaging manner to ensure active participation and commitment among various stakeholders.

Science, technology, and innovation are essential to advancing sustainable cities and communities. Through the sharing of knowledge, expertise, and experience, this concerted effort intends to forward targeted solutions to address global challenges, inform policy development, and accelerate synergistic interventions and strategies to drive inclusive socio-economic development and growth. These multifaceted concerns were recognized in the 25th session of the Commission on Science and Technology for Development of the United Nations Economic and Social Council in 2022, identifying the 10 key urban sustainability challenges in relation to energy, circularity, water, mobility, economic prosperity, housing, gender-related empowerment and equality, urban planning, safety and security, and protection from natural disasters.

With increased participation from various sectors, local and international alike, it is expected that the conference will cascade all its efforts to environmental planners and other allied professions, academia, sustainability leaders, and good governance frontrunners to influence informed and science-based decision-making critical to advancing coordinated local, regional, and national development.

At the forefront of global challenges, may this conference become the necessary platform and be an engine for more fruitful engagements and collaborative efforts towards the sustainable development of cities and communities.

Let’s enjoin, engage, and empower our cities and communities through the APRU SCL and ICHSPD 2024!

Dr. Thomas Schneider

Chief Executive, Association of Pacific Rim Universities

On behalf of APRU, I welcome you to the 7th APRU Sustainable Cities & Landscapes (SCL) Conference, organized together with the 3rd International Conference on Human Settlements Planning and Development (ICHSPD) this year in Manila, capital of the Philippines.

We are a network of 61 leading research universities around the Pacific Ocean, linking Asia, the Americas and Australasia, bound by a common commitment to tackle the big challenges that face our region.

The APRU Sustainable Cities & Landscapes Program was formed with its inaugural annual conference held in 2017 at the University of Oregon, the host university of the SCL Research Hub. The Program aims to bring together policymakers, researchers and practitioners from across disciplines to find answers to the big social, urban, and ecological questions of our time. Understanding the interconnection between human activity, resource use and the protection of biodiversity, not to mention the interdependence between cities themselves, is essential for solving the critical sustainability issues facing the Pacific Rim societies.

As the leading network of Asia-Pacific research universities, we at APRU recognize how urgent these issues are within the macroregion in which we operate. It is therefore our responsibility to tackle these challenges by partnering with other international organizations, with the public and private sectors, and with other NGOs, jointly “advancing sustainable cities and communities through science, technology, and innovation (STI)”, which is this year’s conference theme.

We are very grateful to the University of the Philippines Los Baños (UPLB), and especially the organizing team at the Department of Community and Environmental Resource Planning – College of Human Ecology, for their commitment and hard work in hosting this annual conference.

We also thank Professor Dennis Galvan, Dean and Vice Provost for the Division of Global Engagement at the University of Oregon and Professor Yekang Ko, Director of the SCL Research Hub for their leadership, the SCL Program Team and the International Steering Committee for their consultation and support over the past years.

Thank you for contributing to the success of this conference! I wish you a very productive and meaningful event!

Dr. Dennis C. Galvan

Steering Committee Chair
APRU Sustainable Cities and Landscapes Program

It is with great enthusiasm and honor that I welcome you to the 7th APRU Sustainable Cities and Landscapes (APRU SCL) Conference, partnering with the 3rd International Conference on Human Settlements Planning and Development (ICHSPD) hosted by the University of the Philippines Los Baños (UPLB). In the vibrant and dynamic City of Manila, this gathering marks a critical moment for our collective efforts in addressing the pressing challenges and opportunities that urbanization and climate change present to our global society.

As the APRU SCL Steering Committee Chair, I am proud to see the culmination of months of meticulous planning and collaboration come to fruition. Our conference theme, "Advancing Sustainable Cities and Communities through Science, Technology, and Innovation," reflects the urgent need to foster sustainable development practices to enhance the quality of life for all inhabitants through science and technology. This is particularly critical in the Asia-Pacific region, where rapid urbanization and environmental change create unprecedented challenges and opportunities.

Over the next few days, we will engage in insightful discussions, working group sessions, and presentations led by some of the brightest minds in academia, industry, and policy-making. These sessions are designed to inspire innovative solutions, share best practices, and forge new partnerships that will drive our mission forward.

I extend my heartfelt gratitude to our valued core member – the University of the Philippines Los Baños, for their exceptional effort and hospitality in hosting this event. Their commitment to sustainable development and academic excellence is truly commendable and sets a high standard for all of us.

The success of this conference depends on your active and enthusiastic participation. Let us seize this opportunity to make meaningful connections, exchange transformative ideas, and lay the groundwork for a more sustainable and resilient future.

Dr. Yekang Ko

Director, APRU Sustainable Cities and Landscapes Program

Dear Colleagues and Friends,

Welcome to the 2024 APRU Sustainable Cities and Landscapes (APRU SCL) X the International Conference on Human Settlements Planning and Development (ICHSPD) Conference hosted by the University of the Philippines Los Baños (UPLB) in Manila. As the Director of APRU SCL, I am pleased to see our 7th APRU SCL conference that brings together a diverse and dedicated group of individuals, all united by a common goal: to enhance place-based sustainable urban and landscape practices across the Asia-Pacific region and beyond.

The conference program is packed with various sessions designed to provoke thought, inspire innovation, and encourage collaboration. From keynote speeches by leading experts, including internationally renowned urban designer Dr. Paola Boarin from the University of Auckland, to plenary sessions and interactive working group sessions co-led by APRU SCL working group leaders and UPLB faculty, every segment is crafted to provide you with valuable insights and actionable knowledge. We have also included ample networking opportunities, knowing that exchanging ideas and building partnerships are critical to advancing our sustainability goals.

I would like to express my deep appreciation to Dr. Ma. Catriona Devanadera, Dr. Edgar Jr Reyes, Dr. Jennifer Marie Amparo, and their entire conference organizing secretariat from the Department of Community and Environmental Resource Planning – College of Human Ecology (DCERP-CHE) of the University of the Philippines Los Baños for their remarkable efforts in organizing this event. Their dedication to sustainability and academic excellence has been instrumental in bringing this conference to life. Additionally, I am grateful to all the speakers, moderators, working group leaders, and participants who have contributed their time and expertise to make this event successful.

As we embark on these few days of intensive learning and collaboration, I encourage you to engage fully with the content and each other. Challenge your assumptions, share your knowledge, and take this opportunity to learn from the diverse experiences and perspectives represented here. Together, we have the power to drive significant change and make a lasting impact on our cities and landscapes. Let us use this conference as a stepping stone towards a more sustainable and resilient future for all.

Thank you for your commitment and participation. I look forward to the inspiring discussions and fruitful collaborations that lie ahead.

SM PRIME

Jeffrey C. Lim
President

Welcome, participants!

SM Prime Holdings, Inc. proudly supports the 7th Annual Conference of the Association of Pacific Rim Universities – Sustainable Cities and Landscapes (APRU-SCL) and the 3rd International Conference on Human Settlements Planning and Development (ICHSPD), as we mark the milestones of advancing sustainable and resilient cities and communities during the most pressing times when more than half of the world's inhabitants live in cities.

Recognizing that true prosperity transcends financial success, at SM Prime, our commitment to developing sustainable integrated properties is matched by our efforts to foster vibrant, inclusive communities wherever we build, integrating both social and environmental values in property development.

This involves adopting sustainable building practices – including using clean energy, eco friendly materials, and energy-efficient designs, and implementing proper resource and waste management strategies. Moreover, our developments actively involve and benefit local communities, ensuring that our properties lead to tangible improvements in people's lives. We know from the UN SDGs that cities will play an important role in achieving Goal 11. Whether we're in university or the business world, we all have to contribute to the success of a healthier planet and a more equitable society. Immerse yourself in the great minds in this room – the future of cities and the true solutions to balancing and meeting the needs of the present without compromising those of future generations may be found within this gathering.

Explore, engage, and empower at this transformative conference where global innovators unite for sustainable solutions.

UP OIL

Dr. Imee Su Martinez

Director, UP System Office of International Linkages

Congratulations to the Department of Community and Environmental Resource Planning (DCERP) of the College of Human Ecology, University of the Philippines Los Baños (CHE-UPLB) for successfully organizing the 7th Annual Conference of the Association of Pacific Rim Universities (APRU SCL) and the 3rd International Conference on Human Settlements Planning and Development (ICHSPD) 2024!

With the numerous non-traditional security threats facing the Philippines, such as natural and man-made disasters, global pandemics, rapid urbanization, and climate change, the UP System encourages academic events like this to produce long-term solutions to these issues. This is in line with our role as the country's National University, dedicated to public service, research, and international collaboration under the UP Charter of 2008.

My sincerest congratulations to the organizers, secretariat, speakers, presenters, and participants of this conference. Special recognition goes to:

- Dr. Edgar Reyes, Overall Conference Director and 2024 Hosting Grantee
- Dr. Ma. Catriona Devanadera, DCERP Chairperson and Co-Conference Director
- Prof. John Ceffrey L. Eligue, Chief Conference Manager
- Dr. Jennifer Marie S. Amparo, Dean of the College of Human Ecology – UPLB
- Dr. Sheila B. Austero, 2024 WELS Grantee

Established in 1983, DCERP has been dedicated to improving the quality of life and well-being of the Filipino people through human settlements planning and sustainable development initiatives.

The Office of International Linkages is always happy and privileged to support DCERP and CHE's internationalization endeavors, especially through the UP System Supported Constituent Hosting of International Conferences (Hosting) and the World Expert Lecture Series (WELS) Grants.

Daghang Salamat, and I wish everyone a productive and fruitful conference!

HUMEIN
Philippines Inc.

Rasmiah M. Malixi, EnP
President

On behalf of the Human Ecology Institute of the Philippines, Inc. (HUMEIN Phils), I extend our warmest welcome to the delegates and participants to the 7th Annual Conference of the Association of Pacific Rim Universities – Sustainable Cities and Landscapes (APRU-SCL) and the 3rd International Conference on Human Settlements Planning and Development (ICHSPD) on 6-8 August 2024.

I am immensely delighted to see that 3rd ICHSPD has partnered with APRU for its annual conference. This demonstrates that the issues in human settlements planning and development remains relevant here and abroad. I am certain that with the theme, “Advancing Sustainable Cities and Communities through Science, Technology, and Innovation” through the wide collection of presentations from the plenary and organized sessions, the Conference will extensively help the various professionals who will participate in it.

I wish to congratulate the organizers for curating targeted sub-theme sessions to focus on safety, inclusivity, resilience and sustainability – the most crucial characteristics we wish all human settlements to have in this modern complex times. We at Humein Phils. share the Conference’s objectives, as these too are the same pillars of the human ecological perspective that we espouse.

We wish the Conference all success and best wishes to the APRU and DCERP in all of its future endeavors. Cheers to us, Human Ecologists in action!

Phil Carter

OCS Philippines Managing Director

OCS Facilities Services Philippines Inc, the largest Facility Management provider in the Philippines is honored to be a sponsor of this significant event, facilitated by the **University of the Philippines Los Baños**. The theme of this event, “Advancing Sustainable Cities and Communities through Science, Technology, and Innovation (STI),” aligns perfectly with our Company ethos both in the Philippines and Globally.

Our unwavering commitment to Environment, Social and Governance (ESG) principals, underpins our belief in the transformative power of Science, Technology, and Innovation (STI) in reshaping our urban landscapes and communities, whilst at the same time advancing the living standards of the wider Filipino population. We eagerly anticipate contributing to the discussions and gaining insights from the diverse viewpoints that will be presented during the conference.

We look forward to engaging with all attendees, exchanging knowledge, and learning from the vast array of experiences of all conference participants. Collectively, we can help to shape the future trajectory of our cities and communities, steering them towards an increased level of sustainability, resilience, and inclusivity.

SHIELD
Strengthening Institutions and Empowering Localities Against Disasters and Climate Change

Australian Aid

UNDP

The Strengthening Institutions and Empowering Localities Against Disasters and Climate Change (SHIELD) Programme is delighted to support and participate in the *7th Annual Conference of the Association of Pacific Rim Universities-Sustainable Cities and Landscapes (APRU-SCL) and the 3rd International Conference on Human Settlements Planning and Development.*

This conference offers a valuable platform for sharing knowledge, exploring innovative solutions, and building partnerships to drive sustainable development. We are eager to engage with thought leaders, practitioners, and advocates at this conference, all committed to a shared mission of creating safer, more resilient spaces for future generations.

The SHIELD Programme, a dynamic initiative focused on strengthening climate and disaster resilience, emphasizes the critical role of inclusive, science-driven, and community-centered approaches. Our collaboration with provincial and local governments, civil society organizations, and various stakeholders underscores the importance of collective action in addressing the complex challenges posed by disasters, climate change, and urbanization.

SHIELD is a multi-year partnership covering 11 provinces and two regions in the Philippines that are among the most vulnerable to disasters and climate change impacts. It is implemented by the UNDP Philippines, along with consortium partners: Philippine Business for Social Progress (PBSP), National Resilience Council (NRC), Consortium of Bangsamoro Civil Society (CBCS), and United Nations Human Settlements Programme (UN-Habitat), together with government partners: Department of the Interior and Local Government (DILG), Office of the Civil Defense (OCD), and Department of Science and Technology (DOST), with generous support from the Australian Government.

We appreciate your dedication to sustainable development and wish everyone a productive and inspiring conference.

UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

Mr. Teddy G. Monroy

UNIDO Country Representative

On behalf of the United Nations Industrial Development Organization (UNIDO), I extend my heartfelt greetings and best wishes to the Department of Community and Environmental Resource Planning - College of Human Ecology (DCERP-CHE) of the University of the Philippines Los Baños (UPLB) for the success of the Annual Conference of the Association of Pacific Rim Universities – Sustainable Cities and Landscapes (APRU-SCL). UNIDO is pleased for the opportunity to collaborate with an institution strongly dedicated to achieving sustainable development goals through resilient settlements and communities.

Being the only specialized agency of the United Nations mandated to advance sustainable and inclusive industrialization, UNIDO recognizes the immense value that partnership platforms can create to realize common goals and advocacies. A gathering such as this that brings together like-minded leaders, champions, and brilliant minds is crucial for promoting innovation in building sustainable and climate- resilient cities and communities. These localities serve as effective hubs for economic activities undertaken by industries, MSMEs and other productive sectors. Through well-informed and forward looking planning, we can ensure the development of self-sustaining, resilient, and climate proof communities that create safe and healthy environments for future generations while fostering vibrant economies where everyone has equal access to resources and opportunities.

For this edition of the conference, we are proud to co-organize a session with the Department of Trade and Industry (DTI) and Clean Air Asia (CAA) focusing on advancing the e-mobility ecosystem in the country. This takes off from the ongoing UNIDO project with DTI on “Accelerating the adoption and scale-up of electric mobility for low-carbon city development in the Philippines”. e-mobility solutions such as public-private partnerships and green funds.

As the country endeavors to attain its long-term vision, the AmBisyon Natin 2040, where all Filipinos are envisioned to enjoy strongly rooted, comfortable, and secure lives through the successful advancement of the President’s socioeconomic agenda, UNIDO commits to continue supporting collaborative efforts to accelerate inclusive and sustainable industrial and economic development. This will be achieved by harnessing the full potential of industries and other economic sectors in ways that will create quality decent jobs & generate fair income; reduce inequalities; build resilience & adaptive capacities; and cause no further harm to people and the environment. In the Philippines, UNIDO will prioritize efforts toward promoting (1) Food Security and Productive Agro fishery Industries; (2) Innovative, Efficient, Clean, and Circular Livelihoods and Supply Chains; (3) Low-carbon Development and Climate Action: and (4) Partnerships for Sustainable Industrial and Economic Development.

I look forward to the success of this annual conference and the achievement of its objectives. I am also thrilled for the future possibilities brought about by our continuing partnership and collaboration on our common goals of helping uplift the lives of every Filipino toward lasting health and prosperity. They deserve nothing less.

Orient Integrated Development Consultants, Inc (OIDCI) is indeed pleased to be associated with the Department of Community and Environmental Resource Planning - College of Human Ecology (DCERP-CHE) of the University of the Philippines Los Baños (UPLB) in its noble endeavor of hosting the 7th Annual Conference of the Association of Pacific Rim Universities – Sustainable Cities and Landscapes (APRU-SCL) and the 3rd International Conference on Human Settlements Planning and Development (ICHSPD).

As an internationally accredited Philippine-based consulting firm, OIDCI is at the forefront in supporting nation-building through initiatives that promotes sustainable development, sound environment and natural resource management, inclusive growth, and good governance. OIDCI's service delivery approach is multi-stakeholder, multi-sectoral and multi-disciplinary. Aligned to the themes of the annual and international conferences, OIDCI subscribes to spatial integration to ensure effective linkages between urban and rural areas, and between regional delineations and across ecosystems in a ridge to reef landscapes. With more than 40 years in development consulting, OIDCI advocates harmonization of environmental protection, biodiversity conservation and resource utilization to enhance ecosystem and stakeholder resilience to climate change. OIDCI strongly encourages active stakeholder participation, transparency and accountability in planning and decision making on how social, economic and environmental resources are rationally managed.

OIDCI is privileged to be a sponsor for APRU-SCL and ICHSPD 2024 as we extend our continuous support and assistance to CHE UPLB in bringing together academic champions and development practitioners to collaborate and form partnerships to respond to global risk and complex problems, we all face. We consider it a great opportunity for OIDCI to showcase our insights, initiatives and engagements in sustainable cities and community landscapes, and inclusive and integrated development planning.

We look forward to another meaningful and productive conference.

SEAMEO SEARCA

Dr. Glenn B. Gregorio

SEARCA Center Director

The Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA) extends its heartfelt congratulations to the Department of Community and Environmental Resource Planning - College of Human Ecology (DCERP-CHE) of the University of the Philippines Los Baños (UPLB) for hosting the 7th Annual Conference of the Association of Pacific Rim Universities-Sustainable Cities and Landscapes (APRU-SCL) and the 3rd International Conference on Human Settlements Planning and Development (ICHSPD). We are honored to be a supporter of these important conferences.

These conferences, initiated in 2018, have distinct focus areas but share a common goal of building a sustainable future. APRU-SCL has aimed to enhance the sustainability of human and earth systems by co-producing knowledge that strengthens relationships between cities and surrounding local and regional landscapes. Meanwhile, ICHSPD has placed emphasis on achieving inclusive, safe, resilient, and sustainable communities. This year, the two conferences have joined forces as APRU-SCLxICHSPD 2024 to take a visionary approach to building sustainable cities and communities through science, technology, and innovation.

In today's volatile, uncertain, complex, and ambiguous (VUCA) world, APRU-SCLxICHSPD provides a significant platform for key actors to engage in meaningful exchanges of knowledge, insights, and best practices. This event is crucial for developing practical and effective solutions to the pressing challenges we face in human settlement planning and development and sustainable cities and communities. It also opens doors for potential collaboration.

SEARCA works to elevate the quality of life of agricultural families through sustainable and resilient livelihoods and access to modern networks and innovative markets. This contributes to building sustainable communities. The Center's support in sustainable landscapes involves promoting agriculture management and community development to improve human settlements and quality of life.

Once again, congratulations to DCERP-CHE and all the organizers and participants of APRU-SCLxICHSPD. We look forward to the positive impacts and innovative solutions that will arise from this gathering.

Thank you and Mabuhay!

Speakers' Profile

Jeff Hou

Provost's Chair Professor and Head,
Department of Architecture
National University of Singapore

Dr. Jeff Hou, FASLA, is Provost's Chair Professor and Head of the Department of Architecture at the National University of Singapore. In a career that spans the Pacific, Hou has worked with indigenous tribes, farmers, fishers, and villagers in Asia and inner-city immigrant youths and elders in North America on projects ranging from wildlife conservation to bottom-up community placemaking. For over two decades, Hou has been a pioneering scholar on public space and democracy, community design, civic engagement, and urbanisms in Asia. He was previously a Professor of Landscape Architecture at the University of Washington, Seattle, where he directed the Urban Commons Lab. Hou was elected Fellow of the American Society of Landscape Architects (ASLA) and received the Outstanding Educator Award from the Council of Educators in Landscape Architecture (CELA) in 2023. His collaborative publications received the EDRA Places Book Award in 2010, 2012, and 2018. Hou is also a co-founder of the Pacific Rim Community Design Network, which celebrated its 25th year in 2023.

Dr. Paola Boarin

Associate Professor, School of Architecture and Planning, University of Auckland

Dr Paola Boarin is Associate Professor of Architectural Technology and Sustainability at Te Pare School of Architecture and Planning of the University of Auckland, New Zealand, where she is the Associate Dean (Teaching and Learning) and the co-founder and inaugural co-director of the Future Cities Research Hub, a School Centre bringing together researchers from across the Faculty of Creative Arts and Industries and the University of Auckland around transdisciplinary research focussing on climate change and social, cultural and spatial urban well-being. Paola's research addresses the links across architecture, technology and the environment, with a focus on regenerative design, sustainable conservation, adaptation and retrofit of existing and heritage buildings, and integrated practices for post-occupancy evaluations at building and neighbourhood scale. Paola is involved in transdisciplinary research groups and projects at national and international level focusing on the nexus across design, health and climate change impacts, and works closely with industry and government to improve the building industry in New Zealand. Paola is the University of Auckland representative in the APRU Sustainable Cities and Landscapes Hub where is a member of the Executive and Steering committee, in addition to being a co-lead in the Sustainable Urban Design Working Group.

Over her career, Paola has gained extensive international experience by collaborating closely on research and teaching activities in several universities in Europe, the USA and New Zealand, receiving two Young Researchers Awards from the University of Ferrara, Italy, the International Leadership Award from the US Department of State, in addition to several recognitions for her teaching leadership.

Hon. Mar-Len Abigail S. Binay

City Mayor of Makati

Atty. Mar-Len Abigail S. Binay was elected Mayor of Makati in 2016, after serving nine years in Congress as Representative of the 2nd District of Makati. Her administration has embraced technology to promote greater transparency, efficiency and competitiveness while accelerating Makati's transformation into a Smart City. She envisions Makati as a model city that can show other localities how to reduce their emissions and become more resilient, sustainable, and livable.

In 2021, Mayor Abby became the first Mayor in the world to commit to the global initiative Cities Race to Resilience (RtR).

In August 2022, Mayor Abby declared a climate emergency to mobilize multi-stakeholder climate action. Makati was subsequently proclaimed by UNDRR as the first-ever Resilience Hub in Southeast Asia.

Mayor Abby believes that leaders all over the world should listen to the advice of experts and acknowledge the urgency of climate change. She has taken on significant roles to raise the voices of local governments in international dialogs. Currently, she is a Global Executive Committee member of ICLEI, Cities Climate Finance Leadership Alliance's City Ambassador for Asia, Board Member of the Global Covenant of Mayors for Climate and Energy for Southeast Asia, Council Member of UCLG ASPAC, and the Vice President of CityNet.

Last October, United Nations Secretary General Antonio Guterres appointed Mayor Abby as a member of his Advisory Group for Local and Regional Governments, with a special focus on promoting gender equality. Prior to that, she accepted the invitation of COP28 President-Designate, Dr. Sultan Ahmed Al Jaber, to join the Advisory Committee and Technical Working Group 3 that focuses on Climate Finance and Loss and Damage.

The mayor attended COP28 UAE in Dubai, where she actively campaigned for localized funding from Multilateral Development Banks (MDB) to assist cities in developing countries in moving forward with their climate action agenda. At the opening of the summit, Mayor Abby received a standing ovation for highlighting the role of women in building a sustainable future.

Mayor Abby is a graduate of the University of the Philippines – Los Baños. She has a juris doctor degree from the Ateneo School of Law and passed the bar in 2002. She joined the Movement of Attorneys for Brotherhood, Integrity, and Nationalism (MABINI) where she provided free legal services to underprivileged clients. She is also a member of the Integrated Bar of the Philippines, and the Federacion Internaciones de Abogadas (FIDA).

Mayor Abby is the second among five children of former Vice President and Makati Mayor Jejomar Cabauatan Binay, and former Makati Mayor Dr. Elenita Sombillo-Binay. She is married to Congressman Luis Campos of the 2nd District of Makati. They have a daughter, Martina.

Dr. Alfredo Mahar Francisco A. Lagmay

Executive Director, UP Resilience Institute

Dr. Alfredo Mahar Francisco A. Lagmay is an Academician of the National Academy of Science and Technology (NAST) and Professor at the National Institute of Geological Sciences, University of the Philippines. He is currently the Director of the University of the Philippines Nationwide Operational Assessment of Hazards (UP NOAH), and the Executive Director of the University of the Philippines Resilience Institute. He received his Bachelor's and Master's degrees from the University of the Philippines and holds a Ph.D. degree in Earth Sciences from the University of Cambridge (2001). He was a visiting scientist at the Geophysics Department of Stanford University in 2006. His work is focused on volcano-tectonics, disaster forensics, and climate change adaptation. Upon receiving his Ph.D., he returned to the Philippines and has been involved in numerous research efforts related to natural hazards. He lectures on Philippine Disasters by virtue of having hands-on experience in search-and-rescue and forensic analyses of major Philippine catastrophes. These include the lethal Mindoro, Iloilo, Pampanga floods, Guinsaugon landslide, Mayon lahars, and the Ondoy, Pedring/Quiel, Sendong, Habagat, Pablo and Yolanda disasters. He is a recipient of the Presidential citation for search and rescue work in Guinsaugon and the 2008 Outstanding Research Award for advanced science and technology in the Philippines for innovative applications of space technology. He is a recipient of the 2008, 2011, 2015, 2018 and 2021 University Scientist award, the 2012 New Media digital heroes award and the 2012 Cyberpress best IT product of the year for development of the Project NOAH website and mobile tools.

On June 20, 2013 he was given the Professional Regulation Commission (PRC) Outstanding Professional of the Year Award for his accomplishments. In the same year, he received the **2013 Outstanding Filipino award (TOFIL),** an honor given by the Junior Chamber International (JCI) Senate Philippines to Filipino men and women whose exemplary achievements are worthy of emulation. In 2014, RED Alert, a radio program that he anchors, was recognized by numerous awarding bodies including the Catholic Mass Media Award (CMMA), Philippine Quill Awards and the Hildegarde awards. The following year, on behalf of the development team of the ARKO mobile app, he received the World Summit Award (WSA) for best mobile app for m-inclusion and empowerment. Also in the same year of 2015, Dr. Lagmay was awarded with the **Plinius Medal by the European Geosciences Union or EGU** for outstanding achievements in interdisciplinary natural-hazard research and natural-disaster engagement in the Philippines. He is the first Asian to receive such an honor. The latest international recognition he received is the 2020 StartNetwork Change Maker award for anticipatory action. He continues to serve the Filipino people by conducting work in areas stricken by disaster. His most recent works include the 2022 landslide tsunami in Abuyog, Leyte and the 2023 Paeng Disaster in Datu Sinsuat Odin, Maguindanao. He has published more than 100 peer-reviewed journal articles, mostly in international ISI journals. Also a consistent invited keynote speaker in international conferences and regular reviewer of scientific manuscripts in world-class journals, he maintains a reputable status in his field of expertise in the international scientific community.

Dr. Samad Sepasgozar

Assoc. Prof., UNSW Sydney
University in Kensington, Australia

Professor Samad Sepasgozar's primary research focus lies in the integration of Digital Twin, artificial intelligence, and sensing technologies within smart cities and construction. His work is dedicated to driving digital transformation for futuristic cities and sustainable built environments. He is an Associate Editor for the prestigious Journal of Architectural Engineering run by the American Society of Civil Engineering (Top 10% globally). He is also an Editorial Board (Academic handling editor) of Nature Scientific Reports (H-index: 213), recognized as one of the top 5 highly cited journals in the world. He has conducted numerous experiments and developed multiple digital applications, with over 250 publications, including scholarly articles and books, mainly focusing on interdisciplinary topics: Building Construction, Architecture, City, Remote Sensing, Manufacturing, Information Systems, Computer Science, and Sustainability. His work has garnered international recognition, earning prestigious accolades such as Technology of the Year Finalist, National Australian Construction Award, and Best Paper awards for publications in the Top 1% and Top 10% journals consistently.

Dr. Jeongsoo Yu

Professor, Tohoku University

Professor Jeongsoo Yu obtained his Ph.D. in urban and regional planning from Tsukuba University in 1999. Since 2000, he has been in charge of the graduate school of international cultural studies and environmental studies at Tohoku University in Japan. He is interested in integrated waste management and sustainable recycling systems.

Achieving carbon neutrality and a circular economy is an urgent issue in waste management research. His laboratory is dealing with various related research topics, such as battery recycling from end-of-life vehicles, small home appliance recycling, and also focusing on plastic waste. He will provide useful information about the current situation in plastic waste recycling and introduce a new technology for sorting plastic using Terahertz waves.

Cristopher Rollo

Country Programme Manager
UN-Habitat Philippines

Cris Rollo is the Country Programme Manager of UN-Habitat Philippines since January 2012. He works with national government agencies, local governments, and urban stakeholders to address housing and urban development issues. He has provided support to the national government in various urban development initiatives.

At the local level, he worked with over 50 Philippine cities on sustainable urban development, urban planning, climate change action planning, and shelter programs in response to natural and man-made disasters. This included providing permanent shelter to disaster-affected families and communities, including the indigenous Bajau community, and empowering their recovery through the People's Process.

Before working with the UN, he was the Deputy Director for Programs at the Metropolitan Museum of Manila, Chairman of the Committee on Visual Arts at the National Commission for Culture and the Arts (NCCA), and a systems analyst at the Manila Electric Company.

Cris obtained his A.B. Economics degree from the Ateneo de Manila University and Master in Business Management from the Asian Institute of Management.

Dr. Yizhao Yang

Professor, School of Planning, Public Policy and Management
University of Oregon

Dr. Yizhao Yang is a Professor at the School of Planning, Public Policy and Management, University of Oregon. Her interdisciplinary research examines the interplay among "Place, Policy, and People" in the context of fostering sustainable urban development and creating livable communities. Her scholarship focuses primarily on two key domains: the intricate relationship between policy and place, and the dynamic interaction between place and people. In the realm of policy and place, Dr. Yang investigates how cultural and institutional factors shape sustainable planning policies, examining the transferability of place-based policies across diverse urban contexts. Her research extends across various Asian countries, analyzing the formulation and implementation of sustainable urban development policies. Within the domain of place and people, Dr. Yang's research explores how individuals' environments impact their behaviors and overall well-being, taking into account personal traits such as attitudes and preferences. The overarching goal of this aspect of her research is to identify effective placemaking strategies that foster the creation of inclusive, livable communities.

Dr. Renato U. Solidum, Jr.

Secretary, Department of Science and Technology

Dr. Renato U. Solidum, Jr. is the current Secretary of the Department of Science and Technology (DOST) of the Philippines. He has been with DOST for thirty-nine (39) years and has held various positions, including Director of the Philippine Institute of Volcanology and Seismology (PHIVOLCS). He was the Undersecretary at the Department for six years before becoming Secretary of DOST in 2022. He was the Undersecretary for Disaster Risk Reduction and Climate Change in 2017 and then Undersecretary for Scientific and Technical Services in October 2019. He was also designated as a Commissioner for UNESCO National Commission of the Philippines, from 2017-2022. Dr. Solidum has received numerous awards for his contributions to disaster risk reduction and government service. He holds a PhD in Earth Sciences from the Scripps Institution of Oceanography, University of California San Diego, a Master of Science degree from the University of Illinois at Chicago, and a Bachelor of Science degree in Geology from the University of the Philippines Diliman.

Steven T. Tan

President, Shopping Center Management Corp.

Acquired his Degree of Masters in Business Administration from Paris School of Management.

Began his career in Hospitality Management from 1990-1998 in Taipei, Taiwan with the Howard Plaza Hotel; Moved to Shanghai, China to form part of the opening team of the Barcelo Grand Hotel; Returned to the Philippines in 2001 to work as Regional Director of Marketing and Communications for FilBarcelo, handling external affairs for the group that included Pearl Farm, Punta Fuego and Taal Vista Hotel.

Joined SM in 2004 handling mall operations for The Podium and on January 2006 led the launch and operations of the SM Supermalls' crown jewel, SM Mall of Asia. His oversight was extended to the Premier Malls Division composed of SM Mall of Asia, SM Megamall, SM City North Edsa and SM's China mall properties.

On May 2013, opened SM Aura Premier, an upgraded premier mall in the newly minted central business district, Bonifacio Global City. In rapid succession, he launched the Mega Fashion Hall showcasing global market entry brands, and headed the exciting new expansion of The Podium. All these developments have paved the way for SM's entry into the upscale mall positioning.

Mr. Steven Tan was appointed last 2020 as the President of SM Supermalls, overseeing mall developments in both Philippines and China.

Steven T. TAN，从巴黎管理学院获得工商管理专业硕士学位。

Steven先生随后选择了酒店管理作为他事业的起点，1990年至1998年期间，他任职于台北福华大饭店，职务为前厅部副经理。之后，Steven先生到上海的巴塞罗大酒店工作，并参与酒店的开业筹备。2001年，Steven先生回到菲律宾，担任FilBarcelo酒店的市场营销宣传区域主管，负责酒店集团内珍珠园海滩度假村、蓬岛酒店和塔尔观景酒店的所有内部事务。

2004年，Steven先生加入SM，担任SM Podium商场经理。2006年1月，Steven先生被委以重任，参与SM Mall of Asia的开业工作。随后，他开始主持部分SM超级购物中心（SM Mall of Asia, SM Megamall, SM North Edsa）和中国区SM购物中心的工作。

2013年5月，Steven先生主持了位于新兴中央商务区博尼法西奥环球城的SM高级购物中心——SM Aura Premier开业工作。紧接着，他推出了展示首入菲律宾国际品牌的Mega时尚馆，并负责The Podium激动人心的全新扩建。这些发展都为SM进入高端市场定位铺平了道路。

Steven先生于2020年升任SM购物中心总裁，统筹管理SM购物中心在菲律宾和中国的购物中心业务。

Alexander P. Pama

Consultant. National Resilience Council

Vice Admiral Alexander Patino Pama is a retired Vice Admiral of the Armed Forces of the Philippines and served as the 32nd Flag Officer-in-Command, Philippine Navy (Navy Chief) prior to his retirement from the Navy in December 2012. He is currently a member of the ARISE Global Board, an international private sector alliance for DRR in support to the UNDRR advocacy for the attainment of the Goals of the Sendai Framework for Action. Concurrenty, he is a Senior Advisor to the National Resilience Council and Member of the Board of Trustees of the Oscar M. Lopez Center and ReStart Me Board of Trustees. He is also the Chairman of the Board of COCOGEN Insurance and a member of the Board of Directors of COCOLIFE Insurance Company, among others.

He is a former Adjunct Professor at the Asian Institute of Management's Executive Master in Disaster Risk and Crisis Management and a Lecturer at the Ateneo de Manila University's Master in Disaster Risk Reduction and Resilience.

Formerly, he was the Executive Director, National Disaster Risk Reduction and Management Council and concurrently the Administrator of the Office of Civil Defense, Department of National Defense where among his mandates was to integrate, supervise, coordinate, and harmonize government and multi-sectoral efforts in Disaster Risk Reduction and Management System and Resilience. He introduced and institutionalized the Pre-Disaster Risk Assessment Action Programs and Protocols (PDRA-APP), a system and a process that has improved the country's approach to DRRM that has significantly reduced casualties and damages resulting from disasters.

He was also the former and pioneering Executive Director of the Secretariat of the National Coast Watch Council at the Office of the Executive Secretary, Office of the President of the Philippines. As the Executive Director, he was instrumental in the initial organizing and building up of the Council, and the National Coast Watch Center, the agency mandated to oversee the Philippine Maritime security and domain awareness.

VAdm PAMA is a member of the Philippine Military Academy (MATAPAT) Class of 1979 and a graduate of the Naval Command Course at the US Naval War College in Newport, Rhode Island, USA, and the post graduate Course in National Security at the Christian Albrechts University, Kiel Germany.

Silvestre Z. Barrameda, Jr.

Executive Director
National Resilience Council (Philippines)

Dir. Silvestre Z. Barrameda Jr. or Sly, is the Executive Director of the National Resilience Council (Philippines) – a science and technology-based public-private partnership organization that supports resilience by bridging the role of the private businesses, non-government organizations, government and the academe as an enabling mechanism to foster opportunities and partnerships for resilient and inclusive communities in the Philippines. Furthermore, he serves as a Board Member of the Private Sector Alliance for Disaster Resilient Societies or ARISE Philippines -- a UNDRR-led network of private sector entities that invests in a risk-informed sustainable future.

He was a Career Executive Service Officer at the Department of the Interior and Local Government (DILG) where he served for 18 years in various capacities.

Phillip Anthony Carter

Managing Director OCS Philippines

Vastly experienced Senior Manager, with more than 20 years of experience in the Facilities Management Industry and Corporate Services and Construction industries at both hands on and Senior Management levels. I have worked and have experience in such diverse field as, Integrated Facilities, Soft Services, Food Services, Technical Maintenance, Janitorial and Housekeeping Services, Security Services and Support Services to the Oil and Gas industry.

Operations Director, Country Manager and CEO with Strong Financial acumen, HSE focused and driven to succeed and deliver profitable growth in businesses I lead.

Before moving back to Australia in May 2021, I had worked in APAC for 14yrs across 5 countries, holding Senior Management roles within the Facilities Management Industry, starting in Facilities Directors positions and then holding General Manager and Country President / CEO roles most recently from 2014 - 2020 in Philippines and Jan 2020 – May 2021 in Singapore

Jessica Bianca Sy

Assistant Vice President and Project Director
SM Development Corporation (SMDC),

Jessica Bianca "Jica" Sy serves as the Assistant Vice President and Project Director at SM Development Corporation (SMDC), where she has been instrumental in developing and leading business and project developments within multi-residential and township developments since April 2021. Her leadership in design strategies for SMDC properties prioritizes holistic, sustainable, and resilient features, reflecting her dedication to creating thriving communities.

Jica leads the SMDC Good Guys Community Program, an initiative focused on creating safe and secure spaces through disaster preparedness, health and wellness programs for all ages, and sustainability efforts such as recycling and supporting local SMEs that offer sustainable products. Her efforts significantly contribute to the well-being and resilience of both SMDC residents and the broader community.

She is also a board member of ARISE - Philippines, a local network of the Private Sector Alliance for Disaster Resilient Societies (ARISE). ARISE is a United Nations Office for Disaster Risk Reduction (UNDRR)-led network of private sector entities committed to supporting and implementing the Sendai Framework. This commitment aligns with the 2030 Agenda for Sustainable Development and its Sustainable Development Goals (SDGs), the Paris Climate Agreement, the New Urban Agenda, and the Agenda for Humanity.

Additionally, Jica serves as a board member for Reclamation Sustainability & Resilience, where she contributes to sustainability studies and evaluates environmental impacts to enhance resilience for land reclamation projects.

Ms. Jica is known for her profound commitment to sustainability and innovative design. She is an architect by profession with notable experience at Plus Architecture Australia, where she supported various interior design and architectural projects in hospitality, multi-residential dwellings, and commercial buildings. She later advanced to lead architectural and master planning projects, primarily in multi-residential dwelling developments.

She holds a Bachelor's Degree in Design (Architecture) with a double major in Architecture and Marketing, as well as a Master's Degree in Architecture from Queensland University of Technology. Her educational background is further enriched by a Foundation Degree in Design from RMIT University.

Andréanne Doyon

Associate Professor
School of Resource and Environmental Management
Simon Fraser University

Dr. Andréanne Doyon is an Associate Professor at the School of Resource and Environmental Management at Simon Fraser University. She holds a PhD from the University of Melbourne and a MA (Planning) from the University of British Columbia. Andréanne's research fits within the fields of governance and planning, and sustainability transitions (socio- technical) and transformations (socio-ecological). She has a relatively wide breath of topics and themes she engages with, including climate change, nature-based solutions, housing, energy, justice, reconciliation, and research practice. In addition to scholarly research. Andréanne works with practitioners and organizations to advance planning, equity, and climate change responses.

Conference Program

Conference Program

Day 1: 06 August 2024 (Tuesday) | 7:00 A.M. - 8:00 P.M. Philippine Standard Time

DAY 1	APRU-SCL 2024 EVENT/PROGRAM	
7:00 AM - 8:00 AM	Registration	
8:00 AM - 8:15 AM	Preliminaries National Anthem	
8:15 AM - 8:25 AM	Welcome Remarks	*Dr. Jennifer Marie S. Amparo, Dean, CHE*
8:25 AM - 8:35 AM	Opening Message	*Dr. Jose V. Camacho, Jr., Chancellor, UPLB*
8:35 AM - 9:05 AM	Special Message	*Dr. Thomas Schneider, Chief Executive, APRU*
9:05 AM - 9:15 AM	APRU-SCL Message and Conference Overview	*Dr. Yekang Ko, Director, APRU-SCL (Associate Professor, University of Oregon)*
9:15 AM - 9:25 AM	ICHSPD Message and Conference Overview	*Dr. Edgar M. Reyes, Jr., Conference Director, ICHSPD (Associate Professor, UPLB)*
9:25 AM - 9:30 AM	Introduction of the Keynote Speaker	*Dr. Ma. Catriona E. Devanadera, Conference Co-Director, ICHSPD (Associate Professor, UPLB)*
9:30 AM - 10:10 AM	Keynote Address	*Dr. Jeff Hou, Professor and Head of Department of Architecture National University of Singapore*
10:10 AM - 10:25 AM	Photo Op | Health Break	
10:25 AM - 11:05 AM	Plenary Session 1	*Hon. Abigail Binay, Mayor, LGU of Makati*
11:05 AM – 11:45 AM	Plenary Session 2	*Ms. Jessica Bianca Sy, Assistant Vice President and Project Director SM Development Corporation (SMDC)*
11:45 AM - 12:45 PM	Lunch	
12:45 PM - 2:45 PM	**Working Group Sessions (WGS)**	
	WGS 1 (Room 1)	Future Energy Landscapes
		Smart Cities
		Sustainable Urban Design
	WGS 2 (Room 2)	Civic Engagement and Community Design
	WGS 3 (Room 3)	Transitions in Urban Waterfronts
	WGS 4 (Room 4)	Urban-Rural Linkages
	WGS 5 (Room 5)	Indigenous Knowledge
		Vulnerable Resilient and Climate Justice Communities
	WGS 6 (Room 6)	Landscape and Human Health
		Urban Landscape Biodiversity
	WGS 7 (Room 7)	Water and Waste Management
	WGS 8 (Room 8)	Aging and Health
		Children Youth and Environment
		Food Nutrition Security
2:45 PM - 3:00 PM	Health Break	

Conference Program

DAY 1	APRU-SCL 2024 EVENT/PROGRAM	
3:00 PM - 5:00 PM	**Working Group Sessions (WGS)**	
	WGS 1 (Room 1)	Future Energy Landscapes
		Smart Cities
		Sustainable Urban Design
	WGS 2 (Room 2)	Civic Engagement and Community Design
	WGS 3 (Room 3)	Transitions in Urban Waterfronts
	WGS 4 (Room 4)	Urban-Rural Linkages
	WGS 5 (Room 5)	Indigenous Knowledge
		Vulnerable Resilient and Climate Justice Communities
	WGS 6 (Room 6)	Landscape and Human Health
		Urban Landscape Biodiversity
	WGS 7 (Room 7)	Water and Waste Management
	WGS 8 (Room 8)	Aging and Health
		Children Youth and Environment
		Food Nutrition Security
6:00 PM - 8:00 PM	Dinner and Fellowship Night Suggested Attire: national costume/traditional costume (This could be anything from a full outfit to small flags or items.)	

Note:
The Exhibits and Research Posters are available for viewing in the Main Plenary Hall (Function Room) from 06 – 08 August 2024 (Tuesday – Thursday).

Conference Program

Day 2: 07 August 2024 (Wednesday) | 7:30 A.M. - 7:00 P.M. Philippine Standard Time

DAY 2	APRU-SCL x ICHSPD 2024 EVENT/PROGRAM	
7:00 AM - 8:00 AM	Registration	
8:00 AM - 8:15 AM	Recap of Day 1	*Mr. Edwin R. Abucay, UPLB*
8:15 AM - 9:00 AM	Plenary Session 3	*Dr. Samad Sepasgozar, Associate Professor University of New South Wales Sydney*
9:00 AM - 9:45 AM	Plenary Session 4	*Dr. Alfredo Mahar Francisco Lagmay, Executive Director UP Resilience Institute*
9:45 AM - 10:00 AM	Photo Op | Health Break	
10:00 AM - 10:45 AM	Plenary Session 5	*Mr. Phillip Carter, Managing Director OCS Philippines*
10:45 AM - 11:30 AM	Plenary Session 6	*Mr. Silvestre Barrameda, Jr., Executive Director National Resilience Council*
11:30 AM - 12:30 PM	Lunch | Lunch Meeting of UP President and APRU Leaders* in Room 7 *APRU Chief Executive, APRU-SCL Head, APRU Program Manager, and APRU Working Group Leaders	
12:30 PM - 12:45 PM	Special Message	*Pres. Angelo M. Jimenez, University of the Philippines*
12:45 PM - 2:45 PM	**Sessions**	
12:45 PM - 2:45 PM	SS 1 (Room 1)	Student Session 1 (MS/PHD International Students)
		Construction and Optimization of an Assessment System for Biodiversity in Mega-City Green Spaces: A Case Study of Shanghai Author: Anji Shen Speaker: Ms. Anji Shen
		Challenges for a Sustainable, Equitable Transportation System in Bangladesh Authors: Shahinur Bashar, Nicole Ngo Speaker: Ms. Shahinur Bashar
		Development of an Image-Based Empirical Damage Assessment Framework for Severe Wind and Storm Surge-Affected Low-Rise Masonry Houses Authors: Maria Erica P. Gomez; Liezl Raissa E. Tan; Imee Bren O. Villalba Speaker: Ms. Maria Erica P. Gomez
		Imbalance Identification and Priority Division of Urban Thermal Environment Regulation Services from the Perspective of Supply and Demand - - Taking Shenzhen as an Example Authors: LI Mingqian, Wang Chunxiao Speaker: Ms. LI Mingqian
		Non-Independent Moderating Effects of Urban Blue-Green Space and Development Pattern in the Heatwave-Health Mechanism: An Empirical Study Based on the Yangtze River Delta Region in China Authors: Yuqian Guo, Ling Wang, Ruijie Wu, Dorjee Gyeltsen, Yegai Yeersen, Wenjie Yu Speaker: Ms. Yuqian Guo

Conference Program

DAY 2	APRU-SCL x ICHSPD 2024 EVENT/PROGRAM	
12:45 PM - 2:45 PM	SS 1 (Room 1)	The Theory and Practice of Integrating Climate Adaptation into Development Programs Authors: Ellen Fitzpatrick, Jay Brown, Gayatri Misra Speaker: Mr. Robert Jay Bird Brown
		Using Investigation and Open-Source Data to Detect the Elderly Pedestrian Shed and Walking Route Environment of Urban General Hospital: A Case Study of Zhongshan Hospital in Shanghai Authors: Hongyi Zhu, Jian Wu, Fujie Rao Speaker: Mr. Hongyi Zhu
		What is the Cost of Climate Change? Examining Flood Risk at the Municipal Scale in the Philippines Authors: Isaac Besarra, Aaron Opdyke, Patricia Delmendo, Jerico E. Mendoza, Joy Santiago, Dino Evangelista, Alfredo Mahar Francisco A. Lagmay, Sophie Webber Speaker: Mr. Isaac Besarra
	PS 1 (Room 2)	Parallel Session 1
		Demands and Challenges for introducing Marine National Park system: A simulation-based comparative assessment of Storm event impacts on Changdao Archipelago Coastline Authors: Yong Guo, Xinchen Wei, Che Yang Speaker: Dr. Yong Guo
		Promises and Perils of Climate Buffer Infrastructure as Adaptation: A Case Study from Tacloban City, Philippines Authors: Justin See, Ginbert Cuaton, Sophie Webber, Aaron Opdyke, Sandra Seno-Alday Speaker: Dr. Justin G. See
		Reflecting Mount Gamalama's 1775 eruption: 250 years of sustaining local communities through indigenous and scientific knowledge collaboration in Ternate Island, Indonesia. Author: Charles M. Ham Speaker: Mr. Charles M. Ham
	PS 2 (Room 3)	Parallel Session 2
		Examining the Impact of CDRA Decision Areas on the Culture And Heritage Conservation of Paete, Laguna Authors: Edgar M. Reyes Jr, John Ceffrey L. Eligue, Grezielle Ann Esguerra, Ryan Randle B. Rivera, Arlene B. Tolentino, Sandra S. Samantela, Sharon Feliza Ann P. Macagba, Rosalie Arcillas, Kathleen Airamgwen H. Paraiso, Arthur Frederick Catanghal, Giancarlo Talaga, Marlon Garcia, Charleton Llosa Speaker: Ms. Kathleen Airamgwen H. Paraiso
		Exploring the Climate Change Potential of Disruptive Mobility: A Systematic Literature Review Authors: Mohsen Mohammadzadeh Speaker: Dr. Mohsen Mohammadzadeh

Conference Program

DAY 2	APRU-SCL x ICHSPD 2024 EVENT/PROGRAM	
12:45 PM - 2:45 PM	PS 2 (Room 3)	Exploring University Students' Perspectives and Satisfaction on the Human Settlements Planning Specialization in UP Los Baños Authors: John Ceffrey L. Eligue, Almira Geles L. De Mesa, Sandra S. Samantela, Arlene B. Tolentino, Edgar M. Reyes, Jr., and Nica Camille P. Cornista Speaker: MSc. John Ceffrey L. Eligue
		Residents' Community Design for Sustainable "Good Life" Author: Namiko Minai Speaker: Prof. Namiko Minai
		SMART City Initiatives for Collaborative Planning in the Philippines Authors: Edgar M. Reyes, Jr., Grace Ann C. Buno, Mary Joy J. Ancheta, Jhon Wheen L. Renegado, Kaye Anne A. Matre Speaker: Mr. Jhon Wheen L. Renegado
	OS 1 (Room 4)	DOST Development Plans (Regional Growth Centers) Organized by DOST-iSTART
	OS 2 (Room 5)	Advancing Sustainable Cities and Communities Through Human Ecology Education and Practice Organized by HUMEIN
	OS 3 (Room 6)	Streamlining E-Mobility in Localities (An Interdisciplinary Research Challenge) Organized by UNIDO / Clean Air Asia
	OS 4 (Room 7)	Collaborative Partnerships for Climate Resilience Organized by SM PRIME
	EnP 1 (Room 8)	Environmental Planners: Building Community Resiliency Organized by PIEP Laguna and DCERP
2:45 PM - 3:00 PM	Health Break	
3:00 PM - 5:00 PM	**Sessions**	
3:00 PM - 5:00 PM	SS 2 (Room 1)	Student Session 2 (MS/PHD International Students)
		Citizen-Centric Digital Twin for Maintaining Sustainable Urban Infrastructure Authors: Fathima Nishara Abdeen, Samad Sepasgozar, Sara Shirowzhan Speaker: Mrs. Fathima Nishara Abdeen
		City-Scale Application of an Integrated Solar PV and V2H System for Transport and Residential Energy Demands Authors: Mathew Harvey T. Peralta; Yasunori Muromachi Speaker: Mr. Matthew Harvey T. Peralta
		Dose-Response Relationship Between Campus Green Spaces Exposure and Psychological Stress Among College Students Based on Apple Watch Data Authors: Liyao Zou, Liqing Zhang Speaker: Mr. Liyao Zou
		Home Environment Satisfaction and Study Motivation of Adolescent Students in Gawad Kalinga Housing Project in Los Baños, Laguna Author: Elaijah Andrea M. Gironella Speaker: Elaijah Andrea M. Gironella

Conference Program

DAY 2	APRU-SCL x ICHSPD 2024 EVENT/PROGRAM	
3:00 PM - 5:00 PM	SS 2 (Room 1)	Implementation of Urban Agriculture Programs in the Philippines: Insights of Opportunities and Challenges in a Regional Perspective Authors: Fernando C. Sanchez Jr., Veianne May B. Dote, Maria Charito E. Balladares, Julieta A. Delos Reyes, Rowena P. De Guzman, Norma G. Medina, Marco Rafael M. Espino, John Bryan E. Lawas, France Mae M. Sanchez Speaker: Ms. Veianne May Dote
		The Causes and Obstacles Influencing Green Space Perception and Use Behavior of People with Different Socioeconomic Status (SES) Author: Chang Ye Speaker: Ms. Chang Ye
		The Supply and Demand of Urban Green Spaces in Shanghai Authors: Xiaotong LI, Yirui Chen, Liqing Zhang Speaker: Ms. Xiaotong LI
	PS 3 (Room 2)	Parallel Session 3
		Constructing Digital-friendly, Safe, and Healthy Aging-in-Place Rural Communities in Yunlin, Taiwan Authors: Shenglin Elijah Chang, Szu-hung Fang, Yi-pei Hsu Speaker: Prof. Shenglin Elijah Chang
		Empowering student-led stewardship of campus development and SDG11 Author: Sadaf Ansari Speaker: Ar. Sadaf Ansari
		Immersive Storytelling and Community Engagement Through Augmented Reality Author: Ming-Chun Lee Speaker: Dr. Ming-Chun Lee
		Smart Urban Furniture: Co-Ideation Process to Advance Sustainable Cities and Communities in Auckland, New Zealand Author: Alessandro Premier Speaker: Dr. Alessandro Premier
		Stakeholders' Participation in the Incremental Provision of Sites and Services in Informal, Regularized, and Formal Housing Communities in Davao City, Philippines Authors: Micah Amor P. Yares, Samantha V. Arbotante, Aprille Dawn L. Golimlim, Isidoro R. Malaque, III Speaker: Prof. Micah Amor P. Yares
	PS 4 (Room 3)	Parallel Session 4
		An approach to the construction of green space in age-friendly communities for emotional regulation Authors: Bingqin Yu, Jiayuan Wu Speaker: Prof. Bingqin Yu
		Assessment of Low Impact Development (LID) Strategies Under Different Land Uses in an Urban Sub-Catchment in the Philippines Authors: Cheamson Garret K. Boongaling, Janice B. Sevilla-Nastor, Maria Victoria O. Espaldon, Patricia Ann J. Sanchez, Jessica D. Villanueva-Peyraube, Karen Ann B. Jago-on Speaker: Prof. Cheamson Garret Boongaling

Conference Program

DAY 2	APRU-SCL x ICHSPD 2024 EVENT/PROGRAM	
3:00 PM - 5:00 PM	PS 4 (Room 3)	Disproportionate exposure to extreme heat: A geospatial analysis of vulnerable populations in Quezon City, Philippines Authors: Sharon Feliza Ann P. Macagba; Laurence L. Delina; Homer Pagkalinawan Speaker: Ms. Sharon Feliza Ann P. Macagba
		The Role of Street Network Density on the Local Competitiveness of the Philippines Author: Michaelangelo R Severa Speaker: Michaelangelo R Severa
	OS 5 (Room 4)	DOST Development Plans (Agriculture and Nature-based Economies) Organized by DOST-iSTART
	OS 6 (Room 5)	Enhancing Environmental Planning Education in the Philippines Organized by DCERP
	OS 7 (Room 6)	Indigenous Knowledge and Indigenous Peoples' Perspectives: Opportunities for Enhancing Sustainable Development and Resilience Discourse, Policy, and Practice Organized by CHE DSDS
	OS 8 (Room 7)	Justice Design in Nature-based Solutions Organized by Stuckeman School, Pennsylvania State University
	EnP 2 (Room 8)	Environmental Planners: Innovation in Urban Planning Practices Organized by PIEP Laguna and DCERP
5:00 PM – 7:00 PM	**Optional to Participants**: BGC Walking Tour *Note: The Tour Rate is not yet included in the Conference Fee*	

Conference Program

Day 3: 08 August 2024 (Thursday) | 7:30 A.M. - 5:00 P.M. Philippine Standard Time

DAY 3	ICHSPD 2024 EVENT/PROGRAM	
7:00 AM - 8:00 AM	Registration	
8:00 AM - 8:15 AM	Recap of Day 2	*Ms. Sharon Feliza Ann P. Macagba, UPLB*
8:15 AM - 8:45 AM	Special Message	*Dr. Renato U. Solidum, Jr., Secretary* *Department of Science and Technology (DOST)*
8:45 AM - 9:25 AM	Plenary Session 7	*Engr. Sancho A. Mabborang* *Undersecretary for Regional Operations, DOST*
9:25 AM - 10:05 AM	Plenary Session 8	*Dr. Yizhao Yang, Professor* *University of Oregon*
10:05 AM - 10:20 AM	Photo Op | Health Break	
10:20 AM - 11:00 AM	Plenary Session 9	*Mr. Christopher Rollo, Programme Manager* *UN HABITAT Philippines*
11:00 AM - 12:00 PM	Panel Discussion	*Ms. Mylene A. Rivera, EnP, Director* *Department of Human Settlements and Urban Dev't (Government)* *Mr. Steven Tan, President* *Shopping Center Mgt. Corp. – SM Prime (Private)* *Dr. Jeongsoo Yu, Professor* *Tohoku University (Academe)* *Session Moderator: Dr. Efraim D. Roxas, EnP*
12:00 AM - 1:00 PM	Lunch	
1:00 PM - 3:00 PM	**Sessions**	
1:00 PM - 3:00 PM	OS9 (Room 1)	Adoption of Digital Technologies in Human Settlements Planning Organized by DCERP-CHE, UPLB
	PS 5 (Room 2)	Parallel Session 5
		Conceptual exploration of the recreational place in urban green space Authors: Guangsi Lin, Xingjian Miao Speaker: Prof. Guangsi Lin
		Developing a Place-Based Global Sustainability Competency Learning Model: A Case Study of a Summer Study Program in the Galapagos, Ecuador Authors: Yizhao Yang, Jaime Eduardo López Andrade, Yekang Ko Speaker: Dr. Yizhao Yang
		Manifestations Of An (Un)Caring Urban Ethic Within Manila Neighbourhoods: The Case of Jaime Cardinal Sin Village And The Manila North Cemetery Authors: Ryan Randle B. Rivera, Mark Anthony M. Gamboa, Mario R. Delos Reyes, Rhay Daniel R. Racoma, Irish M. Manlapas Speaker: Mr. Ryan Randle B. Rivera
		Policy Coherence of Food and Nutrition Security along the Food Systems in the Philippines Authors: Jennifer Marie Amparo, Aileen de Juras, Samantha Gabrielle Baril, Allysa Gargarino Speaker: Dr. Jennifer Marie S. Amparo

Conference Program

DAY 3	ICHSPD 2024 EVENT/PROGRAM	
1:00 PM - 3:00 PM	PS 5 (Room 2)	Study in effective transitional housing delivery in Hong Kong – policy recommendations Authors: KK Ling, Calvin W. Luk, Raymond KY Tam Speaker: Dr. Calvin W. Luk
	PS 6 (Room 3)	Parallel Session 6
		Building community capacity: an assessment of placemaking and community arts initiatives in Asian American, Native Hawaiian and Pacific Islander Communities Authors: Jeffrey Hou, Jonathan J-A. Crisman, Diane Wong Speaker: Dr. Jeffrey Hou
		Evaluating the implementation of an online tutoring program to indigenous Ayta college students during Covid-19 pandemic: A qualitative study Authors: Arlan E. dela Cruz, Alma B. Punzalan, Ma. Katherine S. Bacani Speaker: Dr. Alma B. Punzalan
		Examining the Alignment of Smart City Indicators and Local Development Indicators System for Smart City Planning in the Philippines Authors: Sandra S. Samantela, Edgar M. Reyes, Jr., Grace Anne C. Buno, Mary Joy J. Ancheta, Jhon Wheen L. Renegado, Kaye Anne A. Matre Speaker: Ms. Mary Joy J. Ancheta
		Exploring Diversity: Fish Assemblages in the Agno River Basin, Philippines Authors: Kit Felian C. Tenio, Loucel E. Cui, Decibel V. Faustino-Eslava, Juan Miguel R. Guotana, Jenielyn T. Padrones, Manilyn Casa, Kennethjer G. Alejo, Kim Bryan N. Cabrera, Francis Ian P. Gonzalvo, Earvin Jon Guevarra, Ma Ericha V. Montecillo, Rosemarie Laila D. Areglado, Maria Regina V. Regalado Speaker: Mr. Kit Felian C. Tenio
		Prospects of Implementing Foresight and Futures Thinking in the Local Planning Process of a Transitioning City - The Case of Santa Rosa City, Laguna Authors: Ryan Randle B. Rivera, Edgar M. Reyes, Jr., Ms. Grace Anne C. Buno, Francine S. Geluz Speaker: Ms. Francine S. Geluz
		Reflecting Western Theory from the Local Knowledge in Southeast Asia Author: Ya-Wen Yu Speaker: Prof. Ya-Wen Yu
		The Importance of Urban Gardens to Conservation Biology Author: Gail A. Langellotto Speaker: Dr. Gail A. Langellotto
	OS 10 (Room 4)	DOST Development Plans (Islands and Coastal Localities) Organized by DOST-iSTART
	OS 11 (Room 5)	DOST Development Plans (SMART Localities and Urban Economies) Organized by DOST-iSTART
	SS 3 (Room 6)	DCERP Research Day
		A Coastal Community's Readiness, Response, and Recovery to Volcanic Eruptions: The Case of Lemery, Batangas During the 2020 Taal Eruption Author: Aaron Joseph M. Sabo-o Speaker: Mr. Aaron Joseph M. Sabo-o

Conference Program

DAY 3	ICHSPD 2024 EVENT/PROGRAM	
1:00 PM - 3:00 PM	SS 3 (Room 6)	Analysis and Characterization of Waste Generated by Households in the Poblacion of Irosin, Sorsogon: A Case Study Author: Joshua G. Elegado Speaker: Mr. Joshua G. Elegado
		Beyond the Stalls, Within the Alleys: Socioeconomic Provisions of Biñan Public Market and the Informal Settler Families' Sense of Place Author: Beatrice Ann Y. Dulay Speaker: Ms. Beatrice Ann Y. Dulay
		Feasibility of the Integrated Waste Management Technology System (IWMTS) in Bay, Laguna Authors: Ma. Alessandra Eunice A. Alvarez, Jazmin Anne C. Catabay, Millicent Vea F. Dacumos, Kristene Joy M. Dela Rosa, Beatrice Anne Y. Dulay, Eliza Tabitha A. Gregorio, Joseph R. Lagarde Jr., Ericka Renee A. Langit, Dayniele D. Loren, Dominique Denise M. Offermaria, Kylene Angeli M. Patria, Christian Aldem S. Parungao, John Orly E. Pedimonte, Beatrice Alexis B. Quines, Ma. Beatrice O. Rito, Fiona Grace C. Romano, Ken Marc V. Santos, Aaron Joseph M. Sabo-o Speaker: Ms. Ma. Alessandra Eunice A. Alvarez
		Landscape Analysis on the Pansipit River in Batangas, Philippines: A Social-Ecological Systems Perspective Authors: Ferdinand G. Isla III, Joan Pauline P. Talubo, Almira Geles L. de Mesa, John Ceffrey L. Eligue Speaker: Mr. Ferdinand G. Isla III
	OS 12 (Room 7)	The Quest for Sustainable Development and Relevant Contributions of Orient Integrated Development Consultants, Inc. (OIDCI) Organized by OIDCI
	EnP 3 (Room 8)	Environmental Planners: Greening the City/Municipality Organized by PIEP Laguna and DCERP
3:00 PM - 3:30 PM	Poster Presentation | Health Break	
3:30 PM - 4:30 PM	APRU-SCL Working Group Report	
4:30 PM - 4:45 PM	Conference Synthesis	*Dr. Kristina Cordero-Bailey, UPLB*
4:45 PM - 5:00 PM	Closing Remarks	*Dr. Andreanne Doyon, Associate Professor Simon Fraser University*

Day 4: 09 August 2024 (Friday) | 8:00 A.M. - 5:00 P.M. Philippine Standard Time (Optional to Participants)

DURATION	SUGGESTED ITINERARY
8:00 AM - 5:00 PM	OPTION 1: Meeting/Talk and Field/Site Visit in Laguna Topic: Renewable Energy Infrastructure (Laguna Cultural Heritage Tour)
	OPTION 2: Educational Trip (Manila Cultural Heritage Tour)

Organized Sessions

List of Organized Sessions

Session Title	Organized By
Advancing Sustainable Cities and Communities Through Human Ecology Education and Practice	Human Ecology Institute of the Philippines, Inc. (HUMEIN Phils, Inc.)
Collaborative Partnerships for Climate Resilience	SM Prime
Streamlining E-Mobility in Localities (An Interdisciplinary Research Challenge)	United Nations Industrial Development Organization and Clean Air Asia
Enhancing Environmental Planning Education in the Philippines	UPLB Department of Community and Environmental Resource Planning (UPLB DCERP)
Indigenous Knowledge and Indigenous Peoples' Perspectives: Opportunities for Enhancing Sustainable Development and Resilience Discourse, Policy, and Practice	UPLB Department of Social Development Services (UPLB DSDS)
Justice Design in Nature-based Solutions	Stuckeman School, Pennsylvania State University
The Quest for Sustainable Development and Relevant Contributions of Orient Integrated Development Consultants, Inc.	Orient Integrated Development Consultants, Inc. (OIDCI)
Student Sessions *A. MS/PhD International Students* *B. DCERP Research Day*	UPLB Department of Community and Environmental Resource Planning (UPLB DCERP)
Accredited CPD Program Sessions for Licensed Environmental Planners *A. Building Community Resiliency* *B. Innovation in Urban Planning Practices* *C. Innovation In Greening the Municipality/City*	UPLB Department of Community and Environmental Resource Planning (UPLB DCERP)
Mainstreaming Science, Technology, & Innovation in Local Development Planning	Department of Science and Technology (iSTART Program)

Advancing Sustainable Cities and Communities Through Human Ecology Education and Practice

Organized by HUMEIN Phils, Inc.

Human Ecologists in the Philippines come from diverse backgrounds such as environmental planning, social technology, human development, home economics/technology, tourism, hospitality management, food technology, nutrition, among others. What binds them together is their ability to bring together various perspectives and ways of doing to address complex social and environmental challenges. This organized session seeks to open conversations toward a shared understanding of human ecology in the Philippine context. It will also discuss the critical role of human ecology education and practice in promoting sustainable development in both urban and rural settings. Finally, it seeks to provide a roadmap on how Human Ecology as a discipline and practice can be strengthened within the Philippines and across Southeast Asian region.

Collaborative Partnerships for Climate Resilience

Organized by SM Prime

This session delves into the critical role of partnerships in implementing effective climate mitigation and adaptation strategies. Speakers from UN ARISE and WWF Philippines will showcase collaborative initiatives that integrate innovative approaches and best practices for enhancing resilience against climate impacts. Through shared experiences and case studies, the session aims to highlight the transformative power of strategic alliances in achieving sustainable development goals.

Key Topics:

1. *Building Resilient Communities:* Examining how partnerships contribute to community-level climate adaptation and resilience-building efforts.
2. *Innovative Mitigation Strategies:* Showcasing examples of collaborative projects that reduce carbon emissions and mitigate climate change impacts.
3. *Scaling Impact through Collective Action:* Discussing the role of partnerships in scaling up climate action and achieving broader sustainability objectives.

Streamlining E-Mobility in Localities (An Interdisciplinary Research Challenge)

Organized by United Nations Industrial Development Organization & Clean Air Asia

The session is arranged by the GEF-funded project entitled “Accelerating adoption and scale-up of electric mobility in the Philippines” or “e-mobility ASAP”, implemented by the United Nations Industrial Development Organization (UNIDO), the Department of Trade and Industry (DTI) and the Board of Investments (BOI). The Clean Air Asia-led Consortium, the members of which include De La Salle University (DLSU), Electric Vehicle Association of the Philippines (EVAP), and Urban Electric Mobility Initiative (UEMI), was commissioned by the UNIDO and DTI/BOI to execute the project activities from 1 September 2023 to 30 June 2027.

The project aims to deliver policy improvements in the country and demonstration actions in selected beneficiary cities through policy, regulatory, and technical assistance on e-mobility investments.

Knowledge management and capacity building are critical components of the project, seamlessly integrated into its various work packages. Recognizing the pivotal role of Local Government Units (LGUs) in promoting e-mobility—especially in facilitating the adoption of electric vehicles and the expansion of charging infrastructure—it is essential to equip LGUs, with the necessary knowledge and skills to effectively plan and implement e-mobility programs and projects.

The transition to e-mobility represents an interdisciplinary research challenge that requires the integration of various fields—including technology, urban planning, policy-making, and economics—to create sustainable urban environments. Despite the promise of electric public utility vehicles (ePUVs), electric two-wheelers (e2Ws), and electric three- wheelers (e3Ws), significant knowledge gaps persist within academic institutions regarding the industry's nuances and the transdisciplinary nature required for successful implementation.

This session, titled "Streamlining E-Mobility in Localities (An Interdisciplinary Research Challenge)," aims to address these gaps by uniting experts from diverse disciplines to explore the intersections of science, technology, and innovations (STIs) in e-mobility. The focus will be on how thorough research and careful planning can advance sustainable cities and communities through practical, STI-driven solutions.

Enhancing Environmental Planning Education in the Philippines

Organized by UPLB DCERP

As part of UPLB DCERP's commitment to academic excellence and continuous improvement, this workshop aims to establish partnership and collaboration with various universities which have established program offering and expertise in environmental planning to co-learn from each other's insights and experiences as they shape the structure, content, and quality standards of environmental planning education in the country.

Justice Design in Nature-based Solutions

Organized by Stuckeman School, Pennsylvania State University

Landscape and urban planning and design practices have contributed to, whether intentionally or unintentionally, building and perpetuating the disparity in quality of life across generations and among socially marginalized and vulnerable communities. Nature-based Solutions (NbS) have been adopted in policies globally as a key strategy for coping with climate change. These adoptions, however, do not account for justice in achieving sustainable development goals. Environmental justice theory and best practices have been studied and described in literature and governmental policies; nevertheless, the implementation and evaluation of justice outcomes are lacking in design practice. Bringing justice, design and NbS discussions together, an integrated NbS design justice theory and practice framework with four dimensions of justice to transform society in rectifying justice systems and practices is developed.

This discussion forum aims to illustrate how justice theories could be operationalized in the NbS design process. The framework is intended to be applied at various scales and allow communities to customize and contextualize in local context. A set of questionnaires and considerations will be provided. This discussion encourages participants to share their experiences in co-design NbS with communities and their justice outcomes.

Indigenous Knowledge and Indigenous Peoples' Perspectives: Opportunities for Enhancing Sustainable Development and Resilience Discourse, Policy, and Practice

Organized by UPLB DSDS

Indigenous knowledge (IK), practice, and indigenous peoples (IP) perspectives continue to be disregarded and marginalized in global environment and development discourse and implementation (Hart, 2010; Droz et al., 2023) such as climate change (Comberti et al., 2016; Ford et al., 2016; Gram- Hanssen et al., 2021; Recio & Hestad, 2022), resilience (Ford et al., 2020; Sterling et al., 2017), and development planning (Berkes, 1995). IK has essentially been made invisible to development theories and global science (Battiste, 2005) by considering IK as backward and inferior to Eurocentric science (Battiste, 2005) and as unsystematic knowledge and an obstacle to development (Agrawal, 1995). In addition, IPs are also among the most vulnerable sectors disproportionately affected by environment and development concerns such as climate change (IPBES, 2019; IPCC, 2023).

However, in the last decade of the twentieth century, the relevance of IK and IPs in international sustainability and development theory, policy, and practice became more accepted (Battiste, 2005) and the important role of IPs in biodiversity conservation and environmental management has increasingly been recognized (Brondizio et al., 2021; Diaz et al., 2015; Fa et al., 2020; Folke, 2004; FPP, 2020; Garnett et al., 2018; Mistry & Berardi, 2016; Recio & Hestad, 2022; Turner et al., 2022). IK, as a way of knowing and living in nature (Aikenhead & Ogawa, 2007), is increasingly being considered as an innovative and adaptive (Berkes, 2017; CBD, 2018a), dynamic and evolving (Battiste, 2005; Berkes, 2009; Chambers, 1983), valid knowledge system (Aikenhead & Ogawa, 2007; Battiste, 2005; Berkes, 2009; CBD, 2018). The multiple evidence base (MEB) approach to addressing sustainability concerns increasing disaster risk and climate change promotes the utilization of different knowledge systems to enhance positive outcomes.

This organized session generally seeks to highlight and discuss academic research and insights from practice on IK related to sustainability, and pathways, opportunities, and/or challenges for linking IK to current Western-dominated theory, policy, and practice towards enhancing sustainability and development outcomes especially among IP communities.

The Quest for Sustainable Development and Relevant Contributions of Orient Integrated Development Consultants, Inc. (OIDCI)

Organized by Orient Integrated Development Consultants, Inc.

Achieving sustainability has been challenging due to various issues being faced by the world such as climate change, rapid urbanization, international conflicts and poor governance. Hence, the Sustainable Development Goals are continuously being challenged and are hindered from being fully realized by 2030. With the Philippines being geographically located in the typhoon belt and the Pacific Ring of Fire, makes the country uniquely exposed to numerous hazards. Despite its efforts towards sustainability, the country remains the most disaster-prone country in the 2023 World Risk Index. Informal settlement and unplanned city expansion are prevalent issues, resulting in urban congestion as well as compounding physical, social and environmental vulnerabilities to hazards. With the rapid urbanization of the country, it has resulted in the destruction of its natural ecosystems.

Orient Integrated Development Consultants, Inc. (OIDCI), a Philippine-based consulting firm, has been an advocate of sustainable development consulting for more than 40 years. OIDCI has been providing a broad range of technical services to national, regional and international programs and projects In the Philippines and in other countries in Asia. Over the years, OIDCI has built up strong working relationship among its partners and clients that promotes the effective transfer of relevant technologies and has established a network link among client groups, consultants, project beneficiaries and allied organizations. With its vision to be a premier consulting company known for its innovative approaches and services in promoting sustainable development, OIDCI shall discuss its project engagements that brought relevant contributions to the Sustainable Development Goals.

Student Sessions

Organized by UPLB DCERP

The session will serve as a venue for undergraduate and graduate students (local and international) to showcase their current research endeavors and foster academic growth through interdisciplinary collaboration. The sessions for students will allow them to present their research findings, gather constructive feedback, and engage with peers and faculty from diverse fields. Such exposure enhances their presentation skills and confidence but also promotes intellectual curiosity and innovation, enriching students' scholarly experience and preparing students for future research endeavors and professional careers.

Accredited CPD Program Sessions for Licensed Environmental Planners

Organized by UPLB DCERP and Philippine Institute of Environmental Planners - Laguna Chapter

A. Building Community Resiliency

The session aims to inform attendees about the current frameworks and efforts for building community resiliency and to impart the importance of public participation in establishing community resilience. Topics covered in the session include Open Geospatial Data for Mapping Community Risk and Vulnerabilities to Natural Hazards and Building Community Resilience Through Ecosystem Resilience Framework.

- Dr. Arnold R. Salvacion (*Open Geospatial Data for Mapping Community Risk and Vulnerabilities to Natural Hazards*)
- Dr. Edgar M. Reyes, Jr., EnP (*Building Community Resilience Through Ecosystem Resilience Framework*)

B. Innovation in Urban Planning Practices

The session aims to give additional knowledge about the current and prospective practices in the utilization of innovation in local development planning. Topics covered in the session include Smart City Initiatives In the Philippines and The Future of Land Use Planning In the Philippines: Innovative Applications of Spatial Analysis and Emerging Developments.

- Ms. Kris V. Libunao (*Smart City Initiatives in the Philippines*)
- Dr. Alyosha Ezra C. Mallari, EnP (*The Future of Land Use Planning in the Philippines: Innovative Applications of Spatial Analysis and Emerging Developments*)

C. Innovation In Greening the Municipality/City

The session aims to provide examples of the applications of different concepts for greening localities. Topics covered in the session include Provincial Risk Profile of Northern Samar Using Provincial Climate Risk Diagnostics (PCRD) and Reclaiming Public Spaces as Neighbourhood Commons: Bridging Open Space Policies and Practice Through Neighbourhood Science.

- EnP Jay Keenson C. Acebuche *(Provincial Risk Profile of Northern Samar Using Provincial Climate Risk Diagnostics or PCRD*)
- Atty. Mark Anthony M. Gamboa, EnP (*Reclaiming Public Spaces as Neighbourhood Commons: Bridging Open Space Policies and Practice Through Neighbourhood Science*)

Mainstreaming Science, Technology & Innovation in Local Development Planning

Organized by Department of Science and Technology (iSTART Program)

Session 1: Regional Growth Centers

1. Iloilo City: Innovate Iloilo Roadmap
   Presenter: Engr. Sheila L. Oberio (Provincial Director, Provincial S&T Office Iloilo)

2. Science City of Muñoz: STI Plan for Science City of Muñoz, Nueva Ecija
   Presenter: Mr. Devin Carl P. Sagun (LGU Science City of Muñoz)

3. Leyte Province: Leyte Science, Technology, and, Innovation (STI) Development Plan 2024-2026
   Presenter: Mr. Mhardy C. Montejo (Senior Science Research Specialist, Provincial S &T Office - Leyte)

4. Quezon City, NCR: STI Plan of Quezon City
   Presenter: Ms. Blaise D. Mansueto (Science Research Specialist II, DOST NCR)

5. Benguet Province: STI Plan of PLGU-Benguet
   Presenter: Dr. Sheila Marie Singa-Claver (Provincial Director, Provincial S&T Office - Benguet)

6. Quirino Province: STI Plan for the Quirino Province
   Presenter: Mark Gil S. Hizon (Supervising Science Research Specialist, DOST Region II)

Mainstreaming Science, Technology & Innovation in Local Development Planning

Organized by Department of Science and Technology (iSTART Program)

Session 2: Agriculture and Nature-based Economies

1. Floridablanca, Pampanga: STI Plan for Floridablanca, Pampanga
   Presenter: Rachele Linikka B. Dalisay (LGU Floridablanca, Pampanga)

2. Valencia City, Bukidnon: STI Plan of LGU Valencia, Bukidnon
   Presenter: Engr. Jonathan R. Agbayani (Senior Science Research Specialist, DOST Region X)

3. Davao de Oro Province: Davao de Oro STI Plan
   Presenter: Mayan Jane J. Inni (Assistant Regional Director - R&D for Development and Innovation Division / Provincial Director, Provincial S&T Office - Davao de Oro)

4. Carmona City, Cavite: STI Plan of Carmona City
   Presenter: Patrick Isaiah O. Abarra (iSTART Staff, DOST Region IV-A)

5. Tupi, South Cotabato: Sprint to Success: Elevating Tupi's Competitiveness thru STI Plan
   Presenter: Giselle Eve O. Siladan (Provincial Director, Provincial S&T Office South Cotabato)

6. Aborlan and Dumarlan, Palawan: STI Plans of Aborlan and Dumarlan, Palawan
   Presenter: Engr. Pacifico T. Sariego III (Provincial Director, Provincial S&T Office - Palawan)

7. Sultan Kudarat Province: STI Plan: Elevating Sultan Kudarat Province in the Future
   Presenter: Engr. Szalinah S. Mercado (Supervising Science Research Specialist, DOST Region XII)

Mainstreaming Science, Technology & Innovation in Local Development Planning

Organized by Department of Science and Technology (iSTART Program)

Session 3: Islands and Coastal Localities

1. Libmanan, Camarines Sur: STI-based Ten-year Development Plan for LGU Libmanan
   Presenter: Ms. Patrocinio N. Felizmenio (Provincial Director, Provincial S&T Office - Camarines Sur)

2. Pinamungajan, Cebu: STI Plan of LGU Pinamungajan, Cebu
   Presenter: Dr. Tristan L. Abando (Assistant Regional Director - Technical Operations Division, DOST Region VII)

3. Northern Samar Province: Northern Samar STI Plan 2024-2027
   Presenter: Engr. Anorly R. Narca (Supervising Science Research Specialist Provincial S&T Office - Northern Samar)

4. Davao del Sur Province: Davao del Sur STI Plan
   Presenter: Leslie Pearl M. Cancio-Dy (Provincial Director, Provincial S&T Office - Davao del Sur)

5. Agusan del Norte Province: STI Plan of the Province of Agusan del Norte
   Presenter: Meriam B. Bouquia (Provincial Director, Provincial S&T Office Agusan del Norte)

6. Pagudpud, Ilocos Norte: STI Plan of Pagudpud
   Presenter: Dr. Teresita A. Tabaog (Regional Director, DOST Region I)

Mainstreaming Science, Technology & Innovation in Local Development Planning

Organized by Department of Science and Technology (iSTART Program)

Session 4: SMART Localities and Urban Economies

1. Santa Rosa City, Laguna: STI Plan of the City of Santa Rosa, Laguna
   Presenter: Francisco R. Barquilla III (Assistant Regional Director for Technical Operations, DOST Region IV-A)

2. Kalinga Province: STI Plan of PLGU-Kalinga
   Presenter: Ms. Dexy M. Catacutan (OIC, Provincial S&T Office - Kalinga)

3. Muntinlupa City, NCR: STI Plan of Muntinlupa City
   Presenter: Ms. Bianca Claudette R. Canlas Assistant Regional Director for Technical Support Services, DOST NCR)

4. Guagua, Pampanga: STI Plan for Guagua, Pampanga
   Presenter: Ms. Elsa Pantino (LGU Guagua, Pampanga)

5. Talacogon, Agusan del Sur: STI Plan of the Municipality of Talacogon, Agusan del Sur
   Presenter: Engr. Andrea J. Cabonita (Provincial Director, Provincial S&T Office - Agusan del Sur)

6. Talavera, Nueva Ecija: STI Plan for Talavera, Nueva Ecija
   Presenter: Ms. Evina Pablo (LGU Talavera, Nueva Ecija)

Abstracts

- Paper presentations
- Poster presentations

List of Abstracts

Click the title or authors to see the abstract.

What is the Cost of Climate Change? Examining Flood Risk at the Municipal Scale in the Philippines
Besarra I.1, Opdyke A. 1, Delmendo P. 2, Mendoza J. 2, Santiago J. 2, Evangelista E. 2, Lagmay A. 2 and Webber S. 3*

Development of an Image-Based Empirical Damage Assessment Framework for Severe Wind and Storm Surge-Affected Low-Rise Masonry Houses
Gomez, MEP1, Tan, LRE1 and Villalba, IBO1*

Reflecting Mount Gamalama's 1775 eruption: 250 years of sustaining local communities through indigenous and scientific knowledge collaboration in Ternate Island, Indonesia
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Promises and Perils of Climate Buffer Infrastructure as Adaptation: A Case Study from Tacloban City, Philippines
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What is the Cost of Climate Change? Examining Flood Risk at the Municipal Scale in the Philippines

Besarra I.1, Opdyke A. 1, Delmendo P. 2, Mendoza J. 2, Santiago J. 2, Evangelista E. 2, Lagmay A. 2 and Webber S. 3*

While the Philippines has illustrated significant strides in proactive disaster risk reduction measures, current planning actions are largely undertaking based on historical flood risk. There are gaps in understanding how the escalating impacts of climate change will alter flood dynamics. This study examines local flood risk patterns in the Municipality of Carigara in Leyte. We quantify probabilistic flood damage on residential structures utilizing localized vulnerability functions in combination with 24 early, mid-, and late-term flood scenarios based on downscaled climate change models and emissions pathways RCP4.5 and RCP8.5. We find decreasing trends in the probability of future flood damages attributable to climate change, highlighting the nuances of regional shifts in flood projections and damages over the next century. This research offers insight into the shifting dynamics of climate hazards. It provides a case study of how localized climate-risk assessments for municipalities might be established as entry points to inform climate change policies and approaches to quantify loss and damage from climate hazards.

Development of an Image-Based Empirical Damage Assessment Framework for Severe Wind and Storm Surge-Affected Low-Rise Masonry Houses

Gomez, MEP1, Tan, LRE1 and Villalba, IBO1*

After typhoon-induced storm surges, quick image surveillance is crucial for assessing damage in residential areas. This study emphasizes using close-up, aerial, and satellite images to gauge the impact of severe winds and surges on houses. However, large quantities of close-up images of structural damages are often hard to obtain, while distant images lack detailed damage information, making accurate damage estimation challenging. Thus, an image-based empirical damage assessment framework is developed for low-rise masonry houses affected by storm surges and winds. This framework aims to provide consistent damage cost estimates regardless of image distance while also considering concurrent wind and surge effects. Two methods, Component Based Assessment (CBA) and Clustered Rating Method (CRM), were developed. CBA focuses on close-up images to estimate structural damage ratios (ESDR), while CRM utilizes distant imagery to assess the ESDR of large residential clusters in an overhead view. Application of the framework to Typhoon Haiyan-affected houses (45 houses for CBA and 84 for CRM) revealed CBA's suitability for evaluating partially surviving houses, while CRM was more preferred for assessing wiped-out residential clusters. The combined use of CBA and CRM offers a comprehensive approach for estimating damage levels under varying intensities and assessing cost implications for critical structural parts. Moreover, this framework lays the groundwork for automated damage detection and multi-hazard risk assessment of masonry residences, contributing to enhanced post-disaster response and community resilience against future storm surge events in the Philippines.

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Reflecting Mount Gamalama's 1775 eruption: 250 years of sustaining local communities through indigenous and scientific knowledge collaboration in Ternate Island, Indonesia

Ham, C. M.

For millennia, the volcanic Moluccas islands have been providing the world their precious clove, highly valued for its medicinal properties as an antibacterial, antiviral, and analgesic, a silver bullet in medieval epidemics and played a significant role during the COVID-19 pandemic. Ternate Island, the center of the Molucca Islands, is a regional economic trade center. It sent cloves to Babylonia at least 4,000 years ago, marking its enduring significance in the global trade network. A qualitative research through field visits, key informant interviews, and literature interviews was conducted in Ternate Island's Mount Gamalama's devastating 1775 explosion. Discovery of an apparent landmark of Tolire Lake, today's tourist attraction with crocodiles, java plum hill, lush forest, stunning views, and an underwater mythical village supports the 250 years of survival. The Takome villagers on the island, a testament to human resilience, have preserved their indigenous wisdom as a disaster risk reduction tool. They have built settlements on safer ground and harnessed the land for the tourism industry. Moreover, modern science is aiding in the discovery of relics from past tsunamis, enhancing early warning systems, and empowering indigenous communities. Understanding indigenous knowledge and wisdom must be a key agenda in building resilience and sustainability through disaster risk reduction efforts. The fusion of indigenous and scientific knowledge is the key to sustaining the island, its people, and its prosperity.

Promises and Perils of Climate Buffer Infrastructure as Adaptation: A Case Study from Tacloban City, Philippines

See J.1, Cuaton, G.P.2, Webber, S.3, Opdyke, A.4, Seno-Alday, S.5*

Coastal pressures resulting from climate-related hazards threaten coastal population, infrastructure, and economies. Planners and developers often respond by building seawalls and other defense structures to protect coastal communities. Nowhere is this more evident than in the Philippines, where the favoured adaptation intervention has been to construct hard shoreline protective infrastructure. However, seawalls are controversial, and its maladaptive potential has already been raised by scholars. If seawalls are problematic, why do they remain popular? This study answers this question by uncovering the different actors, agendas, rhetorics and impacts of climate buffer infrastructure (CBI). It asks: (1) Who and what is protected by CBIs? (2) Which actors, networks, and flows of finance enable its proliferation? (3) How, if at all, have CBIs reduced community exposure to coastal pressures? Using the national government's 32-kilometre-long Leyte Tide Embankment Project also known as the "Great Wall of Leyte" as a case study, we employ mixed methods (household surveys, key informant interviews, and focus group discussions) to examine the project's forms, potentials, and pitfalls, as well as its politics. We will highlight the often overlooked processes and impacts of CBIs and provide empirically driven and context-based policy recommendations for implementing more equitable and just CBIs.

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Construction and Optimization of an Assessment System for Biodiversity in Mega-City Green Spaces: A Case Study of Shanghai

Anji Shen

Most of China's existing biodiversity assessment systems are oriented towards regional or urban scale evaluation and management, and are not sufficiently applicable at the level of individual green spaces. In addition, current systems lack indicators for evaluating the relationship between biodiversity and human well-being. To promote a harmonious coexistence between humans and nature, advance the construction of a beautiful China, and meet the needs of Shanghai's biodiversity-friendly city construction, this study aims to enhance urban biodiversity. By comparing domestic and international biodiversity conservation assessment indicator systems in mega-cities, and following the "biodiversity-ecosystem service function-biodiversity management and governance-public participation" hierarchical framework, this research selects appropriate indicators for biodiversity conservation and assessment in mega-city green spaces. It proposes optimization models for biodiversity in different types of green spaces within mega-cities, providing assessment and construction techniques for enhancing and sustaining biodiversity in urban green spaces, and offering critical technical support for the ecological city construction of Shanghai.

A Coastal Community's Readiness, Response, And Recovery To Volcanic Eruptions: The Case Of Lemery, Batangas During The 2020 Taal Eruption

Sabo-o, AJM

This research study examines the readiness, response, and recovery efforts of a coastal community, specifically the municipality of Lemery in Batangas, in the face of the 2020 Taal volcanic eruption. Through a comprehensive analysis of primary data obtained from interviews, and surveys, as well as secondary data from government reports and academic literature, the study investigates the preparedness measures implemented by the community, their immediate response actions during the eruption, and the subsequent recovery processes. The research aims to provide insights into the effectiveness of existing disaster preparedness plans and the resilience of coastal communities in addressing volcanic hazards. The study reveals the individualized efforts of communities to volcanic eruptions with respect to their socio-economic status. This analysis also highlights critical factors influencing communities' readiness, responses, and recovery including barriers to technological knowledge, income levels, weak community involvement, competency of local leaders, and availability of resources. Recommendations for improving the disaster efforts require a multi-sectoral and cross-boundary coordination amongst various stakeholders, underscoring the need for a comprehensive disaster risk reduction and management plan for coastal communities.

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Feasibility of the Integrated Waste Management Technology System (IWMTS) in Bay, Laguna

Ma. Alessandra Eunice A. Alvarez, Jazmin Anne C. Catabay, Millicent Vea F. Dacumos, Kristene Joy M. Dela Rosa, Beatrice Anne Y. Dulay, Eliza Tabitha A. Gregorio, Joseph R. Lagarde Jr., Ericka Renee A. Langit, Dayniele D. Loren, Dominique Denise M. Offermaria, Kylene Angeli M. Patria, Christian Aldem S. Parungao, John Orly E. Pedimonte, Beatrice Alexis B. Quines, Ma. Beatrice O. Rito, Fiona Grace C. Romano, Ken Marc V. Santos, Aaron Joseph M Sabo-o*

To address the issue of waste management in Bay, Laguna, the Integrated Waste Management Technology System (IWMTS) was carefully considered by the Municipality. IWMTS utilizes an innovative and systematic approach to waste management through source reduction, recycling and composting, waste transportation, and landfilling. The technology has an immense potential to generate public revenue. With this, a feasibility study for the IWMTS was conducted. Specifically, it aims to examine the viability of the containment area in Barangay Sta. Cruz, Bay, Laguna where the potential IWMTS will be constructed. Moreover, aspects of environmental, social, and financial were analyzed through primary data such as interviews and surveys among concerned municipal offices, barangay residents and the IWMTS distributor, and calculated using cost-benefit, sensitivity, break-even and scenario analysis, and secondary data of existing local development plans. The three aspects indicated a positive reception on the proposed IWMTS but still recommendations are provided to address the possible impacts and/or issues determined in each parameter: environmental impacts such as water sources, air quality, soil and nutrients, biodiversity, protected areas, and the improvement of local environmental standards; social impacts such as foul odor, noise, road damages, IEC (information, education, and communication), and public awareness; and financial feasibility on budget allocation and assistance, and future partnerships with neighboring local government units.

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Exploring University Students' Perspectives and Satisfaction on the Human Settlements Planning Specialization in UP Los Baños

John Ceffrey L. Eligue, Almira Geles L. De Mesa, Sandra S. Samantela, Arlene B. Tolentino, Edgar M. Reyes, Jr. and Nica Camille P. Cornista*

Since 1974, the Department of Community and Environmental Resource Planning, College of Human Ecology in UP Los Baños has produced graduates who strive to support national development by promoting environmental integrity through its specialization in human settlements planning. With the law mandating aspiring local professional planners to obtain a degree program in environmental planning, greater emphasis has now been put on meeting the demands and expectations of students who will eventually be practitioners after graduation. Considering such demands also becomes critical as educational institutions must uphold higher qualifications based on standards of knowledge, skills, and values set by the ASEAN and Philippine Qualifications Frameworks. With these new developments, an assessment of the perceptions and needs of undergraduates regarding the quality of teaching, facilities, and services becomes necessary. To do this, an online survey inquiring with BS Human Ecology – Human Settlements Planning students' insights on their satisfaction and perceptions on the management of human settlements planning specialization courses will be conducted. The results will provide insights into how educational institutions that offer planning programs and train practitioners can commit to more appropriate instruction strategies that advocate safe, inclusive, resilient, and sustainable human settlements.

Landscape Analysis on the Pansipit River in Batangas, Philippines: A Social-Ecological Systems Perspective

Ferdinand G. Isla III, Joan Pauline P. Talubo, Almira Geles L. de Mesa, John Ceffrey L. Eligue*

Rivers are considered as natural landscapes which play a significant role in the well-being of human communities surrounding them, as well as cultural landscapes that have evolved from a long history of human-nature interactions. In the Philippines alone, around 420 rivers can be found. However, just like the rest of tropical Asia, the country's freshwater ecosystems are often paid little attention. One of the rivers located within the rapidly growing agro-industrial region of Southern Luzon is the 9.9 km-long Pansipit River in Batangas. It serves as the sole drainage outlet of Taal Lake, the third largest lake in the country, to the sea of Balayan Bay, which forms a part of the biodiverse Verde Island Passage. Recognizing that the current reality of river landscapes is a result of complex societal and natural interactions has led to the conceptualization of rivers as social-ecological systems (SESs). Thus, the present study aims to briefly characterize the Pansipit River as a SES by analyzing its social (actors and governance systems) and ecological (resource units and resource system) dimensions. Data collection methods consist of semi-structured interviews and the collection of existing literature, policies, reports and plans concerning the river, analyzed through qualitative content analysis and GIS visualization. Results of the study can serve as a baseline information for future research on the river and its surrounding communities, which can be valuable towards the formulation and prioritization of relevant programs, projects, and activities related to the sustainable management of the river landscape.

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SMART City Initiatives for Collaborative Planning in the Philippines

Jhon Wheen L. Renegado, Edgar M. Reyes, Jr., Grace Anne C. Buno, Mary Joy J. Ancheta, Kaye Anne A. Matre*

SMART City initiatives have been around since the early 1990s. Before, its contextualization only revolved from the information and communication technologies (ICT) component of being SMART as a city, however, localities now incorporate various techniques and frameworks and look at “ICT” lenses only as a tool for efficiency of services toward sustainability efforts. The SMART city initiative evolved to include contemporary issues and planning concerns in recent decades. This paved the way to look beyond technology as it now creates pathways for collaborations and increased community engagements. Following the ISO standards on smart and sustainable cities, several indicators were identified as contributive to collaborative planning initiatives. Moreover, gaining additional information from an exhaustive literature review on scanning for collaborative planning approach, the study identified several developments in the SMART city initiatives and roadmap contributing to the envisioned local development. Points for improvement to continuously highlight collaborative planning have been provided as recommendations centering on adjusted community participation, technology-driven accountability and transparency, and technology-assisted participatory decision-making process.

Examining the Impact of CDRA Decision Areas on the Culture And Heritage Conservation of Paete, Laguna

*Dr. Edgar M. Reyes Jr, EnP John Ceffrey L. Eligue, Ms. Grezielle Ann Esguerra, EnP Ryan Randle B. Rivera, EnP Arlene B. Tolentino, EnP. Sandra S. Samantela, EnP Sharon Feliza Ann P. Macagba, Rosalie Arcillas, Kathleen Airamgwen H. Paraiso**

Climate and Disaster Risk Assessment (CDRA) serves as a crucial tool in land use planning, leveraging Science and Technology-based Decision-making to provide effective recommendations for risk-informed land use zoning. Equally critical to highlight in every LGU's land use planning is the identification and preservation of culture and heritage protection areas, ensuring the sustainability and effective management of both tangible and intangible resources that define the uniqueness of the community. LGU- Paete, Laguna's rich carving and religious heritage are accentuated through CDRA-informed zoning recommendations. By considering risk-sensitive decision areas in LGU-Paete, the study accommodates land use development while safeguarding its culture and heritage. Methodological approaches have been employed to address limitations in predicting hazard occurrences and fostering community participation, combining the science of risk assessment with participatory planning tools. This ensures that the recommended land use zoning proposal is considerate of the unique characteristics of LGU-Paete, Laguna, in line with its developmental goals. As a result, areas alongside the existing poblacion have been conserved and equipped with appropriate science and technology measures, while resource-rich zones in the mountainous areas of Paete vulnerable to hazards have been maintained as potent sources of raw materials, fostering the continuous promotion of the carving culture within the locality.

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Analysis and Characterization of Waste Generated by Households in the Poblacion of Irosin, Sorsogon: A Case Study

Joshua G. Elegado

One of the most pressing concerns local governments face in the Philippines is proper solid waste management (SWM). As cities and municipalities experience growth and change, so must their strategies adapt to accommodate the inevitable waste generated by increased human activity. Irosin is a municipality in the Sorsogon province that faces similar challenges. Recognizing the need for empirical data to inform future solid waste management plans, the researcher conducted a 3-day Waste Analysis and Characterization Study (WACS) on sample households of the population from five barangays in the Irosin poblacion. The study found that the population generates around 0.331 kgs of waste per capita per day at source consisting of 62.52% biodegradable, 23.51% residuals, 9.56% recyclable, and 4.41% special waste. By adding up the total amount of biodegradable and recyclable wastes, the researcher also found that a significant portion of the total waste collected per day (72.09%) could be diverted through composting, recycling, and other means. Furthermore, population projections indicate that the per capita daily waste generation could further increase by an additional 139.95 kgs/day by the year 2033 without intervention. These results highlight the need for proper waste segregation as a critical step towards waste reduction. Other strategies such as the rehabilitation of materials recovery facilities, capacity building for residents and SWM staff on proper waste segregation, and the concept of a communal composting facility were among the recommendations presented.

Immersive Storytelling and Community Engagement Through Augmented Reality

Lee, M-C

Community planning requires active civic engagement. One of the issues facing this typeof participatory practice has to do with the challenge of making the process comprehensible and relevant to community members. Immersive visualization technologies, such as Augmented Reality, are powerful tools to facilitate public participation. Augmented Reality is a technology that combines real (physical) and virtual(digital) environments through an interactive and real-time 3D experience. Augmented Reality is a new way of seeing. A viewer's own visual perception can be enhanced through computer-generated digital content. Augmented Reality goes beyond conventional methods of engagement with the public. It offers an interactive method to expand visualization techniques in participatory planning and design. This presentation discusses a set of mobile Augmented Reality applications (apps) developed by a partnership among several community-based organizations and educational institutions in the City of Charlotte, USA. These apps supported a series of community events that were aimed at expanding overall public participation and civic engagement with a goal of increasing awareness of community history and neighborhood changes over time through data visualization and storytelling. Surveys from these community events show that most community participants learned new information about the demographic and socio-economic changes over the past decades in their communities through the immersive experience and storytelling offered by these mobile Augmented Reality apps.

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Using Investigation and Open-Source Data to Detect the Elderly Pedestrian Shed and Walking Route Environment of Urban General Hospital: A Case Study of Zhongshan Hospital in Shanghai

Hongyi Zhu, Jian Wu, Fujie Rao*

The pedestrian system around general hospitals is an important public space for elder residents in the process of seeking medical treatment. Existing studies of walking environment evaluation have largely overlookled the actual walking paths and bahaviors of elder people from home to medical facilities.By using multi-source data comprising field observation, questionaire survey and street maps, this paper adopts the walking morphology around Zhongshan Hospital in Shanghai as an example to construct and apply the environmental assessment strategy of pedestrian shed and walking route environment around general hospitals. This method includes four contents: (1) Using non-contact research method to get the walking routes of the elderly. (2) Using Qgis to calculate and analyze the key walking interfaces around the general hospital. (3) Using deep neural network and field observation to analyze the built walking environment. (4) Combining the walking routes with the walking environment, quantitatively analyze the walking environment feelings of the elderly. The results show that there is a significant difference in the use frequency of the pavements on both sides of the same road among the elderly, and frequency of pavements use is independent of distance from hospitals, and the feelings of the elderly about the walking environment are negatively correlated with the walking distance. This paper provides a more effective and accurate method to detect the pedestrian shed and diagnose walking route environment around medical facilities, which can facilitate urban planners in analyzing the scope and content of aging transformation in walking system.

Challenges for a sustainable, equitable transportation system in Bangladesh

Shahinur Bashar, Nicole Ngo*

School of Planning, Public Policy, and Management, University of Oregon Abstract Like many other low- and middle-income countries, Bangladesh is rapidly urbanizing, but it is unclear how equitable or sustainable this growth is. The aim of this research is to investigate the ongoing current and future concerns around one sector that is expected to massively grow in urban areas: Bangladesh's transportation system. We conduct in-depth interviews with 21 transportation experts who work in the public, nonprofit and private sectors in Bangladesh. We find that the governance structure overseeing transportation is very decentralized and inefficient, where agencies perform duplicative tasks and fail to coordinate (e.g., lack of data sharing, unmet vehicle emission standards). This lack of engagement extends to those who supply transportation (e.g., rickshaw pullers) and consumers who face the greatest barriers for accessing affordable, safe transportation modes (e.g. low-income households, women). Further, policies addressing transportation equity are not prioritized and has contributed to a lack of investment into infrastructure promoting active transportation modes (e.g., bike lanes, sidewalks), which are typically the most affordable and sustainable. In fact, no interviewee could name a single agency in charge of transportation equity. We also find mixed opinions about ride-hailing services, which consist of cars, motorcycles and more recently rickshaws, and their impact on air quality. Some noted ride-hailing has expanded transportation options for people who feel unsafe walking or using public transit, though it remains unaffordable for many households. These results suggest a lack of network governance in Bangladesh's decentralized transportation system and have important implications for other rapidly urbanizing low-income countries.

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Smart Urban Furniture: Co-Ideation Process to Advance Sustainable Cities and Communities in Auckland, New Zealand

Alessandro Premier

Smart urban furniture is a type of street furniture equipped with intelligent systems or controller operated. This research focuses on smart urban furniture integrated with renewable technologies for local energy generation and provides public infrastructure. Research demonstrated that smart urban furniture can significantly contribute to advance sustainable cities and communities through technological innovation. Functions include shelter and outdoor temporary workspaces, support to micro-mobility, and big data collection. The goal of this research was to build a community of innovation around a project of smart solar urban furniture for Auckland and to develop a design proposal to be prototyped in the very near future. Desktop analysis on international precedents and two workshops with stakeholders were carried out to co-ideate a design proposal. Results showed a growing interest in this topic also in the wider Pacific Rim. This research was focused on the Auckland context and prioritised local needs, however it revealed insights useful internationally. The final design is critically discussed and compared against the outcomes of the co-ideation process.

Constructing Digital-friendly, Safe, and Healthy Aging-in-Place Rural Communities in Yunlin, Taiwan

Shenglin Elijah Chang, Szu-hung Fang, Yi-pei HSU3*

Our paper provides a digital-friendly model to support active and healthy aging community building for the super-aged population in Taiwan, whereby in 2026, one in every five individuals will be elderly. We focus on Yunlin County, characterized by a high elderly population and limited local resources. Collaborating with local researchers, our interdisciplinary team combines environmental science, health medicine, safety residence, and human-centered technology to develop innovative solutions for preventing elderly disability. We conduct the living laboratory and user personas methods. We integrated and tested environmental safety and health information flows in both rural and urban settings in Yunlin County. This initiative integrates IoT and ICT to develop a comprehensive monitoring, adjusting, warning, and forecasting system. Our team applies human-centered design and caregiving networks; our approach ensures the effective transmission of information to home-bound seniors. The outcomes include developing aging-friendly community/regional design and planning guidelines. Meanwhile, we prototype a health and environmental safety warning system and design guidelines for healthy living in a demonstration area. We will develop training courses for community caregivers in Yunlin and across Taiwan. We aim to establish an aging-friendly living lab that nurtures healthy lifestyles for seniors. With Yunlin County having the second-highest aging population proportion in Taiwan, our project aims to contribute to developing the way for active aging and an aging-friendly industry. We seek grant funding to support the successful implementation of this impactful research.

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Beyond the Stalls, Within the Alleys: Socioeconomic Provisions of Biñan Public Market and the Informal Settler Families' Sense of Place

Beatrice Ann Y. Dulay

Biñan City contains the largest public market in Region IV - A, catering to the needs of its continuously growing population. Along with this, the city contains a prominent number of informal settler families (ISF) spread throughout its various barangays, specifically on Barangay Dela Paz, Ganado, Bungahan, and Loma. In this study, sense of place (SOP) was used to analyze the relationship between the provisions of the Biñan Public Market (BPM) and the presence of the ISF population. It was identified that 1) market's competency is the completeness and cheapness of its goods and services, 2) ISF population has high place identity, as supported by their long ancestry in the place, 3) access to market goods procures high place dependence and identity, 4) there is high positive relationship between the market services and the overall SOP of the population, and 5) jobs in the market are anchors of oneself towards the place. The study concludes that interventions on providing more job opportunities to the people, incorporating cultural and heritage preservation in planning, and taking into account the access of ISF to their needs especially when they are subjected to relocation, are needed to be prioritized by local planner and policy makers.

Empowering student-led stewardship of campus development and SDG11

Sadaf Ansari

The ongoing rapid pace of urbanisation, accompanied by the resulting transformation in the natural landscape and biodiversity, can create a disconnect between people and nature. This study identifies and examines key factors contributing to this disconnect, using a place-based learning process. Place-based learning was adopted due to its relevance and success in raising awareness of place in urban contexts; research shows that it promotes authentic learning about the unique history, environment, culture, economy, literature, and art of a particular place. This exploratory study invited a group of students to adopt a tactile approach in examining the human-nature connection based on their kinaesthetic experiences during curated fieldtrips to undisturbed urban landscapes. Data from on-site observations, student reflections, and collaborative activities was examined and interpreted. Findings highlighted the impact and advantage of kinaesthetic experiences on student learning, especially about their relationship with nature and how they value it. These findings were also evident in the details captured on the mixed-media panels made using collected artefacts during the field trips.

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Dose-Response Relationship Between Campus Green Spaces Exposure and Psychological Stress Among College Students Based on Apple Watch Data

Liyao Zou, Liqing Zhang*

Current research has revealed significant benefits of green space exposure (GSE) on mental health and sleep quality. However, few studies have explained the cumulative effects of GSE, and the impact of exposure frequency, duration, and exposure timing on health. The purpose of this research is to determine the frequency and duration of GSE that alleviates psychological stress and improves sleep quality in college students. The ultimate goal is to provide a "nature prescription" model for healthcare professionals and psychologists to prescribe for prevention or supportive treatment for students. It can also be used for self-management and relieving psychological stress or improving sleep quality among college students. This study utilized the Apple Watch to monitor the physiological indicators of heart rate variability, sleep duration, and deep sleep duration in relation to the frequency and duration of GSE. In a 6-week experiment, 40 college students were required to engage in GSE at least 3 times a week, with each session lasting no less than 10 minutes, based on their own schedules. During the experiment, participants wore the Apple Watch continuously to automatically collect physiological data. The study identified optimal benefits and efficiency points of GSE related to psychological stress and sleep quality. A nature prescription model was developed to address the threat to human health posed by the reduction of green space and natural loss due to rapid urbanization. The model encourages people to connect with nature and provides a perspective for future urban development based on human health.

Stakeholders' Participation in the Incremental Provision of Sites and Services in Informal, Regularized, and Formal Housing Communities in Davao City, Philippines

Micah Amor P. Yares, Samantha V. Arbotante, Aprille Dawn L. Golimlim, Isidoro R. Malaque III*

This paper sheds light on the involvement of different stakeholders in the process of incremental sites and services provision in different housing settlements namely informal, regularized, and formal housing in Davao City. This research used an exploratory-sequential approach with three phases of data collection. Phase 1 involved the inventory of sites and services per settlement which informed the finalization of the survey questionnaire used in Phase 2 - the household survey for the socio-demographic profile and levels of stakeholders' participation. Lastly, Phase 3 involves Key-Informant Interviews (KIIs) and Focused-Group Discussions (FGDs) which aim to validate and triangulate the results of the levels of stakeholders' participation, determine the types of community participation by the stakeholders, and explore themes of community resiliency and coping in the process of acquiring the neighborhood sites and services. Through the survey, the levels of stakeholders' participation per settlement will be established as well as the underlying causes that affect these levels. The findings of this research will challenge the prevailing mass housing production approach, which has been criticized as ineffective and unaffordable for many, and by understanding how poor families empower themselves in incrementally building their communities, we can develop more sustainable housing solutions for all.

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Implementation of Urban Agriculture Programs in the Philippines: Insights of Opportunities and Challenges in a Regional Perspective

FC Sanchez, VMB Dote, MCE Balladares, JA Delos Reyes, RP De Guzman, NG Medina, MRM Espino, JBE Lawas, FME Sanchez*

Increasing population and losses due to natural disasters are some of the problems that threaten the country's food security. As a solution, several urban agriculture (UA) programs were carried out by Local Government Units (LGUs), and the Department of Agriculture launched the National Urban and Peri-Urban Program (DA NUPAP) as one of its banner programs. The objective of this study is to provide a more holistic understanding of the currently implemented UA programs. This was done through focus group discussions within eight regions, specifically: Regions 2, 4A, 4B, 5, 6, 7, 9 and 11 with a total of 123 participants which are composed of AEWs from DA, LGUs, and SUC faculty.

This study found that apart from DA, the key players in the implementation of UA programs are LGUs, schools, and LCEs. Some of the main activities across the regions are gulayan sa paaralan, gulayan sa barangay, hydroponics, and organic agriculture. In its infancy stage, the UA programs show promising results with opportunities such as increasing partnerships with the private sector. However, there are some logistics, socio-economic, and political challenges that threaten the sustainability of these UA programs. The study gives an in-depth look at these factors and how it affects the implementation of UA in the country.

Policy Coherence of Food and Nutrition Security along the Food Systems in the Philippines

Jennifer Marie Amparo, Aileen de Juras, Samantha Gabrielle Baril, Allysa Gargarino*

Malnutrition is one of the most urgent issues in the Philippines. Every day, 95 Filipino children die because of this disease (UN Children's Fund). The social and economic cost and impact of malnutrition is high and it requires an integrated action across sectors, in all dimensions of the food systems, including a multi-stakeholder and multisectoral approach (FAO, 2013). Thus, ensuring that food and nutrition security is prioritized and implemented across all areas are critical for sustainable development.

Policy plays a critical role as the basis for any development interventions and initiatives. Hence, this paper presentation will highlight the results of our study on the policy coherence of food and nutrition security along the food systems in the Philippines. It will also illustrate the state of policy coherence of these policies from the national to local levels. The paper will highlight policy gaps and recommendations to ensure that food and nutrition security are enshrined across the food systems programs and areas of the Philippines.

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Developing a Place-Based Global Sustainability Competency Learning Model: a case study of a summer study program in the Galapagos, Ecuador

Yizhao Yang, Jaime Eduardo López Andrade, Yekang Ko*

This paper examines a summer study-abroad program in the Galapagos, Ecuador, titled “Galapagos Studio on Socio-ecological Interactions,” as a case study to explore and evaluate a Place-based Global Sustainability Competency Learning Model (PGSCLM) for environmental planning education. By using the Galapagos region as a teaching setting, this program aims to prepare students to address complex sustainability challenges through experiential and immersive learning experiences. Guided by the PGSCLM, instructors in this program deliberately use multiple pedagogical methods, including case method teaching, action-based learning, and community knowledge co-production, to achieve two main objectives: 1) integrating research outcomes into environmental education, and 2) aligning learning objectives with sustainability competencies. The program’s effectiveness in sustainability education is evaluated through surveys of students’ learning satisfaction and outcomes, as well as instructors’ observations and self-reflections. The findings from this study will inform the development of the Place-based Global Sustainability Competency Learning Model, and offer insights into applying this model for designing curricula to teach sustainability competencies.

The Supply and Demand of Urban Green Spaces in Shanghai

Xiaotong LI, Yirui Chen, Liqing Zhang*

With the acceleration of urbanization and the pursuit of sustainable development, achieving a balance between urban green space (UGS) supply and demand in limited urban environments has become increasingly critical. As one of the fastest and most highly urbanized cities in China, Shanghai faces issues of uneven distribution of UGS resources and imbalanced supply and demand. The purpose of this study is to take Shanghai as an example, evaluating the characteristics of UGS supply and demand in different administrative districts of Shanghai, to provide new insights for research on urban-level UGS supply, and to offer reference and basis for future development and design direction of UGS in Shanghai. This study employs GIS technology combined with data collection, spatial analysis, and network analysis, using the 16 administrative districts of Shanghai as the basic research units to summarize the characteristics of UGS supply and demand. The supply level of UGS is evaluated from three aspects: quantitative, quality, and accessibility, and POI data is used to quantitatively evaluate the demand levels in different administrative regions. Finally, we identify the current status of supply and demand in each administrative district of Shanghai, clarify the areas that need improvement.

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Imbalance Identification and Priority Division of Urban Thermal Environment Regulation Services from the Perspective of Supply and Demand- Taking Shenzhen as an Example

LI Mingqian, Wang Chunxiao*

The rapid urbanization process has led to more and more serious urban thermal environment phenomena, which has caused a huge impact on the health, stability and sustainable development of the city.Therefore, how to accurately identify the key areas of high temperature supply and demand imbalance in urban streets and carry out urban high temperature relief work has become an important issue that needs to be solved urgently in the current society. Based on the perspective of supply and demand of ecosystem services, this paper selects indicators from the three influencing factors of risk, exposure and vulnerability to characterize the demand level of urban street cooling regulation services, and uses the cold island effect provided by blue-green space to characterize the supply capacity of urban street cooling regulation services. Finally, the quadrant division and spatial matching are carried out through the standardized comprehensive supply and demand index, and the priority order of planning intervention is obtained by using the priority index.The results of this study provide scientific evidence for the development of targeted mitigation measures for urban street high temperature, and the index system and research framework constructed can provide reference for other cities.

An approach to the construction of green space in age-friendly communities for emotional regulation

Bingqin Yu

In response to the emotional regulation issues of the elderly, this study adopts a perspective of healthy aging. Initially, it analyzes the spatiotemporal differentiation, needs, and preferences of health behaviors among local and migrant seniors from the two dimensions of the physical and social environment of community public spaces, aiming to propose design strategies for enhancing community inclusiveness. Subsequently, it systematically constructs key influential factors related to the emotional regulation of the elderly in community public spaces. Through eye tracking analysis, micro-expression measurement, and convolutional neural network image recognition technology, the study examines how aspects such as scale, types, and proportional composition of spatial elements in community green spaces impact the emotional changes in the elderly. Finally, by employing deep learning techniques, it generates an emotional map of the elderly in Jiangchuan Street Community in Shanghai. Based on the emotional feedback of the elderly regarding community green spaces, the study discusses intervention pathways for emotional regulation among the elderly, advancing the sustainable development of age-friendly community public spaces and the enhancement of community inclusiveness.

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Exploring the Climate Change Potential of Disruptive Mobility: A Systematic Literature Review

Mohsen Mohammadzadeh

The transportation sector is a significant contributor to greenhouse gas emissions, necessitating efforts to mitigate its environmental impact in alignment with national and international climate change goals. This study investigates disruptive mobility, encompassing novel mobility systems and technologies that redefine urban transportation paradigms. Specifically, the research examines three emerging disruptive mobilities: electrified mobility, autonomous mobility, and shared mobility, assessing their interconnections and potential impacts on climate change. Despite promising prospects, uncertainties persist regarding their overall effect on emissions. Through a systematic literature review, this study synthesizes existing research on disruptive mobility and its relation to climate change, providing insights essential for policymakers and planners to ensure the positive integration of these innovations into urban environments while minimizing environmental impacts. By identifying research gaps and uncertainties, the review guides future research endeavors toward a more comprehensive understanding of the environmental implications of disruptive mobility. While acknowledging their potential environmental benefits, this study emphasizes the importance of considering contextual factors to mitigate potential adverse effects, ultimately aiming for sustainable urban development.

The Importance of Urban Gardens to Conservation Biology

Gail A. Langellotto

With an uncertain climate future ahead, urban agriculture is increasingly becoming critical to ensure nutritional security, community resilience, and equitable access to healthy foods for growing urban populations. However, the lack of open space and surging land prices present a constraint to the establishment of new urban farms and gardens.

A possible solution and a way to establish new agricultural sites is to produce food on and in buildings using methods like rooftop farming, green facades, and controlled environment agriculture. Further co-benefits can be gained by creating a closed-loop system where building outputs are recycled as inputs to the agricultural system, and agricultural outputs ultimately provide inputs to building systems and users. Despite the many potential benefits of such building-integrated agriculture (BIA), examples of commercial BIA food production remain scarce, due to a lack of qualified experts and a research base since BIA requires multi-disciplinary expertise, as well as other obstacles.
We offered a multi- disciplinary design studio to engage architecture, landscape architecture, and horticulture students in identifying and proposing solutions to critical challenges, barriers, benefits, and opportunities. The project was situated as an adaptive re-use of the barge fabrication building at Zidell Yards in Portland, Oregon. The site has a century-long history as an industrial ship-breaking facility, thus the project site suffers from soil contamination, which makes it unsuitable for traditional ground-based urban agriculture. We brought in Extension professionals, practicing architects, horticultural experts, and marketing/production specialists to provide guest lectures and critiques of students' work. Ultimately, the student teams generated BIA designs that challenged our perceptions of what was possible to accomplish key social goods and ecosystem services, while also optimizing building (and food system) carbon footprints.

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Prospects of Implementing Foresight and Futures Thinking in the Local Planning Process of a Transitioning City - The Case of Santa Rosa City, Laguna

*Ryan Randle B. Rivera, Edgar M. Reyes, Jr., Ms. Grace Anne C. Buno, Francine S. Geluz**

In a world characterized by complexity, rapid change, and uncertainty, the ability to understand and shape potential futures is invaluable, especially for developing and disaster-prone countries like the Philippines. Integrating a holistic and forward-looking approach like Foresight and Futures Thinking (FFT) in the local planning process would equip policymakers with foreknowledge to develop innovative solutions and adaptive policies, mitigating risks from uncertain futures. Incorporating FFT in the current process of human settlements planning in a transitioning city like Santa Rosa, Laguna is the aim of this study. The city's ongoing transition highlights a unique opportunity to integrate innovative planning strategies such as FFT into its development process. To achieve this, a combination of content analysis and thematic analysis was utilized to examine recurring themes and trends from collected qualitative data and identify points where FFT can be essentially integrated. Additionally, the study employed Participatory Prospective Analysis (PPA) as a supplemental foresight method for scenario building and data collection. Such a tool generally aids stakeholders in organizing strategic actions in volatile environments, making it an appropriate method to explore the potential integration of FFT in the planning process of Santa Rosa City. The findings of this may potentially enhance the local development process and planning strategies in the Philippines or even globally, making settlements future-proof.

The Role of Street Network Density on the Local Competitiveness of the Philippines

Michaelangelo R. Severa

This research explores the correlation between street network density (SND) and urban competitiveness within sustainable urban development, using spatial econometric models (SEM and SLM). Analyzing data from 1,634 Local Government Units (LGUs) in the Philippines sourced from the 2023 Cities and Municipalities Competitiveness Index (CMCI), the study aims to elucidate this relationship, discern spatial autocorrelation patterns, and evaluate additional variables' influence. Through descriptive, correlation, and regression analyses, economic dynamism, governance efficiency, and resiliency across regions are examined. The findings offer insights for sustainable urban planning and regional governance, supporting evidence-based policy interventions. Strategies proposed include infrastructure enhancements, innovative land-use approaches, and technology-driven solutions to foster resilient and competitive urban landscapes. This research contributes to scholarly discourse and policy formulation by embracing sustainable urbanism and interdisciplinary collaborations. Using spatial analysis techniques like Global Moran's I and Anselin Local Moran I (LISA), the study identifies clustering in regional competitiveness attributes and hot spots in CALABARZON, Central Luzon, and the National Capital Region (NCR), as well as cold spots in the Bicol Region. Regression analyses reveal moderate R-squared values for economic dynamism, governance efficiency, and resiliency, with extended models showing improved values. The NCR emerges as a benchmark for effective street network density, highlighting the importance of infrastructure, land use diversity, and transportation enhancements. Recommendations include improving street connectivity, promoting diverse land use, and refining transportation infrastructure. Future research should incorporate qualitative methods, expand geographic scope, analyze infrastructure impacts, explore social dimensions, and assess emerging technologies' role in urban competitiveness.

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Exploring Diversity: Fish Assemblages in the Agno River Basin, Philippines

Kit Felian C. Tenio, Loucel E. Cui, Decibel V. Faustino-Eslava, Juan Miguel R. Guotana, Jenielyn T. Padrones, Manilyn Casa, Kennethjer G. Alejo, Kim Bryan N. Cabrera, Francis Ian P. Gonzalvo, Earvin Jon Guevarra, Ma Ericha V. Montecillo, Rosemarie Laila D. Areglado, Maria Regina V. Regalado*

River basin management can only be truly effective if it is based on a comprehensive understanding of the health of aquatic ecosystems, especially considering impacts from human-induced pollution from agricultural, urban, and industrial effluents. This study looked into the water quality and the fish assemblages of the Agno River Basin, traversing the provinces of Benguet, Pangasinan and Tarlac to serve as a basis to determine ecological conditions. In situ water quality monitoring and fish sampling were conducted. Various descriptors of diversity indices and correlation analyses were performed. Results revealed slightly high temperature and dissolved oxygen values in Paniqui, Tarlac, and Bocboc, San Carlos, relative to the Department Administrative Order 2016-08 standard values. A total of 19 fish species belonging to twelve (12) families were recorded, dominated by Cichlids and Cyprinids. Oreochromis niloticus (Nile tilapia) was recorded to have the highest relative abundance of 23.1%, followed by Cyprinus carpio (Carp) with 15.1%. The sites are characterized by low to moderate species diversity (0.29 to 1.62). Trophic composition metrics showed a higher number of carnivorous species (63.2%), but their relative abundance suggests the dominance of omnivores (60.6%). Canonical correspondence analysis revealed spatial variability of fish distribution as being influenced by water quality. The study recommends regular monitoring of water quality vis a vis fish diversity as an input to holistic river basin management and to monitor the effectiveness of intervention measures.

Citizen-Centric Digital Twin for Maintaining Sustainable Urban Infrastructure

Fathima Nishara Abdeen, Samad Sepasgozar, Sara Shirowzhan*

A citizen-centric digital twin (CCDT) is a key initiative that leads to realising the vision of a digital twin ecosystem for an intelligent city. A CCDT allows citizens to interact with the digital twin and update the digital twin in real-time while flagging any issues or concerns during infrastructure usage. The data from a CCDT could be effectively used to develop and implement inclusive, resilient and sustainable urban development policies and practices which, prioritise citizen requirements and their needs for sustainable urban infrastructure. This aids in achieving Sustainable Development Goal (SDG) 11 for making sustainable and resilient cities. However, information overload, asynchronous interchange of information, scalability, performance, uptime issues and transparency bring new challenges for citizens in digital participatory channels. Various disciplines provide AI-based approaches to manage these challenges, but the literature remains fragmented on how AI can address the challenges of a CCDT. Hence, through a critical review, the current study investigates what are the current uses of AI, its potential, opportunities and challenges for solving some of these issues in a CCDT environment. This study proposes an AI typology that will aid in overcoming challenges in managing CCDT and ensure better data and information management to increase the useability of the platform. The study findings will assist in enhancing the awareness of CCDT as an emerging technology to ignite interest in maintaining sustainable urban infrastructure while considering human sensors a key source.

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Non-independent Moderating Effects of Urban Blue-green Space and Development Pattern in the Heatwave-health Mechanism: An Empirical Study Based on the Yangtze River Delta Region in China

Yuqian Guo, Ling Wang, Ruijie Wu, Dorjee Gyeltsen, Yegai Yeersen, Wenjie Yu*

Urban planners often mitigate the threat of heatwaves by adjusting blue-green spaces in cities. Research has found that exposure to blue-green spaces is beneficial for public health. However, the accessibility required for optimal exposure causes fragment patches and low cooling effects. Additionally, excessive outdoor activity during high temperatures can be harmful. Adjusting development and spatial patterns with a focus on health is vital for building sustainable cities. This study investigates the impact of heatwaves on public health in the YRDUA（Yangtze River Delta Urban Agglomerations, employing a SEM（Structural Equation Model with interaction terms. It focuses on (i) the relationship and inflection points between heatwaves and all-cause mortality, (ii) the influence of development and spatial patterns, and (iii) optimal ranges for key factors. Results categorize YRDUA into three groups (A, B, C) based on decreasing heatwave susceptibility. In type-A cities, urban blue-green space composition and patch size are vital, highlighting the challenge of urbanization on health and reduced cooling effects due to smaller blue-green space. Type-B cities require better design of blue-green space, indicating attraction inadequacies. For type-C cities, the emphasis is on increasing blue-green space and protecting vulnerable populations. The study proposes spatial and developmental adjustments for each city category with differentiated heatwave health warning levels tailored to observation.

Examining the Alignment of Smart City Indicators and Local Development Indicators System for Smart City Planning in the Philippines

Sandra S. Samantela, Edgar M. Reyes, Jr., Grace Anne C. Buno, Mary Joy J. Ancheta, Jhon Wheen L. Renegado, Kaye Anne A. Matre*

SMART cities are essential to achieving Sustainable Development Goals (SDGs). In assessing the efforts of local government units (LGUs) toward the development of SMART cities in the Philippines, the following six domains are being examined: (1) SMART environment, (2) SMART living, (3) SMART people, (4) SMART mobility, (5) SMART governance, and (6) SMART economy based on existing literature. However, the development planning in the Philippines is done in a sectoral manner. LGUs are required to submit a Comprehensive Development Plan (CDP) focused on the following aspects: (1) environment, (2) social, (3) economic, (4) infrastructure, and (5) institutional sectors. Using a compare and contrast, narrative approach, and thematic analysis, this study explored the alignment of SMART domains and development sectors of selected LGUs in the Philippines known for their SMART efforts. Results showed that although a majority of the SMART domains can be integrated into the development sectors, LGUs find it difficult to include many aspects of SMART living and mobility. There were challenges in having sufficient data which also resulted in issues complying with ISO standards for smart cities. Recommendations include integration of SMART domains in community profiles under different sectors, executive-legislative alignment of SMART PPAs, and increased participatory planning.

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Gironella, E.A.M. , Ferido, M.P., Albor, R.G.Z. , and Vergara, H.P.

Urban Transformative Capacity: Entrepreneurs on the Contribution of Sustainable Cities and Communities

Heejin Choi

Urban planners often mitigate the threat of heatwaves by adjusting blue-green spaces in cities. Research has found that exposure to blue-green spaces is beneficial for public health. However, the accessibility required for optimal exposure causes fragment patches and low cooling effects. Additionally, excessive outdoor activity during high temperatures can be harmful. Adjusting development and spatial patterns with a focus on health is vital for building sustainable cities. This study investigates the impact of heatwaves on public health in the YRDUA （Yangtze River Delta Urban Agglomerations, employing a SEM （Structural Equation Model with interaction terms. It focuses on (i) the relationship and inflection points between heatwaves and all-cause mortality, (ii) the influence of development and spatial patterns, and (iii) optimal ranges for key factors. Results categorize YRDUA into three groups (A, B, C) based on decreasing heatwave susceptibility. In type-A cities, urban blue-green space composition and patch size are vital, highlighting the challenge of urbanization on health and reduced cooling effects due to smaller blue-green space. Type-B cities require better design of blue-green space, indicating attraction inadequacies. For type-C cities, the emphasis is on increasing blue-green space and protecting vulnerable populations. The study proposes spatial and developmental adjustments for each city category with differentiated heatwave health warning levels tailored to observation.

Determination of the Effect of Mn2+ on Arsenic Removal of Electrochemical Arsenic Remediation (ECAR)

Rubin AK., Austero S., and Orozco C

Groundwater, a crucial resource in areas lacking surface freshwater, remains a primary choice despite the availability of surface water due to its affordability and practicality. However, groundwater contamination of metal ions like arsenic poses health risks such as arsenicosis. Electrochemical Arsenic Remediation (ECAR) is one of the effective methods for arsenic removal in water which depends on a lot of factors such as pH, dissolved oxygen (DO), and ions such as phosphates, chlorides, calcium, and magnesium. Electrocoagulation experiments were performed to determine the effect of manganese on the arsenic removal of ECAR. Arsenic and arsenic-manganese solutions were used with a constant 5 C/L as the charge loading. Results show that manganese has the potential to aid arsenic removal in water. The presence of 500 ppb manganese in the solution reduced the concentration of arsenic within 10 ppb which is the standard set by WHO and DOH for drinking water. Complete removal of manganese from the solution after ECAR was also observed. Further investigation of the mechanism and the effects of manganese in arsenic removal of ECAR is recommended.

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Crowdfunding for the utilisation of vacant houses through citizen participation

Maya Kadonaga and Namiko Minai

Effective utilisation of real estate through crowdfunding is attracting attention as a way of addressing the problem of vacant houses in Japan. Therefore, we conducted interviews and field research with companies that are actually utilising vacant houses through crowdfunding to investigate the actual situation. Crowdfunding can raise funds from small amounts and can easily raise funds online, thus promoting a diversified investor base and sympathy-based funding. In addition, the involvement of investors and local residents in the operation of the project as an event from the project planning stage leads to fulfilling operations and continuous users. It was found that the cooperation and collaboration between operators, users, local residents and investors draws on their own initiative and promotes local revitalisation and sustainable town development. Residents' participation promotes their active involvement in town development, as they feel that their voices are reflected in town development, thus creating a virtuous circle that further improves the attractiveness of the town and creates new value.

Resilience Education through Chinese Calligraphy: Exploring Pattern Language

IC Kuo

In our quest for resilient communities and ecosystems, we often confront challenges that strain our cognitive abilities and social skills, potentially compromising our own resilience. To address this, our experimental study proposes an innovative approach to enhance resilience education by combining Chinese calligraphic handwriting (CCH) with Christopher Alexander's pattern language.

We delve into the rich history of Chinese characters, which evolved from pictographic scripts, to uncover their embodiment of resilience concepts. Engaging participants in CCH practice allows us to explore the symbolism and meaning behind these characters and investigate the potential stress-reducing effects of this traditional art form.

Our exploration aims to develop adaptable and resilient patterns inspired by the inherent resilience depicted in Chinese characters. For instance, the character for "resilience" (韌) visually represents its essence, with patrolling feet encircling a city against an adjacent blade—akin to Alexander's pattern language in identifying problems and solutions.

We analyze selected characters such as 口 (representing town walls), 域 (signifying guarded areas), and 生 (symbolizing life) to illustrate resilience across various scales, from towns to households. Physiological responses of participants, measured through respiratory rate, heart rate, and electromyography during CCH sessions, provide valuable insights into the stress-reducing benefits of this practice.

By viewing Chinese characters as fragments of a pattern language, we uncover their conceptual and functional richness, offering a metaphorical approach akin to Alexander's patterns. This interdisciplinary methodology bridges ancient traditions with contemporary practices, enriching resilience education and fostering a deeper understanding of resilient systems in both traditional and modern contexts.

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Instrumental Role of the Technical Assistance Program on Human Settlements Planning (TAP-HSP) in Local Development Planning in the Philippines

Almira Geles de Mesa and Alyanna P. Maneja

Local development planning remains a challenge for municipalities and cities in the Philippines due to the lack of personnel with technical planning capacities and poor database management systems amplified by the recent devolution policy and the COVID-19 pandemic. The need to address these gaps has given birth to the Technical Assistance Program on Human Settlements Planning (TAP-HSP) as a public service and extension program of the College of Human Ecology, University of the Philippines Los Baños. TAP-HSP provides capacity building and technical assistance to various planning institutions in the country and aims to contribute to making cities and communities safe, resilient, inclusive and sustainable. This paper explores the history, milestones, components and modalities of TAP-HSP, emphasizing its instrumental role in local development planning in the country. TAP-HSP offers different modalities and planning arrangements through its three components: Capacity Development for Planners, Practice of Profession, and Model Community/City for Sustainability and Resilience. Over the years, the demand for TAP-HSP services has remarkably grown that it played instrumental roles in empowering local planners, moulding future planners, bridging planning theories to practice, championing evidence-based, participatory, and inclusive planning, being a key partner for local development, and advocating for liveable cities and communities in local development planning. TAP-HSP's relevance shall continue to progress with its sustained excellent program ratings and growing network of LGU partners, positioning it as a key player in local and national development and a promoter of inclusive and sustainable communities.

A Systematic Review of Related Literature on Social Inclusion, Poverty, and Smart Cities in Developing Countries

Biance Claudette Canlas

The concept of “smart cities” emerged to be one of the thrusts and priorities of the metro cities in the Philippines such as those situated in Metro Manila. While designing smart cities requires crucial urban planning, the question of social inclusion among the urban or metro poor cannot be put out of place. “Smart city” has been another concept bandwagon where countries tend to leapfrog into. Social exclusion has been existing even in the absence of smart cities. With the advent of leapfrogging to establish smart cities, we look at existing related literature on dimensions and experiences of developing countries on social inclusion (or exclusion) amidst building and sustaining smart cities. Systematic review of literature gathered from Scopus and DOAJ manifested limited but insightful key takeaways with the following research gaps that were found: 1) there is no research on smart cities in the Philippines; 2) there is no study capturing the knowledge, attitude, and practices of urban dwellers in targeted smart cities in the Philippines, as well as in other developing countries 3) there are many frameworks defining and approaching smart city development used and originating from developed countries and are benchmarked by developing economies; these may be tested and improved to fit the Philippine setting; 4) there are no available research capturing inclusivity of smart cities in the Philippines; limited research were also found in other countries and 5) there are no existing tools used in the Philippines to measure the inclusivity of smart cities.

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Evaluating Kinaesthetic Affordances of Place-Based Learning for Sustainability Education

Sadaf Ansari

The ongoing rapid pace of urbanisation, accompanied by the resulting transformation in the natural landscape and biodiversity, can create a disconnect between people and nature. This study identifies and examines key factors contributing to this disconnect, using a place-based learning process. Place-based learning was adopted due to its relevance and success in raising awareness of place in urban contexts; research shows that it promotes authentic learning about the unique history, environment, culture, economy, literature, and art of a particular place. This exploratory study invited a group of students to adopt a tactile approach in examining the human-nature connection based on their kinaesthetic experiences during curated fieldtrips to undisturbed urban landscapes. Data from on-site observations, student reflections, and collaborative activities was examined and interpreted. Findings highlighted the impact and advantage of kinaesthetic experiences on student learning, especially about their relationship with nature and how they value it. These findings were also evident in the details captured on the mixed-media panels made using collected artefacts during the field trips.

Transport Model of Nonylphenol in Pampanga River

Sheila Austero, Augustus Resurreccion, Analiza Rollon and Charita Kwan

Nonylphenol (NP) is a phenolic endocrine disrupting compound (EDC) that can negatively affect the endocrine system of some aquatic organisms. NP, a degradation product of nonylphenolethoxylate (NPE) which is used in the production of surfactants, has been detected in surface waters due to poor management of wastewater. To assess the quality of water in Pampanga River Basin, this study investigated the occurrence and transport of NP in a portion of the Main Pampanga River. The development of the transport model was done using the Water Quality Analysis Simulation Program (WASP) by US Environmental Protection Agency. The level of NP concentration was found to be within the acceptable limit for phenols in freshwater bodies in selected locations. The statistical parameters of the calibration and validation of the NP transport model showed that the regression model has a good fit with respect to the observed data points ($R2 > 0.8$). The model performance is good to excellent ($NSE > 0.6$) while the range of the PBIAS values ranged from (–) 25 to (+) 25 which satisfied the model accuracy criteria.

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Grafting the Garden City: a social ecology & agroforestry plan for Eugene, Oregon

Mitchell, Michael, O'Brien, Elise, and Teppema, Aidan

Grafting the Garden City re-envisions Eugene's food system, imagining a localized, community-based, resilient future for this Oregon city. This collaborative project addresses the extreme vulnerability of global food systems through a critical examination and re-purposing of social, spatial, and environmental networks. Despite existing in one of the country's most fertile valleys, Eugene depends on imported food for 95% of its needs, and grocery stores typically rely on next-day delivery. This makes Eugene susceptible to rising domestic and global disruptions as climate change progresses. Across Eugene there are many non-productive fruit trees that could be grafted with productive branches—like these trees, the city itself might be grafted with the culture and infrastructure necessary for localized food production. 11 neighborhood clusters within Eugene are identified, each containing existing community partners. Each cluster is connected to a food forest that acts as a productive space and learning garden, which can provide information and skills necessary to empower communities to further expand production into backyards and interstitial places. Climate extremes, droughts, floods, rising energy costs, unstable geopolitics and soaring fertilizer costs all threaten global food systems. Robust localized food systems are an essential part of transition design.

Home Environment Satisfaction and Study Motivation of Adolescent Students in Gawad Kalinga Housing Project in Los Baños, Laguna

Gironella, E.A.M. , Ferido, M.P., Albor, R.G.Z. , and Vergara, H.P.

Despite the significant impact of the house interior and family on academic performance, limited research exists on the influence of housing project quality on students' home study motivation. Thus, this mixed-method study aimed to 1) describe the home environment satisfaction of adolescent students; 2) analyze its importance to study motivation; 3) assess contributing factors to motivation and demotivation, and 4) analyze the relationship between home satisfaction and study motivation. The sample comprised 141 students aged 10-19 from Gawad Kalinga, Los Banos, Laguna. Descriptive statistics, content analysis, and Spearman's rank correlation coefficient were used for analysis. Results showed that the adolescents were satisfied with the physical and social aspects of their homes, but identified areas such as noise level, temperature, lighting, and house size that needed improvement. Both the physical and social aspects were important for the students' motivation, except for parental pressure and comparison. Motivating factors for students' study motivation included access to study materials, a personal quiet study space, food, and family support, while factors that demotivated them included technology, noise, chores, limited space, and hot temperature. A significant correlation was found between study motivation and home satisfaction. The study suggests the importance of supportive family dynamics, adequate study resources, and well-equipped homes, particularly in housing projects, to create conducive learning environments. Recommendations are provided for various stakeholders and future research. Overall, this study highlights the importance of the physical and social home environment in promoting adolescents' study motivation at home and its implications for academic outcomes

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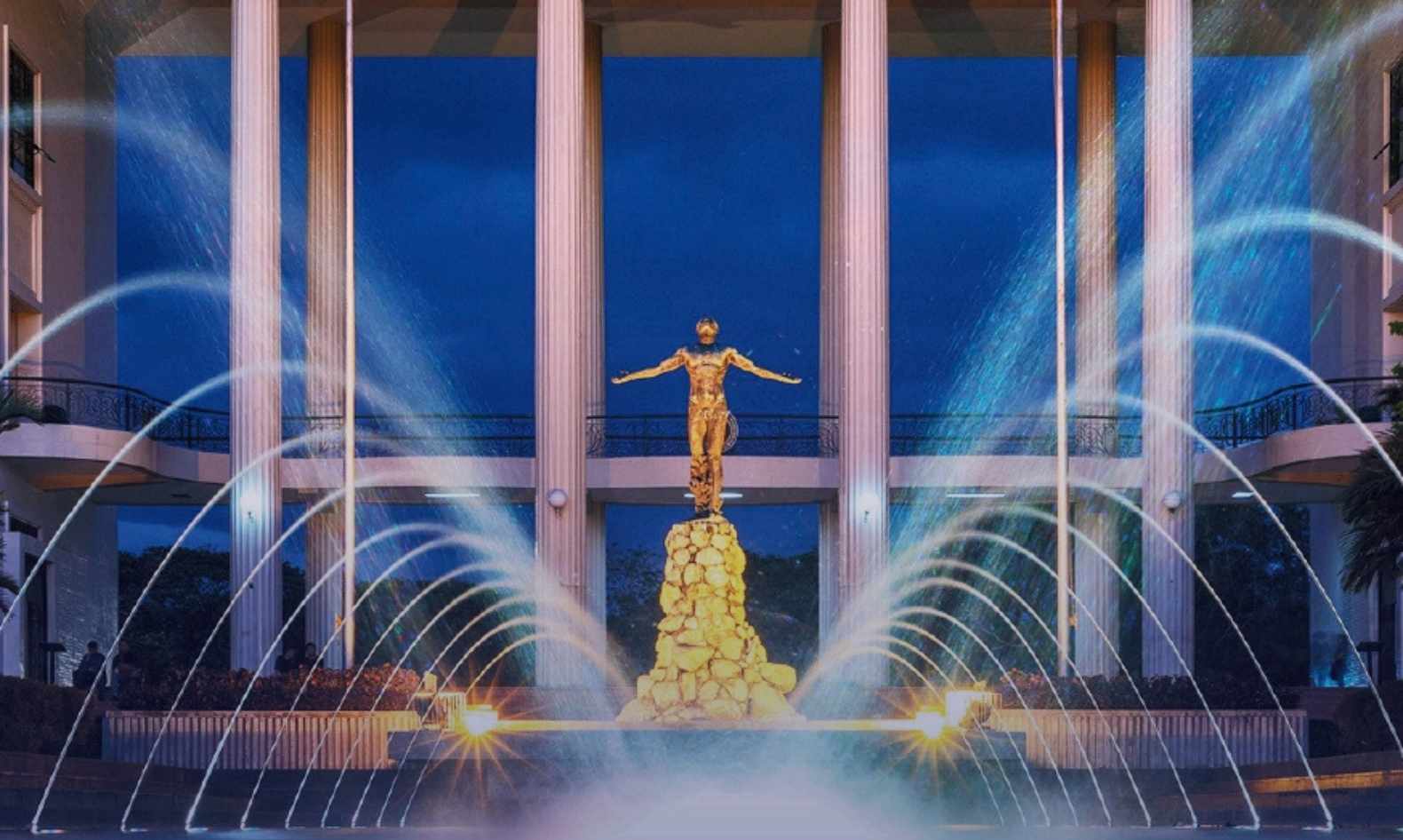

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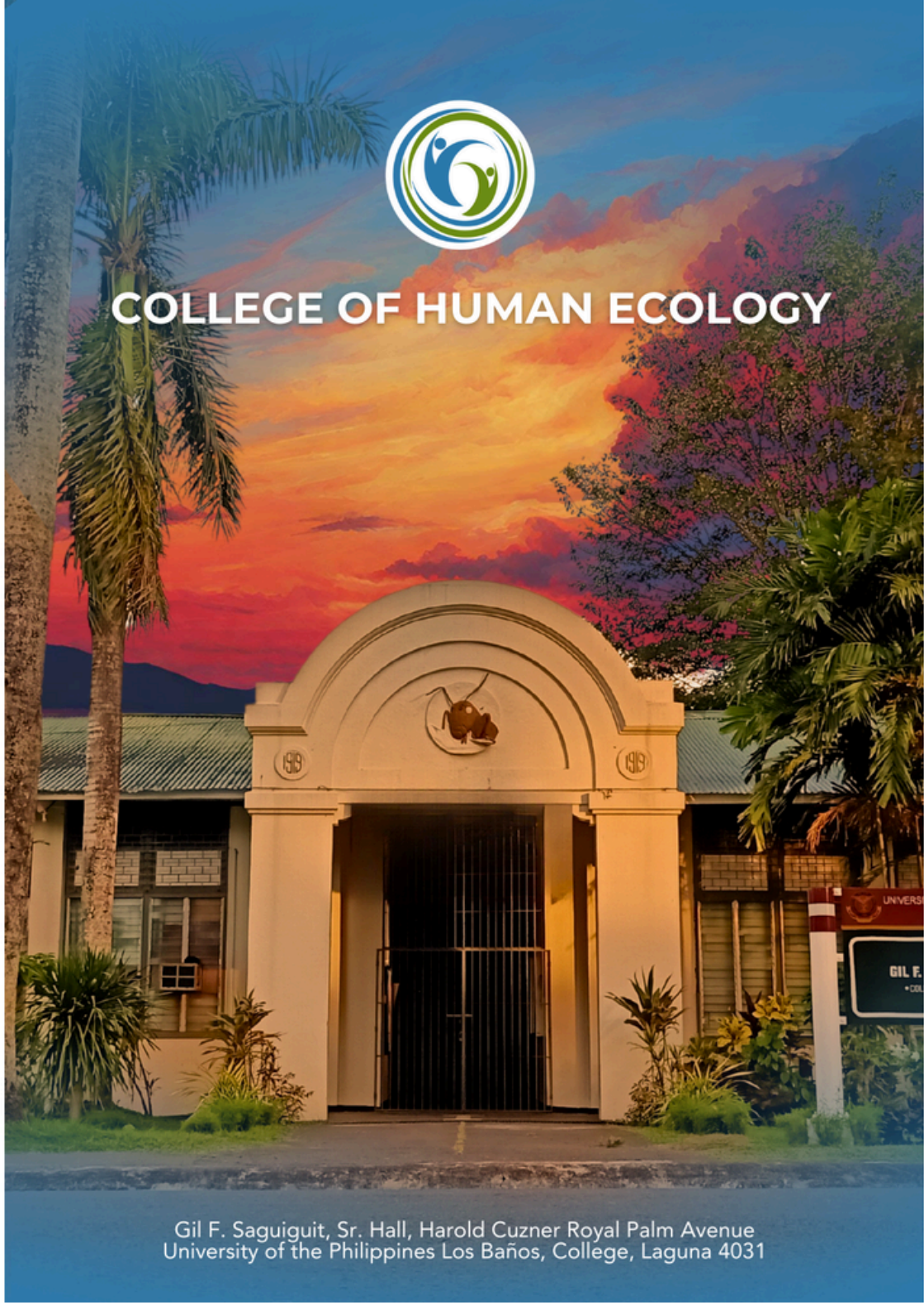

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The College of Human Ecology (CHE) started as an institute on November 28, 1974. CHE is one of only a few institutions in Asia that offers a degree program in Human Ecology and it is the first and only one to offer the degree in the Philippines. It is also the first in Asia to offer a degree program in Food and Nutrition Planning. It became a full-fledged college in 1983 and since then has continued to advocate for a holistic and integrative understanding of human-environment interactions and to conduct activities that focus on the fulfillment of basic human needs, resource planning utilization and management, and delivery of social services at the family and community levels.

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- Provision of technical assistance to various institutions.

WHAT IS TAP-HSP?

TECHNICAL ASSISTANCE PROGRAM ON HUMAN SETTLEMENTS PLANNING

TAP-HSP is the banner public service arm of DCERP and UPLB CHE geared to enable communities achieve and maintain human ecological security through the development of responsive, inclusive, and technically-sound plans and the enhancement of human settlements planning capacities among partners, fellow practitioners, and stakeholders.

TAP HSP

TAP-HSP COMPONENTS

CAPACITY DEVELOPMENT FOR PLANNERS

TAP-HSP offers capacitation and training courses to enhance the capacities of present and future local and national planners. These include:

- Short Course on Environmental Planning - aims to provide an overview and refresher of the major concepts. frameworks, and tools and techniques within the field of environmental planning
- Review of Planning Tools and Techniques
- GIS Training for Planners
- Short Course on Nature-based Solutions
- Monitoring and Evaluation Training
- CLUP-ZO Enforcement Training

Also part of the Capacity Development is the Mentoring of Young Professionals through:

- Internship Program for New Graduates - where new graduates in HSP are mentored by DCERP faculty and/or alumni while deployed in communities and LGUs
- Supervised Field Experience of Graduating Students - where HSP practicumers, before graduation, are immersed in a community to conduct a planning-related activity.

MODEL COMMUNITY/CITY FOR SUSTAINABILITY AND RESILIENCE

A long-term partnership and co-learning platform between a community and TAP-HSP that aims to demonstrate adaptive practices towards sustainability and resilience - a Model Ecovillage or Ecotown where stakeholders are empowered and the university learns from the community.

- Bauko, Mt. Province (2006-2017)
- Victoria, Laguna - Urban Laboratory
- Bay, Laguna - Urban Laboratory
- Sto. Tomas, Batangas - Urban Laboratory

PRAXIS (PRACTICE OF PROFESSION)

Covers the technical assistance performed by DCERP's alumni and licensed environmental planners who want to serve the public through the practice of profession.

DCERP EXTENSION WORKS

TAP-HSP WEBSITE
For more details about TAP-HSP
https://tinyurl.com/59u678u9

PUBLIC ENGAGEMENTS
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- Comprehensive Land Use Plan and Zoning Ordinance (CLUP-ZO)
- Comprehensive Development Plan (CDP)
- Local Development Investment Program (LDIP)
- Socio-Economic and Physical Profile (SEPP)
- Climate and Disaster Risk Assessment (CDRA)
- Forest Land Use Plan (FLUP)
- Agriculture and Fisheries Management Plan (AFMP)
- Local Disaster Risk Reduction and Management Plan (LDRRMP)
- Local Climate Change Action Plan (LCCAP)
- Local Shelter Plan (LSP)
- Solid Waste Management Plan (SWMP)
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- Environmentally Critical Areas Network (ECAN) Resource Management Plan

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- Short Course on Environmental Planning (online and face-to-face modality)
- CLUP-ZO Enforcement Training in Partnership with the Department of Human Settlements and Urban Development (DHSUD) in Region 4A
- Monitoring and Evaluation Training Workshop
- CDRA and LCCAP Training for LGUs
- GIS Training
- Regional and Provincial Physical Framework Planning

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- DHSUD in Region 4A and Region 12
- Department of Science and Technology (DOST) in Region 10 and Region 4A
- Human Ecology Institute of the Philippines, Inc. (HUMEIN - Phils)
- Institute for Housing and Urban Development Studies, Erasmus University Rotterdam
- Shell Pilipinas / Pilipinas Shell Foundation, Inc.
- Orient Integrated Development Consultants, Inc. (OIDCI)

TAP-HSP runs from a short one-month engagement to a 12-month plan formulation cycle. Engagements may cover the situational analysis and conduct of CDRA, the formulation of e-CLUP, and CDP, or a longer-term development planning inclusive of plan formulation, plan implementation, and monitoring and evaluation.

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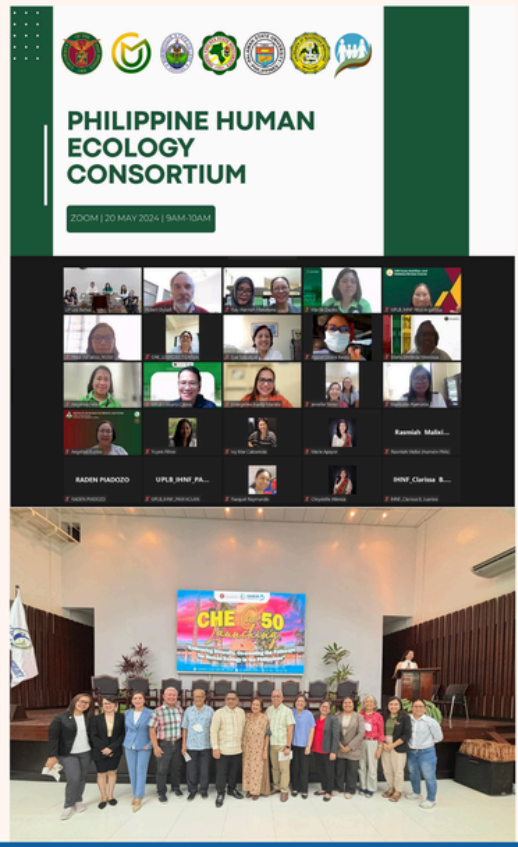

ESTABLISHMENT OF THE PHILIPPINE HUMAN ECOLOGY CONSORTIUM

The Philippine Human Ecology Consortium (PHEC) aims to establish a community of practice among Human Ecologists in the Philippines. This was initially conceptualized during the UPLB CHE's 50th year anniversary launch last 1 March 2024, wherein HEIs namely UPLB, Central Mindanao University, Marinduque State College, Nueva Vizcaya State University, Palawan State University, University of Southern Mindanao, and HUMEIN Philippines, Inc. were present.

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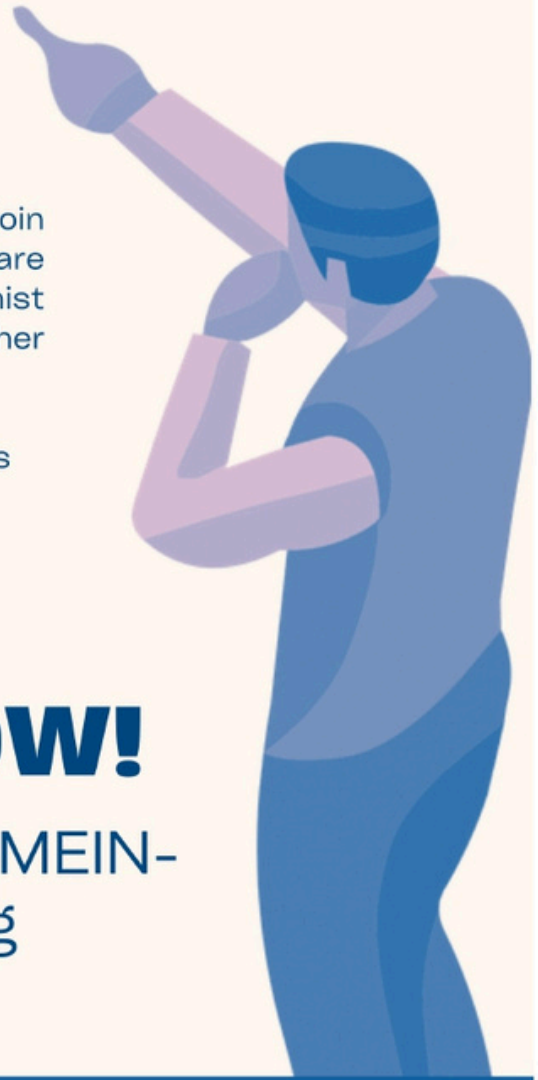

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