

AGRI-FOOD XXV

Celebrating 25 years of the Australasian Agri-food Research Network

30 NOV - 5 DEC 2018

HOSTED BY THE UQ
SCHOOL OF SOCIAL
SCIENCE

THE UNIVERSITY OF
QUEENSLAND, ST LUCIA

PRENTICE BLD, #42

*"Humans have changed
the way the world works.
Now they have to change
the way they think about
it, too." The Economist*

Agri-food XXV: Exploring past, present & future contributions to agri-food studies

For 25 years, the Australasian Agri-food Research Network has pursued the vision of its founders: to promote innovative research and encourage rich debate on agri-food issues, both in Australasia and globally. Our work has focused on the complexities of agri-food system restructuring, global contexts and local social, environmental and economic impacts and consequences. We have contributed new ideas about agriculture, distribution, consumption and food 'cultures' across time and space. We have sought to understand the 'mainstream' food system - supermarkets, banks, brands, commodity chains, technology, trade and food security - alongside 'alternatives' such as organics, sustainability, conservation, food movements, fair trade and food sovereignty. The result has been, and continues to be, research that questions conventional wisdom and points towards alternatives.

Agri-food XXV will be a celebration of the rich contributions that the network has made to agri-food studies over the past 25 years. It will also be an opportunity to reflect on how this legacy can continue to inform agri-food research, policy and activism now and into the future.



Progamme at a glance

**FRI 30 NOV,
SAT 1 DEC**

POSTGRADUATE WORKSHOP AND FIELD TRIP

Hosted by the UQ *Global Change Institute*, with Zannie Langford, James Boafo (UQ), Prof. John Ingram (Oxford U.), Shalmali Guttal (Focus) and Dr Carol Richards (QUT). Half day field trip to *Food Connect*

MON 3 DEC

CONFERENCE DAY 1 TRIVIA NIGHT

Keynote address by Prof. Phil McMichael, Cornell U.
Expert panel: *Whatever happened to subsumption?*

TUES 4 DEC

CONFERENCE DAY 2 CONFERENCE DINNER

Keynote address by Shalmali Guttal, Executive Director of Focus on the Global South

SUN 2 DEC

CONFERENCE FIELD TRIP, BOOK LAUNCH & WELCOME DRINKS

'Close the loop' in Brisbane followed by drinks in West End

WED 5 DEC

CONFERENCE DAY 3 DAVID BURCH PRIZE, AFRN AGM, AGRI-BAGRI AWARDS & PUBLIC LECTURE

Expert panel: *The future for agri-food research, policy & activism in the Anthropocene*

FIELD TRIP, BOOK LAUNCH & WELCOME

SUNDAY 2 DECEMBER

CLOSE THE LOOP

From food waste,
to food yields...

Please join us for a
full day adventure
through a unique,
closed loop,
community-led
food system. You'll
see, hear, eat,
drink and get your
hands dirty. Bring
hat, sunscreen and
water.

PROGRAMME FOR THE DAY

8.30AM: 193 Boundary Street, West End

Please meet at *Avid Reader Bookshop and Kitchen Garden*, where we will start the day with a locally brewed coffee and AFRN book launch. You can arrive at your leisure; book talks begin at 9AM.

10AM: Bus leaves. Don't be late!

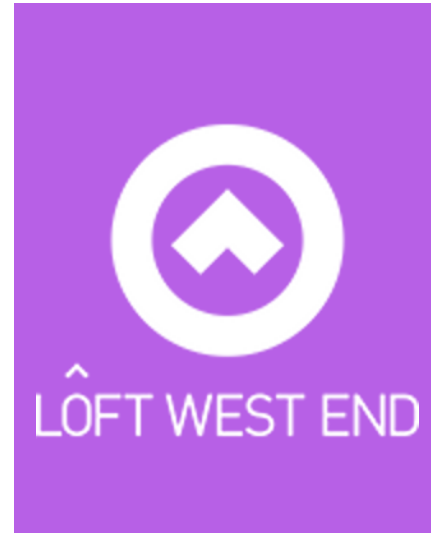
5PM: 1 Fish Lane, South Brisbane

Our field trip ends back in West End at *Wandering Cooks*.

5.30PM: 1 Fish Lane, South Brisbane

The welcome function commences at *Wandering Cooks*; nibbles provided, with meals and drinks available for purchase.





TRIVIA NIGHT Mon 3 Dec 6.30PM

Please join quiz master Hugh Campbell for the social highlight of the conference. Small batch meals and local brews available for purchase. This is the same venue as the welcome drinks, *Wandering Cooks*. **1 Fish Lane, South Brisbane**

DINNER Tues 4 Dec 6.30PM

Local, seasonal food, good company and one very special beer. **100 Boundary Street, West End** (upstairs)



With global hunger approaching 1 billion, governments' Right to Food obligations are falling short. At a time when 'food security' means the right to purchase food, we address the limits of free trade in 'feeding the world,' the proliferation of retailer-led global value chains feeding affluent consumers, 'flex cropping' with feed and fuel crops displacing food crops, and discrimination against small-scale producers of 70% of the world's food. And we explore impacts on farming cultures and ecosystems of land markets driven by financialization, authoritarian states and violent local forces, as well as alternatives to 'agriculture without farmers,' movements for food sovereignty, and limits and possibilities of a Charter for Peasant and Indigenous Peoples' Rights.

This public event is a collaboration between the AFRN, UQ Human Rights Consortium and the Brisbane Fair Food Alliance, a community based organisation advocating for 'fair food', sustainability, justice and policy reform in SE Queensland and beyond.

The AFRN had its inaugural meeting at Griffith University in 1993. It is only fitting that we return here in 2018.

Public Lecture

Food, Rights and System Change?

Phil McMichael,
Shalmali Guttal &
Luke Craven

WED 5 DEC
6.30pm, for 7pm start

QCA Lecture Theatre
and Gallery
Bld S05 Rm 2.04

Griffith University
Southbank campus
South Brisbane

MONDAY 3 DECEMBER, 2018			
8-8.45	Registration + coffee		
8.45-9.15	Welcome [42-216]		
9.15-10.30	<p>Keynote address: <i>Professor Phil McMichael, Cornell University</i> [42-216]</p> <p>Food Regime Analysis: Looking Back to Look Forward</p> <p>The world is at a dangerous threshold, laying bare its origins in ecological amnesia, empire and white supremacy. Looking forward feels increasingly like looking back. Food regime analysis might well address its settler-colonial anchoring and the socio-ecological violence of capitalist modernity. Food-cheapening strategies and power accumulation bring exploitation, epistemicide, malnutrition and inequalities. States organise ‘markets,’ and vice-versa. Global land markets reshape social geographies, stimulating authoritarian, and emancipatory, politics. Agro-exporting developmentalism degrades ecosystems, and fuels China’s import complex. Value chains serving class diets compromise territorial sovereignties. Digitalisation deepens ‘agriculture without farmers,’ and dematerializes food. Can food regime analysis interpret <i>and</i> change this world?</p>		
10.30-11	Morning tea		
11-12.30	<p>Paper A [42-216] Emerging issues in agri-food studies</p> <p>This session will explore issues that lie outside the usual rural/farm focus. Themes include urban food security; the growing presence of mining in agricultural regions; food system resilience; and population growth. What are the bases of conflict and how might that conflict be resolved? Are agri-food scholars employing the right conceptual tools in seeking to understand new dynamics of agrarian change? <i>Bruce Curtis; Neil Argent; Chul-Kyoo Kim; John Ingram; Zehadul Karim</i></p>	<p>Paper B [42-212] Dairy 1</p> <p>Dairying has emerged in New Zealand over the last three decades as a profoundly important assemblage of relations transforming environments, landscapes, communities, labour relations, trade policy, and financial and material flows. Papers in this session will examine the AFRN’s past engagements with dairying, work to understand contemporary dairy relations, as well as outline future lines of inquiry. <i>Matt Henry; Bruce Muirhead; Ismael Tall; G.Winder/Nick Lewis</i></p>	<p>Paper C [42-115] Food waste</p> <p>Food waste has been described as “Australia’s shameful \$10bn habit” (The Land, 2017) with food waste globally estimated at between 30-50% of total production. Food waste offers a lens through which to view a range of issues both within the global food system and beyond. This session will develop insights into food waste in tandem with other social, economic, political and environmental issues. <i>Natalia Adan; Rudolf Messner; Grace O’Connor; Carol Richards; Kim Schumacher</i></p>
12.30-1.30	Lunch		
1.30-3.30 extended	<p>Paper D [42-216] Identities in agri-food: Mixed, multiple, mutated?</p> <p>Over the previous three decades, the concept of identities has played a significant role in understanding the role of farmers/producers/ growers in agri-food systems. Key themes include class, farming styles, ‘habitus’, subjectivities, assemblages and meaning-making. This session addresses the utility, relevance and centrality of identity to our imaginings of better food futures. <i>Chris Rosin, Carolyn Morris; Dikdik Permadi, Angga Dwiartama; Samantha Paredes, Sean Pascoe, Lousia Coglan, Carol Richards; Tim Roesler; Emma Sharp</i></p>	<p>Paper E [42-212] Dairy 2</p> <p>Despite the transformative effects of dairying, it has received relatively little attention from agrifood scholars. This session continues the theme of developing an understanding of how agrifood scholarship has approached dairying as a matter of concern, and the lines of inquiry that might frame an ongoing, future attention to dairying. <i>Katherine Legun, James Hale, Hugh Campbell; Rudi Kresna; Christina Berneheim; Cassie McTavish; Richard Le Heron; Claire McCorkindale</i></p>	<p>Paper F [42-115] Organics as game changer?</p> <p>This session discusses organics as a creator of social change. What are the impacts and in what contexts (past, present and future)? What are the social change lessons of organic practices? How relevant is the message that best-practice organics is more than just a means of food production with impacts on the environment and human health? The event will conclude with special celebration of ‘Fifty Years of Organic Knowledge: The Soil Association of South Australia’. <i>Rebecca Paxton; John Paull; Mentari Alwasilah, Angga Dwiartama; Sarah Ann Wheeler; Sandra Grimes; Tim Marshall</i></p>
3.30-4	Afternoon tea		
4-5	<p>Panel: Whatever happened to subsumption? A history of the AFRN [42-216]</p> <p>2018 marks the 25th year anniversary of the AFRN. What ‘key moments’ from AFRN’s history have been influential in shaping the trajectory of agri-food debates in Australia, New Zealand and globally? What might we have missed? What do these insights tell us about the future of agri-food studies?</p> <p><i>Neil Argent (UNE), Hugh Campbell (Otago), Jane Dixon (ANU); Richard Le Heron (Auckland), Stewart Lockie (JCU), Kristen Lyons (UQ) and Carolyn Morris (Massey)</i></p>		

8.30 - 9	Registration + coffee		
9-9.15	Brief history of the AFRN [42-216]		
9.15-10.30	<p>Keynote address: <i>Shalmali Guttal, Focus on the Global South</i> [42-216]</p> <p>Local food systems as firewalls against extractivism and exploitation</p> <p>South and Southeast Asia are home to a diversity of local foods and food systems that are crucial to ensuring the right to adequate food and nutrition. These food systems are products of generations of local knowledge, innovation, experimentation, cooperation and adaptation. They have sustained and shaped local communities and economies through crises, disasters and conflicts, and have often been the only “safety net” for people in troubled times. Large-scale investment, especially in industrial agriculture, physical infrastructure and resource development, pose grave threats to local food systems with potentially irreversible consequences. Investment driven economic development is promoted at any/all costs by extreme authoritarian governments who espouse market capitalism, narrow nationalism and nativism in the same breath. In this era of runaway climate change, financialisation, rapidly expanding digital economy and political upheaval, local food systems offer spaces for building resistance to capitalism, free markets and populist authoritarianism as well as resilience to climate, financial and economic crises.</p>		
10.30-11	Morning tea		
11-12.30	<p>Paper A [42-216]</p> <p>Wither rural livelihoods?</p> <p>Understanding processes of agrarian change and rural livelihood patterns in the ‘Global South’ has been a strong focus of AFRN scholars over the last 25 years. Contemporary challenges such as climate change, precarity of work, new geographies of production and global value chains raise important questions about the utility of the agrarian transition framework for thinking through issues of rural poverty, food and nutrition security and agrarian change.</p> <p><i>Bill Pritchard, Mark Vicol, Anu Rammohan; Aye Sandar Phyto, Soe Soe Htway, Clemens Grunbuhel; Dominic Smith, Rob Cramb; Caroline Hambloch</i></p>	<p>Paper B [42-212]</p> <p>Agri-food experimentation 1 – rethinking food futures</p> <p>Does it feel like our ability to image the “alternative” has become disappointingly stale over the years? Organic agriculture. Farmers’ markets. CSAs. Local food. Are there other ways to practice experimentation within and across foodscapes, of making the unthought of thinkable and the undoable routine? What does it mean to engender what Carolan (2018) recently defined as more-than-active food citizens?</p> <p><i>Denise Nogueira; Hae-Jin Lee, Chul-Kyoo Kim; Maria del Milagro Nunez-Solis, Christopher Rosin, Nazmun Ratna; Alana Mann; Ruth Beilin</i></p>	<p>Paper C [42-115]</p> <p>Finance revisited 1 – Exploring old and new intersections between finance and agri-food</p> <p>What kind of agrifood futures do actors envision when they seek to align food and finance? This session includes papers that: historicise the agri-finance nexus; consider the drivers of actors using, facilitating and forging links between finance and agri-food on a daily basis; consider the ‘work’, practices, logics and devices, framing, mediation, or value creation being used; and engage the role of the ‘imaginative’ at the food-finance nexus. <i>Hilde Bjørkhaug, Jostein Brobakk; Geoffrey Lawrence, Kiah Smith; Zannie Langford; Minqi Chai; Michaela Böhme</i></p>
12.30-1.30	Lunch; Short film: <i>Alec Thornton, UNSW ‘White rice and white elephants in post-conflict Sierra Leone’</i> [42-216]		
1.30-3.00	<p>Paper D [42-216]</p> <p>Rural livelihoods 2</p> <p><i>Jeff Neilson; Peter Dannenberg; James Boafo; Cynthia Gharios</i></p>	<p>Paper E [42-212]</p> <p>Agri-food experimentation 2 - Digitisation</p> <p><i>Susan Caves; Angga Dwiartama; Joseph Macharia; Simon Fielke, Bruce Taylor, Emma Jakku, Aysha Fleming</i></p>	<p>Paper F [42-115]</p> <p>Finance revisited 2</p> <p><i>Sarah Ruth Sippel; Michael Mouat; Pia Piroschka Otte, Natalia Maehle, Boukje Huijben; David Burch, Sam Burch</i></p>
3.00-3.30	Afternoon tea		
3.30-5.00	<p>Paper 7 [42-216]</p> <p>Rural livelihoods 3</p> <p><i>Mark Vicol; John McCarthy; Chetan Choithani; Elen Welch; Gianna Bonis-Profumo</i></p>	<p>Paper 8 [42-212]</p> <p>Agri-food experimentation 3</p> <p><i>Michael Carolan; Jesse Hsu; Joanna Fountain, Nicholas Craddock-Henry; Nick Lewis, Richard Le Heron, K. Davis, K. Hikoroa, E. Le Heron</i></p>	<p>Paper 9 [42-115]</p> <p>Agri-food law: Filling the gap</p> <p>This session will provide an overview of contributions of the emerging body of work on “agri-food law scholarship” and identify points of differentiation with other disciplines.</p> <p><i>Jane Dixon; Chris Arup; Jo Paul-Taylor; Hope Johnson</i></p>

WEDNESDAY 5 DECEMBER, 2018

8.30-9.15	Tea + coffee		
9.15 -10.30	<p>Panel: The future for agri-food research, policy and activism in the Anthropocene [42-216]</p> <p>The Anthropocene – a new geological epoch of climate change and social/environmental inequalities radically shaped by human actions – has become a compelling narrative of our shared responsibility for global environmental change. It also opens up discussion about the types of human action needed to respond to complex <i>social, environmental and political-economic</i> challenges affecting the future of food. In particular, we should be concerned about a food system that fails to address climate change, hunger, poverty, health and social inequality. What will make the work of the AFRN continue to be relevant in future years? What role can the AFRN play in building new dialogues around agri-food futures? We start from the assumption that humanity has <i>reached a ‘tipping point’ in terms of our traditional methods of knowledge acquisition</i>, prompting us to ask new questions and form innovative alliances.</p> <p><i>Emma Jakku (CSIRO), Katherine Legun (Otago U.), Alana Mann (U. Sydney), Michelle Maloney (Australian Earth Laws Alliance), Amy MacMahon (Ipswich City Council), Carol Richards (QUT)</i></p>		
10.30-11	Morning tea		
11-12.30	<p>Paper A [42-216] Agri-food and the SDGs 1 – localising the SDGs</p> <p>The 2030 Agenda for Sustainable Development includes 17 Sustainable Development Goals (SDGs) and 169 associated targets. Specific to improving food systems are SDG2 'Zero Hunger' and SDG12 'Sustainable production and consumption', although most SDGs relate connect with food system transformation. This session engages with the socio-political challenges associated with agri-food and the SDGs, including intersections and trade-offs between goals; winners and losers; and localising the SDGs.</p> <p><i>Stewart Lockie; Luke Craven; Kiah Smith; Bill Bellotti</i></p>	<p>Paper B [42-212] Postcolonial food sovereignty</p> <p>The history of agriculture is enmeshed with the legacy of violence and dispossession in Australia and other settler-colonial societies, at the expense of Indigenous lands and livelihoods. Considering the role of agriculture in denying Indigenous sovereignty, this session asks whether food sovereignty is an appropriate or useful concept to be used in Australia and other settler-colonial societies. This session explores whether a postcolonial conception and practice of food sovereignty is possible.</p> <p><i>Sam Burch; Chris Mayes; Kristen Lyons, Naomi Smith; Kimberley Reis;</i></p>	<p>Paper C [42-115] Sociomateriality, power, justice</p> <p>Sociomateriality emphasizes the hybridity and heterogenous entities which are interwoven into the fabric of everyday action. It blurs the distinction between subjects and objects, highlighting the constant assembling process between different actors in efforts to perform action. How does sociomateriality help us examine the causes of exploitive labour practices, food insecurity, and toxic environments across socio-cultural categories (e.g. race, class, gender)? Can it be used to address questions of power or injustice, while working toward more just and fair futures?</p> <p><i>Joerg Gertel; Lisa Arnaud; Hugh Campbell; Fanqi Lui; Abbi Virens;</i></p>
12.30-1.45	Lunch + AFRN Annual General Meeting [42-216]		
1.45- 3.00	<p>Paper D [42-216] SDGs 2</p> <p><i>Maria Stephanie, Glen Fox, Michael Gidley, Purnima Gunness; Jacqueline Williams; Mochammed Fikry Pratam, Angga Dwiartama</i></p>	<p>Paper E [42-212] Food system teaching and learning: Appetite for an Australian university consortium <i>Discussion with Bill Bellotti (UQ GCI) and John Ingram (Oxford)</i></p>	<p>Paper F [42-115] The future for Agri-food – report back from the AFRN postgraduate workshop <i>Facilitated by Zannie Langford and James Boafu (UQ)</i></p>
3 – 3.30	Afternoon tea		
3.30 - 5.00	Conclusion; Awarding of the David Burch prize; Agri-bagri awards [42-216]		
6.30-8.30	<p>Public Lecture: <i>Prof Phil McMichael, Shalmali Guttal and Dr Luke Craven</i> [Griffith University South Bank] Food, rights and system change?</p> <p>With global hunger approaching 1 billion, governments' Right to Food obligations are falling short. At a time when 'food security' means the right to purchase food, we address the limits of free trade in 'feeding the world,' the proliferation of retailer-led global value chains feeding affluent consumers, 'flex cropping' with feed and fuel crops displacing food crops, and discrimination against small-scale producers of 70% of the world's food. And we explore impacts on farming cultures and ecosystems of land markets driven by financialisation, authoritarian states and violent local forces, as well as alternatives to 'agriculture without farmers,' movements for food sovereignty, and limits and possibilities of a Charter for Peasant and Indigenous Peoples' Rights.</p>		

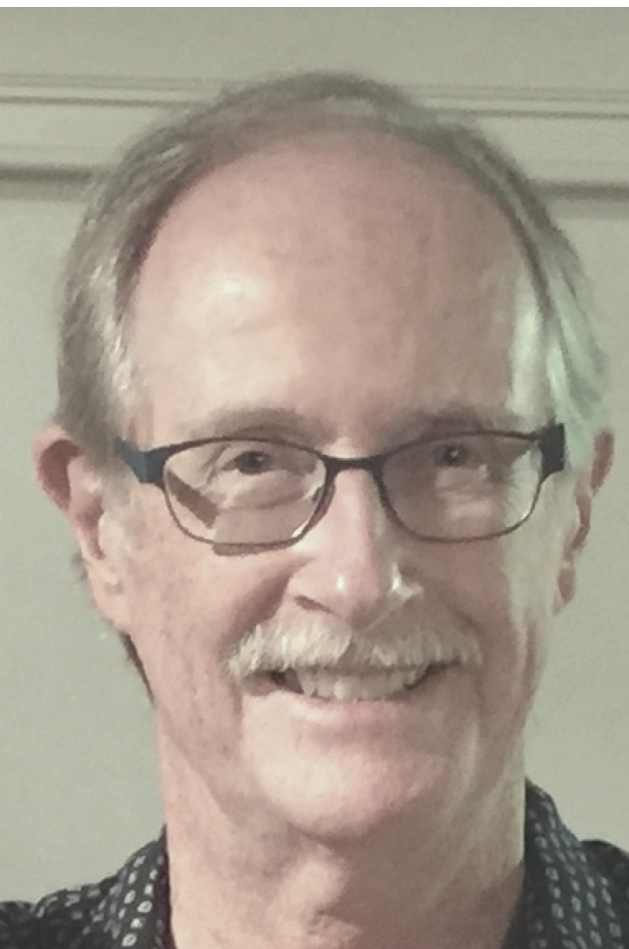
KEYNOTE SPEAKERS

Phil McMichael, Professor of Development, Cornell University

Professor Phil McMichael is one of the world's foremost political economy scholars of agrarian change, globalization, capitalism and food movements, and has been a long time AFRN member and participant. Food regime analysis has been one of the most influential and highly debated perspectives to inform a world-historical approach to agrifood studies since its inception by Friedmann and McMichael in 1989.

In his keynote address, Phil will reflect on the historical and contemporary relevance of the food regimes concept and consider its continued application. We are very pleased to have Phil join us again for the AFRN's 25th anniversary.

Food Regime Analysis: Looking Back to Look Forward



The world is at a dangerous threshold, laying bare its origins in ecological amnesia, empire and white supremacy. Looking forward feels increasingly like looking back. Food regime analysis might well address its settler-colonial anchoring and the socio-ecological violence of capitalist modernity. Food-cheapening strategies and power accumulation bring exploitation, epistemicide, malnutrition and inequalities. States organise 'markets,' and vice-versa. Global land markets reshape social geographies, stimulating authoritarian, and emancipatory, politics. Agro-exporting developmentalism degrades ecosystems, and fuels China's import complex. Value chains serving class diets compromise territorial sovereignties. Digitalisation deepens 'agriculture without farmers,' and dematerializes food. Can food regime analysis interpret *and* change this world?

KEYNOTE SPEAKERS

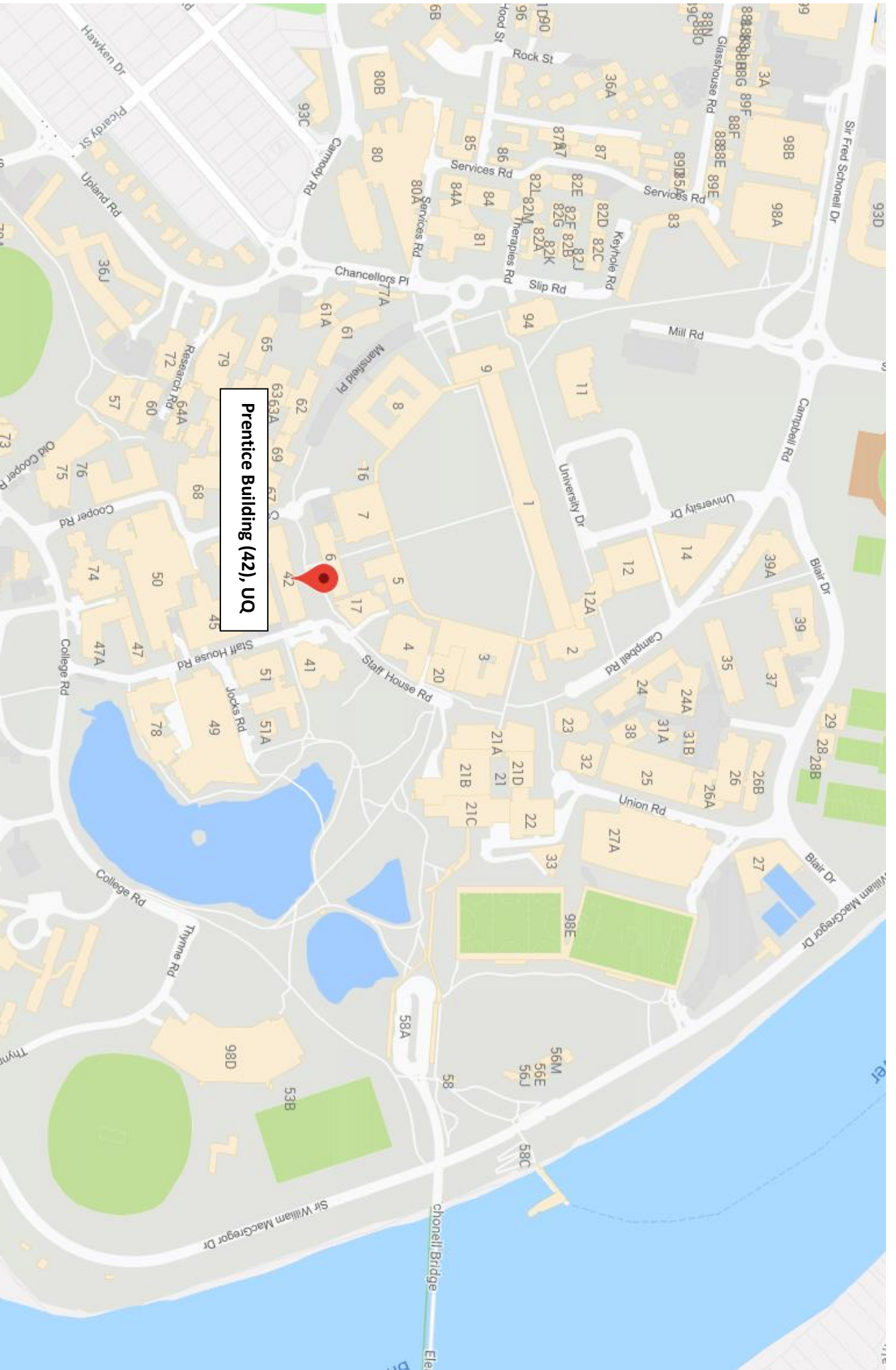


Shalmali Guttal, Executive Director, Focus on the Global South

Focus on the Global South is an Asian research, advocacy and networking organisation with offices in Bangkok, New Delhi and Manilla. Focus has been the driving force behind the concept of deglobalisation as a systemic challenge and alternative to neoliberalism and global capitalism. Shalmali has worked with Focus since 1997, and has researched and written on economic development, trade and investment, and ecological and social justice issues in Asia, with an emphasis on the commons and people's and women's rights to resources. In her keynote address, Shalmali will present her recent work in responding to what she sees to be the most pressing challenges to embedding human rights into food system governance. We are excited to have Shalmali join us at the AFRN for the first time.

Local food systems as firewalls against extractivism and exploitation

South and Southeast Asia are home to a diversity of local foods and food systems that are crucial to ensuring the right to adequate food and nutrition. These food systems are products of generations of local knowledge, innovation, experimentation, cooperation and adaptation. They have sustained and shaped local communities and economies through crises, disasters and conflicts, and have often been the only “safety net” for people in troubled times. Large-scale investment in industrial agriculture, physical infrastructure and resource development, pose grave threats to local food systems with potentially irreversible consequences. Investment-driven economic development is promoted at any/all costs by extreme authoritarian governments. In this era of runaway climate change, financialization, rapidly expanding digital economy and political upheaval, local food systems offer spaces for building resistance to capitalism, free markets and populist authoritarianism as well as resilience to climate, financial and economic crises.





Abstracts

Authors

Contact details

MONDAY PAPER SESSION A: Emerging Issues in agri-food studies

25th/40th: Revisiting Harriet Friedmann's notion of simple commodity production and wage labour (and what does this tell us about family-labour farming and food regimes)

Professor Bruce Curtis
School of Social Sciences
University of Waikato
New Zealand

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A significant portion of the intellectual rigour and research outputs of the Agri-Food Research Network is informed by Harriet Friedmann's seminal articles from 1978: 'Household production and the national economy: Concepts for the analysis of Agrarian formations' and 'World Market, State, and Family Farm: Social Bases of Household Production in the Era of Wage Labor'. This presentation will explore how Friedmann used Marxist concepts, in light of a reading of Capital (volume 1) and, in particular, the notion of capitalism as an open system. While the circulation of capital is specified as $M - C \dots P \dots C' - M'$, this is understood as constituting a mature capitalism; David Harvey problematizes such a view. His notion of accumulation by dispossession is a powerful but imprecise claim which invites conceptual refinement. Accumulation by dispossession highlights that the mature capitalism Marx analysed, in terms of the production of surplus value and its distribution via profits, rents and interest is an abstraction and not a concrete reality. This isn't a new insight, nor does it conflict with the intention of Marx as author, nor Engels as editor of Capital (Harvey, 2017). It is argued that capitalism is an open system, capitalist social relations are embedded in non-capitalist ones. Indeed, capitalism is sustained by an infalling of value, and it is proposed that primitive accumulation is neither a historical nor completed process. Ernest Mandel's notions of unequal exchange and especially his asymmetrical model of long waves (combining economic and extra-economic moments) are a start-point for analysis, and also informed Harvey. The over-arching ambition is / remains to conceptualise social realms that Marx excluded from analysis, and Friedmann is pivotal to this.

From out of the margins: Understanding the (relative) resilience of staples dependent rural economies and communities in Australia

Professor Neil Argent
School of Behavioural, Cognitive and Social Sciences
University of New England
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Australia

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Understanding the impacts of dramatic policy, market and environmental change on rural producers and the broader economic, social and cultural communities that they live in remains an important if somewhat neglected field of social scientific enquiry. The potential dangers and boons of natural resource and export market dependence for rural regions are encapsulated in the near-forgotten staples theory, while regions' capacities to rebound from the almost inevitable shocks that attach to their established development patterns can arguably be apprehended via key concepts central to evolutionary economic geography (EEG). Combining insights from Innis' staples theory and EEG into a single heuristic framework, this presentation analyses the long-run social, economic and demographic trajectories of one Australian rural case study area - Kangaroo Island (South Australia) – through crisis and beyond. In particular, I explore the extent to which the Island has been able to re-define its economic and social path (and place) dependence and find some form of resilience to the major 'shocks' that frequently accompany natural resource dependence and reliance on export markets.

Twelve years of agri-food studies in South Korea and beyond

Professor Chul-Kyoo Kim
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This paper attempts to historically examine the rise and expansion of agri-food research in South Korea (Korea hereafter) over the past 12 years or so. While agri-food study is a relatively new field in Korea, it has grown significantly in recently by interacting with Australian, American, and Japanese scholars. Agri-food research in Korea has established itself quite well in the policy arena as well. Several agri-food researchers have played an important role in establishing free lunch program for students, launching local food shops, and institutionalizing food citizens' committees in Seoul. I will assess the fruits and limits of current situation in Korea by periodizing the history of agri-food studies. During the 1st stage of Korean agri-food research (2005 – 2009), local food discourse in the US and Japan were introduced and studied by a handful of rural sociologists and economists. In 2005, Local Food Research group, which consisted of sociologists, economist, anthropologist, and geographer was formed. These scholars participated in the World Congress of Rural Sociology in Ilsan, Korea in 2008, where they had direct encounters with international experts including Geoff Lawrence, Carol Richards, Mima Nishiyam, and Shuji Hisano. Incidentally, one hundred day candlelight vigil against

liberalisation of US beef took place in the same year, which led the academia and the civil society to realize the importance of food as a socio-political issue. This also led several social scientists to launch a research project titled Food Crisis and Local Food Movement which was the beginning of the 2nd stage (2009 – 2015). It was during this period that Chul-Kyoo Kim, Haejin Lee, Heung-Joo Kim, Byeong-Seon Yoon collectively carried out research on local food, sustainability, and alternative food systems. In 2011, they were able to receive a research fund for a project titled Food and Sustainability under the program of Social Science Korea funded by the Korean Ministry of Education. This project provided fairly abundant fund for agri-food studies and the researchers carried out various empirical researches on community supported agriculture, food welfare, food sovereignty, and food regimes. In addition, the research team expanded to collaborate with international scholars such as Geoff Lawrence, Philip McMichael, and Michael Carolan. The 3rd stage (2016 -) started with the launching of a big research project titled Global Environmental Change and the Great Transformation of Food System. This project, while continuing research on food and agriculture, became more interdisciplinary by adding researchers in the fields of geography and business administration. While agri-food research in Korea has been quite dynamic, it still faces challenges for the future. For example, we will have to see whether interdisciplinary researches can bear fruitful results. More collaborative researches among the international scholars are also needed to enrich both Korean and Australasian agri-food studies.

Enhancing food system resilience

Dr John Ingram

Food Systems Programme Leader

Environmental Change Institute

University of Oxford

United Kingdom

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One of the great human achievements over the last half century is that advances in food production have largely kept pace with demand on a global basis. Today, around 6 billion people are not hungry, up from about 2 billion 50 years ago. But we should not be complacent. Despite these successes, nearly 1 billion people are still hungry, and at least 3 billion more lack sufficient nutrients. Paradoxically, there are also already more than 2.5 billion people overweight or obese; different, overlapping forms of malnutrition are the 'new normal'. We also know that current food system activities will continue to significantly impact natural resources, and that environmental and socioeconomic shocks and stresses are increasing. How then can food system resilience be enhanced to (i) ensure sufficient, nutritious food for a growing, increasingly wealthy population while (ii) mitigating poor health and environmental outcomes, and (iii) also enhancing vibrant enterprise and livelihoods? Based on a brief introduction to food system challenges, the presentation will consider plausible future food demand and the consequences for health, society and environment. It will then consider the nature of shocks and stresses, concluding with considerations relating to enhancing food system resilience.

Insurmountable population growth and its impact on agro-food resources: An anthropological exploration suggesting future protection

Professor A. H. M. Zehadul Karim

Dept of Anthropology

Jagannath University

Dhaka

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Demographers and environmentalists have genuinely expressed their major concern, saying that the aggregate demands on natural resources due to expanding population are forcing this planet to become most unsustainable in terms of agro-food resources and environmental management contexts. In the last 50 years, the world's population has doubled reaching an alarming 7.8 billion; of which, at least 80% of this total come from the developing nations of the Third World, especially from Asia and African continents. Under this situation, deemphasizing the paradoxical debates of the orthodox Cornucopians and the pessimist neo-Malthusianists, we should be more pragmatic in saying that irrespective of any controversy, the population of the planet should immediately be curbed to such an optimum level where it could be sustained using renewable resources alone; while there might be so-called 'development', environmental pollution and stress on the people will never be eliminated. In exemplifying this situation, the paper incorporates a few cross-cultural ethnographic evidence based on anthropological documentation from many non-industrial societies, proving that people in the past who were fewer in number had few problems in obtaining their food, there was no scarcity; but today, it has become unbearable by generating multifarious socio-environmental problems and food crisis due to radical growth in population.

MONDAY PAPER SESSION B: Dairy 1

Dairy? The absent presence of the dairy industry in New Zealand social science

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Dairying has emerged in New Zealand over the last three decades as a profoundly important assemblage of relations transforming environments, landscapes, communities, labour relations, trade policy, and financial and material flows inter alia. Yet despite these transformative effects dairying has received relatively little attention from agrifood scholars. This paper provides a historical overview of the extant dairy literature in New Zealand from across the social sciences and cognate disciplines. It identifies key themes in that literature, reflects on why the patterns of writing have occurred, and what the implications are for understanding the present and future of the dairy industry.

An uncertain future? Dairy policy in Australia and New Zealand

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Australia (2001) and New Zealand (later 1980s) fundamentally changed their dairy policies, opting for what has loosely been called deregulation, although that is debatable in the case of the latter. Australia and NZ have also signed FTAs with China and were active participants in the TPP negotiation, until those were ended by the Trump Administration. They have now pursued the same with the Comprehensive and Progressive TPP, in pursuit of what might be termed a greater dairy future. My paper will investigate the effects of the Australian and NZ dairy models and what I suggest will be the long-term consequences facing the two countries in their dairy industries. Included here will be an examination of how each model addresses concepts like food security and food sovereignty, as well as social license. Critically, have the FTAs signed by Australia (too soon to tell?) and NZ been beneficial over the longer term to the dairy sector? What has been the rhetoric surrounding each? What might the future hold in terms of dairy export diversification? The paper will be based on about 50 interviews with Australian and NZ dairy farmers/dairy stakeholders.

Producing milk and protecting water: farmers' perspectives on agri-environmental policies in Southland, New Zealand

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In the past years, dairy farming in New Zealand has become a powerful industry that changed the environmental, social, cultural and economic realities in the country. In parallel, growing concerns regarding water quality emerged; numerous voices criticised the dairy intensification and hence asked for a stronger handling of environmental issues by the qualified authorities. Today, agri-environmental governance in the New Zealand dairy sector operates as a decentralised set of public, private and semi-private institutions aiming to mitigate the effects of an intensive food production. At the public level, in the absence of a central agricultural policy, local authorities, namely regional councils, execute natural resources management, under the Resource Management Act 1991 framework.

This paper explores the creation and development of two regional policies – the first one based on a rules-enforcement approach and the second one driven by non-regulatory principle – and focuses on the implementation of such policies by the defined target groups. Thus, it gives voice to those mostly impacted by the new rules: dairy farmers, who are at the centre of the environmental debate and are said to be reluctant to engage with new environmental practices. By using data gathered through interviews with farmers and key stakeholders in the region of Southland from an ongoing PhD research, this paper aims to analyse the transformative potential of regional environmental policies by assessing and deconstructing farmers' resistance to those schemes.

Transforming dairy's global value chain – Really?

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Formally completed in January 2018, 'Transforming the Global Value Chain' (TGVC) was a seven year, \$85 million programme of research. Framed as a Primary Growth Partnership and funded by the New Zealand government on a dollar for dollar basis, TGVC was led by Fonterra and Dairy NZ. Against the background of a deteriorating record on sustainability and increasingly fraught efforts to sustain leadership in the trade of dairy products, we ask whether the programme has provided any new thinking about how to build capability, sustainability and the design of food economies for healthy futures (three of its key aims). The programme claimed to be designed to anchor the position of NZ Dairy and the NZ economy. We examine TGVC as an exercise in economy making, but ask what economy is being made. We ask what national futures were anchored and to what practices, ideas and interests? Did the programme imagine any different national futures or any practices that would disturb business as usual? In a European context where the concept of sustainability continues to grip the imaginations of policy makers and political constituencies, we argue that TGVC misses the opportunity to explore the generative potential of the concept in a context where economy-environment-community relations so desperately require fundamental reworking.

MONDAY PAPER SESSION C: Food Waste

Food waste governance in small restaurants

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Approximately one third of food that is produced globally is wasted causing economic, social and environmental threats. Restaurants are considered one of the major sources of food waste, yet are under-researched in food systems analyses. Research analysing food systems and food waste have tended to be orientated toward supermarkets and consumers, leaving a knowledge gap in relation to small-scale enterprises such as restaurants. For instance, writing on the third food regime, also referred to as the corporate-environmental food regime, has focussed on decentralized governance and self-regulated practices by major corporations, in response to public environmental concerns. However, the discussion of food waste governance within the scope of small business (largely represented by the private sector in Australia) has been largely absent. Despite this, there have been some industry-driven initiatives geared toward the 'greening' of the restaurant sector. This paper seeks to evaluate the analytical power (or otherwise) of current food systems/food waste theories in addressing food waste governance across Australia's restaurant sector.

Food system sustainability and the matter of food waste

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Research in the emerging field of food waste prevention has predominantly focused on the quantification and empirical investigation of food waste. However, only limited attention has been given to exploring food waste from a theoretical perspective, specifically the theoretical significance of accelerated 'food waste creation' for food systems. Food Systems broadly define a set of complex arrangements relating to the production and consumption of food. Food waste prevention initiatives have been described as 'oppositional' or 'counter' activities due to the "Prevention Paradox". This paradox describes a fundamental contradiction of food waste prevention efforts with accepted waste management concepts and practices under the prevailing economic growth paradigm. By synthesising literatures on food systems and relevant theoretical positions on food waste and prevention this conceptual work-in-progress research explores the core question of how and to what extent the phenomenon of food waste has a broader theoretical significance beyond being a merely incidental side-effect of food systems. Drawing on 'Food Regime Theory' and the 'Theory of Socio-technical Transitions to Sustainability' this paper aims to make a theoretical contribution to understanding food waste and its prevention.

Challenges and opportunities for food waste management in the hospitality industry in Queensland

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The hospitality industry, ranging from coffee carts to restaurants franchises, has become a significant part of Australian lifestyle and culture. The fast-paced and competitive nature of the industry makes it particularly susceptible to wasteful behaviour and poor waste management practices. To date, food waste in this industry has evaded both research and policy intervention. In Queensland, the initiatives and programs that exist to encourage, educate and facilitate more responsible food waste management practices have mainly targeted households. While positive, these activities are voluntary and heavily dependent upon the waste generator's willingness to engage and importantly, focuses only on one segment of the supply chain - the 'consumer'. In response, the adoption of circular economy principles, which interconnect food waste management and food systems, can provide direct benefit to the hospitality industry. To investigate food waste in the hospitality industry, a two-pronged empirical research methodological approach was administered involving hospitality businesses and relevant food waste management stakeholders. A quantitative willingness to pay survey was utilized which aimed to uncover the attitudes and perceived barriers to the adoption of sustainable food waste management practices in the hospitality industry. Furthermore, a qualitative stakeholder analysis was also undertaken. The findings revealed that despite the absence of strong government intervention, there exists a microcosm of informal and decentralized sustainable food waste management practices in the hospitality industry in Brisbane City. Given the right support and intervention, these practices hold great potential.

Reinstating the right to food: Decoupling food waste and food relief

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Estimates that between 30-50% of edible food is wasted are often juxtaposed with concerns about high levels of food insecurity. This points to a failure of distributive justice not only in the global food system, but the global economic system, given that poverty is the key mediator of hunger. Charitable agencies in developed countries such as Canada, the US, the UK and Australia are reporting growing demands for food relief as social inequalities widen. Through these charitable mechanisms, food that falls outside of the market (due to overproduction, cosmetic appearance, etc) is linked to food insecure people who also exist on the margins of the formal economy. Described as 'second class food for second class people', the food waste/food relief nexus requires further critique. Taking a moral economy approach, it is argued that the decoupling of social and economic life under modern, (neo)liberal forms of governance have produced unethical impacts. In this vacuum, rights to food have been eroded, but artificially reinstated through charitable donations of 'excess' food. It is argued that a separation of food waste and food relief over the longer term is necessary to reinstate rights to food and freedom from poverty, and to address the root causes of food waste.

By-Products and waste from food production: The significance of manure in the German meat production network

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The global sourcing and production of food has received broad attention in geographical research, especially their global chains and networks. Neglected parts of food production are the by-products and waste from agriculture and food production processes. They frequently resemble burdens for the environment or population and are often not included into the pricing of the commodity, therefore contributing to unequal developments. In this paper I use the case of liquid and solid manure and digestate from meat and biogas production in the Northwest of Germany. The region is the center of intensive livestock farming in Germany, connected to the growth of an agribusiness cluster which is integrated into a transnational network of animal producers, feedstuff producers, meat processors and other actors. The subsidies for renewable energies added a successful development of biogas production. As a result the production of manure and digestate regionally exceeds the available agrarian land for an ecologically justifiable deployment, endangering the groundwater. The paper discusses how the production network, strongly embedded into the region's economy, society and politics deals with and tries to govern this mayor threat to its business model, giving insights into the central role of by-products and production waste within (global) agri-food networks.

MONDAY PAPER SESSION D: Identities in agri-food: Mixed, multiple, mutated?

More than a descriptor: Identity as social theoretical device

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The concept of identity is a consistent feature in agri-food research that is used to frame explanation of farmer/producer behaviour and response. Most commonly, identity will refer to a shared understanding of interest and/or purpose that contributes to a typical or generally uniform response or behaviour in relation to a desirable outcome. Thus, identity is characterised as an essential factor in the adoption of innovation, the construction of the visual landscape or the implementation of environmental practice. Despite its frequent application as an explanatory variable, identity is less commonly conceptualised as more than a real and existing characteristic of a farming population to be identified through social science research and insight or ethnographic process. Once elaborated, it is usually ascribed uni-directional implications for social dynamics and the practice of land or farm management. In this presentation we explore the relative weakness of theory in the uses of identity in agri-food research – arguing for more concerted analysis of the manner in which identities emerge and develop, their role in the social dynamics of economies and politics and the extent to which they are complicit with emancipatory agency.

Re-embedding meanings on geographical indications: A case from Gayo coffee, Indonesia.

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Since the era of Dutch colonialism, coffee has been assimilated into many different community cultures in the rural Indonesia. Among the prominent cases is the Arabica coffee of the Gayo highlands in the Aceh province, whereby in the different stages of Gayo coffee global market integration, meanings and identities of this coffee were embedded to the local Gayo community. This is later captured by attempts to protect Gayo coffee into the legal construct of Geographical Indications (GIs). This study investigates Gayo Arabica coffee in its GI-construct and the way this influences the creation and re-creation of social values and identities within the farmers' and surrounding communities in the Gayo highlands. Using a case study method (Yin, 2003), this paper describes the changes of meanings and identities of the Gayo coffee through a Bourdieusian perspective. This paper also discusses some of the power relations and social resistance resulting from the institutionalisation of Gayo coffee GI and their implications to re-embedding meanings to Gayo coffee.

The portrayal of local fisheries and seafood in coastal tourism

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Local food has the potential to play a key role in attracting tourists to certain destinations, and this has been recognised with various food and wine campaigns which promote the experience of tasting the region. This has led to the development of many local food tourism activities such as food festivals, food tours and regional focussed culinary dining experiences. While strong tourism campaigns have been built for agriculturally produced food, the promotion of local seafood production as a tourism activity is often less pronounced. Using content analysis, this study examines publicly available information (websites, brochures and tourism strategies) to evaluate how local fisheries and seafood are portrayed as part of coastal Queensland's tourism. This study provides insight into how the profile of local fisheries can be strengthened by tourism campaigns and identifies how seafood/fisheries tourism can be improved to better connect with potential tourists.

Integrated food and non-food systems in Europe

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The project SustainFARM researches innovative and sustainable intensification of integrated food and non-food systems to develop climate-resilient agro-ecosystems in Europe. The main objective of SustainFARM is to enhance agronomic, environmental and economic performance of traditional and innovative integrated food and non-food production systems by optimizing productivity and valorizing woody components, residual wastes and co-products. Case studies of this project include combined food and energy production systems, multipurpose olive tree production systems, silvopastoral systems, silvoarable systems and cereal-based integrated food and bioenergy production systems. In this talk, the main findings of the project regarding the valorisation of the woody components, residual waste and co-products will be presented. SustainFARM is funded through the FACCE SURPLUS ERA-NET Co-fund formed in collaboration between the European Commission and a partnership of 15 countries in the frame of the Joint Programming Initiative on Agriculture, Food Security and Climate Change (FACCE-JPI).

Affective food initiatives - learning the practice and ethics of food politics

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In a food-era that is in critical need of change, there is transformative potential in the way we construct knowledge around, and perform food practices. My interest is in bringing accounts of political economy into conversation with approaches that focus on ethics, pedagogy and new forms of attunement. The junctions of ethical systems, education, and practice are underexplored in food scholarship, and pedagogy of food ethics is a potential location of new political imaginations to inform and re-energise our thinking and practice of food. This paper synthesises the work of nine papers that contribute to the forthcoming special issue *Eating in the Anthropocene: Learning the practice and ethics of food politics*, in Policy Futures in Education. It explores potential sites of change, at points where: food ethics is learned, taught and practiced differently; food practice is learned and taught with a different ethics; food pedagogy is practiced and ethicised differently, and processes in between. Its contemporary cases of food economy, religion, governance, ethnicity, animal and environmental ethics, tell stories of different ways of knowing food, through different practices of teaching and learning about food. Practices that are affective.

MONDAY PAPER SESSION E: Dairy 2

Accounting for account-abilities: Governing the 'social license to farm' in Canterbury, New Zealand, water networks

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Canterbury is one of New Zealand's most productive regions, if it has water. Taking advantage of this, dairy industry and farmers have come under fire for dirtying-up rivers through intensive practice. One response has been that farmers and industry need to regain their 'social license to farm'. However, just what does that mean exactly? Honing in on the process of accountability and legitimacy, this research examines how various actors navigate the social license in collaborative practice. It asks: How does accountability get done in the Canterbury water governance networks? And how might accountability processes be improved? Through fieldwork and theoretical development, we distinguish between four forms of accountability active in the network including directive, demonstrative, face-to-face, and participatory. These also reflect modes of legitimacy based on formal and informal legitimisation processes. We argue that accountability processes have tended to have individualizing rather than social effects, thereby limiting the 'license' negotiation process, to the detriment of the environment and less-powerful actors. This is made evident in the focus on numbers which obscures social contexts and stakeholders. Stakeholders remain fixed on effluent discharge numbers which can more easily be manipulated, thereby allowing practices to remain environmentally unsustainable. We suggest that if numbers are not viewed as the means rather than the ends, and if they are not the result of rigorous face-to-face and participatory processes, they will mostly fail to improve environmental and social conditions.

Community-based forest management and resilience of the smallholder dairy farming system (Case study of the integrated dairy-agroforestry system in Indonesia)

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Forage supplies of smallholder dairy farming system in Indonesia rely on cut-and-carry practices taken from the commons. The supply has been threatened by the scarcity of the commons which challenges the sustainability of smallholders in this country. Communities surrounding forest areas, including smallholder dairy farmers, have the opportunity to get the licences to utilize the forest land for foraging and growing grass underneath the protected forest trees. Owing to the Indonesian Forestry Laws No. 41 of 1999, local communities may obtain forest land licences by using social forestry schemes such as *kemitraan* (partnerships) and *Pengelolaan Hutan Bersama Masyarakat* (PHBM) (community-based forest management). The schemes, however, require the collective efforts of multiples actors of the community, institutions and authorities at different levels. This paper discloses the collective actions of multiple actors at acquiring forest licences and managing forestland phases, the critical social capital factors involved in the collective behaviours and the outcome of joint forest management for the smallholder dairy farmer community. Qualitative case studies guided by the Institutional Analysis and Development Framework were employed in two villages of Bandung Regency in West Java, Indonesia. Results show how the scarcity of forest land, the social relationship among actors, and institutional arrangements affect the obtaining of licences to forest land phase, collective behaviours of dairy farmers groups, dairy cooperatives, village forest community agencies and related forest-stakeholders, and the resulting collective outcome. On the other hand, at the managing-forest-land phase, collective behaviours are shaped by the boundary of forest land and community, as well as trust and reciprocity among actors and institutional arrangements. This paper also presents the benefits of the outcome of PHBM in increasing the resilience of smallholders community facing the dry season. Although grass productivity may decrease during the dry season, the diversity of vegetation and water supplies raises the community's resilience.

Fit for the future? How New Zealand dairy farmers adapt to a changing regulatory climate

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Capital gains has been a driver for the expansion and profitability of dairy farming in New Zealand. With the advent of stronger environmental regulation, falling land values, and the threat of a capital gains tax being implemented by government, dairy farmers evaluate strategies for adaptation. This presentation will discuss New Zealand dairy farmers' viewpoints, decision-making, and approaches in how they are adapting to a changing regulatory climate. Using a mixed-methods approach, dairy farmers were asked for their thoughts on the industry: What are the current challenges and opportunities? How can profitability be maintained on the farm as well as in the global market? Is the focus of the industry different from the focus of the farmers? First results indicate farmers' preference to replace the current paradigm of maximising production per hectare with maximising profit per hectare. Suggestions include adding value to dairy products by marketing these as for instance 'organic', 'grass-fed only' or 'ethically sound'. This change of mindset is suggested to have positive social effects on public perception as well as on the image of New Zealand products overseas. The reasons behind the change in focus are based on social and environmental values as well as economic reasoning.

Putting the dairy cow into dairy - a more-than-human approach to productionist dairy networks

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Despite the centrality of the dairy cow in dairy they are generally not included in the conversation of dairy at all. Dairy cows are inherently connected to the milk that spreads out through machinery and across geography, changing into milk powder, cheese, yoghurt, and an assortment of other dairy products as it goes. However, we seldom return to the dairy cow unless we are highlighting their excrement practices or slaughtering them by the masses. Even then, the dairy cow is often framed as a vehicle of destruction and the cause of scrambling re-assemblage for a human-centred narrative in dairy. How is it then that we engage with bovine beings in a more-than-human way to tell a narrative of dairy cows? After fieldwork and thematisation of this very topic, I offer three suggestions. Firstly, a change in approach to human-centred research methods. Secondly, the repositioning of human-self within the human-animal binary and finally, genuine empathetic engagement with dairy cows as generative agents within and beyond dairy networks.

Situated re-assemblings of contemporary dairying from Aotearoa New Zealand: Some first moves

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Aotearoa New Zealand's dairy complex is the object on increasing and intensifying social, political, economic, economic and ecological scrutiny from a wide range of intellectual, moral, ethical, analytical and political perspectives. The paper uses a situational-assemblage approach to schematise, locate and conceptualise trajectories (investment/institutions/knowledge) of place-based emergence in ANZ's contemporary dairy scene. The ensuing portrayal of hybridity, heterogeneity and experimentation as well as stabilised spheres of activity provides temporarily and spatially scaled knowledge which variously disturbs and fractures dairying as a one-ontology world. The paper focuses on four questions as a contribution to the session's theme. First why is there a reluctance (and in what ways, by whom, with what reach and consequences) in many dairy circles to recognise and legitimatise a multi-verse of metaphors, narratives and practices in different spheres of dairying? Second, what lines of engagement (and with what potential, for what sort of knowledge, in whose interests) might be considered possible/realistic across different dairy trajectories? Third, are there gradations of strategic leverage points in the connected/disconnected elements of the dairy complex that should be prioritised for investigation in future agri-food research? Finally, are there unconventional points of entry and lines of interrogation that might re-define the how contemporary dairying might be re-presented more fully, more adequately and with greater sensitivity to the implications of knowledge omissions and knowledge gaps?

Auditing for good: Dairying, environmental auditing and the 'good farmer' in the Amuri Environmental Collective

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Canterbury is one of New Zealand's main regions for dairy production and has undergone considerable intensification in recent times, with increased areas of irrigated land, stocking rates and inputs. Key concerns surrounding the intensification of farming practices include declining flow rates in water bodies and the deterioration of water quality. In the Hurunui-Waiapu region the Amuri Irrigation Company has registered a voluntary collective scheme, which became operative in December 2014. Each farm under the scheme is audited based on an individual Farm Environment Plan, which sets out specific targets that need to be met to be considered an environmentally sustainable operator. Individual audits are carried out by AIC and grades from A to D are awarded based on the environmental performance. Since the introduction of this scheme there has been an improvement in auditing grades, indicating a change in environmental management practices implemented by the farmers under the scheme. There has also been increasing public and regulatory pressure on farmers to mitigate negative environmental impacts from agricultural production. This research investigates whether the shift in management practices to meet the audit criteria is associated with a change in farmers' identity and, more specifically, how they define being a 'good farmer'.

MONDAY PAPER F: Organics as game changer: Yesterday, today, tomorrow?

This is a panel session dealing with the record of organics as a creator of social change. Key themes/questions are:

- As game changer, what are the impacts and in what contexts (past, present and future)?
- Exploring beyond western, capitalist systems, what are the social change lessons of organic and allied practices, such as traditional or more modern holistic-related production?
- How relevant is the holistic message that best-practice Organics is more than just a means of food and other production with benign impact on the environment and human health?

Following individual contributions, there will be a short interlude for conversation between panel participants, prior to inviting audience participation. Concluding the event, there will be a national launch, address and celebration of **Fifty Years of Organic Knowledge: The Soil Association of South Australia** (archival records SASA circa 1970-2010, State Library of South Australia). We look forward to welcoming Tim Marshall as special guest and host of the Launch (Tim is an author and highly regarded advocate and teacher/trainer within the organic industry; also long term Executive Committee member of the former Soil Association of South Australia - SASA).

Organic farmers of Austria and the transformation to healthy agricultural development

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Growing awareness of the links between agriculture and health require agricultural development to be more responsive to environmental and public health concerns. Many argue that organic agriculture represents a healthy farming system, but the environmental and public health effects of organic products and processes are disputed. Less attention has been paid to organic farmers' roles and responsibilities as health promoters. The organic movement defines health as a systemic and normative principle, which is open to broad interpretation by organic practitioners. This raises important questions about what knowledge and values are appropriate to guide farmers' practices in the context of healthy agricultural development. We present findings from our mixed-method study that explores how Austrian organic farmers define and operationalize health and their roles in health promotion. Participants recognise and accept the uncertainty inherent in a normative and systemic concept of health. They use this uncertainty to develop personal and contextual responses to diverse health promotion challenges. The roles and responsibilities described by study participants are game changing because – for better or worse – they rely on and embrace uncertainty to generate health interventions and open new possibilities for healthy agricultural development.

Contamination by genetically modified organisms (GMOs) – the Western Australian case: Issues and options for compensation

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Contamination of food and fibre by genetically modified organisms (GMOs) is an emerging issue internationally. This paper examines the issue in the light of the Western Australia (WA) Parliamentary Inquiry (2018) into mechanisms for compensation of farmers for GMO contamination. There were almost one hundred submissions to the WA Inquiry from both fans and foes of GMOs. The Inquiry was precipitated by the outcome of the Marsh v Baxter case, in which an organic farmer lost his organic certification due to GMO contamination from his neighbour. The damage of A\$85,000 to the organic farmer and most of the facts of the case were agreed between the parties. However, the pursuit of a common law remedy through the Supreme Court of WA, the WA Court of Appeal, and finally the High Court of Australia (collectively accounting for A\$2 million of legal fees) failed to provide any remedy for the injured party. Modes of contamination and responses to contamination are examined. Divergent solutions to the contamination issue are presented. Four models of compensation for GMO contamination are presented.

A spectrum of organic-ness among vegetable farmers in West Java, Indonesia

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Organic agriculture has been growing steadily in Indonesia, as can be seen from the rising numbers of farms and demand for its products, despite the very nuanced understandings of organic among the different stakeholders. This study aims to investigate the ways farmers perceive, practice and put meanings to organic. Through a mixed-methods approach of in-depth interviews and quantitative surveys across conventional and organic farmers in West Java province, our findings show that farmers experience particular organic practices within a spectrum of organic-ness, from that of a strict regulatory standard to a philosophical way of life – each conception drives how farmers enact organic in their various practices. This aligns with the way the Ministry of Agriculture implements an audit scheme on the basis of farmers' differentiated (and evolving) understandings of organic. Seen from Weis' Theory of Change (1988), we identify several pathways influencing the farmers' organic-ness spectrum in their endeavor to reach the ultimate objectives of organic farming, which include enhancing agro-ecosystems, improving farmers' wellbeing, and achieving food security. These pathways, as we argue, would provide insights into the way in which the government could implement programs related to organic agriculture in Indonesia.

Turning water into wine: Exploring water security perceptions amongst conventional, organic and biodynamic grape growers

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Australian irrigators regularly experience drought conditions, placing water security as a critical issue facing agriculture, especially for permanent plantings such as grapes. This study explores irrigators' water security perceptions using in-depth interviews and surveys with 37 conventional, organic and biodynamic grape growers in South Australia. Conventional growers' water security actions are primarily reliant on activities external to the vineyard (e.g. upgrading irrigation infrastructure); whereas organic/biodynamic growers water security actions are based largely on internal vineyard activities (e.g. agro-ecological methods). Two-thirds of all surveyed organic/biodynamic grape growers converted away from conventional production at the end of the Millennium drought, and consequently named the inability to control water security as their main reason. Overall organic/biodynamic growers perceived higher water security and farm resilience in droughts due to their beliefs about higher soil water retention. Findings suggest a need for current Australian water policy to stop investing money in irrigation infrastructure to save water and to focus more on soil and agro-ecological management.

Why the past still matters: An organic agri-food memo from South Australia

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An Organic agri-food bundle of messages: innovative practices create and collectively disseminate a system of Knowledge alternative to and critical of the agri-food megalith of industrial capitalism. Over time, this megalith comes to appropriate some of the Organic agri-food messages which initially evolved as oppositional critique.

Questions that still matter:

- Is the organic message played out as a force for social change? Has it been an effective force for change?
- Is what has been interstitial become mainstream & hence ineffective or irrelevant?
- The future?

TUESDAY PAPER SESSION A: Wither rural livelihoods?

How is rapid socio-economic change reconfiguring patterns of food security and dietary diversity of households in rural Myanmar?

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Current research equivocates on the question of how rapid rural socio-economic change articulates to households' food and nutrition security. Rural change typically involves a set of shifts in livelihood arrangements away from a predominance of farm labour and smallholder production for household own-consumption, and towards a more complex web of farm and non-farm activities. Whereas these circumstances can lead to increased household cash incomes, it may not always be the case that the additional income is used for food acquisition, and if it is, the types of foods purchased may be quite different to those consumed traditionally. This paper takes the debate on these issues to rural Myanmar, where recent socio-economic change has been rapid. Results from a panel survey of approximately 2,300 households in Ayeyarwady and Magway Districts in 2016 and 2017 identify newly emergent patterns of food security/insecurity and dietary diversity in contexts of rapid socio-economic change. Specifically, households that appear to be best equipped to improve their food circumstances in these contexts are those that possess arable land, and also, engage in the non-food economy. This finding builds on recent theorisation of 'livelihood pathways' that emphasises the dynamic abilities of households to organise their asset bundles in ways that cohere to the opportunities and shapes of rapidly changing rural social landscapes.

Impact of farm mechanisation on draught animals in the Central Dry Zone of Myanmar

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Myanmar is undergoing rapid rural changes, of which the modernisation of agriculture has been one of the most prominent. Farmers have been encouraged to use farm machines (especially two-wheeled tractors) to increase crop productivity, with the effect of displacing draught animals. The purpose of this paper is to assess the wider implications of these changes. Based on a household survey and focus group discussions in the Central Dry Zone (CDZ) region of Myanmar, this study shows that farmers prefer using motor ploughs and hand tractors for ploughing and harrowing as a solution to farm labor shortage, but they are still using cattle for leveling and transportation. More than half of farm households explained the motivation for replacing cattle with mechanisation lies with a shortage of family labor due to migration and non-farm sector development. Correspondingly, the purposes of cattle rearing are changing from draught animals to extra income sources or safety net assets. These issues highlight the inter-relationships between farm mechanisation and livelihood transformations among farm households as rural Myanmar changes.

Taking innovation to scale: Public sector extension approaches and smallholder livelihoods

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Over the past 20 years, agricultural extension has moved from traditional “push” approaches towards more farmer-centered “pull” approaches and pluralistic, network-based “innovation” approaches. Innovation approaches involving the private sector have proved relatively effective in more prosperous lowland areas. In remote uplands, where incentives for private-sector involvement in agricultural extension are limited, the public system remains the main source of agricultural extension for smallholders. Farmer-led extension approaches, including Farmer Field Schools, have been very effective at meeting farmers’ needs. However, these “ideal” approaches have not been widely incorporated in public extension systems due to higher costs, longer time, and narrower focus than traditional approaches. The pragmatic response has been to adopt a hybrid model based on traditional approaches but incorporating some elements of the farmer-led approach. How effective are these hybrid approaches compared to “ideal” farmer-led approaches? We examine the impact of a large-scale hybrid extension approach in Vietnam. Data obtained from 4,400 modified Farmer Field Schools and a survey of 1,600 smallholders are used to assess the impact of the approach on livelihoods and its potential to assist smallholders to meet emerging challenges of climate change, resource degradation, and the spread of global value chains.

The importance of contract farming in shaping global commodity chains: Experiences from oil palm production in the Philippines and Papua New Guinea

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Contract farming (CF) has received renewed interest by development institutions as an institutional arrangement, which can link ‘poor’ smallholders to (export) markets. As the success of CF is far from self-evident (Oya 2012), this paper critically examines CF in the oil palm industries in the Philippines and Papua New Guinea (PNG), particularly the ways in which (lack of) agency of contract farmers contribute to shaping their respective commodity chains. The case study of the Philippines includes contracts farmers with high degrees of agency resulting from alternative income opportunities and increasing competition between milling companies. This manifests itself in ways that erode CF arrangements, such as side-selling of oil palm fruits leading to the emergence of new trade routes, and the breakaway of cooperatives. In contrast, oil palm smallholders in PNG have experienced a tightening of control of CF through the implementation of the global sustainability standard Roundtable on Sustainable Palm Oil (RSPO). Due to a lack of competition and limited alternative sources of income, growers are ‘enclosed’ in the commodity chain and unable to exercise similar forms of agency. The RSPO’s requirements dictate production arrangements (e.g. use of pesticides, land ownership/user rights) which inadvertently intensify power asymmetries between mills and smallholders. Similar to findings by Thiers (2017), the level of agency of smallholders can be an important determinant in the shaping and transforming of the global commodity chain.

TUESDAY PAPER SESSION B: Agri-food experimentation 1 – Rethinking food futures

Sharing economy: Performing alternatives to food security in Australia

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The sharing economy emerges as a phenomenon that enables alternative access to underused assets by promoting direct relations among individuals and groups, or more direct connections between individuals and organisations. However, its initiatives adopt diverse, and sometimes divergent, approaches and motivations. Among the various motivations, often the sharing economy discourse emphasises its potential contribution to a decentralized, equitable and sustainable economic paradigm. Nonetheless, there is limited evidence on how this phenomenon addresses the inclusion of individuals or groups that currently occupy the edges of the formal economy. To understand the contribution of the sharing economy to social inclusion, this research focusses on food insecurity, which occurs when people do not have adequate physical, social and economic access to food to fulfil dietary needs and preferences. Framed by the diverse economies approach, this paper draws on empirical data collected from 15 semi-structured interviews conducted in the last quarter of 2017. Findings of this research provide evidence on possibilities and limitations of sharing practices to promote equitable access to food. Particularly, the discussion unpacks what are the underused assets that are being shared, how sharing initiatives are articulated, and who takes part in initiatives related to food security in Australia.

Back-to-the-farm and back-to-the-rural movement in South Korea

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This paper attempts to explore the possibility of a radical alternative agrarian movement which challenges the dominant paradigm of development and social change in South Korea (Korea hereafter). Significant numbers of urban residents have been moving to the rural area for farming and/or alternative life styles. We would argue that this new wave of geographical, and social, movement questions the existing agri-food relationships and social configuration. According to recent data, there has been a sharp increase of back-to-the-farm (BTF) and back-to-the-rural (BTR) population in Korea. In 2017, total number of BTF and BTR population reached 516,817 among which 19,630 persons were newly registered farmers. This is a relatively new social phenomenon with history of less than 20 years but it is certainly an important one. We will summarize the BTF and BTR trends over the past years and analyze the reasons and the key features of BTF and BTR. We would ponder the sociological meaning of increasing BTF and BTR. We argue that the some of the BTF and BTR movers can be more radical actors or 'food citizens,' who envision a different and more sustainable society. It seems Korean society now is at the crossroad in constructing a new sustainable future and Back-to-the-Land and Back-to-the-Rural Movement will be an important factor for this new project.

Family micro-mills in Tarrazú Region: Rethinking the coffee value chain in Costa Rica

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Specialty roasters and consumers are generating increased demand for 'socially responsible' coffees. In Costa Rica's Tarrazú region, such demand is creating new foodscapes of empathy involving small coffee producers. Tarrazú's coffee production has been defined by a top-down system in which cooperatives and large commercial buyers control processing and international trade, while producers are relegated to activities such as cultivating, picking and delivering coffee beans. Furthermore, the State focuses on commodity production supported by intensive farm systems, high chemical inputs and the promotion of high-yield coffee varieties, impelling farmer dependence on the volatile coffee commodity prices. However, experimentation by coffee producer households with micro-mill ownership—allowing collection and processing of their coffee to be sold in the specialty coffee market—provides insight to both the gendered micro-politics of households and alternative forms of coffee production. Using surveys and in-depth interviews, we found that experiences with individualised market relations contributed to women's empowerment through leadership capabilities at the processing and value-adding stages, as well as to a coffee economy where profit is not the main aim. Instead, the returns from their market relations extend to social well-being gains. Thus, household micro-mills act to reconfigure practices and identities in the coffee value-chain.

Translocalism: A model for learning in food systems

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Translocalism is a site for doing, performing, experimenting, practicing and sharing things differently, for consolidating "networked relationalities" between food production and consumption (Sonnino, 2017, p.5). It has been adopted as a methodology for "scaling-out and scaling-up" creative solutions for more sustainable food systems featuring "citizens' involvement and social innovation, new forms of governance across levels of government, public procurement, and collaboration with research" (de Cunto, 2017, p. 128). This paper aims to address how learning about food systems occurs translocally, drawing on examples of successful projects that are shared across regional, state, and international borders. Case studies include the Milan Urban Food Policy Pact and the Barking – Dagenham Participatory City project "Every Body. Every Day." In her aim to identify learning as a process of potential transformation in food systems the researcher analyses the different constituencies, discursive constructions and epistemologies promoted by actors in each case as they strive to challenge, alter and co-create healthier and more equitable food environments.

'Sol, pero sin agua': Re-imagining urban agriculture in Havana ['Sun but no rain']

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The images of a self-provisioning state, supporting urban citizens to produce their food provided the Left with hope for a 'nation that could be self-sufficient' in contrast to global supply chains, corporate control and neoliberal, industrial farming regimes. Such images have entranced Agrifooders for 25 years. Updating and repositioning this complex urban agriculture narrative allows us to briefly revisit its romantic political positioning and the more structured claims of food sovereignty. This exposes the roles and co-evolution of Cuba's dual markets in their food supply networks. There is still an ongoing political framing of local food provision as heroic enterprise and the work of some—but not of citizens in general. Habaneros have experienced repeat shocks to the supply of fresh food over many decades. Their adaptation to this adversity is reflected in their local food narratives of resistance, risk and resilience. We note the importance of emissaries who powerfully valorised urban production internally, as resistance to western market and political oppression; and externally, as proof of the possibilities of small-scale self-sufficiency and political choice. We position this paper as a cautionary rethink about Havana's urban agriculture in the face of climate change and ongoing structural injustices.

TUESDAY PAPER SESSION C: Finance revisited 1 – Exploring old and new intersections between finance and agri-food

Morals, ethics and sustainability in financialisation: Examples from public investments

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Paradoxes surface when large public investors aim to achieve ecological and social responsibility - along with maximisation of profits - from financial investments. Norway's two largest investment funds, The Norwegian Government Pension Fund – Global (GPGF), and The Norwegian Investment Fund for Developing Countries (Norfund) - are both owned and controlled by the state. Both of these funds are involved in various portfolios, but have increasing interests in the agricultural sector and land investments and development. The GPGF investments in agriculture or land is indirect, through companies or businesses, and is merely a reflection of the market and the general rush for agricultural commodities and land. GPGF's investments are monitored by the Council on Ethics, and companies behaving unethically can be excluded or put under observation. However, land investments are not among the categories this Council is expected to scrutinize. The much smaller Norfund has a mandate to invest in projects and sustainable businesses, including start-ups, in developing countries, focusing on both profit maximizing from their investments, as well as economic growth and poverty reduction in developing countries. When Norfund becomes involved in land-related issues, it is done on the basis of close considerations related to economic growth and business opportunities. The paper describes and discusses some of the existing mechanisms for sustainable management and opportunities for influencing investment behaviour of these large global players, as well as some of the paradoxes arising when they try to balance profit maximisation and ethical/social considerations. The paper concludes that any activity impacting upon food and nutritional security should be scrutinized along moral, ethical and sustainability lines.

A Quintessential failure? The sandalwood saga in the Ord

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The Ord has always been controversial. Established in Western Australia's north in the 1960s to foster irrigated farming in a region deemed to have considerable agricultural potential, the Ord River Irrigation Area has continued largely as a result of heavy government investment in infrastructure and subsidisation of production. While, in more recent times, a small number of high-value field crops have been successfully grown, the largest crop in the Ord is Indian sandalwood, valued globally for its oil and timber. The company TFS (now Quintis) – a managed investment scheme - began its operations in early 2000 and appeared to be poised for economic success in harvesting, processing and selling commercial amounts of sandalwood. However, in April 2017 the US-based short seller Glaucus released a damning report describing Quintis as a 'Ponzi scheme' and valued the company's shares at zero. The share price subsequently plummeted, reducing the company's value by some \$400m. It went into voluntary administration in January 2018. This talk traces the history of the Ord, and of Quintis. It asks 'was there something essentially wrong with the Quintis business model, or was Glaucus using "financialisation" tactics to undermine an otherwise legitimate business?' What might all this mean for a theoretical understanding of the financialisation of agri-food space? It concludes with an assessment of the Ord's farming future.

Agricultural land markets in Northern Australia: Aspirations of local market mediators to reflect, create, and control

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The global financialisation of land is increasingly being studied as an assemblage of contested, localised work. Understanding how this work is undertaken, by actors embedded in regions, social communities and professional norms, is key to producing empirically nuanced accounts of financialisation. Investments in agricultural land are facilitated by a range of market mediators who influence supply and demand, affect values and prices, and imagine and restrict possibilities for investment. In Northern Australia, many agricultural land markets are subject to extreme fluctuations due to business cycles, environmental patterns and political risks, and are serviced by small groups of financial professionals who often reside in the region. Focusing on local land market mediators such as valuers, agents and rural lenders, this paper will explore some of the aspirations that drive their work, arguing that they seek to not only reflect, but often to create and control land markets. I connect these aspirations to their own sense of belonging in the region, and will argue that there is a need to re-spatialise studies of these financial mediators in Australia's north, where 'being local' drives a moral economy of financial mediation

The construction of the 'China land grab' narrative

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Although various studies have shown that Chinese investment in agriculture is largely overblown, the Chinese land grab narrative has dominated the headlines and triggered popular discontent in many countries. What drives and mobilizes the political opposition to Chinese investment in land? How do the Chinese land grab narratives arise and evolve? Existing studies in food politics tend to focus on the competition between capital and landowners, the bargaining between interest groups and social movement. However, this paper presents an alternative image that direct stakeholders (local agribusinesses and farmers) are supportive of Chinese land-based investment while the mass can be mobilized to be committed and resentful protestors that desire more restrictions. Drawing on the theory of issue evolution, I argue that niche parties construct "the Chinese land grab" narratives to mobilize the public opposition to Chinese investment in spite of the endorsement of the farm lobby. In particular, this paper uses content analysis to examine the national debate over Chinese land-based investment in Australia and New Zealand in the past decade. The public discourse tends to equate "foreign investment" with "Chinese investment," dramatizing the investment from Chinese agribusinesses while dismissing the potential farmland speculations of financial companies, sovereign wealth funds and pension funds from other countries. The two case studies illustrate the public anxiety over the global land grab materializes in the global North and how the land grab "hype" materializes within different political contexts.

Towards greener pastures? The making of Australia's 'clean and green' image and Chinese dairy investments

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The emergence of China as a major player in the agri-food system presents new empirical and analytical challenges to agri-food studies. This paper focuses on Chinese agri-investments in the Australian dairy industry as a prism through which to explore the multifaceted processes of China's integration into the global food system. The development of China's dairy industry has been a key political project for the leadership. However, since the 2008 melamine milk scandal and the near-collapse of the domestic industry, demand for foreign brands and imports have increased dramatically. This paper argues that the lack of trust in the domestic industry and a resulting consumer focus on provenance have created new accumulation opportunities in which place and its associated attributes play a key role. The paper focuses on the resource-making processes through which Chinese investors and Australian industry players draw on environmentally and culturally constructed values around place—such as Australia's image as clean, green, and safe—to create economic value and enhance profits. The paper explores how Chinese dairy investments in Australia express the goals and contradictions of China's integration into global food production and considers its implications for the global food system.

TUESDAY PAPER SESSION D: Rural livelihoods 2

Ceremonial consumption of the countryside: Ritual, rural change and livelihoods in the Toraja region of Indonesia

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Rural places throughout the world have long been recognised as being simultaneously sites of consumption, especially for leisure-oriented activities, as much as they are sites of (agricultural) production. This is increasingly true across much of Southeast Asia, where it has been less comprehensively researched. The implied assumption, however, has generally been that consumers of the countryside are culturally and socially distinct from, and even displacing, those living off the land as producers – farmers. This paper presents a case (the Toraja highlands of Indonesia) where reinforcement of place-based cultural identity is the primary driver of the consumption of rural space through a complex ritual cycle, which is fuelled primarily by émigré communities. This is having significant effects on processes of agrarian change, and the role of ritual in Toraja can no longer be considered incidental or marginal to broader processes of regional economic development. Ritual is not only central to the maintenance of cultural identities and spiritual beliefs, it is the key driver of the regional economy. This emerging reality has significant policy implications locally in Toraja, where ritual has long been decried by government planners as being wasteful, extravagant and an economic drain. I suggest that, while the specific elements described here are particular to Toraja, it is likely to be representative of broader developments across the rural world, where the interpenetration of the rural and the urban, the increasingly multi-sited lives of many households, and the search for cultural identity and meaning in the modern world are contributing to its rise.

Agrarian change for whom? Strategies and regional implications of the Southern Agricultural Growth Corridor of Tanzania (SAGCOT)

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The development of the Southern Agricultural Growth Corridor of Tanzania (SAGCOT) is one of the biggest and most ambitious agricultural development programs of Tanzania. The corridor covers about one third of the area of Tanzania and was established with the vision of a “transformed, commercially viable agriculture sector that enhances food security, improves livelihoods and ensures environmental sustainability”. To fulfill this vision, SAGCOT follows a national top-down initiative based on an explicit global value chain integration strategy. This includes the involvement of powerful multinational enterprises both at the upstream (e.g. Syngenta) and the downstream (e.g. Unilever) end of value chains as strategic partners in the planning and development of the corridor vision. As a result, NGOs, civil society organisations and latest academic literature heavily accuse SAGCOT of fostering land use conflicts, land grabbing, and even increasing food insecurity and risks for local livelihoods. By building up on the concepts of Global Production Networks and Global Value Chains, this presentation discusses how the SAGCOT corridor is planned, negotiated and implemented, which conflicts of interests occur and how this leads to intended and in particular unintended effects for farmers and communities.

Producing for the global market, ignoring local food needs: The case of emerging cashew production in Ghana’s Brong Ahafo Region

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The Brong Ahafo region supplies most of Ghana’s staple foods, including maize, yam and cassava, and on this basis is often described as the ‘breadbasket’ of Ghana. Despite the important role of this region in the provision of local food supplies, farmers are increasingly shifting towards the cultivation of raw cashew nuts for export. This transition is driven by rising global demand for cashew. Informed by political economy, the paper critically analyse how high global demand for cashew is enticing farmers from food production for the local market into cashew production for the global market. The paper draws from interviews and focus group discussions conducted in 2016 and global cashew reports to show how cashew production is driving food security concerns in the Brong Ahafo region. Results presented demonstrate that globalising the agri-food system plays a key role in driving the commodification of local agriculture in Ghana. The paper concludes there is an urgent need to plan for agricultural transition that considers both immediate and long-term impacts, including impacts on local food production.

Planting the desert: new geographies of agricultural production in Morocco

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Over the last few decades, transformations in the Moroccan agricultural sector have been shaped by changes in the land tenure structure – which have allowed private players to access governmental lands, and by the Plan Maroc Vert (adopted in 2008) – through which a new spectrum of subsidies have been made available to farmers and investors. As a result, a diversity in ‘farm-investors’ has developed hand in hand with a greater range of crops and farming techniques. In the region of Errachidiyya, important social and agrarian changes are taking place. In this desert region, agriculture – historically limited to oases – is expanding rapidly on communal land previously used for pastoral activities. These new-farming units consist primarily of date palm production, irrigated and intensively planted, aimed for export. I report here on the development of these farms using the experiences, practices, and aspirations of farm-investors. In an effort to describe and discuss current agrarian dynamics, I ask: How does agricultural vision translate into agrarian transformation, and how are these changes perceived by the people experiencing them? Based on empirical data, I aim to illustrate how changes are intimately linked to an increasing relationship and importance of capital in the agricultural sector, and to demonstrate how the future visions for farming and sustainability are deeply contradictory. I argue that new geographies of agricultural production are rewriting the agrarian history of Morocco, in which capital and finance play a role. At the same time, the increasing popularisation of agricultural investment is reshaping the agrarian community and agrarian spaces, leading to increased strains on energy and resources, and shifts in rural livelihood.

TUESDAY PAPER SESSION E: Agri-food experimentation 2 – Digitisation

Tinkering with the Australian grains industry

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Solidarity with the small holder farmer is a major political focus of alternative food networks while ‘paddock-to-plate’ food retail directs the gaze of consumers to the individual primary producer. Producers of wheat, by contrast, are de-identified and all but invisible in the value chain once their harvested grain crop merges into the undifferentiated bulk grain market. With few exceptions (notably the organic food market), Australian grain farmers are embedded in a global commodity trade; producing grain with industrial-scale cultivation and financial investment. The value chain is orientated to maximise volume production and scale efficiencies in storage and transport. From the perspective of Australian grain farmers, reimagining the grains industry or their position within the vast value chain seems to offer few possibilities. However, I present empirical data indicating some individuals are undertaking this process in surprising ways: rethinking their farming practices and re-organising their relationships with other industry actors. Drawing on the resilience framework (Holling et al. 2002) and the concepts of self-organisation and emergence, I identify and explore two examples. The first is of socio-legal form, exemplified by the arrangements of ‘collaborative farming’; the second is techno-social, focusing on the interface of farm-based data collection with data ownership by grain farmers.

Assembling the agro-digital landscapes in Indonesia: A preliminary study

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The growth of smart farming, Internet of Things, big data and virtual agricultural market places in Indonesia has been extraordinary within the past couple of years. This agricultural transformation, as many have argued, is much influenced by the current global moves towards digital technology (the so-called Industrial Revolution 4.0) and has the potential to alter the agri-food landscape in the future. Although hopes and concerns have been raised as to the fate of our food future, as if this new ‘monster’ emerged as a disruptive wave of entirely new food regime, scholars pay less attention to how the agrodigital landscapes have become so diverse and variegated – and what causes them. This paper argues that the assemblage of these landscapes in Indonesia are constructed upon the past and existing social relations in the country, touching on some of the more classical rural sociological narratives that include changing rural structure, unequal balance in the commodity chains, and the changing mode of governance,

all of which are linked to a significant rise of urban youth in the country. This helps to explain Indonesian rather peculiar configurations of digital agriculture.

The influence of digital technologies in process virtualisation in farming: Exploring telephone farming in Kenya

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Increasingly, digitisation is impacting upon work and life in a range of ways, yet the influence of digitisation within farming processes has not been well examined. This research aims to fill this gap by looking at the practices of Kenyan farmers who use digital technologies in managing their farm from a distance, a practice termed “telephone farming”. Telephone farming involves using digital artifacts such as mobile phones to manage and coordinate farming processes from a distance and as such migrating some of the traditional physical activities of farming to virtual environment through process virtualisation. Drawing on theories of ‘affordances’ and ‘process virtualisation’ this paper examines how an emerging category of “telephone farmers” have been able to virtualise key farming processes and farm at distance, and with what benefits and consequences. The use of digital artifacts and the technology affordances it generates along different temporal, spatial, contextual and social dimensions are also investigated. Preliminary findings from interviews with 25 Kenyan telephone farmers suggests that material features of mobile phones offers four technology affordances: mobility, identifiability, connectedness and comfort, which enables telephone farmers to virtualise some farming processes along the value chain.

Trends in the digitalisation of agriculture: Implications for agricultural advisory services

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To better report on implications of the digitalisation of agriculture, this paper summarises themes emerging in literature related to rural innovation and extension studies, specifically as they relate to agricultural advisory services (AAS) that form key intermediary actors in an Agricultural Innovation System (AIS). Various individual digital agricultural innovations have been discussed in respect to consequences for rural and agricultural governance. An important task remains to better define, conceptualise and clarify lessons regarding the broader effects of digitalisation on AIS such that it is possible to organise, plan for, and be aware of possible futures globally and in specific jurisdictions. As such this paper addresses a pertinent research question relating to these intersecting and complex topics to analyse trends in the Digitalisation of AIS socio-technical transition: *How will existing and emerging institutional settings influence the performance of Australian knowledge and advice networks for land manager decision-making?*

We argue that participatory construction of a narrative involving key stakeholders – creating a ‘shared vision’ of the digitalisation of the AIS – will be critical to provide a platform from which to facilitate ongoing discussion and maintain social licence to operate within diverse industries and regions.

TUESDAY PAPER SESSION F: Finance revisited 2

(Re)Imagining land as a financial asset class

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In recent years, land has been subjected to finance's reimagining. Farmland and farming have been identified as providing the basis for new financial asset classes termed 'alternative', deviating from more traditional financial assets of stocks or bonds. This return to the 'real' suggests that financial logic has cycled back to 'tangible' assets, a phenomenon that seems to be particularly tied to moments of crisis. However, the specific realities and tangibilities also pose a challenge – and require active re-imaginings of land. Drawing on qualitative empirical research in Australia, this paper explores the various re-imaginings of land that underlie and go along with the 'assetisation' of farmland, that is an imagination where the possibility of generating a positive cash flow becomes the primary imagination of land. Based on, but distinct from, commodification, 'assetisation' can be understood as the transformation of things into revenue-generating and tradable resources (Birch 2017). This process includes liquefying, (e)valuation and standardising practices; it requires that the object in question has the potential to generate profit; that it is (considered as) scarce; and that its treatment as an asset, as such, is perceived as legitimate (Ducastel and Anseeuw 2017, Visser 2017). I will suggest that the imagination of land as a financial asset class is a highly creative process. It includes the active tackling of barriers, especially those related to the very nature of farmland as – still – being an essentially biological and thus fragile object. It further involves the creation, promotion and establishment of certain, that is financial, value systems – while disentangling and abstracting from other value systems, such as emotional attachments and valuations.

A nation state does not run like a business: Lessons from how financial operatives assemble money and finance

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Many descriptions of financial processes by financial operatives themselves seem to indicate that in some cases, depending on the rules of the assemblage in which they flow, money and finance have changed in their ability to provision work. Despite the turbulent history of the changing relations between money and finance in New Zealand, both have been treated as though they are historically and spatially homogenous. To explain this, three financial operative narratives are presented. First, in commercial banking, 'loans create deposits', not the other way around. Second, a monetarily sovereign state, which issues its own FIAT money, can never become insolvent and default on obligations denominated in that currency. Third, a monetarily sovereign state must spend 'before' it collects taxes and therefore cannot spend 'taxpayer money'. Using these descriptions of financial practices by financial operatives themselves, this paper will seek to understand the affective connections and unevenness that makes financialisation in the context of the NZ dairy industry, spatially and historically variegated.

The use of co-framing for promoting crowdfunding of climate friendly agri-food production

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Crowdfunding represents an alternative 'bottom up' form of financing that provides the public with agency as an active decision-maker and thus allows for greater personal engagement. Although used by many social and cultural projects, the use of crowdfunding for promoting investment in climate mitigation measures in agriculture remains largely unexplored. One of the central concerns of previous research has been how to ensure that the funder recognizes the legitimacy of the campaign. In general, it is believed that successful funding campaigns have a compelling story behind them. For climate change this is problematic. Mitigation measures individually have no discernible outcome (e.g. installing one solar panel will not change the local temperature) as the benefit of the measure is abstract. This paper explores a possible solution, namely the co-framing of the climate change issue with other, more tangible, issues (animal welfare, landscape enhancement, organic farming). We use a mixed method approach involving an analysis of secondary data and 14 semi-structured interviews with project owners and crowdfunding platforms. Results are presented and recommendations made for the future construction of climate-based crowdfunding campaigns that support local farmers.

Corporate structure, financialisation and investment in agriculture: Current issues

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This paper will examine related multi-million dollar agribusiness investment activities undertaken by numerous pension funds, sovereign wealth funds and private equity. Specifically, it will discuss those identified in leaks such as the Panama Papers, as operating out of tax havens including the Cayman Islands, BVI, Seychelles, Jersey, Bahamas etc, and the means by which the expansion of these enterprises are managed through the relationship between Financial Capital, Production Capital and Intermediary Capital. As numerous groups, including The International Consortium of Investigative Journalists, have identified, many of these companies have been operating via complex corporate structures which redefine the traditional relationships between these three forms of capital. In many instances, these structures are designed to bypass local laws and legislation governing land use and other agricultural investments, as was the case with pension fund TIAA-CREF's circumvention of laws preventing land grabbing in Brazil and elsewhere.

TUESDAY PAPER SESSION 7: Rural livelihoods 3

Whither the sustainable livelihoods approach? Towards a political-economy informed livelihoods pathways approach for rural poverty analysis

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Livelihood approaches to understanding rural poverty and socioeconomic change in low-income countries have had a significant influence over the last three decades. Such approaches have enabled a welcome shift in rural poverty research from conventional econometric-driven and single sector analysis to a 'people-first' approach that takes the individual life-world as the starting point of analysis. However, in recent years formal livelihood frameworks have increasingly been critiqued as 'a method in search of theory': that is, pre-occupied with micro-individualism and agency, particularly in the unproblematised and overly-instrumental use of the livelihood capitals framework. This is at the expense of understanding the broader social and political relations that structure livelihood possibilities and outcomes. In response, Ian Scoones (2015) has recently proposed an integrated approach to rural poverty analysis that combines the insights of livelihoods approaches with critical agrarian political economy. A combined approach can address critical questions of why certain livelihoods are possible for some, but not for others. There remain, however, theoretical tensions in combining these two different frameworks, particularly because for agrarian political economy the primary analytical category is class, while for livelihoods the focus is the individual or household. This paper proposes that a livelihood *pathways*-based approach provides a way forward for resolving these tensions. This is illustrated with reference to insights from recent livelihoods-focused fieldwork in rural India, Indonesia and Myanmar.

A sideways scenario: Agriculture, labour and food poverty in the rice lands of outer island Indonesia

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Despite sustained economic growth, pockets of deep poverty exist in the countryside of several middle income countries across the global south. A pervasive view suggests that many poor people remain trapped in a truncated transition between insecure agricultural livelihoods and precarious labour markets. The 'truncated agrarian transition' scenario is one where sites of production in agriculture and labour fail to provide sufficient opportunities, while self-organizing spaces where 'relative surplus populations' have long existed no longer offer manageable solutions. Yet, scholarship has long eschewed the idea of a particular transitional trajectory – even a truncated one. This study combines qualitative, livelihood and food security research to consider one seemingly 'stuck' context – the Acehnese lowlands of outer island Indonesia. Considering how agrarian change relates to patterns of food poverty and nutritional insecurity, the study describes a context that fails to map onto expectations of forward development or agrarian transition. As an alternative to the truncated scenario this paper describes a situation where many of

the poor for the most part manage to advance in terms of the proxies used in poverty analysis while remaining nutritionally insecure. Rather than constituting a surplus population, the poor are central to accumulation strategies within and outside the agrarian context. While not moving forward in any real sense, for the most part the poor get by between agriculture, labour, state social protection transfers and local forms of provision.

Migration and changing agrarian relations in the global South

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Recent changes in livelihood compositions in the global South involve an increasing number of rural households shifting towards urban-nonfarm, migration-based livelihoods. While the reasons for these shifts are complex and they vary widely across national and local contexts, migration is triggering profound changes in the social and economic landscapes in source communities. These include, inter alia, decline in the incidence of attached labour, intensification of sharecropping farming, changes in the caste-basis of land access, changing sources of food security and feminisation of farm labour. However, a systematic analysis of these changes and their implications is sorely lacking in the recent livelihood research on migration. This paper seeks to fill this gap. It first reviews the evidence on these impacts of migration in the broader developing countries' context with a focus on two South Asian countries of India and Nepal, and then draws on field research in rural India to highlight the linkages between migration and socio-economic change. The paper also highlights the current research gaps on these processes, and seeks to set a research agenda.

Re-gendering household livelihood activity bundles amidst changing agrarian landscapes in South Asia: Insights from rural Gujarat, India

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One of the most important aspects of agrarian change in the contemporary Global South relates to questions about the re-gendering of these landscapes. A key debate ensuing from these processes is the question of how male migration affects the lived realities, gendered power structures and activity bundles of "left-behind" women. This paper reports a study into this question on the basis of 53 qualitative interviews with rural women in migrating households who have remained behind in the village. Seasonal migration of male household members is an increasingly common constituent of the livelihood portfolios of these agricultural households in parts of rural India. However, limited attention has been given to those involved in migration who are not the migrant. Findings challenge dominant narratives of those women who remain behind, suggesting male migration does not explicitly catalyse either their empowerment or disempowerment. Rather gendered power structures and activity bundles typically remain very similar and new spaces for "left-behind" women to become empowered are not necessarily created. Thus, it is important to contextualize and situate these experiences within a bigger set of issues related to persistent inequalities and poverty. This research contributes to making increased understanding about the gendered fabric of agrarian landscapes in South Asia.

Seasonal child and maternal dietary patterns and production diversity among subsistence farming families in rural Timor-Leste

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In Timor-Leste, the majority of rural people are subsistence farmers who raise livestock as a livelihood strategy, yet diets consistently lack protein. The dietary quality of households is higher than that of the children (MoH, 2015), suggesting that inadequacy may be associated with sub-optimal feeding practices more so than food availability. In this study, seasonal child and maternal dietary patterns were assessed (n=400) to profile complementary feeding practices and identify differences in protein consumption across children age groups (6-23 and 24-59 months old) and agro-ecological zones. The potential influence of women's empowerment on dietary practices will be explored.

Findings show that the dietary diversity scores of children in eastern Timor-Leste are better for older than for younger children, yet neither meet WHO targets. In contrast, households grow and have access to a broad variety of foodstuff through crops,

livestock and the surrounding environment. Eggs, the most consumed protein-rich food among children, show positive and consistent consumption patterns across age groups, seasons and agro-ecological zones. Further longitudinal data will elucidate these trends, and assess to what degree the women's empowerment in agriculture index influences child and maternal dietary outcomes and consumption of available crops and livestock.

TUESDAY PAPER SESSION 8: Agri-food experimentation 3

Reimagining food markets with peer-to-peer lending: The world making (and taking) properties of finance

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Using as its starting point the economic geography and sociology literature, particularly that interrogating the making of markets, the paper analytically enters the conversation through the site of the entrepreneur. This move is to remedy the relative neglect of the entrepreneur in the aforementioned literature. It is impossible to take a God's eye view of a market-assemblage. The strategy of trying to give all elements of the assemblage equal analytic and conceptual weight has come at a cost. Namely, it has caused us to come up short in our understanding of how these coming-togethers animate the (human) bodies that do the "choosing" and "strategizing" and who make management "decisions". The concept of habitus is good to think with when exploring entrepreneurship when enmeshed within practices engendered by community-based, peer-to-peer lending platforms. To interrogate the subject, I draw upon data from a comparative project looking at new food entrepreneurs financed through conventional banks and those financed through community-based, peer-to-peer lending platforms. Important differences are highlighted between the two groups in terms what they think, do and value—distinctions that can be traced, at least in part, to what their respective financing platforms engender. The paper concludes making general comments about how this research informs our thinking about social change in the context of neoliberalism.

Street agriculture as food education: Designing for the urban food imaginary

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'Street agriculture'—cultivating edible plants in and around city streets, in spaces as front yards, footpaths, and public landscaping—has emerged as a viable urban agricultural form for neighbourhood transformation. Street agriculture's distinctiveness lies in its extreme 'publicness'. With typically greater degrees of visibility and exposure, street agriculture functions as a form of visual culture, potentially mediating discourses, values, and practices that challenge the urban food imaginary, or how 'food is done' in the city. While some studies have alluded to the educative potential of various urban sites, further attention is needed to understand the relationship between the design of a specific space and its capacity to influence public sentiments of how urban food activities should occur and appear. This presentation considers the case study of verge gardens of Sydney and their role in encouraging new urban food imaginaries. Through visual analysis and ethnographic observations of over a hundred gardens, this research explores the conceptual links between design, 'public pedagogy', and the urban food imaginary. This research highlights the role that street agriculture plays in nurturing urban food imaginaries, and the potential of its spaces, via its design, to more smoothly interface with the social fabric of everyday urban spaces.

Transforming food futures in the post-disaster setting of Kaikōura, Aotearoa-New Zealand

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On 14 November 2016, a magnitude 7.8 earthquake struck the small coastal settlement of Kaikōura, Aotearoa-New Zealand. Severe damage to critical infrastructure brought significant logistical, economic and social challenges to the town, cutting road and rail access and disrupting the collection, processing and distribution of agricultural products, and stemming the flow of tourists, the district's key industries. Commercial fisheries and the town's whale-watching operations were also affected when the seabed rose by two metres, limiting access to the harbour. Kaikōura faced an uncertain future, but as in many disaster contexts, these disruptions have provided a window of opportunity for regeneration, recreation and re-imagination. This paper uses qualitative case study analysis to explore post-quake transformations in Kaikōura's food networks and food security. We present and discuss two case examples. 'The Hospo Project' is an award-winning initiative in which 22 local businesses collaborated on a multi-million dollar project to cater to hundreds of workers rebuilding the road and rail corridor, enabling hospitality businesses to remain commercially viable and retain staff. The second involves a broader reimagining of agriculture, food harvesting, production and distribution to enhance regional food security, which is taking many forms. These initiatives show that harnessing existing relationships and social capital can create novel pathways for rethinking local food futures. Transformation is often experienced following a disaster, only to fall back into pre-existing structures without adequate support. We conclude this paper by considering some of the factors required to ensure these initiatives are able to transition to a new and improved system, or transform into something much more original, representing wide-spread, systemic change. In particular, we highlight the need for such initiatives to be grounded in the lived reality and experiences of the local community and their understanding of place, and for transformative changes to be supported by appropriate governance and compliance arrangements and structures.

Weedy futures: Re-assembling land, sea, and people into diverse regional economies

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Formally completed in January 2018, 'Transforming the Global Value Chain' (TGVC) was a seven year, \$85 million programme of research. Framed as a Primary Growth Partnership and funded by the New Zealand government on a dollar for dollar basis, TGVC was led by Fonterra and Dairy NZ. Against the background of a deteriorating record on sustainability and increasingly fraught efforts to sustain leadership in the trade of dairy products, we ask whether the programme has provided any new thinking about how to build capability, sustainability and the design of food economies for healthy futures (three of its key aims). The programme claimed to be designed to anchor the position of NZ Dairy and the NZ economy. We examine TGVC as an exercise in economy making, but ask what economy is being made. We ask what national futures were anchored and to what practices, ideas and interests? Did the programme imagineer any different national futures or any practices that would disturb business as usual? In a European context where the concept of sustainability continues to grip the imaginations of policy makers and political constituencies, we argue that TGVC misses the opportunity to explore the generative potential of the concept in a context where economy-environment-community relations so desperately require fundamental reworking.

This paper uses the idea of a rent platform to explore the ways in which agrifood and related resource economy initiatives are being built into new programmes of regional development in New Zealand. Drawing on a set of blue economy platforms in the making, the paper focuses attention on the activities of two investment initiatives that seek to link marine and land-based food economies into new sustainability-driven forms of value creation. Both utilise seaweed as a basis for initiating an agriculture that promises to excise the agri-chemical industrial complex from the future of NZ agriculture. Both make claims of reworking environment-economy-community relations at multiple scales. While still locked in different ways into global financial and product markets, we ask whether these initiatives, among others that are being assembled into regional blue economies, offer a glimpse of how to enact business that might displace the usual in New Zealand.

TUESDAY PAPER SESSION 9: Agri-food law – Filling the gap

Regulating the grocery retailer–consumer relationship, with a focus on competition law

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This paper explores the role competition law plays in grocery retailer-consumer relationships; relationships that are highly dynamic given the emergence of numerous citizen-consumer movements desirous of food system change. The presentation begins with a distillation of consumer power theory that provides the basis of an idealised spectrum of citizen-consumer practices operating in Australia's food retail space. This is followed by an abridged history of Australian competition law, focusing on its influence on the horizontal (retailer-consumer) dimension of the grocery sector. We find that rather than responding directly to citizen-consumer concerns regarding the impacts of food retail competition on the food system (the subject of Paul-Taylor's paper), competition agencies repeatedly endorse and support the use of self-regulatory instruments – voluntary codes, private food standards, corporate sector-determined governance – by major supermarket chains to consolidate their power. These authorities ignore the evidence that consumer market behaviour, the government's preferred route to supermarket behaviour change, is limited in impact as Paul-Taylor's paper highlights. We conclude that government's continued commitment to neoliberal economic management and an associated abdication of its regulatory function are likely to reduce the prospects of consumer-citizen power even further. Agri-food scholars have illuminated the role of government in structuring and mediating grocery retailer-producer relationships, it is time now to examine with greater vigour the socio-legal mechanisms which structure grocery retailer-consumer relationships.

Regulating delivery: The competition for the household meal

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This paper contributes to the study of the regulation of the digital and gig food economy by asking where demand for this kind of work originates. It presents findings from an empirical study of the emerging competition to provide ready meals to the home. Each of the participants in these food, transport and labour markets seeks to gain a competitive advantage from the new technologies and economies of this provision. Who are the suppliers, consumers, preparers, packers, transporters, aggregators, unions and government agencies involved in this competition and how do they operate and interact? The findings help theorise

and craft regulatory responsibility for the remuneration, rationing and management of this work, together with such other regulatory objectives as access to nutritious meal options and the safety and amenability of urban spaces.

A battle for supremacy: The efficacy of citizen-consumer activism in shaping supermarket behaviour

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It has been argued that supermarkets are losing their supremacy within food systems. This purported shift in power has been attributed to both the rise of new competitors in the market; and to the associated rise of a citizenry competent in expressing their consumer needs. This talk focuses on the second development, while recognising close links to the first. Central to the notion that the supermarkets' traditionally dominant role in shaping the market is in decline, is the claim that the empowered consumer is challenging these corporations to adapt their strategies and offerings in ways that meet broader social values: namely public health, the environment, animal welfare, planning, and fairness to suppliers – in particular, farmers. Informants acknowledge that while supermarkets are responding to societal pressure in increasingly sophisticated ways, these responses are targeted, reactive and often inconsistent. In turn, the way that issues are identified and tackled by citizen-consumers is shaped by their daily needs, socio-cultural interests and resources. It is therefore important to consider the extent to which structurally determined issue identification and action on the part of consumer-citizens, and their advocates, risks failing to attract the necessary public and corporate attention. Moreover, it is striking how little action governments take beyond encouraging a competitive marketplace. In the context of these limitations we examine the role that government, as opposed to private, regulation must play, in order to bring about systemic, effective behavioural and cultural change by the supermarkets.

The promises and the labelling of lab-grown protein: Ontological, political, and legal issues

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Technological start-ups are increasingly developing and patenting processes for the cultivation of animal cells to manufacture skeletal muscle tissue (lab-grown protein) using nascent biotechnologies. Proponents frame lab-grown protein as the future of "meat" on the basis of their expectations that lab-grown protein will be victimless, environmentally-friendly and far safer than traditional animal agriculture. Farmers and farm lobby groups have pre-emptively responded to the sale of lab-grown protein by seeking reforms to food labelling laws and in particular changes to the definition of "meat". Contestations regarding lab-grown protein provide a dynamic site from which to examine the efforts of groups to influence how food systems develop, how they are regulated and for whose benefit. This presentation considers the potential influence of intellectual property rights on the innovation system underpinning lab-grown protein and on how the products are being and will be discursively constructed. It then critically explores the emerging debate regarding what meat is, which centres on food labelling standards and the legal definition of meat. Drawing a comparison with mandatory GM labelling debates, this presentation explores the positions of, and interactions among, stakeholders seeking to influence the future of food through regulation.

WEDNESDAY PAPER SESSION A: Agri-food and the SDGs – Localising the SDGs

Water, market instruments and agricultural sustainability

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To proponents, market-based policy instruments offer elegant solutions to sustainability challenges – substituting political decision-making with the technical deployment of expertise, optimizing the efficiency of public resource allocation, mobilizing private finance and innovation, and acting on the root causes of social and environmental externalities. All the while avoiding the inflexibility and non-responsiveness of command-and-control regulation. Theoretically, this paper argues that all environmental policy (whether market-based or not) makes assumptions about the distribution of benefits that arise from sustainable resource management, about the rights and responsibilities that inhere in access to natural resources, and about policy-efficacy. Empirically, the paper examines experience in the use of trading mechanisms in rights to extract natural resources, on the one hand, and rights to emit environmental pollutants, on the other. Through case studies of water extraction in Australia's Murray Darling Basin and water quality trading schemes in the US it explores both the impacts (social, economic and environmental) of tradable rights and the conditions under which such instruments are likely to support genuine progress towards agricultural sustainability.

Addressing the SDGs in cities through food business incubation: FoodLab Sydney

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Food insecurity in Australia's major cities is on the rise (Temple 2008: 657), and in 2016 the City of Sydney estimated that 8.5 per cent of the City's residents had run out of food at some time in the last year and were unable to buy more – over 19,000 people in the LGA alone (City of Sydney Research 2016: A32). The City of Sydney's *Community Strategic Plan* identifies such food insecurity as a threat to social sustainability and resilience, and mandates the City formulate a response. Existing policy responses to the problem in Australia are failing food insecure populations and are unsustainable in the long term. The primary response, emergency food provision, is insufficient and inadequate for addressing the root causes of food insecurity. Programs provided by the charitable food sector are both precarious and variable (Lindberg *et al.* 2015: 360). Worse, such emergency food provision has never served more than a small minority of the total food insecure population (Lambie-Mumford and Dowler 2015: 499; Loopstra and Tarasuk 2015: 446) and does not meet even the most basic and immediate needs of the small populations that it does serve (Bazerghi 2016: 738; Lindberg *et al.* 2015: 363–364).

Cities and partners around the globe have begun to look at more innovative policies and approaches that can work to address the deeper, systemic, and more complex causes of food insecurity, including the affordability and accessibility of fresh and nutritious food, social and economic disadvantage, rising inequality, and economic exclusion (IPES-Food 2017: 7–8). One such innovation being increasingly trialled internationally are food business incubators, which assist new food business start-ups in vulnerable communities, build relationships and connections between businesses and their community, and catalyse broader change in food systems. The paper charts the development of an innovative food business incubator in the City of Sydney, and its connection to the *Sustainable Sydney 2030* strategy, which details Sydney's role in achieving the United Nations Sustainable Development Goals.

What role for civil society in 'localising the SDGs'?

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By prioritising social and environmental objectives, civil society can and should play a strong role in ensuring the SDGs are locally relevant and supported. Localising efforts in a more participatory and community-focused way has been identified as a major challenge however. Little research has examined the role that civic food networks have played in debating or implementing the SDGs in Australia. In this paper, I argue that civic (community) food networks - such as urban gardens, community supported agriculture, farmers' markets, organic cooperatives, food charities and 'fair food' organisations that emphasise food justice - can be instructive for localising the SDGs. Here I propose a methodological framework for examining the values, mechanisms, inclusion and food access outcomes of community food networks as they seek to define, contest or implement food system reform. This framework - drawing on food utopias and reflexive food system governance - builds on local research suggesting that community food networks operating within the 'social solidarity economy' have the potential to inform sustainability pathways. The paper will use as evidence the 'visions' put forth by selected community food initiatives and networks in Australia as a way to progress theory and evidence about transformation pathways to sustainable food futures. The paper concludes with some thoughts on developing metrics for evaluating the localisation of SDGs.

Nutrition-sensitive interventions to reduce the prevalence of childhood stunting

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Malnutrition is the greatest contributor to the global disease burden and includes both under and over nutrition. Childhood stunting refers to low height for age and indicates chronic maternal and child undernutrition. By the age of two, the impacts of stunting are largely irreversible and result in lifelong physical and cognitive impairment. In countries immediately to Australia's north and east the level of childhood stunting ranges from 40% of children under 5 (e.g. Vanuatu), to 60% in Timor Leste and parts of Indonesia (e.g. Sumba in East Nusa Tenggara). Traditional interventions targeting childhood stunting have focused on the direct determinants of nutrient intake (e.g. emergency food aid, food supplementation, biofortification, breast feeding). Even when these nutrition-specific interventions are done well, childhood stunting will still persist unless the underlying determinants of malnutrition are also addressed. These underlying determinants include poverty, gender inequality, low nutrition literacy, low food diversity in local food and agricultural systems, poor nutrition food availability in markets, inadequate WASH, and poor primary health care. Nutrition-sensitive approaches seek to address these underlying determinants in a coordinated and integrated manner. The food systems approach focusses on interventions designed to improve the food environment in order to influence individual food behaviour.

WEDNESDAY PAPER SESSION B: Postcolonial food sovereignty

Food sovereignty, First Nations sovereignty and decolonisation in practice through the Brisbane Aboriginal Sovereign Embassy

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Soon after the establishment of the Brisbane Aboriginal Sovereign Embassy at Musgrave Park in 2012, planning began to organise a free, local food distribution service for families in Brisbane and surrounding suburbs. At the height of its activity, the BASE Food Program was providing weekly food boxes to over 300 people and running at a cost of less than \$1000 a week, as well as supporting the catering requirements of the many community based actions undertaken by the Embassy itself, and distributing information and literature related to localized, culturally appropriate food provision and community activity. Following a forced hiatus, the BASE Food Program is on the verge of recommencing its operations. With the challenges this program seeks to address at a community level as urgent as ever, this paper will examine the broader issues stemming from the grassroots community organising, and cultural, political and spiritual value systems enacted through the Brisbane Aboriginal Sovereign Embassy and affiliated groups across the country. As suggested by previous work in this area, it will continue to emphasise the relationship between food sovereignty, First Nations sovereignty and decolonisation in practice at local and national levels.

'If you eat, you are involved in settler-colonialism': Expanding the ethics of eating and growing

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'If you eat, you are involved in agriculture' is a popular saying that expresses the idea that the decisions of shoppers and eaters in urban contexts are in a relationship with the farmers and growers in rural communities. Yet, so the argument goes, the industrialised food system keeps eaters ignorant of the agricultural processes that go into producing their food. The ethical focus of this saying is on obligations and responsibilities in the present. Wendell Berry and others contend that in thinking of eating as an agricultural act, eaters will make more responsible decisions that respect the environment, farmers, and animal welfare. This paper extends the ethical focus on present entanglements among eaters and growers to historical relations. Eaters are not only kept ignorant about their connection to those who grow their food today, but they are also kept ignorant of entanglement of agriculture and settler-colonial violence. As such, the adage can be pushed further: If eating implicates one in agriculture, and agriculture is implicated in colonial violence, then eaters (and growers) are implicated in this history. 'If you eat, you are involved in settler-colonialism'. This paper argues that eaters and growers not only have ethical obligations in the present, but also obligations regarding past injustices.

Governing with ignorance: Understanding the Australian food regulator's response to nano food

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This paper examines regulatory responses to the presence of previously undetected and unlabelled nanoparticles in the Australian food system. Until 2015, the Australian regulatory body Food Standards Australia New Zealand (FSANZ) denied nanoparticles were present in Australian food. However, and despite repeated claims from Australia's food regulator, research commissioned by civil society group Friends of the Earth has demonstrated that nanoparticles are deliberately included as ingredients in an array of food available for sale in Australia. This paper critically examines how nano-particles have come to be integrated into Australia's food system under the radar of Australia's food regulator. Our case study of Food Standards Australia New Zealand (FSANZ) – including its responses to the civil society-led science that determined the existence of nanoparticles in Australian food, and then to our research published in the journal Nano Ethics – raises a number of important questions about the governance of risk in relation to emerging technologies such as nanotechnology. In this paper we argue that FSANZ' response to the presence of nanotechnology in Australia's food system is an example of 'governing with ignorance'. This is demonstrated via the denial and dismissal of science claims as a basis for limited regulatory intervention. FSANZ' response intersects with the centrality of commercial interests in shaping science research and commercialisation, alongside the "hands off" approach to regulation that is characteristic of neoliberal governance approaches. We conclude by arguing that in the current food governance framework, and alongside a paucity of impact science, civil society plays a vital role in attempts to democratise the Australian food system.

Local Food Contingency Group

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This project aims to enable community spirit to effectively form the backbone of food-related disaster resilience through the application of an effective and efficient spatial database. In collaboration with our industry partner, the Queensland Government (Office of the Inspector-General Emergency Management "IGEM") we acknowledge the vital importance of communities in leading their own initiatives in disaster response and recovery. Emergency management plays a key role in ensuring such activities are coordinated and led efficiently by their employment of effective communication. Utilising smart technology sits at

the heart of this imperative. Griffith University's Digital Earth Node (DEN) provides a clear and immediate research environment to facilitate remote collaborations and produce a robust spatially-informed database with:

- a) timely input of information from members in the local food procurement and distribution network;
- b) a clear visualisation of demand and supply in real-time for members of the public; and
- c) provision for emergency management to make efficient and effective decisions to facilitate community-led activities.

This presentation will report on the challenges and opportunities emergent from the development of our prototype for South-East Queensland. This may include a review of the literatures and policy enablers and findings from interviews and workshops with key agencies and stakeholders in the areas of emergency management and local food procurement.

WEDNESDAY PAPER SESSION C: Sociomateriality, power and justice

UnSmart cities: Food provisioning between digital possibility, social irresponsibility, and individual profiteering

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The paper addresses the recent transformation of an urban food system by focusing on the shift from analogue to digital information systems. It scrutinizes the contradictions first between visions to control the public and illegitimate digital possibilities to do so, second between institutional tasks to provision citizens adequately with food and the emerging irresponsibilities of big data that facilitate these processes, and third between the demand for social well-being and the uncontrollable simplicity of individual profiteering in situations of unequal information. The case is Cairo, the largest metropolis in Northern Africa. It not only constitutes one of the largest markets for grains worldwide, it is also a solid and very stable market given the widespread poverty of its inhabitants; the urban poor consume up to 180 kilograms of wheat per capita annually. This wheat is produced by farmers in Russia, the United States, in Australia or in France. Parallel to the physical movement of grains from their various production locations to the places of consumption in Cairo, countless trajectories to exchange information have emerged over time, and more recently are newly encoded: they are digitalized. The paper inquires the consequences of these transformations – when livelihoods in cities like Cairo are everything but not smart.

Mining the rural: a Foucaultian exploration of power, knowledge and identity in a rural district in central Queensland

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Since the early 2000s, global mining and energy industries have been rapidly expanding into regional areas of Australia that were historically dominated by small-scale agriculture. This process has had uneven and widely varying effects on local communities and provoked a wide range of responses. My objective in this presentation is not to map local responses to mining expansion, but to historicise and critically interrogate them. Guided by Michel Foucault's concept of governmentality, I trace and explore some of the key rationalities and truths that have been dominant in shaping identities and mentalities in a particular rural district in the past and that continue to influence how inhabitants grapple with 'mining problems' in the present. The rationalities that are explored relate to: human suffering and progress, productive land, market forces, agriculture-mining co-existence and citizenship. It is proposed that these logics produce basic understandings or truths about self (authentic, resilient, entrepreneurial and indispensable) and rural environments (dispersed, fragmented, production zones), which substantially (but not totally) align with the logics of mining expansion. As a consequence of these overlaps, it is argued that social and political antagonism is inevitably displaced and mining-farming articulations are (to some extent) facilitated. This presentation is based on an ongoing doctoral research project, which is a qualitative case study of district in central Queensland.

Understanding farm politics through political ontology

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The post-structural theoretical project known as the 'ontological turn' has only just begun to take shape in agrifood thinking. While most early applications have been directed towards food and consumption relations, there has not been any sustained

attempt to detail an 'ontological politics' of the farm. In this paper (the second agrifood paper in a longer term intellectual project), I examine the way in which a particular ontological politics was generated and sustained in the colonial farm in New Zealand. The practices and strategies that create a particular style of ontological politics of the farm can be argued to be deployed through the use of 'anti-politics' and pacification. Reflection on my own family farm and its colonial predecessors demonstrates how these strategies of anti-politics generated silences around ancestors, the annihilation of wider environments, the role of the state, and the all-pervading whiteness of farms.

Thinking through food infrastructures

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Research on everyday practices is attracting increasing interest in food studies. Within the emerging cultural geographies of food, food has become an important profile for exploring practices, textures, and publics of a praxis-based geography (Cook et al., 2012; Roe, 2008). Meanwhile, research on food-place relations has been contributing to the understanding of geographies and politics of urban processes and urban (in)justice (Miewald et al., 2017; Parham, 2015). My PhD thesis aims to make diverse connections between cultural geography's way of describing the world and questions about justice with a focus on urban food. Empirically, this paper draws on the multicultural context of Melbourne, where diverse ethno-cultural-religious knowledges and experiences are often overlooked in the literature that tends to focus on 'typical' households and a single aspect of food. This paper follows the everyday food practices of Melbourne's Greek community and Muslim community. This approach is worked through embodied practices, the materiality of foodstuff, and introducing the concept of 'food infrastructures'. Together, these concepts facilitate the connections between sociomaterial thinking and social justice concerns. This paper intends to make an empirical contribution to research on everyday multicultural food experiences, and a theoretical contribution to the conceptual development of urban food studies.

Decolonizing the sociomaterial narrative

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I would like to answer this question posed by this session, by focusing on what we as researchers can do to use sociomateriality in a more just and equitable way. My suggestion is inspired by the work of Zoe Todd (2016) and other Indigenous researchers who have criticized sociomaterial research (particularly that of post-humanism and actor network theory) for not acknowledging how the labour of Indigenous people and scholars has contributed to this ontology. As a non-indigenous researcher myself, I would like to reflect on how I am working through the process of decolonisation, specifically in regards to my thesis research, which explores the more-than-human role in human urban foraging practices in Ōtepoti/Dunedin, Aotearoa/New Zealand. While decolonisation can be an ontological tool, I also want to explore how it can contribute to the empirical as well. I hope to challenge the Euro-Western roots of more-than-humanism, by including the work and histories of Indigenous thinkers, who have seen the heterogeneity of the world long before Western post-structuralists. I hope that by reframing the narrative of who we read and look to for sociomaterial ontology, we can begin to contribute to constructing a more equitable academic space, one which accepts a plurality of ontology.

WEDNESDAY PAPER SESSION D: SDGs 2 – Intersectionality

Rediscovering sorghum - the importance of food research and development of an ancient grain for future food security

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Sorghum (*Sorghum bicolor*) is the fifth most important cereal crop worldwide, but it is under-utilised for human consumption. This ancient grain originated in Africa some 5,000 years ago. It is still cultivated and consumed as a staple food in sub-Saharan Africa and parts of the Indian subcontinent. It is also cultivated in the Americas, East and South East Asia, and Australia primarily for animal feed. Consumption of sorghum in these regions has decreased significantly as other crops such as wheat, rice, and maize are more favoured. The advantages of sorghum include drought and heat tolerance, various health benefits, and culinary versatility. It is therefore a potentially valuable resource for the future of food security, especially in regions affected by climate change. However, efforts should be made to reintroduce and popularise the food uses of sorghum because much of that knowledge is forgotten. This paper outlines the traditional uses of sorghum grain as well as past research, discusses why it is important to identify current and future challenges that need to be addressed, and to develop appropriate solutions in the form of products or technologies that can be applied at the household or local community level.

Development of community-based local fruit management in West Java: Opportunities and Challenges

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In response to the interconnection of Sustainable Development Goals (SDGs), in particular food and nutrition security, sustainable communities, and land conservation, this study offers the conservation and management of tropical local fruit productions as an integrated solution. Previous studies have shown that utilisation of tropical fruits can provide multiple benefits as a source of nutritious food for both the rural and urban people, as well as income generator for the rural community and land conservation, through their integration with the local agroforest ecosystems. The challenge is therefore to re-build knowledge of these local fruits in the urban areas by creating an urban-rural platform. Our preliminary survey on 155 respondents in West Java shows that out of 50 different local fruits, only 15% are consumed regularly, and more than 30% are less or entirely unknown. This paper thus documents our process of documenting local fruit diversity in their main sources in the indigenous communities in the rural West Java, while formulating a platform for knowledge and product sharing between the urban and rural communities. We document the opportunities and challenges that we encountered along the research process and open up the possibilities of achieving the sustainability goals through this innovative platform.

Planetary stewardship and sustainable agriculture: Delivering our international obligations from the farm gate

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Sustainable agriculture is considered as crucial in delivering at least 6 of the 17 Sustainable Development Goals with sustainable use one of the three main objectives of the Convention on Biological Diversity and the Aichi Biodiversity Targets. The International Treaty on Plant Genetic Resources for Food and Agriculture also relies on sustainable agriculture, as does the UN Convention to Combat Desertification and the Paris Agreement as a more climate friendly system. Australia is signatory to each of these international obligations and yet its unclear as to what is sustainable agriculture in practice and who will be the planetary stewards at a farm scale? Global migration trends indicate that by 2050 there will be almost 10 billion people with 70% residing in urban environments and 30% rural, which is likely to cause social justice issues for rural land managers. Australia is a highly urbanised country with the latest census indicating a further migration to the cities, leaving 10% of the population caring for almost 90% of the landscape with little cost or responsibility sharing between urban and rural communities. Our international obligations and new markets are requiring evidence of agricultural sustainability and yet there remains a vacuum for recognition of sustainable agriculture at the farm scale. This paper presents a pathway for Australia to develop sustainable agricultural recognition systems to align with markets, international obligations and importantly provide recognition of stewardship from the farm gate.

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