

# Research Newsletter



# Research across the CBLG

## What has been going on across the college?



### Developing “Smart” Municipal Waste Management in Singapore and Hong Kong

Managing municipal solid waste is a universal issue affecting every single person in the world. In 2016, world cities generated about 2.1 billion tonnes of solid waste per year, with extremely conservative estimates saying that at least 33 percent of which is not being dealt with in an environmentally safe manner. Regionally, the East Asia and Pacific generated 468 million tonnes of waste in 2016, at an average rate of 0.56 kilogram per person per day. Both Singapore and Hong Kong registered one of the highest waste generation with a production of 3.72 and 2.14 kilogram per capita per day.

About 46% of waste generated in East Asia and Pacific is disposed of in landfills which is considered the least desired waste management alternative from an environmental point of view. Waste management is a multi-faceted complex challenge that

takes into consideration institutional capacity, education and many unique, local drivers such as waste composition, local awareness, cultural paradigms, economic strengths, enforcement capability and the capacity for local research and technology advancement.

The negative economic and social impacts demand that more needs to be done across all levels of society to address the remnants of non-managed and improperly managed waste resulting from decades of economic growth. A key aspect in this regard, has been the High-level Political Forum on Sustainable Development (HLPF), the United Nations’ (UN) central platform for analysing the 2030 Agenda for Sustainable Development and its associated Sustainable Development Goals (SDGs).

The 2030 Agenda works with countries to make fundamental changes in the way that their societies produce and consume goods and services. The SDG 12 provides key guidelines that help governing bodies implement a range of

policies, mechanisms and partnerships that help to ensure more sustainable global consumption and production patterns (SCP). The guidelines also recognize that these SCPs are not only an objective in their own right, but also a key strategic component of efforts to achieve the 2030 Agenda (UNSDG, 2018).

#### Research Questions:

Given this context, our study seeks to understand the governance of how smart cities like Singapore and Hong Kong implement Sustainable Development Goals (SDGs) in waste management. We therefore ask how do these countries manage their waste and if the recovery practices encompass an inclusive circular economy approach to plastic waste management.

1. How is waste management integrated into the Smart City development goals of these two countries?
2. What is the role of the informal sector, NGOs and the wider community within the parameters of their waste management systems?
3. To what extent is the corporate sector (including start-ups) engaged in finding new solutions for waste management efforts?
4. What innovative practices and smart city co-creation initiatives exist in Singapore and Hong Kong?

## Cairns

*Mr. Nnaemeka Vincent Emodi*

Electricity sector expansion to meet growing electricity demand has a huge impact on the environment. Most notably, the operation of fossil fuel power plants which pollutes our atmosphere affecting human health contributing to the accumulation of greenhouse gases (GHGs). The accumulation of GHGs results in climate changes which lead to an

increase in temperatures which affects the operations of fossil fuel power plants. Further, the increase in temperatures results in an increase demand for cooling services in buildings which is met by grid power supply from mostly fossil fuel peak and baseload plants. While climate change directly affects the operation of thermal power plant, the operators of these plants also bear economic losses. The losses include rising generation cost which increases as production efficiency of the power plants decreases due to warmer temperatures. The increased generation cost is passed to electricity consumers who will have to add the cost to their increasing utility bills resulting from prolong air conditioning use to meet their thermal comfort needs at home. Besides fossil fuel plants, climate change also affects water availability for hydroelectric production. Although efforts have been made around the world to increase the share of new renewables such as solar, wind, tidal energy, etc, fossil fuel still dominates the global electricity generation by fuel source. Technological switching to renewables offers a more sustainable approach to decarbonise the electricity sector but future climate change impact may affect GHG mitigation efforts. To analyse these interactions, my study developed a technoeconomic and environmental approach to simulate the impact of climate change on the future energy system in Australia. The results showed that while current decarbonisation policies will be less effective in the future, low-carbon pathways will present huge economic benefits to Australia's future economy.

## Townsville

*Mr. Jamie Fellows*

Australia's New Modern Slavery Act – mere virtue signalling or a real attempt to stamp out modern slavery in

## FEATURE

corporate Australia?

Despite over 150 years passing since the US Emancipation Proclamation and countless international conventions and domestic legislation, slavery still has a firm grip on the modern world. Such a concept may be hard to comprehend in this day and age, but modern slavery affects us in ways that may not be that obvious in the developed world, but it's there. From the clothes we wear to the food we eat, each of us may (inadvertently) be contributing to this ancient scourge. Which is why in 2019, the Australian Parliament introduced the new Modern Slavery Act 2018 (Act) that targets Australian and foreign corporations and their supply chains. The Act, based partly on UK legislation, requires around 3,000 Australian and foreign corporate entities operating or based in Australia to prepare annual statements on potential modern slavery risks in their operations and supply chains. These entities must now ensure that their supply chains and corporate partners are free from what the Act defines as 'modern slavery'. The effects of the Act will have far-reaching implications for many firms conducting business in the Asia-Pacific region. Not surprisingly the new Act is a cause for concern for many boardrooms in Australia and elsewhere. The Act is also, however, causing concern for those who are in favour of more stringent regulation. These proponents argue that the Act does not go far enough and should lower the high revenue reporting thresholds of \$100 million per year in order to ensure more companies are required to report their links to modern slavery. Other criticisms include nil penalties for non-compliance, the absence of an independent body such as an "Anti-Slavery Commissioner", the absence of a published list of entities that are required to report, and the voluntary nature of compliance, to name but a few. In light of the new regulations purporting to regulate modern slavery

in Australia, Jamie Fellows of CBLG in Townsville in collaboration with Wes Kendall in Singapore and Mark Chong of CASE in Townsville, are currently investigating the possible legal affects that the Act will have on Australian corporations. Part of the investigation will involve an analysis of potential legal reforms or other legal mechanisms that would strike a balance between the corporate sector and the need to eradicate modern slavery.

## Singapore

*Dr. Jacob Wood*

Service Sector Development in Asia: An Important Instrument of Growth for the Region

Services are set to play a bigger role in the economic future of developing Asia. How policy makers nurture the expanding sector will determine whether economies move toward dynamic high-end services, services with beneficial productivity spillovers into other sectors, or remain mired in traditional service industries with low productivity. The impact of the global economic slowdown on the region's export manufacturers highlights the need for economies to diversify their production structures. Achieving this requires a more competitive environment for an increasingly tradable service sector.

Currently, the service sector looms large in the region's economic landscape, accounting for 54% of regional output in 2016, however, it is expected that it will become even more prominent in the coming years. Historically, economies followed similar patterns of structural transformation to high-income status. In the early phase of development, the dominance of agriculture as a share of production and employment gives way to industry, particularly

manufacturing.

As industrialization proceeds, labor productivity in manufacturing improves, reducing the sector's labor intensity while increasing incomes and demand for services. Service industries expand to meet rising demand, engaging the workers no longer required to support industrial growth. The service sector's share of employment thus rises as the economy moves into its postindustrial phase. Developing Asia has broadly followed this pattern of structural change. The region's share of industry in gross domestic product (GDP) surpassed that of OECD output in 2016, but its share of services still lags by a wide margin. Services occupy a much smaller share of the economy in developing Asia than in Latin America or developing Europe, while agriculture still has a conspicuously larger share. This suggests that future structural transformation in Asia will mainly see a net shift from agriculture to services.

What does the rising prominence of the service sector imply for the region's future growth? The process of structural transformation does not itself guarantee economic dynamism. Labor productivity across sectors in developing Asia lags that of the OECD. But as the share of services in output expands, the region's scope for economy-wide productivity gains will increasingly depend on raising service sector productivity. The task is daunting. In most Asian countries,

labor productivity in services is less than one-fifth of the current OECD figure, and in extreme cases it may take up to 30 years to reach even that level. Constraints that hinder greater efficiency and productivity in the region's service industries are pervasive. Whether the shift to services comes from stagnant, low-productivity industries or vibrant, high-productivity industries will determine how effectively it catalyzes economic dynamism. This is the crux of the problem.

Low productivity in Asia's service sector partly reflects the dominant role of traditional service industries such as wholesale and retail trade, hotels and restaurants, real estate, transport, personal services, and public administration. Modern services such as information and communication technology (ICT), finance, and professional business services still occupy only a sliver of Asia's service economy.

Advanced economies, in contrast, have shifted more aggressively toward modern services, which tend to enjoy higher productivity than traditional services and so offer better wages. Further, modern services are tradable internationally and thus offer countries the opportunity to widen their foreign trade and to create incentives for greater productivity domestically.



# CBLG Weekly Research Seminar



Speaker: Prof. Eddy Ng

Title: *Generational Career Shifts: How Matures, Boomers, Gen Xers, and Millennials View Work*

Since the publication of Howe and Strauss' (2000) *Millennials Rising*, interests in the Millennial generation (Gen Y and Gen Z) have gained widespread attention in both popular press and academic research. Millennials are purported to have high self-esteem, a strong sense of entitlement, and are impatient to succeed in the workplace. In addition, research has also documented that Millennials have a high degree of preference for materialistic rewards, value leisure time over work, and indicate a strong preference for work/life balance. In this regard, existing human resource policies and practices to attract and retain Millennial workers may be outmoded. In this presentation, I will examine three questions pertaining to Millennial workers: (1) How is the current generation of workers different from previous generations,

(2) How have career expectations, attitudes, and work values changed from generation to generation, and (3) What are the implications of these shifts for organizations and employers? This presentation is based on a large scale study conducted across four generations, i.e. Matures/Veterans (born prior to 1945), Baby Boomers (1945-1965), Gen Xers (1966-1980), and Millennials (1981-).

## *Biography*

Eddy Ng is a Professor of Organizational Behaviour and the F.C. Manning Chair in Economics and Business at Dalhousie University. His research focuses on diversity and inclusion, including public policy on fair treatment (e.g., employment equity and affirmative action) in the workplace, and managing across generations. His work has been funded by the Social Sciences and Humanities Research Council of Canada. He is also the Editor-in-Chief of *Equality, Diversity and Inclusion* and an Associate Editor for *Personnel Review*. Apparently, his most recent book (with Sean Lyons and Linda Schweitzer), *"Generational Career Shifts: How Matures, Boomers, Gen Xers, and Millennials View Work,"* was sold out on Amazon Canada.

# CITBA

## 1st Sustainable Tropical Urbanism Symposium: Tropical cities in a warming world

When and where

Date: Friday 27th September 2019

Location: Singapore campus (149 Sims Drive 387380) Detailed directions

### CALL FOR PAPERS (DEADLINE 1 JUNE 2019)

The world's urban population surpassed the rural population for the first time in 2007, reflecting a global shift from agriculture to manufacturing, services, and finance. The urbanisation process is so intense that by 2050 two-third of the world's population will live in cities. The growth of tropical cities is a key component in this shift. Indeed, tropical urbanisation grew from 31% in 1980 to 45% in 2010. In Southeast Asia alone, urban dwellers increased from 110 million to 360 million over the same period and almost 50% of people now live in urban environments.

While the future of tropical cities is diverse, malleable, and creative – reflecting an increasingly connected and global world – under-regulated urban growth can result in inefficient, inequitable and unsustainable urban environments. As we expect big changes in cities, we also need big changes in city planning, design, and urban lifestyles, along with changes that can address climatic, environmental, and socio-economic challenges.

James Cook University's Tropical Urbanism and Design Lab (TUDLab) and Centre for International Trade and Business in Asia (CITBA) welcome contributions to an interdisciplinary symposium on tropical cities which will take part at our Singapore campus on 27 September 2019.

Contributions are invited from academic researchers, practicing planners and architects, public

artists, local government officers, students in urban planning and design and anyone interested in understanding tropical cities. Themes include but are not limited to: How tropical cities respond to climate in an era of climate change

- Designing cities, towns and communities to cope with climate change
- Sustainable green and blue infrastructure in tropical cities
- Disaster management and resilience
- Transport and mobility in a tropical environment
- Urban farming

Creation/curation of tropical space and place

- Planning to include cultural diversity in rapid urbanising tropical cities
- Social and planning policy development
- Liveability and sustainability of public space in tropical cities
- Sport and well-being in tropical cities
- Sustainable heritage conservation in the tropics
- Sustainable urban tourism in tropical cities and its impact on the built environment
- Pop-up and temporary architecture as enablers of active public space
- The economic benefits of good design
- Healthy spaces

Methods for tropical urban research

- Field studies in tropical environments
- Participatory design techniques
- Urban photography and sketching

This symposium is recognised by the Singapore Institute of Landscape Architects (SILA) for CPD accreditation points. - 4 SILA CPD points



CITBA is pleased to announce that its proposal to host a UN-Habitat Urban Thinkers Campus (UTC) is approved. The title of the campus is

***“URBAN DESIGN, ECONOMIC GROWTH, AND JOBS OF THE FUTURE IN THE TROPICS”***,

The campus will be held in JCU Cairns, on 25-27 November 2019, and Dr Taha Chaiechi is leading it.

The UTC- Cairns will be featured in the calendar of events on the World Urban Campaign website, as well as on the Urban Thinkers Campus page and will have its own dedicated page.

**CITBA on Social media:**

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James Cook University



# Grants

## 1. Protecting Queensland's Threatened Species

Community Sustainability Action grants funding now open

Grants up to \$100,000 (ex GST) are available for on-ground projects which engage the community and benefit Queensland's threatened flora and fauna.

Activities funded include:

- Habitat enhancement and protection activities such as weeding, revegetation and pest animal control
- Fire management
- Fencing
- Flora and fauna surveys and mapping
- Disease management.

Applications will be accepted from:

- Properly established incorporated associations (incorporated under the Associations Incorporation Act 1981)
- Australian charities registered with the Australian Charities and Not-for-profits Commission (ACNC)
- Not-for-profit organisations registered under the Corporations Act 2001
- Indigenous corporations incorporated under the Corporations (Aboriginal and Torres Strait Islander) Act 2006 (Cwlth)
- Tertiary education institutions administered by the Commonwealth or State.

Applicants will be required to demonstrate how their proposed project activities align with a threatened species recovery plan, conservation advice or threat abatement plan. Activities should be based on strong evidence (e.g. a scientific paper) where such documentation doesn't exist.

It is also preferable that applicants seek technical/scientific advice regarding their proposed project prior to applying.

Applications close 4:00pm on 2 July

2019.

More information about the grant program, including program guidelines and the application form is available on the Queensland Government website. For more information email [CSAgrants@des.qld.gov.au](mailto:CSAgrants@des.qld.gov.au)

## CONGRATULATIONS FOR SUCCESSFUL GRANT APPLICATIONS

Department of the Environment and Energy - National Environmental Science Program (NESP) - Tropical Water Quality Hub (TWQ Hub) David Westcott, Cameron Fletcher, Peter Mumby, Kay Critchell, Russ C Babcock, Scott Condie, Eva Plaganyi-Lloyd, Matthew Curnock and Diane Jarvis *Matching the Crown-of-Thorns Starfish integrated pest management to the scale of the new control Program (\$494,360)\*\**

\*\* College of Business, Law & Governance. This automated monthly report is generated by RIMS based on the data stored in its Grants module. Overview of 2019 Research Funding Information

