

Research Newsletter



Research across the CBLG

What has been going on across the college?



Setting the scene: Single-use plastics, Bottom of the Pyramid and frugal innovation

Dr. Emiel Eijdenberg

The industrialized world has seen an increase in the production, consumption and disposal of plastic materials in recent years. The use of plastic has become commonplace in our everyday lives and as such, they can be found just about everywhere including vast areas of our oceans (Lebreton et al., 2018). Less spoken about are the countless number of landfills, drains and choked rivers that affect millions of people in the socio-economic constrained Bottom of the Pyramid (BoP) areas such as in India. The toxic debris released from these plastics has the propensity to enter food chains and micro bodies in the form of micro-plastics (Rajmohan, Ramya, & Varjani, 2019). The dioxins released from the plastic polymers contained within the plastic material

has been found to cause a range of serious illnesses such as cancer, neurological damage and impairs the development of reproductive systems (Kavlock, Boekelheide, Chapin, Cunningham, Faustman, Foster, Golub, Henderson, Hinberg, Little, Seed, Shea, Tabacova, Tyl, Williams, & Zacharewski, 2002). If unmanaged the social, environmental and political consequences would be wide felt and the catalyst for a long-term environmental disaster.

Despite the potential health and environmental risks associated with its production, annual global plastic consumption has reached over 320 million tonnes with the last decade of use being equal to the total amount of plastic production across human history (European Plastics, 2017). Of this, India generates 25,940 tonnes of plastic waste every day (Government of India, 2018). Another estimate put forward by the Federation of Indian Chambers of Commerce and Industry, puts these numbers at 16.5 million tonnes of annual

plastic use, 43% of it being single-use plastic (Federation of Indian Chambers of Commerce and Industry, 2017). A substantial portion of this single-use plastic figure refers to the class of plastic known as Polypropylene (PP) and Polystyrene (PS), which are either difficult to recycle or cannot be recycled at all because of the relevant material properties and/or the cost associated with the recovery of the material (Miller, Soulliere, Sawyer-Beaulieu, Tseng, & Tam, 2014). These two forms of plastic are most commonly used to make takeaway cutlery and are not only the least recyclable but also the most difficult to trace and recover from a pile of garbage, creating a situation that may form the basis for potential environmental disasters in the future. The lack of India's waste management infrastructure and awareness puts the country at higher risk of environmental contamination and the need to have an increasing number of landfill sites. Given the environmental challenge associated with single-use plastics and the unorganized nature of the production, this chapter presents an empirical assessment of India's single-use disposables economy and how it can be transformed into a biomass-based plate ecosystem. Such developments would undoubtedly ease the environmental concerns that are associated with traditional forms of production.

Entrepreneurs—seen as the creators of organizations (Gartner, 1988)—are examined in their role of key actors in the value chain of plant-based plates as an alternative of single-use plastic cutlery. BoP are not only consumers and recipients of aid, but also “talented” entrepreneurs—striving to generate new ideas, routines, products and services with minimal resources (George, McGahan, & Prabhu, 2012; Hall, Matos, Sheehan, & Silvestre, 2012; Karnani, 2007). In light of these characteristics, entrepreneurs in India have played a crucial role in mapping the “frugal innovation” phenomenon

(Lim, Han, & Ito, 2013; Tiwari & Herstatt, 2012). Frugal innovations are cheap, convenient, portable, and both economically and socially sustainable products that provide improvised solutions to local resource-constrained problems (Basu, Banerjee, & Sweeny, 2013; Rao, 2013). Examples of frugal innovations are self-made water purifiers, to be used in slums; cell phone chargers of dynamos on bicycles; and many improvised applications (e.g. utensils, board games, plant-based cutlery).

Leaf plates or biomass-based single-use plates also referred to as disposables, have been a part of Indian culture since Vedic times. They have been used at a variety of areas including serving food at home to community food services at weddings, temples and during other rituals almost across the entire Indian continent. The leaf plate raw material, the raw leaf is plucked from forests as a non-timber forest produce and, hence, are not grown for it. They are a by-product of the forest growth and, as example; we take the Siali leaf plate, which is found in the Sal jungles in certain parts of India. The process is highly labour intensive, from plucking the leaves to sewing them into shape and processing them into different shapes for a variety of usage depending upon local requirement and the innovation activities around the leaf plate supply chain. Despite their labour-intensive nature, their biodegradable qualities (Haider, Völker, Kramm, Landfester, & Wurm, 2019) help reduce the environmental risks associated with traditional forms of plastic materials.

Scholars, practitioners, and policymakers have understood the concept of innovation in various ways with studies focusing predominantly on the electronics, energy, finance, healthcare, information and communication technology (ICT) and transportation sectors (Rao, 2013; Tiwari & Herstatt, 2012). However, despite the high importance of specific sectors such as agriculture, the grassroots and social enterprises related to biomass-based

businesses have received limited attention (Hossain, 2017, 2018).

Townsville

Dr. Daniel Grainger

Arrow (1950) established a theoretical result widely known as Arrow's Impossibility Theorem (AIT). AIT states that no voting system exists that can arrive at a logically consistent ranking of candidates. By extension, AIT means that the ranking and valuation of complex social goods (CSGs) is not possible. The obvious problem with this is that, as a society, we rank and value social goods and projects every day. So are we wrong every day?

We prove AIT is able to be circumvented in a two round deliberative process (Grainger & Stoeckl, 2019). This means that, in contrast to AIT, social ranking and valuation of CSGs is indeed possible. Our main departure from AIT is simple. Extend Arrow's model from 1 to 2 rounds. Specifically, using the same Arrow (1950) nomenclature, we prove that AIT still holds for a 1 round setup but can be circumvented with 2 rounds.

In AIT, it is as if each individual only announces their ranking preference to a social benefactor who then generates a social preference list. Instead, our two round setup has a first round that generates an interim social preference list. The second round then allows individuals to revise their individual preference upon considering the interim social preference list. This is what we call "social learning" and is arguably the social interaction needed to circumvent AIT. Our theory was tested in a real world organization with participants facing the difficult task of ranking a set of CSG projects. A simple information market (Grainger, 2017) is utilized to generate the interim and final social preference list. We find that it is highly unlikely that this test agrees with our a priori theoretical predictions simply as a result of chance. We have since applied our research in other

settings and look forward to reporting those results.

Cairns

Mr. Emmanuel McCarthy

Climate-resilient economic development through community empowerment and sustainable city planning.

Community economic empowerment refers to the process of enabling the community (local, national, or international) to gain better control over the factors that shape their lives. Economic empowerment not only improves productivity, and increases economic diversification and income equality, but also it is a core principle in underpinning healthy and smart cities, which in turn boost the process of economic growth. Furthermore, climate change adds another dimension to the process of economic growth and development, and action on one should not ignore the influence or impact on the other. Accordingly, the aim of this research is to investigate the role of community empowerment and smart city planning in building a successful climate-resilient economy.

Since global climate predictions are far from the local experience, the role of the local community is often missed when mapping the strengths of community-based adaptation programs. While our national government is aligning with climate policies to produce climate resilient adaptation programs, there is an increased need for documentation of successful strategies at a local level. Since what we know about the successes of adaptation programs is largely based on the motivations of high SES groups such as global companies and political institutions, low SES groups are becoming the focus of this work.

Low SES groups are higher proportionate in tropical populations, which raises concern for their high vulnerabilities

amid climate change stressors. Their losses from floods, heat, cyclones and other extreme weather events are widely reported. The motivations for personal responsibility, community engagement in recovery effort and economic accountability in the shifting economic climate itself should not be ignored. Adaptation programs exist, but work is needed in understanding the practice of climate resilient economic development in vulnerable communities. These are the real challenges for the climate aware environment. Strong evaluations into the motivations of groups who have to function in that context of climate will guide these principles. Our knowledge of community empowerment and smarter city planning is based on very limited data. The factors that have been working for these surviving communities should serve as working models of how to reduce or at least adapt to climate change.

Singapore

Dr. Malobi Mukherjee

Strategic Reframing as a Multi-Level Process enabled with Scenario Research

*Authors: Dr Malobi Mukherjee (JCU)
with Prof Rafael Ramirez & Dr Richard Cuthbertson (University of Oxford).*

Strategic reframing enables individuals to challenge current assumptions and to think afresh about future possibilities, which matters when the context in which strategy operates becomes turbulent. Reframing matters because such an ability to dissociate from existing cognitive frames enables senior executives in organizations to be better equipped to understand opportunities and challenges, prepare options, and thereby more effectively cope in an increasingly uncertain business environment characterized by novel and unprecedented changes (Benner and

Tripsas 2012; Cornelissen and Werner, 2014). Scenario research is a rigorous and practical interactive inquiry process (Ramirez et al, 2015) which can be used to enable stakeholders to frame and reframe their current situation.

This research project drew its inspiration from Cornelissen and Werner (2014) invitation to explore how and under what conditions social interactions leading to reframing can overcome micro level myopia in strategic decision making.

In both the cases which we report here (retail real estate company in China and retail trade body in the UK), we found that instead of reinforcing existing frames of reference to assess macro level uncertainties (Cornelissen and Werner, 2014) scenario research enabled conversations which ‘temporarily displaced’ frames of the present so that they could be reconsidered from the future. This ‘time travel’ facilitated deliberations where tacit and even counterintuitive uncomfortable knowledge became discussible. As happens also in scenario planning, the scenario research workshops acted as transitional spaces (Lewin, 1947; Amado and Ambrose, 2001) where the participants could surface and test different framings creatively without commitment to action (Ramirez and Drevon, 2005). Furthermore, the reframed meso level frames unfroze the quasi-equilibrium stability of organization’s role (Lewin, 1947) brought forth considerations for the adoption of new roles and provided a novel vision for instigating and managing change (Gioia and Chittipeddi, 1991).

The findings in this paper will help practitioners deploying scenario planning to reframe a situation by helping them to temporarily step out of the business as usual mindset by enabling them to engage with uncertainties emanating from the macro level, revisiting the core assumptions of their businesses at the micro level by re-perceiving business roles in the imagined, reframed future macro-contexts i.e. the future scenarios.

CITBA

The Launch of CITBA Flagship



From left to right: Trang Nguyen, Silvia Tavares, Nikki Huddy, Jacob Wood, Taha Chaiechi, Emmanuel McCarthy

We are proud to announce that the first CITBA flagship was launched on 15 October. The flagship around the important topic of “Community Empowerment, Transformative Cities, And Building a Climate-Resilient Economy” was ideated early August 2019, and Expressions of Interest from researchers interested in collaborating on the flagship was sought end of August. Subsequently, a multi-disciplinary team with the necessary and appropriate range of skills and expertise was assembled in early September, and the flagship was formally launched on 15 October. The launch of this flagship marks an important step for CITBA as the flagship team seeks to build a track record around the topic and apply for funding. We wish the team all the success in this significant journey.

CITBA MOU

Elevating entrepreneurship with a new collaboration



The Centre of International Trade and Business in Asia at James Cook University in Singapore and the Center for Entrepreneurship at Vrije Universiteit Amsterdam will work together on teaching, research and consultancy projects, primarily in the area of entrepreneurship.

On 22 October 2019, the Centre of International Trade and Business in Asia (CITBA) at James Cook University (JCU) in Singapore and the Center for Entrepreneurship at Vrije Universiteit Amsterdam (CFE@VU) signed a Memorandum of Understanding (MOU).

The MOU will bolster collaboration efforts on shared interests and objectives between the two universities. This includes working together on teaching, research, and consultancy projects in the areas of entrepreneurship, management, and international trade.

Vrije Universiteit Amsterdam has a storied 140-year history in the Netherlands. Amsterdam is home to one of Europe's largest innovation-driven entrepreneurship communities. Conversely, James Cook University in Singapore is located in Asia's high-tech, service-oriented, knowledge-driven hub. Dr Eijdenberg says, "Based on strong international trade and a nation's wide entrepreneurial spirit, the country has advanced in recent years to the world's most competitive

economy." He adds that "CITBA embraces this entrepreneurial spirit and brings together scholars and practitioners in the areas of international trade, economy policy and business in Asia's tropical regions, but also in other parts of the world."

Currently, Dr Eijdenberg and Professor Masurel — in collaboration with international colleagues — work together in four research projects about entrepreneurs in the tropical regions. These projects examine, amongst other topics, entrepreneurship and climate change in the world's tropical regions. For example, one project covers the influence of environmental pollution and drought on the satisfaction with life of entrepreneurs within Zambia's mining sector. As this relationship develops, future collaborations may take shape in the form of exchanging faculty for seminars, teaching subjects, and workshops.

UN HABITAT
FOR A BETTER URBAN FUTURE

"URBAN DESIGN, ECONOMIC GROWTH, AND JOBS OF THE FUTURE IN THE TROPICS",

The campus was held in JCU Cairns, on 25-27 November 2019

A large number of community groups from academia, State High Schools, Cairns Regional Council, Department of Transport and Main Roads, Cairns Airport, business leaders, town planners, non-profit organisations, social enterprises, and other members of the public attended the Urban Thinkers Campus event organised by the Centre for International Trade and Business in Asia (CITBA). The event entitled "Urban Design, Economic Growth, and the Jobs of the Future in the Tropics" was part of the United Nation's Habitat program and it took place over three days between 25-27 Novembers

FEATURE

inclusive.

The event proved to be a catalyst to build consensus between participating constituencies for addressing urban and economic challenges in our city and proposing solutions to future challenges.

The event was the culmination of 9 months planning and preparation by a small army of people within CITBA, with special mention of and thanks to A/Prof Josephine Pryce, Dr Silvia Tavares, Ms Diana Castorina, Ms Trang Nguyen, Ms Jane Njaramba, Ms Dwi Sugiharti, Mr Andrew Dineen, Mr Emmanuel McCarthy, and Ms Suzie Pont for their generous contribution of time and expertise pre-during- and post-event.

Centre for International Trade and Business in Asia would also like to especially highlight the hard work of Dr Taha Chaiechi, the Australian Director of the Centre, for her continues engagement with the local community in the past several months in promoting the UN initiative in order to amplify the urban thinkers' movement here in the tropics.

Post-event reports and evaluations are in progress and more details will be released and shared with the colleagues in due course.

Speakers at the Urban Thinkers Campus included (but were not limited to):

- Dr Taha Chaiechi, Australian Director, Centre for International Trade and Business in Asia, James Cook University: "Planning on Future Sustainable Cities"
- Professor Liz Spencer, Head, Law, JCU, "Urban Thinkers: The Interdisciplinary Imperative"
- Cairns Regional Council, "CBD Activation"
- Mr Pat Flanagan, Market Lead Environment & Planning, Northern Australia: "Cairns 300/500"
- Ms Nikki Huddy, PLANZ Town Planning & PIA: "Shape of the City"
- Dr Silvia Tavares, TUDLab, College of Science and Engineering, JCU: "Innovative Urban Solutions and

Sustainable Communities"

- Dr Narayan Gopalkrishnan, Social Enterprise Network for the Tropics (SENT), JCU, "Addressing homelessness through social enterprise."
- Mr Brian Arnold, Aboriginal Development Benefits Trust (ADBT) "Empowering the Gulf through Business and Liveability"
- A/Prof Lawal Billa, University of Nottingham: "Flood Resilience and Urban Planning"
- Mr Greg Mews, Urban Synergies Group, "Right to the City"
- Urban design students: Smithfield State Highschool, "The City We Need"

CITBA on Social media:

Follow us on Twitter: @CITBA4

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





Awards:

TropEco Award – Dr Taha Chaiechi -24th October



Congratulations to Dr Taha Chaiechi for bringing home two TropEco Awards this year. Taha is the winner of TropEco-Partnership and Engagement Award at JCU in 2019, and she also became Highly Commended in Trop-Eco Excellence Staff Award. Taha has demonstrated an extraordinary commitment to the 2030 Agenda, and its 17 Sustainable Development Goals.

She has acted as an ambassador for and a great advocate of promoting SDGs through her research, research profile, research activities, and engagement activities. She was the winner of TropEco Excellence Staff Award in 2018 and she was Highly Commended in Teaching & Learning category in 2018. Since her win in 2018, she has expanded her activities around SDGs significantly. For instance, her proposal to the United Nations, UN-Habitat program was approved to hold an Urban Thinkers Campus (UTC) through CITBA in Cairns in Nov 2019. Urban Thinkers Campus is an exceptional model of engagement and is conceived as an open space for critical exchange between urban researchers, professionals, and government authorities. Her event directly contributes to SDG8, SDG11, SDG13 and SDG17. With a particular focus on engagement and SDG 17, Taha started a genuine way to connect to local, national and international organisations. Taha has been successful in gaining supports from representatives of different constituencies including but not limited to the Cairns Regional Council, Redlynch

State College, Smithfield State Highschool, Mypathway, Sister City Partners, PLANZ Town Planning, Planning Institute of Australia (the only national organisation representing qualified urban and regional planners in Australia), Gutteridge Haskins & Davey Group (with 200+ offices in 14 countries), University of Nottingham, Regional Development Australia, Social Enterprise Network for the Tropics (SENT), Austrade, Urbang Synergy Group, Aboriginal Development Benefit Trust (ABDT), the World Urban Campaign amongst, and the UN-Habitat amongst the others.

CBLG Research Committee Recognition Awards

Rationale: The Research Committee of the College seeks to encourage high quality research as well as valuing superior levels of productivity. Following the demise of the research incentive scheme some years ago, there are now no explicit College funds or incentives that encourage excellence in research. Accordingly, after several discussions about this topic, the College Research Committee has decided to put in place new Recognition rewards. There will be a certificate and a small incentive to mark the receipt of the award.

Eligibility: All staff, including adjunct staff and casual staff who use the name of the University on their publications, are eligible for the awards. Postgraduate students or recent graduates /alumni, either by themselves or with their supervisors, are also eligible for the awards. Again the designation of James Cook University must be on the published work.

Criteria: The Research Committee Recognition Awards will be given to eligible staff/students who:

- 1) produce one A* or A rated or equivalent research paper in the relevant calendar year. The paper must be published, or formally accepted for publication with a doi number or equivalent. If the paper is in press at the time of application and/or the researcher wishes to apply using a paper without the full reference details or doi numbers, then a letter from the editor accepting the paper must be provided. Papers tentatively accepted but still in revision will not be eligible for the award. The A* and A journal rankings are those determined by the Australian Business Deans Council or other discipline quality criteria.
- 2) produce 3 or more publications in the one calendar year in journals which are rated as B or C by the Australian Business Deans Council or equivalent discipline quality criteria.
- 3) produce 3 or more book chapters in the one calendar year in edited works from

quality publishers with ISBN recognition.

- 4) as a principal/chief investigator successfully receive external research funding for JCU of \$50,000 AUD or more in a calendar year.

Conference papers and papers in edited conference proceedings are not considered in this recognition scheme.

Multiple authors: Applications to meet any of the above criteria will be limited to papers or chapters with three or less authors. Where there are two or three JCU authors on the paper or book chapter, certificates of recognition will be given to all the relevant JCU authors but the small incentive will be shared.

Recognition: A modest financial incentive provided by the College will accompany the documentation of recognition. It is anticipated that this will be \$100 for researchers whose work meets criteria 1, 2 3, or 4. A researcher may apply for recognition in more than category, although a successful applicant will only be eligible for one \$100 award, with subsequent achievements receiving certificates of recognition.



Left to right: John Pearce, Dr. Rachel Hay, Dr. Jacob Wood (ADR CBLG), Prof. Philip Pearce, Dr. Diane Jarvis

An award presentation took place in the CBLG staffroom on the 28th of November. Many thanks to Belinda Wilson for organizing the wine and food.

The Winners

The award winners name is followed by the relevant selection criteria he/she is winning the award for.

Dr. Rachel Hay (3) produce 3 or more book chapters in the one calendar year in edited works from quality publishers with ISBN recognition.

Dr. Diane Jarvis (1) produce one A* or A rated or equivalent research paper in the relevant calendar year.

(4) as a principal/chief investigator successfully receive external research funding for JCU of \$50,000 AUD or more in a calendar year.

Dr. Huiping Zhang (1) produce one A* or A rated or equivalent research paper in the relevant calendar year.

Dao Nguyen (1) produce one A* or A rated or equivalent research paper in the relevant calendar year.

Dr. Gianna Moscardo (1) produce one A* or A rated or equivalent research

paper in the relevant calendar year.

(3) produce 3 or more book chapters in the one calendar year in edited works from quality publishers with ISBN recognition.

Prof. Philip Pearce (1) produce one A* or A rated or equivalent research paper in the relevant calendar year.

Dr. Leigh-Ann Onnis (3) produce 3 or more book chapters in the one calendar year in edited works from quality publishers with ISBN recognition.

John Pearce (3) produce 3 or more book chapters in the one calendar year in edited works from quality publishers with ISBN recognition.

Grants



Australian Government
Australian Research Council

Discovery projects

Activity	Timing
Release of Grant Guidelines	8 October 2019
Applications open	13 November 2019
Request Not to Assess close	12 February 2020
Applications close	26 February 2020
Rejoinders	18 June 2020 to 1 July 2020
Anticipated announcement	Fourth Quarter 2020

Important dates that relate to eligibility:

- The grant commencement date for Discovery Projects grant opportunity for funding commencing in 2021 is 1 January 2021. This date is when grant funding may commence.
- The active project assessment date for Discovery Projects grant opportunity for funding commencing in 2021 is 1 July 2021. This date is used to consider project and application limits per named participant.

