

# Chapter 4

## Displacement, Loss and Enclosure of the Commons: The Role of the Dutch East India Company



### Potential of the Double Hermeneutic for Re-framing Epistemic Governance

Janet McIntyre-Mills

**Abstract** Giddens stressed in *The Consequences of Modernity* that trust is contingent and that risks escalate when transfers are disembedded from local contexts. This paper concentrates on the need to develop policy and praxis to protect the commons through a critical and systemic approach drawing on history, sociology and anthropology. The paper explores Inglehart's (Modernization and postmodernization: cultural, economic and political change in 43 societies, Princeton University Press, Princeton, 1997) notion of culture shift, Norvey et al.'s (International Sociology 32(6): 683–706, 2017) reflections on Inglehart's thesis and Giddens's (The consequences of modernity, Stanford University Press, Palo Alto, 1990) essay on the *The Consequences of Modernity*. The paper discusses how the potential for transformation rests with people who can bring about transformation of taken for granted epistemic policy networks that use so-called root metaphors to shape 'what is inevitable'. Instead, the case is made through critical reflection to reconstruct narratives about current challenges that are framed in terms of the capability approach (Nussbaum, Creating capabilities: the human development approach, The Belknap Press, London, 2011). The paper underlines the importance of research to reframe concepts from above and below to protect and restore the commons. The paper responds to the cascading risks and consequences of modernity and makes a case for a new nonanthropocentric narrative based on our interconnectedness and shared fate. The containerist approach is critiqued by tracing the archetypes that have shaped history. The epistemic policies shaped a culture of profit. The paper explores the dualism, racism and speciesism that has underpinned the way in which governance has been framed. It makes a case for a new narrative based on sharing

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and reciprocity based on our shared fate. There is no ‘Planet B’ as Macron summed up recently in an address on a state visit to the USA (Macron, There is no Planet B. Address to United States Congress on 25th April, 2018).

**Keywords** Consequences of modernity · Cascading · Risk · Connections · Double hermeneutic · Trust · Regeneration

## Introduction

If we do not learn from history we are destined to repeat the errors’ is George Santayana’s well-known aphorism.

The paper develops the argument that the current development challenges in Cape Town, Southern Africa and Bandung, West Java stem from the VOC’s (Verenigde Oost-Indische Compagnie or VOC)<sup>1</sup> epistemic policy and governance that commodified the land, waters, people, animals and plants. Their habitat became a source of profit. The aim of the paper is to explore the cascading interconnected challenges associated with food and water security and to trace the impact that capitalism has had on enclosing the commons. The root metaphor for policy and governance (Alasusuutari and Qadir 2016) was applied in both contexts with convergent social, economic and environmental effects.

Needless to say this philosophy was shared by many other colonial nation states at the time, and it is so widespread today that it is regarded as a taken for granted approach in mainstream economics.

## *Interdisciplinary Case Study Approach*

The paper is informed by records and current newspaper archives, participant observation, a research project and conversations linked with a symposium. The transferability of lessons learned from Australia and Indonesia for South Africa and vice versa was part of the agenda of a mixed methods symposium<sup>2</sup> on which this paper draws.

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<sup>1</sup>The Cape and Batavia (Indonesia) were colonised in 1652 and 1619, respectively. Skilled slaves from Batavia were shipped to help build the Cape Colony. The VOC was founded in 1602 and it: ‘flourished and survived for two centuries. The company, a combination of commercial organisations in various cities of Holland and Zeeland, traded both in Asia and between Asia and Europe. It was the first public company to issue negotiable shares and it developed into one of the biggest and most powerful trading and shipping concerns. The VOC ran its own shipyards, the largest being in Amsterdam. This spectacular trade with Asia made the Dutch Republic the world’s key commercial hub’ (<https://www.rijksmuseum.nl/en/rijksstudio/timeline-dutch-history/1602-trade-with-the-east-voc>).

<sup>2</sup>The aim of the multisite symposium at Flinders University in South Australia and University of Padjadjaran (UnPaD), West Java, was to enable students and staff across a range of disciplines to

## The Genealogy of Epistemic Narratives on the Right to Exploit: Key Narratives Shaped by History

Research on the Dutch East India Company by Adam Smith stressed Branko Milanovic in a blog posted on the Global Policy website<sup>3</sup> discusses the aptness of the critique made by Adam Smith of late capitalism in the *Wealth of Nations*.<sup>4</sup>

Milanovic stresses the way in which exploitation by big companies has resulted in the impoverishment of nations and local economies and how the Dutch destroyed spices and corn, in order to keep up prices:

The government of an exclusive company of merchants is, perhaps, the worst of all governments for any country whatever. (Book 4, Ch. 7, p. 722)

He specifically mentions the role of the Dutch East India Company in Indonesia and India, and although he does not specifically discuss the role in South Africa or the long shadow that colonialism casts, this will be a focus of the current paper and the volume from which it is extracted.

My reading of the *Wealth of Nations* (a different copy from his) makes it clear that even during the era of the Dutch East India Company, the exploitation by a company is not good for development as people do not have their independence and are exploited to the extent that it erodes hope and trust in the future.

“The Dutch settlements in the West, as well as those in the East Indies, were originally put under the government of an exclusive company. The progress of some of them, therefore, though it has been considerable in comparison with that of almost any country that has been long peopled and established, has been languid and slow in comparison with that of the greater part of new colonies”. (Smith 1776a, b: 967)

Smith was not very critical of capitalism. His overall argument is that if capitalism is well organised, it delivers a better quality of life than living in a natural state. This of course depends on what one means by *capitalism* and *natural state*. The Dutch East India Company held the monopoly of trade and started a stock market that was able to control commodity prices. Once the settlement at the Cape was established by Van Riebeck and trade with the local inhabitants eroded when it became clear that the settlers wished to control tracts of land for themselves, it was decided to allow company servants to become Free Burghers (free farmers). But the conditions for renting land from the company and trading were set by the company with the goal of maximising company profits. Smith (in this same reference) goes on to explain that complaints would result in sanctions such as exile to Mauritius or other penal colonies.

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explore some of the cascading interconnected challenges associated with food energy and water security that have resulted in displacement, loss of habitat, land, sense of place and identity. The aim of the mixed methods symposium was to make a practical difference to policy in Indonesia and South Africa, both of which have a high rate of urbanisation and a high population growth in cities.

<sup>3</sup><http://www.globalpolicyjournal.com/blog/06/02/2018/bitterness-adam-smith>

<sup>4</sup>Smith, A. 2003. *The Wealth of Nations, Bantam Classic*, 2003; edited with notes and marginal summary by Edwin Cannan; preface by Alan B. Kruege. Cited by Branko's *blog*.

Modernisation has moved from extraction of profit in factories and mines at the industrial centres of powerful nation states to the colonial periphery where extraction of profits were extorted through the exploitation of the labour of people and the environment.

The process of treating people, sentient beings and living organic and inorganic systems as things (reification) to be exploited like commodities has become central to a form of capitalism that evolved through the institution of the welfare state and ebbed through the erosion of the protection it once provided through balancing the state, market and civil society in a form of social democracy that is no longer applied.

Currently, social democracy is at risk and the paper traces the way in which the origins of capitalism, based on the displacement of risk and the extraction of profits persists. The role of pernicious forms of capitalism continues to place the market and national interests first. Today capitalism needs to be reframed completely, along lines that protect people and the planet through a better understanding of our interconnections as one strand in a living system that has cascading positive and negative effects depending on how it is managed.

Thus the stewardship role of new approaches needs to work consciously with sources of abundance in nature. Although Pauli (2010) have much to offer, it is important to place the principles of social and environmental justice at the centre and to realise that democracy depends on constant surveillance or 'monitoring from below' (Keane 2009) as well as global benchmarks set to protect the common good, as per the argument of Held (2004) in 'Global Covenant'. The balancing process requires that this be done very carefully through working out the social, economic and environmental impact of our choices. This takes Giddens (1990, 2009) *The Consequences of Modernity* and the *Politics of Climate Change* as a starting point for developing a transformational approach to protecting living systems. Cape Town faces the challenge of increased water insecurity linked with an inability to introduce desalination due to rising costs of electricity (caused by over-reliance on fossil fuels). Increasing levels of urbanisation as defined by the UN Report (2014) and Paul Romer (2009) could be a solution to loss of territory and habitat if the design of cities is changed from horizontal sprawl with a heavy carbon footprint to vertical, green regenerative buildings that recycle and reuse waste to support a cascade economy.

However, displacement of people, plants and animals need to be addressed through innovative new approaches to democracy and governance. The research aims to address innovative policy to support regenerative living in Indonesia and South Africa by drawing on the past Indigenous practices, interaction with Dutch colonisers and current lessons for regenerative practice. For example, in Africa, mud brick buildings emulate termite mounds and have natural air conditioning; this is a traditional design drawing on nature.

In Bandung, Indonesia, biodigesters were built by the Dutch who governed Bandung in 1810. A current failed biodigester in Bandung is built behind a fish and vegetable market where many displaced people ply their wares. They live in informal housing behind the market. Next to their homes (located near a biodigester) the

waste lies unprocessed.<sup>5</sup> This approach to waste management was used by the Dutch and the historical record, and archaeological remains show how this was successfully achieved in the past. It is also successfully achieved in the regional area of Cianjur (McIntyre-Mills 2017) where a successful, simple biodigester suggests how local wisdom can be preserved and applied with better results at a fraction of the cost.

In Cape Town, drought has resulted in the need to rethink water usage. Recycling and reusing water is a matter of survival. In the past a series of aquifers and underwater streams provided water to people living in Cape Town. These sources are currently being rediscovered as part of the commons that need to be shared and protected. The donation of water to the city by fruit farmers has enabled Cape Town to push out the date when water would cease to flow from taps. A rediscovery of sharing and managing the commons is vital for current generations. The historical lessons of how to survive sustainably in the Cape need to be revisited along with the latest research on integrated sustainable living approaches (Pauli 2010) and supporting the commons (Bollier and Helfrich 2012) and by learning from local wisdom of Indigenous first nations (Cram and Mertens 2015).

Previously, water usage was based on shared practices (not unlike the Balinese system) that were based on trust and sharing. Ironically in the Cape, it was based on slave labour and was managed by the slaves (many of whom were radical thinkers, academics and skilled artisans removed by the Dutch East India Company from Indonesia).

Local Khoi men and women worked for the colonists, for the Dutch and the British. When the Dutch were replaced by the British as colonial leaders, the seeds for apartheid were sown by controlling movement and through taxation. Female slaves and local indigenous people worked for the Dutch and were commodified and exploited (Taylor 2017).

In Cape Town the Dutch had access to the flowing springs on Table Mountain<sup>6</sup> and in the Constantia and Rondebosch areas as well as on the sides of the mountain in St James and Simons Town. In the early days of the colony, the Dutch and the British did not control water access. But people's movements were curtailed.

Worden (2017) describes how slaves used to wash clothes in the Platteklip Mountain stream:

In Cape Town, most slaves were owned by the VOC and were housed in barrack-like accommodation at the Company Slave Lodge. They worked at Cape Town's harbor and quarry as well as on Company woodcutting and cattle posts outside the town. Most settler households in Cape Town also possessed slaves who carried out all domestic labor, such as

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<sup>5</sup> Gipa, A. 2015 Bandung to use biodigester in waste-based power plant Jakarta Post ^th August 2015 file:///F:/Bandung%20to%20use%20biodigester%20in%20waste-based%20power%20plant%20-%20National%20-%20The%20Jakarta%20Post.html The aim of the 2-ton biodigester, according to Dipa (2015), is to produce power:

According to Bambang, a 2-ton capacity biodigester facility, like the one he installed at Gedebage market in Bandung, could produce up to 15 kilowatts of power per hour.

<sup>6</sup> Cape Town water crisis/hidden vaults in Table Mountain [adam spires - wannabe vlogger](#) Published on Jul 28, 2017. Retrieved August 28, 2018.

fetching water from pumps, cooking, and cleaning, as well as hawking fruit and vegetables in the local marketplace at Greenmarket Square ... on behalf of their owners. Female slaves also washed clothes at the Platteklip stream on the slopes of Table Mountain for private households, the military garrison at the Castle, and the ships anchored in Table Bay.

Paradoxically, in the current drought situation where Cape Town faces the prospect of Day Zero, the value of springs has been highlighted, and a bill has been passed to stress that water needs to be carefully managed. Owners of bore holes need to account for the water they use as from January 12, 2018, it is regarded as part of the commons.<sup>7</sup>

On January 12, however, the water department decreed that everyone in the Western Cape, specifically individual groundwater users, had to install “electronic water recording, monitoring or measuring devices”. There was no deadline for doing so but the first set of resulting measurements had to be emailed to the department before noon on Monday.

Property rights to land are also being placed on the new agenda for Cyril Ramaphosa in his first 100 days as Prime Minister. The displaced seek land restitution without compensation and dates have been set across South Africa for hearings on land claims.

In Bandung the Dutch introduced strict hierarchical management structures (Purwanto 2018) and ensured that refuse and water management occurred. Archaeological remains of a biodigester and clay pipes indicate the extent to which infrastructure was carefully managed. Currently, Bandung has refuse management systems behind the fish market that is not well managed. Water vendors ply their trade of filling water from holding tanks placed next to the failed biodigester and the informal housing belonging to people displaced from regional areas. Paradoxically some of those displaced to the cities come from a tea plantation set up by the Dutch on which families have worked for more than five generations. The tea plantation (previously owned by the State) has been sold to a Chinese multinational. Despite Jokowi’s land rights legislation that entitles everyone to land, the people were required to leave and were not informed of their right to alternative land.<sup>8</sup>

Bandung also faces energy costs and the challenge of encouraging the take up of renewable energy options. Some of the regional areas near Bandung rely on small biodigesters to recycle waste and to provide energy for domestic use (lighting and cooking); unlike the large (failed) biodigester built by the Asian Development Bank and mismanaged by provincial government, the small biodigesters are managed by an award winning co-operative in Cianjur.

<sup>7</sup>De Wet, P. Western Cape – boreholes made illegal [Mail](https://mg.co.za/article/2018-01-18-tough-new-regulations-hit-western-cape-borehole-users) and Guardian 18 Jan 2018 08:06 <https://mg.co.za/article/2018-01-18-tough-new-regulations-hit-western-cape-borehole-users>.

<sup>8</sup>This case is discussed by McIntyre et al. 2018, forthcoming, volume 2 of the Springer Series. The cities and regions on which they depend are addressed in terms of their approach to food, water and energy security. The role of labour in supporting the Dutch East India Company and the role that the company played in undermining the commons are briefly sketched. Cape Town was unable to implement a desalination plant, because of energy insecurity (as a result of over reliance on coal and a lack of renewable energy). Intermittent outages made Cape Town city council decide not to bother with the introduction of a desalination plant. Such a plant is also potentially damaging for the environment unless ph. levels are carefully managed.

The chapter maps out a program of study to address the way in which people address risk and the social, economic and environmental strategies that they use. Traditionally people may have approached risk through ‘spending, saving or investing’ (Zuijderduijn and De Moor 2013). Hoarding grain to shore up defences for lean years was one approach to risk. Increasing diversification included spreading the production across a range of regions so that climate-associated risks could be minimised. Other options include diversifying a range of investments. One of the strategies that became the basis for the first market was to back investors who ‘opened up’ markets in the new world. The VOC held the monopoly of trade, started a stock market and was able to control commodity prices. The profit motif shaped the attitude to land and sentient beings as resources.

The paper makes the case that risk was displaced from Holland to the colonies through enclosures, commodification and enslavement. The short paper will give an overview of the way in which Indigenous people such as the Khoi were displaced in the Cape and how, in Batavia, people were enslaved and sent to the Cape to work as skilled builders:

Within four years of Van Riebeeck’s arrival, the first war between the Khoikhoi and the Dutch broke out, as the Khoi clans tried to drive away the Dutch who had appropriated their land, forcing them into less fertile areas of the region. Soon the colonial project was well underway. With the systematic importation of slaves from mainly Dutch East Asia the Cape economy developed into a slave-based economy. This had profound repercussions at all levels of society, determining as it did social relations based on a slave/servant-master paradigm that translated within a short period of time into a racial hierarchical social order.<sup>9</sup>

Slave labour from South East Asia was supplemented with slaves from the Portuguese colonies. Their skills as farmers, builders and domestic workers built the economy of the Cape. When the British took over in 1830, slavery did not end. The labourers on the land continued after the formal end of slavery. In the interior slavery was the result of displaced Boer farmers making arrangements with rival tribes to enslave the surviving women and children as indentured labourers. Morton (2017) describes how this form of disguised slavery called *Inboekeling*, a form of indentured labour, persisted well into the eighteenth century.

### ***Axiology, Ontology, Epistemology and Methodology***

The axiology underpinning these ventures was profit and taking civilisation (and enlightenment) to the colonies. The argument developed in this paper (and the volumes from which it is drawn) is that a new approach to risk is required, based on what Bostrom (2011) has called ‘existential risk’. These include social, economic and environmental risks to human beings and the planet.

This paper makes the case that the ontology underpinning risk management needs to be expanded to include an approach that appreciates the interdependency

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<sup>9</sup><http://www.sahistory.org.za/topic/dutch-east-india-company-deicvoc>



of living systems and that human beings are a strand within this system. The non-anthropocentric epistemology underpinning risk management needs to be rooted in many ways of knowing, including the arts, social and natural sciences as well as an appreciation of tacit knowledge of many living systems.

The methodology to address risk management advocated in this paper (and in the program of research from which this paper is drawn) advocates reframing economics based on (a) a priori *norms* (that appreciate the interconnectedness of social, economic and environmental systems) and (b) a posteriori *measures* to protect a raft of social, economic and environmental wellbeing stocks, as suggested by Stiglitz et al. (2010). The paper then continues to make a case for the need to change the narrative that supported the epistemic policy to maximise profit. Later the paper develops an alternative epistemic policy narrative to protect wellbeing through advocating a form of development that focuses on ways to promote the role of the ecological citizen who strives to ‘be the change’ and to demonstrate this through everyday praxis.

The notion that the Cape was ‘unpopulated’ ignored the existence of local population who were quickly suppressed in frontier skirmishes. The first buildings were forts.<sup>10</sup>

Giddens (1990) stressed in the *The Consequences of Modernity* that trust is contingent and that risks escalate when transfers are disembedded from local contexts.

Large city populations become unstable when living costs are unaffordable. It is not surprising that the so-called Arab Spring started as a result of rising food costs. In Solo, Indonesia, riots occur when living costs and cooking oil become too expensive for the small street traders to survive. The demographic (dividend), namely, high population growth and rising number of young people, could become the trigger for political unrest in rapidly urbanising cities such as in Africa and Indonesia where the rising levels of unemployment and poverty result in the vulnerability of women and children to crime and trafficking.

This paper concentrates on the need to develop policy and praxis to protect the commons through a critical and systemic approach. The paper explores Inglehart’s (1997) notion of culture shift, Norvey et al.’s (2017) reflections on Inglehart’s thesis and Giddens’s (1990) essay on the *The Consequences of Modernity*.

- The greater the level of (A) public education on Nussbaum’s ten capabilities for a life worth living, the more likely (B) people are to participate as active agents to protect their rights.
- The greater the level of (A) participation through diverse forms of engagement to protect of local habitat and local living systems as stocks for wellbeing, the greater the mitigation and adaptation to climate change.

A completely new approach to economics is needed if we are to have a hope of addressing the consequences of the worst aspects of modernity. The crisis in water delivery in Cape Town is the result of cascading factors that will be explained in this brief paper designed to join up the policy dots and to develop the case for

<sup>10</sup><https://www.colonialvoyage.com/dutch-south-africa/#>



transformative praxis based on the assumption that social and environmental justice rests on an understanding of our interconnectedness. If the UN 2030 Development Agenda is to be achieved, then widening gap between perceived needs and outcomes will need to be addressed through an alternative approach to representation, accountability and regeneration.

When food, water and energy costs rise, it poses a threat to human security; it is time to question the way in which economics currently values the essentials of a life worth living. This is a point made by Stiglitz et al. (2010) who stress the importance of supporting a raft of measures to support so-called wellbeing stocks for future generations. This theme was elaborated in *Transformation from Wall Street to Wellbeing* (McIntyre-Mills et al. 2014) in which the case is made for a new way to address cascade economics by valuing the fabric of life appropriately.

Small pilot projects to evaluate alternative ways of engaging the community to think about the social, economic and environmental indicators of wellbeing were tested by means of a prototype. The focus is on protecting 'wellbeing stocks' a concept adapted from Stiglitz et al. (2010: 15) to refer to a multidimensional measure of wellbeing spanning.<sup>11</sup>

In order to manage the commons, mutual agreements need to be negotiated, and records need to be kept, in order to protect the interests of stakeholders. The commons need to be theorised as a legal concept (Marella 2017), a transformative governance concept (see *Planetary Passport*, McIntyre-Mills 2017 and *Systemic Ethics*, McIntyre-Mills 2014). *Planetary Passport* provides a new epistemic narrative and responds to the 2030 Development Agenda and suggests a way to enhance representation and accountability by extending the Millennium Goals and UN Sustainable Development Agenda. It reflects on studies of alternative architectures for democracy and governance and suggests a way to extend local engagement in social, economic and environmental decision-making.<sup>12</sup> All the points are made in *Planetary Passport* and *Balancing Individualism and Collectivism* and again in forthcoming companion volumes for Contemporary Systems Series called 'Mixed Methods and Cross Disciplinary Research Towards Cultivating Eco-systemic Living: We are the land and the waters' and 'Democracy and Governance for Resourcing the Commons:

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<sup>11</sup> '1. Material living standards (income, consumption and wealth), 2. Health, 3. Education, 4. Personal activities including work, 5. Political voice and governance, 6. Social connections and relationships, 7. Environment (present and future conditions), 8. Insecurity, of an economy as well as a physical nature'.

<sup>12</sup>The engagement processes (see *Balancing Individualism and Collectivism*, McIntyre-Mills et al. 2017) that enable protecting the commons are explored in the companion volumes in which the rationale for a new way of living is developed with participants in Africa and Indonesia, where risks associated with displacement and loss are explored in more depth. The rationale for a more ethical form of representation and accountability to support cosmopolitan transdisciplinary approach is detailed in *Systemic Ethics* (McIntyre-Mills 2014). Then in *Planetary Passport for Re-generation: knowing our place through recognizing our hybridity*' (McIntyre-Mills 2017), a case is made that the commons could be protected through working across conceptual and spatial boundaries to enable low-carbon, virtuous living in which resources are saved and regenerated to protect current and future generations of living systems.

theory and practice on rural-urban balance to address loss and displacement'<sup>13</sup>. The program of research conceptualises new architectures for democracy and better governance through:

- Addressing the issue of a priori norms and a posteriori measures for transformation towards regenerative living
- Finding ways to match social, cultural, economic and environmental property decisions to perceived needs with a focus on food, energy and water security
- Narrowing the gap between perceived needs and the way resources are distributed and the way it influences service outcomes

## Food, Energy and Water Security in Cape Town and Bandung

Large city populations become unstable when living costs are unaffordable. It is not surprising that the so-called Arab Spring started as a result of rising food costs. In Solo, Indonesia, riots occur when living costs and cooking oil become too expensive for the small street traders to survive. The demographic (dividend), namely, high population growth and rising number of young people, could become the trigger for political unrest in rapidly urbanising cities such as in Africa and Indonesia where the rising levels of unemployment and poverty result in the vulnerability of women and children (crime and trafficking).

The need to link positive vocational training with positive digital engagement through social, economic and environmental pathways to wellbeing is very important for human security. The training in 'joining up the dots' is facilitated by the pathways to wellbeing software.

Bandung is chosen for comparison with Cape Town because both cities face increased urbanisation. However, Indonesia has a policy that fosters recycling of waste and water as well as a policy on rural development. It is called the 'Jokowi one village one entrepreneurial project' to support poverty reduction. This could provide lessons for sustainability, and approach could inform vocational education and training in South Africa to learn from the experience in Indonesia.

The research contributes to a new area, namely, the commons as a process and a sense of connection to living systems, rather than as a resource 'held in common', to cite Bollier and Helfrich (2012)<sup>14</sup>:

*The commons is not a resource.* It is a resource *plus* a defined community *and* the protocols, values and norms devised by the community to manage its resources....

<sup>13</sup>These volumes are due for publication in 2018, based on our symposium in December hosted at Flinders and University of Padjadjaran. Colleagues from University of South Africa where I am honorary Prof also attended and have provided papers.

<sup>14</sup>07/15/2011 'I am always trying to figure out how to explain the idea of the commons to newcomers who find it hard to grasp. In preparation for a talk that I gave at the Caux Forum for Human Security, near Montreux, Switzerland, I came up with a fairly short overview, which I have copied below...:<http://www.bollier.org/commons-short-and-sweet>'

*There is no commons without commoning*—the social practices and norms for managing a resource for collective benefit.

It is a sine qua non of critical systemic research that wicked problems need to be researched critically and systemically. Wicked problems by definition are complex. They comprise many interrelated variables that are perceived differently by different stakeholders and must be explored contextually (see Flood and Carson 1993; Rittel and Webber 1984; West Churchman 1979, 1982). However, the collaboration across stakeholders needs to be guided by the axiom that we can be free and diverse to the extent that our freedom and diversity do not undermine the common good of both current and future generation of life.

This axiom has been explored in depth in previous work (see McIntyre-Mills 2006, 2014, 2017). It explores the notion that our fate is determined by a realisation of our interdependence. It aims to increase an understanding of life chances and dynamics of vulnerable population groups in areas most affected by climate change-related areas. Significantly, the collection responds to complex ethical policy challenges posed by the Paris Agreement and the UN Sustainable Development Goals, in order to narrow the gap in living standards between rich and poor. Policy choices made by this generation shape the wellbeing of both current and future generations. The outcome will be a better understanding of sociocultural discourses, life chances and behaviour to inform policy and to improve public administration by learning what does and does not work and why from the most vulnerable populations.

For example, in Alam Endah, a case study demonstrates low rates of outmigration as a result of community engagement in sustainable living and regenerative activities. The potential for women to be further empowered through enhancing their representation and accountability is explored. Whereas in Cianjur, a contrasting case study demonstrates low levels of sustainable businesses and high rates of outmigration resulting in higher risks of trafficking for women and young people.

### ***Methodology: A Critical Review of Everyday News on Democracy, Agency and Governance***

A critical reading of the sociology and anthropology of development (Gibson-Graham and Miller 2015) and capabilities studies (Nussbaum 2011, Sen 2000) provides the lens through which human rights are considered. The case study makes a contribution towards integrating data on so-called wellbeing stocks spanning the health of multiple species, habitat, housing and social inclusion informed by mixed methods (Hesse-Biber 2010; Mertens 2009, 2016), comparative case studies and a critical reading of everyday news media.

The paper is about the need to do new forms of ‘field work’ spanning digital and paper-based archives on current events that are experienced and the accompanying

news reportage as issues unfolds<sup>15</sup>. John and Jean Comaroff used ‘news’ as a lens to reflect on the everyday, in order to understand contemporary issues which today is bandied around as real versus fake news. In this paper a case is made for a way forward to address gendered, cross-cultural perspectives on what it means or could mean to shape a new ecological narrative about citizens who conserves resources through everyday decisions and who sets the example by making changes which drive transformation from below. The symposium on which the paper draws enabled critical and systemic reflection on conservation and consumption by drawing on primary and secondary research data as well as everyday news.

Presentations on real news and the lobbying by social movements have driven some of the culture shift that has enabled Cape Town to push back Day Zero to 11th of July at the time this paper was written.

Daily reflection on everyday challenges in the Anthropocene (where choices matter in a very real sense) provides a lens for critical reflection. The case is made based on research underpinning the two volumes for the mixed methods symposium that cultural transformation occurs from below and above but that the momentum for transformation needs to be maintained by balancing individual and collective interests (McIntyre-Mills et al. 2017) to protect the commons.

In *Systemic Ethics* (McIntyre-Mills 2014), *Transformation from Wall Street to Wellbeing* (McIntyre-Mills et al. 2014) and *Planetary passport* (2017), the emotion of greed is explored and the way people consume, in order to have status in a context where they are disrespected in capitalist society (Wilkinson and Pickett).

In more unequal societies people may be tempted to consume more to keep up appearances. This feeds into the agenda of capitalist advertising which supports the market.

Culture shift has achieved changes in consumption in Cape Town through policy and governance changes from above and social pressure from below to change. Giddens (1990: 15) stresses that the so-called double hermeneutic is vital. We are part of our subject matter, and we can transform the ‘real’ situations through reframing and constructive engagement. Emancipation, however, from old styles of left-right thinking needs to be carefully considered.

The left/right dichotomy seems to mean less and less in the political spaces left by monopoly capitalism in a neoliberal nation state that has open boundaries for global capital, but closed boundaries for the free movement of people. Examination of the principle values that underpin parties and policies should be a starting point. The extent, to which people and the ecosystem on which they rely are protected, should be the basis for decision-making that is systemically

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<sup>15</sup>Who decides what is real or fake and on what basis? Critical systemic social anthropology helps reflect on current events by drawing on documents and media. It can be regarded as fieldwork on everyday life and experiences. Axel (2002) edited a series of papers on ‘historical anthropology as a way to comment on everyday life’. Jean Comaroff contributed to Axel’s volume, and when I read her chapter, it reminded me of her role in my life as she kindly commented to my own work many years ago as a raw social anthropologist trying to write a Master’s thesis.

ethical and sustainable. Self-reflection and the ability to think about our thinking and practice is a first step.

This is a discursive piece drawing on my experience as a participant observer in a range of places (in which I have lived as a citizen, a visiting academic and as a reader of everyday news<sup>16</sup>). I make the case that context matters when matching the right response in context and like Flyvbjerg (1998) I see no contradiction in being guided by a priori norms plus the need to assess the extent to which democracy supports the everyday lives of people. I am tempted to re-consider the term ‘grass roots democracy’, because in the era of climate change, access to lawns and leafy suburbs is increasingly rare.

I want to cast my mind to the role of the *Dutch East India Company* (VOC) in shaping the current way of life in two places with which we are connected, namely, Cape Town and Bandung. The history of Cape Town and Bandung has a parallel history in that both places were colonised by the Dutch and then recolonised by the British and Japanese, respectively.

In both contexts, Indigenous people were subject to colonial law, and the land, waters and people were seen as the territory of the company acting for their colonial masters and the glory of the Dutch empire. Similarly the British government regarded her colonies as part of their empire, and after the independence from colonial rule, the territories became part of a common wealth of nations linked with Britain.

The Japanese government saw Indonesia as a bulwark against China and regarded the defeated Indonesians as subjects who were required to kowtow to the Japanese emperor. The issue of rights during their respective colonial pasts is thus a common theme across both Cape Town and Bandung.

The local knowledge of people in the Western Cape and West Java was regarded as a potential source of profit for the Dutch. Paradoxically in both places, the enclosure of the commons by the VOC and the expansion of neoliberalism has resulted in the potential for cascading systemic risks. At the time the paper was written, Cape Town was in the midst of a water crisis but, in the early days of the Cape, made careful use of aquifers in the planning of the city. The Cape Town provincial government has been prompted by local historians to reconsider the careful management of underground water supplies. Currently springs and aquifers are the source of water for many residents who fear that the municipal water supplies will run out before the next rainy season. The management and protection of water quality is now a source of tension across the local, provincial and national level as the political party in the Cape; the Democratic Alliance (DA) stresses that it is a government responsibility as set out in the constitution. The federal government stresses that

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<sup>16</sup>My contributions include reflection on time spent during January helping my elderly parents prepare for Day Zero an event that has been staved off through conserving water and by donations of water from agricultural users to the city of Cape Town. It also draws on contributions in the form of posters, papers and presentations as well as participant observer experiences in Australia, Indonesia and South Africa of the experience of trying to conserve water through consuming less as part of the response to the plummeting water levels in the six dams serving Cape Town.

legislation makes it clear that it is a provincial responsibility. The bottom line is that the taps could run dry when the dam levels reach 13.5%. At the time of writing, the dam levels are at 16%. The rural-urban imbalance in South Africa is due to the control of migration which is a legacy of the Dutch and the British and then the successive colonial regimes.

The management of run off from Table Mountain into springs provided a safe supply of water which became a more or less forgotten resource as Cape Town developed a system of dams to provide water for the city.

Bandung has a refuse management crisis, but in the early days of Bandung, the Dutch built canals and garbage collection points as part of the management of Batavia. In the hills near Bandung where the tea plantations of the Dutch were developed and where a local dairy co-operative is located, biogas is routinely used. biodigesters are built and communally managed.

The co-operative approach is key to the success, and we discussed the importance of adding value to milk products and diversifying away from animal husbandry to protect local products such as protecting free-ranging civet cats (or luwaks) who eat local foliage and whose faeces are used to produce high-priced coffee. Maintaining the cycle of fertilisation is important to maintain the natural habitat of the luwaks and the forests that provide a green belt, prevent erosion and provide a micro climate that supports the biodiversity of the region. This has been supported by Maathai (2004) and Flannery (2012).

As people move to the city environments, it becomes clear that much of this knowledge is set aside as people strive to survive in a competitive capitalist environment. Instead of the locally maintained biodigesters for biogas production associated with face to face village culture and the co-operative system, waste management is no longer regarded as shared concern.

A biodigester project was funded by the Asian Development Bank and set up without acknowledging that the knowledge already existed during the colonial era when urbanisation was fostered by the Dutch and when commercial production of tea on plantations started.

The profit motif of the Dutch and Japanese has been maintained by the Indonesian government who recently privatised a section of a plantation in the Ciwidey region. This has resulted in people leaving the land after generations.

The landless settled in informal settlements such as the area located behind the Central Bandung Market, known ironically as the 'Hygienic Fish Market'. The biodigester built behind the fish market and an informal sector housing area has failed at the time of the research (McIntyre-Mills 2017). It was not properly set up as a community development initiative. The rubbish was merely piled next to it. No one felt responsible for doing the work of loading the rubbish into the digester plant. A bottled water distribution point is located less than 100 m from the plant and surrounded by decaying matter, including discarded nappies. Water vendors come with their bicycles and water containers and then distribute the decanted water in litre and half litre bottles.

For many vending water or selling vegetables, fish and meat at the market and further afield enables their survival.

### *Towards Research for Transformation*

According to Boulding's (1956) analysis of the science, the relationship within and across the levels becomes increasingly complex from the inorganic to organic plant and animal life and then social and cultural systems. Although he uses an organic analogy, he divides the science into categorical levels—as if they are rungs of an Aristotelian hierarchy—without explicitly stressing that human beings are indeed animals and that we are hybrid hosts to organic life in the form of a range of micro-organisms. We produce waste materials that in turn provide the organic basis for plant life, and we are unable to survive unless we maintain a chemical and mechanical balance. The potential for augmenting our intelligence (or not) by using digital technology connects human beings directly with artificially designed forms that could become post human (for better or worse). Thus designs and the design choices of human beings are very important for the future of living systems. Whilst general systems theory has the potential to inform our understanding of the world and to alert us to the way in which organic life and intelligence builds as a continuum across inorganic and organic life, it needs to be open to critical revision.

Ariel Salleh (2016) and Donna Haraway (1991, 2016) analyse the way in which science, politics and ethics are interrelated and gendered. But knowledge discourses as Foucault and Gordon (1980) and Bacchi (2009) has cautioned are also shaped by power imbalances. An intersectional analysis reveals how much worse off a woman can be if she is also working class, destitute, a member of a marginal political group, a refugee or disabled.

Nussbaum's (2006) discussion of 'The Last Frontiers of Justice' to those who are outside the protection of the social contract, namely, women (in some nation states), young people and sentient beings who are voiceless, is later developed into a plea for rights for all sentient beings (based on an idealist categorical type argument). Without supporting the essentialism of categorical politics, a right-based argument is vital if we are to extend the ethics of care and solidarity with others beyond the boundaries of our family, friends, nation state and care about others by virtue of their right to a life worth living.

A negative use of divide and rule has long been a tactic. It was employed ruthlessly by the Dutch East India Company and by other colonisers that followed. Identity politics can be employed in positive ways if it helps to build postnational solidarity. The era of the Anthropocene needs to be seen as the result of unequal power dynamics that are class based, gendered and rooted in a colonial past and a global economy that remains alive and well and persistent in striving for profit at the expense of those who cannot resist dispossession or wage slavery.

Ariel Salleh (2016) stresses that Aristotle developed hierarchical categories that ranked God, man, woman, slaves, animals and the natural world. She stresses that the disassociation of the women's movement from the natural world as a form of resistance is problematic and that ecological feminism is a response to this. Whilst Salleh's analysis demonstrates a deep understanding of the politics of the women's movement and the analysis is sound, her conclusion that all problems can be rooted



in masculinity and gendered identity politics is problematic, as it results in her falling into her own trap. By saying god is a woman also falls into the same trap, albeit a satisfactory thought (unless of course she is a femocrat!). Whilst she makes a sound case for fluidity and interconnection, her conclusion reverts to identity politics and categorical thinking.

Dualistic thinking is indeed problematic, and the division of us/them/culture/nature and mind/body is a result of the Cartesian legacy, but woman merely change places with men in a hierarchy. Whilst most of the criticisms made by Vandana's critics are easily refuted and clearly rooted in support of the status quo – namely, neoliberal economics and the globalisation of agriculture—the point made by some that her work tends to privilege nationalism and Hinduism is perhaps a little unfair but worth stressing that a postcolonial approach needs to acknowledge the past, namely, that people, women and indigenous women globally, were and are oppressed and dispossessed of habitat. The level of oppression increases with the degree of power imbalance.

But the potential of critique is that the 'molar' rooted category is seen instead as 'molecular' potential state capable of transformation. This is where the work of Deleuze and Guattari (Bogue 1989) and Haraway (1991, 2016) informs my understanding and where I see the potential of praxis. Critical analysis needs to be rooted in agency and to learn from lived experience, but it also needs to not be limited by personal (past) experience. Hope for the future rests in the capacity to appreciate potential opportunities (without naivete and without a critical reading of the social, cultural, political and economic situation).

Boulding is also correct about the importance of values in shaping transformation for the better or worse. My understanding of the potential for cultural change is rooted in an organic appreciation of cross-cutting power dynamics and the potential for bringing about change at a personal level and through political nudges and governance measures to ensure transparency in the use and management of resources.

The continuum across organic and inorganic systems can be better understood as hybrid and interconnected. In this sense the insights of Haraway (1991) and Deleuz and Guattari (Bogue 1989) are key to this understanding of webs and flows which recognise the potential for change. The identity politics of 'us versus them' can be used across all political persuasions (including the neoliberal state) to divide and rule. Thus although I accept the argument by Ariel Salleh (2016) that gender is necessary for understanding poverty and climate change, it is insufficient and emotionally bleak to polarise half of humanity when transformation requires a cultural shift of the currently powerful to recognised their shared vulnerability with the (currently) powerless. The role of social movements to create solidarity in cross-cutting intersectional networks without abandoning principles requires balancing individual and collective needs in the interests of living systems.

Socio-economic paradigms as we know them today are merely a reflection of current politics and have the potential for change through drawing on the potential of a new form of ecology and economics.

The critical systemic approach relates to the way in which people perceive the world and the purposive way in which human beings try to address areas of concern.

The complexity of the system increases as the number of variables increases, the relationships across variables increase and the way the variables are perceived differently by different stakeholders.

Transformation requires transcendence based on an appreciation of our interconnectedness with all living systems and our responsibility for all life: ecological governance informed by a sense of cosmopolitan values and rooted in an appreciation of nature may provide the seeds for regeneration (Bignall et al. 2016).

Globally water insecurity is increasing in major cities around the world as climate change deepens. The same federated news 24 report<sup>17</sup> cites Emeritus Professor Graham Cogley, of Trent University, Ontario Canada as follows:

“Dozens of mega-cities, rich and poor, are sinking: Jakarta, Mexico City, Tokyo and dozens of cities in China, including Tianjin, Beijing and Shanghai have all dropped by a couple of meters over the last century”. The same report then cites Arjen Hoekstra, University of Twente, Netherlands directly as follows, and I quote it in full as follows:

“Half a billion people in the world face severe scarcity all year round... More than one in three live in India, with another 73 million in Pakistan, 27 million in Egypt, 20 million in Mexico, 20 million in Saudi Arabia and 18 million in war-torn Yemen.”

## Enclosure of the Commons

The history of enclosures and arguments about privatisation of the commons can be traced back to Dutch East India Company, and the theme follows through as the British colonial powers expanded their territory to include the so-called commonwealth.

But the focus in this paper is on Cape Town, South Africa, and Bandung, Indonesia, where colonisation by the Dutch British and the Japanese impacted on the independence of the local people.

The political and historical context of both cases need to be taken into account to understand social and environmental in justice that results from epistemic policy on climate change driven by elites who have complicit links with the market and unsustainable carbon economies that make the IPPC formula window dressing, rather than a normative a priori guide to policy making and a guide to a posteriori governance to achieve the UN benchmarks set by the local government agenda.

It is small wonder that without a comprehensive intersectional understanding, people feel ‘let down’ by current policies.<sup>18</sup>

<sup>17</sup><https://www.news24.com/Green/News/for-global-water-crisis-climate-may-be-the-last-straw-20180213>

<sup>18</sup>The Intergovernmental Panel on Climate Change (IPCC) formula suggests that the privileged urban lives of some could lead to ‘existential risk’ for people and the planet (Bostrom 2011) which is why it is necessary to enhance our understanding of consumption. Nussbaum discusses the essential capabilities that are needed by sentient beings to live a life worth living. She takes the initiative to design and construct the essential conditions. She is not suggesting that people should be limited; she is making a case for extending rights beyond the human, and in many ways she is

Donna Haraway stresses that some of the challenges need to be addressed within very specific contexts. Haraway stresses that all knowledge is situated and that we need to develop specific responses by appreciating the many factors that shape life chances within context. How we make sense of the world is shaped by our life experiences. Being aware that we are indeed the boundaries, because we can make and remake the boundaries through our policy decisions, is an important starting point for design. A great deal of the writing by Haraway critiques the notion of essentialism and instead stresses that being boundary creators frees people from the limitations of categories and recognises our hybrid relationships with others including living systems of which we are a part.<sup>19</sup>

The challenge is to face up to our interconnectedness and to be able to hold in mind many variables. “Us/them” need not be expressed in terms of tribes, organisations and nations. Spaceship Earth is a metaphor used by Kenneth Boulding to help reconnect humanity’s sense of geography with the planet and the universe of which we are a part. It is a plea that we should strive to achieve transcendence. Human beings face the challenge of wanting to be individuals and also to be part of group. They have evolved through ability to co-operate and compete.

In order to address areas of concern in a manner that is appropriate, it is necessary to develop ethical literacy by working across disciplines in the social and natural sciences. The argument that I develop is that by drawing on primatology, we can learn that animals (primates and many mammals) have the capacity for empathy, reciprocity and fairness and that human beings have evolved because of their capacity to co-operate and not only their capacity to compete. Nevertheless, the next step for transcendence is to recognise our interdependency. Therefore, the thesis I develop in *Planetary Passport* and *Recognising our hybridity and interconnectedness* is the next step we need to take in order to secure our interdependent future within an increasingly fragile living system (McIntyre-Mills 2017).

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reframing in the way that Haraway advocates when Nussbaum (2006) wrote *Frontiers of Justice* and discussed the current limitations of social contract theory to protect those who fall outside the boundaries of the nation state or outside the parameters of state protection as they are non-citizens. These include asylum seekers, those who have lost citizenship because they are labelled criminal and ‘other’, the disabled, and she importantly extends protection to all sentient beings and the need to protect the environment on which we all depend. In this way she introduces protection of habitat for all living systems, although she does not specifically spell out our hybrid inter dependency. Andrea Nightingale has developed an intersectional study on access to land in Nepal that is shaped by caste and gender. Thus intersectional analyses need to take categories as just one dimension of more comprehensive analyses to support social and environmental justice.

<sup>19</sup>Haraway’s approach is very different from Martha Nussbaum’s approach. Nussbaum is normative in prescribing the conditions for human rights. I think that whilst their approaches are different, both have much to offer in terms of providing guidelines for protecting people and the environment. Haraway analysed the oppositional logic of scientific and sociological narratives to explore the way in which we make sense of the world in terms of us/them, west/east/ animal/human and machine/human. Haraway’s mission was to demonstrate that we can make choices about how we draw and redraw these boundaries.

New narratives stressing our interdependence are needed to reframe the current approach to containerist us/them thinking that shaped by international elites who are supported by capitalist agendas.

Giddens (1990: 59 see Fig. 1) outlines four dimensions of modernity, namely, which I draw on closely and to which I add comments and which I extend in square brackets:

- ‘Surveillance (through control of information and supervision of labour and the market)’ [now applied through increasingly formalised means as exposed by Greg Snowden and Julian Assange through in WikiLeaks]
- ‘Military power (control of means of war)’ [through industry with support of capital and the state which explains the importance of weapon races between nation states competing for power and ensuring that they have control through superiority in weapons of mass destruction]
- ‘Capitalism [capital for some at the expense of others through competitive labour and markets’ [that explains the way in which people and the planet are increasingly commodified]
- ‘Industrialism’ [through striving to achieve transformation of existing ecosystems through mastery and a non-ecological approach]

The lack of ecological thinking has yet to be acknowledged in current policies in South Africa that focus on nuclear power and deals that support coal at the expense of more renewable options.

Giddens (1990: 171) outlines the high consequence risks as ‘Growth of totalitarian power’, ‘nuclear conflict or war’, ‘Collapse of economic growth mechanisms’ and ‘ecological decay or disaster’. Internationally we are on track to experience all these scenarios; however, we do have the potential to redress them through critical systemic intervention.

The double hermeneutic enables us to address the challenge through transformational praxis that makes a difference socially, economically and environmentally through everyday choices. The first is to accept that we are all human animals and that ‘there is no planet B’, to cite the French President, Emmanuel Macron’ (2018) address to the US Congress.

The post materialist ‘culture shift’ (Inglehart 1990, 1997) requires both personal and political shifts brought about by policy transformations. The systemic interventionist approach by Midgley (2000) provides a way forward through providing steps to address diverse values and the conflicts that ensue. Analysing ways to address an area of concern can be assisted by using an application of Ulrich’s 12 boundary questions based on C. West Churchman’s design of inquiring systems approach. Whilst Churchman talks of unfolding values and sweeping in, this is extended in the West Churchman Series volume 3 (McIntyre-Mills 2006) to include social, cultural, political and economic variables in order to enhance decision-making. Churchman (1982) in *Thought and Wisdom* stresses that decisions (derived from Latin to cut) need to be made based on our values and that we should remain ever vigilant about the way in which religion, morality, politics and a sense of aesthetics can filter the way in which we see the world. He calls these ‘the enemies within’, because they make us human and compassionate or passionately inhumane.

Critical heuristics need to include social, cultural, political and economic variables, in order to enhance decision-making (McIntyre-Mills 2006). Churchman (1982) in *Thought and Wisdom* stresses that decisions (derived from Latin to cut) need to be made based on our values and that we should remain ever vigilant about the way in which religion, morality, politics and a sense of aesthetics can filter the way in which we see the world. He calls these ‘the enemies within’, because they make us human and compassionate or passionately inhumane. Thus the summary of 12 boundary questions (developed by his colleague Werner Ulrich based on his work) is only a guide to decision-making and should not be confused with a compartmentalist approach that ignores that all decisions need to be constantly revised to protect the webs and flows of living systems in which we are only a strand. So decisions made in the policy context need to be mindful of our responsibility to protect the commons, and these can be informed by using critical systemic thinking tools, starting with a critical review of patterns in data, but also the assumptions and values that underpin them.

A realisation that feedback loops based on systemic interconnections are vital to understanding risk has been raised by mainstream thinkers in sociology and economics. For example, whereas in his early books Ulrich Beck (1992, 1998) writes of the ‘boomerang effect’ of poverty and climate change in his later work Beck (2005, 2010) explicitly recognises carbon emissions and climate change and the risks they pose for people and the planet. Sir Nicholas Stern (2007) in ‘The Economics of Climate Change’ stresses that climate change will lead to increased feedback loops that could lead to rapid warming.

## **Cascading Risks and Policy Context of the Water Crisis in South Africa**

### ***The Capetonian Response: Solidarity of Residents Within a Region***

By exploring of transformation in water usage in Cape Town, the case study adds to the literature on that culture shifts by providing an in-depth example of the cross-cutting social, cultural, political and economic dimensions of changed behaviour associated with water conservation. It provides an example of the lack of mitigation forward planning offset by a rapid adaptation made at a household level to changed water availability.

The first vignette discussed in terms of the social, cultural, economic and environmental aspects in Volume 1, Chap. 5 and Volume 2, Chap. 15 focuses on the impact of urbanisation in a context of climate change in Cape Town, South Africa, where little preparation has been made for accommodating the higher population. This is partly due to the high cost of a desalination plant because of the cost of electricity (powered by a corrupt energy sector).

Water insecurity in Cape Town is sketched in the context of a neoliberal economy where class and race add additional layers to life chances. Late capitalism plays out at the margins in developing nations where globalisation impacts the market through offering carbon credits to offset polluters as suggested by Bond (2012) who links corrupt dealings across the market and the state that impacted the delivery of affordable safe electricity in South Africa. The World Bank and the South African state are complicit in supporting the Medupi coal plant. Thus by not limiting carbon emissions and continuing to support a coal economy, the IPCC formula has been ignored. The formula stresses: IPCC formula:  $E$  (Emissions) = Population  $\times$  Consumption per person  $\times$  Energy Efficiency  $\times$  Energy Emissions.

The need to explore the notion of footprint as a series of interconnections that flow as a result of the consequences of our decisions is elaborated in *Planetary Passport* (2017) and *Transformation from Wall Street to Wellbeing* (2014).

In Cape Town, there is a strong migration from the north. Potential policy pathways need to address displacement and loss that results in a flow of people from North Africa (less developed and more populated) down to Southern Africa (more developed and with a lower population growth rate) (Harper 2016). The push factors from the North are population growth affecting human food security (Harper 2016). These push factors are linked with the political dynamics of social exclusion, crop failure, land grabbing and land loss, food and water insecurity that make people vulnerable to migration or trafficking and the pull of urban life, the so-called Dick Wittington syndrome where life in the city is hoped to hold more opportunities. Thus, the case study focuses on climate change, displacement, loss, unemployment and poverty where drug trade and trafficking the vulnerable exist in the context of social and environmental injustice and insecurity. We are confronted daily of news of displaced people fleeing conflict or natural disaster. In 2018, Cape Town faces a water crisis because of:

- Drought and water insecurity associated with climate change
- An energy crisis
- Greater immigration from the north of Africa to the south
- Lack of governance and planning
- Failure in democracy and a crisis in the financial system

Each of these aspects is addressed in two volumes based on a multisite symposium (McIntyre-Mills et al. 2017) discussed in this chapter. The challenge is to balance the complex individual and collective needs in significant urban centres and the regional heart on which they depend for their survival. If we consider life chances and experiences across cohorts, then we are likely to understand that the social determinants of wellbeing such as access to safe habitat, housing, home ownership, full time and permanent employment will have an impact on resilience to disaster. Further research is needed to provide a better understanding of the intersections across the ecological humanities and ethics (Rose 2015; McIntyre-Mills 2017), demographics and multispecies ethnography.

According to Purvis (2016),<sup>20</sup> water stress is faced by at least 2.7 billion people globally for at least 1 month every year. In South Africa, the drought in the Western and Eastern Cape is thought to be linked with the change in temperature and a high-pressure area that has prevented rain. The cold Benguela current<sup>21</sup> shapes the winter rainfall and summer droughts.<sup>22</sup>

Cape Town, South Africa's largest metropolitan city, faces a water crisis in the rain shadow areas behind Table Mountain that creates upward currents and precipitation. Urbanisation and increased migration to the Western and Eastern Cape in search of work result in increased pressure on water, energy and food. Day Zero has been adjusted at the time of writing from 21 April to 12 April and then to the 11 July as the residents of the Cape continued to reduce their water usage to 50 L per person for a household of four people.<sup>23</sup>

Watts cites a botanist, David Gwynne-Evans:

You go to the shops and sees people buying 20 bottles of water. It is ridiculous increase of disposable plastic.

In Cape Town, drought has resulted in the need to rethink water usage. Recycling and reusing water is a matter of survival, and the new phenomenon of water theft and water smuggling has become part of the struggle. For example using water in unregulated ways from boreholes and springs became illegal from February 2018. Regulation will remain a challenge for the province, for example, theft of water from a local government reservoir was identified when a water truck was seen at an unusual time departing from the reservoir in Mogale. Apparently, this illegal smuggling had been operating for a few weeks until it was discovered by a councillor who noticed the irregularity and stopped the driver.<sup>24</sup>

The donation of water to the city by some fruit farmers<sup>25</sup> has enabled Cape Town to push out the date when water would cease to flow from taps. The historical lessons of how to survive sustainably in the Cape need to be revisited along with the latest research on integrated sustainable living approaches (Pauli 2010) and supporting the commons (Bollier and Helfrich 2012) and by learning from Indigenous first nations.

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<sup>20</sup> Purvis, K. 2016 <https://www.theguardian.com/cities/2016/jul/29/where-world-most-water-stressed-cities-drought> The Middle East has more desalination plants than anywhere else. Whilst Los Angeles and California have experienced water stress and insecurity in 2014 and 2015, they continued to use water liberally and relied on dwindling underground water supplies, according to Purvis. North Africa, the horn of Africa and Southern Africa (particularly the western and eastern cape) is experiencing the worst droughts in recorded history.

<sup>21</sup> <https://www.britannica.com/place/Benguela-Current>

<sup>22</sup> [http://learn.mindset.co.za/sites/default/files/resourcelib/emshare-show-note-asset/859\\_fdoc.pdf](http://learn.mindset.co.za/sites/default/files/resourcelib/emshare-show-note-asset/859_fdoc.pdf)

<sup>23</sup> How will Day Zero work? Don't ask the City of Cape Town. Times Live, 20th January, 2018

<sup>24</sup> <https://m.news24.com/SouthAfrica/News/tanker-company-says-it-was-duped-in-water-smuggling-scam-20180202>

<sup>25</sup> Some farmers were willing to share water with the residents of Cape Town as an act of generosity as their personal dams were full.



The National Water Act (1998) stresses that bulk water supply is a national government function, but the Department of Water Affairs and Forestry<sup>26</sup> stresses in the Preface of a document detailing responsibilities for local government that:

Since 2002 Local Government has the responsibility to implement water supply and sanitation services and the Department of Water Affairs and Forestry now acts as sector leader, by regulating, monitoring and supporting to ensure effective service provision.

According to the constitution of South Africa, it is the right of all South Africans to receive water.

The Department of Water Affairs and Forestry<sup>27</sup> (under the Minister of Water Affairs and Forestry):

sets the national objectives for protecting the resources in the national water resources strategy. Each catchment management agency is then responsible for protecting the catchments and aquifers within their water management areas in accordance with the national water resource strategy.

The United Nations report in January 2018 stresses that we are fast approaching critical levels in temperature and cites the Secretary-General's Special Representative for Disaster Risk Reduction, Robert Glasser:

A three-year streak of record hot years, each above 1° Celsius, combined with record-breaking economic losses from disasters in 2017 should tell us all that we are facing an existential threat to the planet which requires a drastic response... We are getting dangerously close to the limit of the 2°C temperature rise set out in the Paris Agreement and the desired goal of 1.5° will be even more difficult to maintain under present levels of greenhouse gas emissions," he underscored.<sup>28</sup>

Environmental changes at a global level are associated with increased risk of drought and consequent food and water insecurity as detailed by the UN Habitat report (2016). These events are more than one off droughts and as such pose an 'existential risk' (Bostrom 2011). Unfortunately, water provision had been neglected in the Western Cape. The Democratic Alliance was voted in by Capetonians, and the DA was held responsible for the lack of forward planning to cope with the increased immigration to the cape and the increase in tourism in the context of climate change.

At the time this chapter was written, water remains a political means to ensure that the DA take sole responsibility for the crisis, despite the boast that the Cape was one of the best run provinces. In Cape Town the Democratic Alliance won the vote. It was believed that Zuma had politicised his opportunity to block funding to the Cape by not signing the documentation to declare the Cape a disaster zone. The most marginal groups (the poor) are most likely to encounter water and food insecurity (Flyvbjerg 1998). A highly urbanised, environmentally affected region of the

<sup>26</sup>Department of Water Affairs and Forestry, Republic of South Africa. Water and Sanitation Business: The roles and responsibilities of local government and related institutions, [dwa.gov.za](http://dwa.gov.za)

<sup>27</sup>Department of Water Affairs and Forestry, Republic of South Africa. Water and Sanitation Business: The roles and responsibilities of local government and related institutions, [dwa.gov.za](http://dwa.gov.za)

<sup>28</sup>UN news 2018 'Near-record warm temperatures fuel deadly, costly weather events in 2017—UN. <https://news.un.org/en/story/2018/01/1000721>

Western Cape and Cape Town faces the cascading impact on the habitat across the continuum from domestic, liminal, agricultural and wild animal life (to draw on Donaldson and Kymlicka 2011). The loss of territory for wild life has led to contested habitat and threat to the survival of many species. Climate change has magnified the effects of displacement and loss for human, animal and plant life<sup>29</sup>:

The Fynbos in the Western Cape Region of South Africa, which is experiencing a drought that has led to water shortages in Cape Town, could face localised extinctions of a third of its species, many of which are unique to that region.

Agency can and does play a vital role in reshaping the bleakest of analyses of South Africa's future. South Africa has defied the blood bath scenarios and can defy the 'shit storm' scenario (Bond 2018). Service delivery protests, state capture protests (Bond and Mottiar 2013) and fees must fall protests have resulted in the successful election of a new president of the ANC who has been installed with dignity whilst creating alliances that will enable those who have been left behind (particularly the unemployed young people) who will need to be given a stake in the increasingly divided cities.<sup>30</sup>

The poverty gap is widening in South Africa, according to an Oxfam report (2017).<sup>31</sup>

According to Oxfam, in SA the richest 1% of the population has 42% of the total wealth.

In the latest UN Habitat report (2016:206) it is stressed that:

South Africa Cape Town 2005 was listed as 0.67, South Africa Ekurhuleni (East Rand) as 2005 as 0.74, South Africa eThekweni (Durban) 2005 as 0.72, South Africa Johannesburg 2005 as 0.75.

Cape Town is slightly less divided than other cities according to the UN Habitat figures for 2011 cited a year later by Zille (2012). However, the statistics used are for 2005, and they were used in both the UN Habitat Report for 2016 and the same earlier one to which Zille was referring. I repeat and quote in full so that the point can be made clearly:

All SA cities show a high level of inequality. The measure the UN-Habitat uses is the Gini coefficient, a measure of the inequality of income. A Gini coefficient of 0 means total income equality – where everyone has the same income. A Gini coefficient of 1 means maximum inequality. One person has it all

She then goes on to cite the report directly in detail, which I check:

A rating of 0.4 is considered the international alert line for high inequality. In South Africa, Johannesburg and East London have an 0.75 rating, the East Rand and Bloemfontein 0.74,

<sup>29</sup> Climate change risk for half of plant and animal species in biodiversity hotspots, 13th March, 2018 <https://www.sciencedaily.com/releases/2018/03/180313225505.htm>

<sup>30</sup> UN-Habitat Executive-Director Joan Clos discusses how cities are affected by climate change – and what they are doing to lower carbon emissions. Follow our COP23 coverage: [un.org/sustainable-development/COP23](http://un.org/sustainable-development/COP23).

<sup>31</sup> <https://www.businesslive.co.za/bd/national/2017-01-16-sas-rich-poor-gap-is-far-worse-than-feared-says-oxfam-inequality-report/>

Pietermaritzburg 0.73, Pretoria, Port Elizabeth and Durban carry a 0.72 rating, while Cape Town has a rating of 0.67. This clearly shows high levels of inequality in Cape Town, but still makes it lower than other cities.<sup>32</sup>

Thus, although Cape Town is not the most unequal in South Africa, it is certainly one of the world's most unequal cities.

The transfer of dammed water to the metropolitan area has staved off Day Zero, but the drought impacts reliance on springs and may place increasing pressure on animals. Dirk (January 2017) stresses in her article that whilst bottled water has been donated through volunteers to the Western Cape, the impact on animals has not been thought through. She makes a plea for more water and feed for animals and highlights how the drought has already affected farm animals in other areas. She stresses<sup>33</sup>:

Farmers in Namaqualand and Kalahari have had to feed potatoes to their cattle to keep them alive. Other farmers have had to kill their animals because they cannot afford to feed them. "It is heartbreaking to see a calf look for shade in which to die because its mother has starved to death," said Gerber. ... 2000 bales of hay have been collected and transported to feed these starving animals.

Another problem that has not been thought through (not mentioned in her paper) is the way in which the many plastic bottles are being used to rush water to the cape. The cascading effects of heavy use of carbon resulting in climate change (Stiglitz et al. 2010) are now leading to reliance on plastic (carbon based and non-renewable forms) to provide water in an emergency that could be staved off by using available water more carefully.

The impact of the drought on all quality of life of sentient beings (Nussbaum 2006) has been underestimated, and the last *Frontiers of Justice* needs to take into account policies to mitigate and adapt to climate change in the Western Cape.<sup>34</sup> Highly urbanised regions in disaster-prone regions face convergent challenges and are at risk unless strategies are explored with service users and all levels of government to find better pathways to social and environmental justice for human and animal life and their shared habitat. The systemically interconnected nature of social, economic and environmental danger and risks are explored elsewhere (McIntyre-Mills 2017).

I draw on Giddens (1990: 71) in terms of the crisis of trust and rising risk and discuss the water crisis in the city of Cape Town as a symptom of convergent

<sup>32</sup>Third Dec 2012 Zille says the Cape Town rich-poor divide is narrowest in SA <https://africacheck.org/reports/zille-right-to-say-the-cape-town-richpoor-gap-is-narrowest-in-sa/> These figures refer to 2011 figures but more recent reports from UN Habitat confirm these statistics.

<sup>33</sup><https://www.iol.co.za/capetimes/news/help-rush-water-animal-feed-to-drought-areas-1968817>

<sup>34</sup>For example, Jejani (2017) stressed that primates in the Western Cape are encroaching onto domestic properties as they are displaced from their own spaces. A plea is made to give them time before they are 'euthansised' if they are moved away and then return. However, the problem is incorrectly represented merely as a need for more time to get used to being displaced. Instead they need secure territory of their own, and they need safe passageways to reach the springs from where they seek water. Another indicator of displacement and loss that is commonly observed in the Western Cape is that large numbers of Guinea fowl are now seeking water in suburban gardens.

challenges associated with the way in which the nation state interacts with the global economy, in line with the international division of labour and in the interests of military power and capability (see Chaps. 5 and 18). Neoliberal economics has played out in South Africa in ways that have resulted in protests against the lack of education, services and basic infrastructure, but although some protests have been made by social movements (Bond 2012) in the buildup to the climate change conference in Durban in 2011, a carbon-based, anthropocentric approach to governance has prevailed to date.

The carbon economy has been supported by a World Bank loan to set up the Medupi coalmine, despite protests. Bond stresses that government has seen fit to support cap and trade measures to offset dirty coal but that this approach to carbon trading and as yet untried ways to successfully reduce the impact of coal burning emissions are problematic. Coal mining in areas where it is costly to mine has resulted in passing on costs to consumers. In addition, the lack of forward planning in providing an energy market for rapidly urbanising cities resulted in blackouts in Cape Town and Gauteng. This resulted in delaying the decision to build a desalination plant capable of supporting the needs of Capetonians. The problem is that with the convergence of social, economic and environmental challenges, governments such as the provincial government of the Western Cape were unable to afford desalination plant. At the time when some of the climate change experts advised on a desalination plant, Cape Town (like the rest of South Africa) was experiencing irregular power supply. This was partly because of the mismanagement of Eskom and allegations of corruption<sup>35</sup> that are part of the forthcoming inquiry into state capture that has been initiated prior to Ramaphosa's becoming president in February 2018. Some reports make it clear that the decision not to pursue desalination was because of the associated costs, whilst other reports stress that advisers considered desalination a risk to the environment. The then leader of the DA Helen Zille stressed that the refusal to recognise the Cape as a disaster zone at the national level resulted in a lack of funding to address desalination soon enough. Another argument is that climate change has 'come sooner' than anticipated, according to a News 24 report.<sup>36</sup>

Whereas Bond (2018) predicted a 'shit storm' as Cape Town faces the worst drought in over 300 years. During the last, the culture shift to conserve water has been successfully driven by a combination of governance changes, such as a Water App that maps the water usage of households transparently across all the suburbs of Cape Town and acts of generosity by farmers donating water to the city of Cape Town as a voluntary donation as well as mass movement to donate water to Cape Town. Whilst Bond's analysis of the causes of climate change and the politics of climate justice is apt (Bond 2012) he is perhaps too pessimistic about the capabilities of people to adapt.

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<sup>35</sup> <https://www.timeslive.co.za/news/2017-11-18-bongo-tried-to-bribe-parliament-evidence-leader-of-eskom-state-capture-inquiry/>

<sup>36</sup> <https://www.news24.com/Green/News/for-global-water-crisis-climate-may-be-the-last-straw-20180213>

In fact, Capetonians showed more resilience and a greater capacity for adaptation than he expected. The response by Capetonians to the call for change has resulted in successfully pushing back Day Zero to the onset of the rainy season. Whether this will be sufficient remains to be seen. It is an example of effort made by a city residents acting together across the diverse suburbs and the surrounding farming regions. It will require the active support of all levels of government, transparent governance of resources and ongoing mobilisation from below.<sup>37</sup>

Despite the legacy of apartheid, the potential to do things differently needs to be documented as an example of community spirit, albeit driven by a shared fear of the consequences of not doing the right thing and by the water usage map that made water usage transparent. The provincial government fined those using more than the allocated amount.

The point that I made in *Planetary Passport* (McIntyre-Mills 2017) is that ecological citizenship is possible. This example shows how resource usage can change because of shared will and a form of governance that enables a fair distribution of resources for all. Bond stressed in a Real News interview<sup>38</sup> that Cape Town is one of the most climate-affected cities in the world and one of the most unequal and cited UN Habitat. His analysis of global capitalism and the inadequate role of BRICS (Brazil, Russia, India, China and, most recently, South Africa) as a network of the global south to stand against the developed world – provides a necessary reminder that change needs to occur from below through social movements, in order to hold the state and the market to account.<sup>39</sup> The cascading and interrelated effects of climate change can be detailed as follows:

- Firstly, the problem of water has *not* been explicitly linked as a disaster of national scale requiring a change in policy direction to mitigate and adapt to climate change – although it is acknowledged to be worst drought for more than 300 years, it is only recently been acknowledged as part of a pattern of climate change that will affect the Western Cape for the foreseeable future (UN Habitat 2016).
- Secondly, desalination was considered with caution due to possible environmental risks associated with raised levels of salinity.

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<sup>37</sup> Avaaz has called people to support Capetonians and to depoliticise the attitude of the current leader of the ANC. Avaaz has run a campaign to raise awareness and to ask people to declare the Cape a disaster zone:

Day Zero is getting closer and closer—and it will affect every one of us. We all want to help, but real action is being held hostage by political bickering. Together we can still stop the worst by getting Zuma to declare a national disaster—but to break the political deadlock, it has to come from the people, every single one of us. So I've just joined this campaign, I hope you will, to [https://secure.avaaz.org/campaign/en/day\\_zero\\_11/?knPhtab](https://secure.avaaz.org/campaign/en/day_zero_11/?knPhtab). The Minister of Water and Sanitation at national level will need the support of Ramaphosa to find funding to support infrastructure development. Ramaphosa has stressed at Davos that climate change is a reality that will need to be addressed in the Western and Eastern Cape.

<sup>38</sup> <https://m.youtube.com/watch?v=SLXByr1ax18> on January 18th Real News.

<sup>39</sup> <https://theconversation.com/brics-needs-a-new-approach-if-its-going-to-foster-a-more-equitable-global-order-84229>

- Thirdly, desalination was considered to be too expensive as a result of rising energy costs and the rolling cuts to power that were experienced, called ‘load spreading’, for much of 2014.

The third way approach of Anthony Giddens (2000) has been shown to be lacking as social democracies need to keep the relationships between the state and market transparent through ongoing democratic engagement, in order to avoid the most cynical ploys such as carbon trading, carbon sequestration that shifts the burden from developed to developing nations, from the powerful lobbyists to the powerless. Those without access to a strong voice in the market or the state need to rely on using civil society to exert pressure on the state. This requires a careful consideration of the role of law, which can be used progressively to protect the commons or regressively in ways that protect what Bond (2012: 54) calls ‘ecological modernisation’.

In Australia, the limitations of Environmental Protection and Biodiversity Conservation Act 1999 are evident in managing cascading risks associated with the impact of coal industry on climate change, such as warming temperatures and Queensland’s Coral reefs. The pro-business as usual lobbying by Kelly (2018)<sup>40</sup> revealed the inadequacy of the EPA to protect the environment. Kelly wished to highlight the hypocrisy of mainstream political opposition—in this case labour—but without acknowledging the extensive criticism of the mine and the hypocrisy of job creation. However, the point that his article also reveals is that the current law (supposedly to protect the environment) does not sufficiently protect the commons because it is pro-market and controlled by neoliberal market economics.

The silencing of the poorest of the poor has resulted in what Bond refers to in this same interview by referring to the way Trump made reference to a developing nation as a ‘shit hole’ and how political fracas are described as ‘shit storm’, to use the impolite terminology that is bandied around quite openly in the mainstream media.

When the marginalised are unable to voice their concerns and they become desperate, they will use whatever means possible to symbolise their sense of outrage. In South Africa, the use of sanitation as a symbol of disgust at authority was used by protestors on the University of Cape Town Campus. It was also used recently on the cape flats by residents who felt it was their only way to protest their fears about being without water.

Boulding stressed that transformation requires the highest level of response as the level of complexity required for transforming society increases as we move from inorganic to organic life, to animal and human life.

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<sup>40</sup> ‘Under the Environmental Protection and Biodiversity Conservation Act 1999 there are precisely defined circumstances that govern suspension or revocation of federal environmental approval. Opposition environmental spokesman Tony Burke told ABC’s (Australian Broadcasting Commission) Patricia Karvelas...that under the law, as ministers “you must never prejudge a decision”. If so, you risk legal action from the aggrieved company...’ (Kelly 2018: 16-16. Kelly, P. Shorten showed up as an opportunist too smart by half: Adani a test case for coal, climate change and foreign investment. Inquirer. Weekend Australian. 15–16. March 3rd – 4th.

Humanity has shaped the environment in ways that were previously inconceivable. As detailed elsewhere in *Planetary Passport, Systemic Ethics and Transformation from Wall Street to Wellbeing* (McIntyre-Mills et al. 2010), ‘anthropocentrism’ refers to a human-centred approach that disregards other living systems.<sup>41</sup> The key concepts for a transformative educational approach need to be based on non-anthropocentricism. This means focusing on ways to protect the habitat of all living systems. The approach takes the next important step in the research agenda, to link the notion of relationships across humans, animals and the land as a source of Indigenous and non-Indigenous wellbeing and the broader societal need for environmental protection and effective ecosystem management of domestic, liminal and so-called wild or natural habitat (Donaldson and Kymlicka 2011). In the volumes on which this paper is based, it is stressed that we have created the Anthropocene through intervening in nature, and we need to restore and regenerate the living system of which we are a strand. The challenge for governing the Anthropocene ethically and wholesomely is one of moving away from disciplinary and functional differentiation to support living ethically in ways that redress the worst aspects of modernisation.

When human security is threatened<sup>42</sup> by social, economic and environmental pressure, social unrest is inevitable.<sup>43</sup>

The point I am making is that the UN Sustainable Living Goals can only be achieved through transformative approaches, such as the ideas we have been discussing. It needs big game changing pilots with government and business and through emphasising so-called mode 2-type research (Gibbons et al. 1994) within and beyond the boundaries of the nation state to address the ‘consequences of modernity’ (Giddens 1990). Working with international organisations can help to enable us to join up the dots (Zapp 2018), and by working across nations and

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<sup>41</sup><https://archive.org/details/VN860553> reconsidering boundaries and what constitutes knowledge.  
<https://archive.org/details/VN860546> ethics and design.  
<https://archive.org/details/VN860542> topics *critical systemic thinking and practice*.  
<https://archive.org/details/VN860537/VN860535.MP3> governance across boundaries.  
<https://archive.org/details/VN860540> designing a response to address an area of concern.  
<https://archive.org/details/VN860555> wicked problems.  
<https://archive.org/details/VN860538> non-anthropocentric approaches.  
<https://archive.org/details/VN860534/VN860533.MP3> social and environmental justice.

<sup>42</sup>J.P. Smith answers Day Zero questions: ‘it’s going to be really unpleasant’. News 24 At a personal level people have changed the way that they choose to live their lives by using much less water. J.P. Smith, ‘Safety and Security mayoral committee member stresses that Capetonians will have to save water and reduce usage to less than 50 litres per day or queue:

‘It would be catastrophic if we end up having to collect water at pods’.

<sup>43</sup>I explained this point at the Flinders symposium Yogyakarta. I also explained these points to the Flinders Chancellor over lunch and shared how in Solo (at a conference on participatory democracy, politics and digital engagement) where I gave an invited contribution a few weeks prior to the Flinders Symposium at Gadjamadah. In Solo I participated in plenary panel for a politics conference (forthcoming citation in ‘Getting Lost in the City’ and stressed the potential for radicalisation). During the break, a fellow panelist explained he was en route to hear more about radicalisation from Abu, Bakar Bashir with whom he was having a meal. More money and effort are spent on radicalisation than positive vocational education and training.



across organisations, we can strive to ensure that the rhetoric of the 2030 Agenda is addressed.

The neoliberal agenda has pushed developing countries to the brink (Bond and Mottiar 2013). The level of human insecurity and distrust was at its height when this article was written. Nevertheless in the agency shown by civil society movements responses (despite the political stand offs) set an agenda that needs to be met by innovative economic transformations that are not in line with the same old paradigm that has been emulated by the BRICS network (Bond and Garcia 2015; Bradlow 2017).

In these references, it is stressed that BRICS has done little to address sustainability and has instead repeated the same old messages.

This requires simple systems that support representation for enhanced equity, accountability to enhance fairness and transparency and regeneration for the restoration of the commons and the assumptions and values that support it.

Water management systems that rely on performance management by experts and that place a monetary value on the fabric of life do not protect the commons. They commodify it.<sup>44</sup>

Thus, the approach I have suggested is to enable local people to think in terms of being the change through being rewarded for living differently. So instead of pricing nature as a commodity, those who live virtuously and well through measuring their personal consumption and demonstrating that they care will be given recognition points that can be exchanged for other services within the local community. By valuing certain kinds of knowledge at the expense of others, human beings have created a new age, namely, ‘the Anthropocene’, characterised by rapid urbanisation and unsustainable development.

## Regional Case Study

A rapid review case study of Alam Endah is detailed in Volume 2 that demonstrates low rates of outmigration as a result of community engagement in sustainable living and regenerative activities. The potential for women to be further empowered through enhancing their representation and accountability is explored.

The meaning of Alam Endah, the name of the village, is ‘natural beauty’, and most of the participants in the focus group and interviews stressed how much the village, nestled on the side of the mountains, meant to the residents. Nearby there are tourist attractions which provide a commercial outlet for the enterprise endeavours of the village community. First, there is the volcano named *Kawah Putih* (White Crater) and is regarded with awe by the locals because when birds flew over,

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<sup>44</sup>Molinos-Senate, M., Maziotis, A., Sala –Garrido, R. (2017). Assessing the productivity change of water companies in England and Wales: a dynamic metafrontier approach. *Journal of Environmental Management* 197, 1–9.

they dropped from the sky because of the sulphur fumes. Nevertheless, the White Crater has not erupted in 200 years and is a very popular location to visit for local eco-tourists, whilst the volcanic soil has made the entire region a productive food basket. Second is the deer sanctuary which is visited regularly by busloads of tourists from Bandung, thanks to the new road built by the Jokowi government now making the area a popular weekend retreat. The mountain on which the park rests is called *Patuha* Mountain or ‘Grandfather Mountain’ and is regarded as an important spiritual presence protecting the area.

Whereas in Cianjur, a contrasting case study demonstrates low levels of sustainable businesses and high rates of outmigration resulting in higher risks of trafficking for women and young people. Instead of seeing the world through the lens of property, the social democratic argument makes a case for enabling all members of the community to live sustainably and well through regeneration of the environment on which they depend.

The case highlights the way in which a West Javan village succeeds in creating job opportunities in line with the recent policy initiative of President Jokowi which states that each village should develop into an enterprise. The business council, largely patriarchal, and the success of the enterprise are underwritten by the voluntary work of women and young people organised through the local *pesantren*.<sup>45</sup> Here we detail power dynamics and the important enabling role of the *pesantren* in the survival strategies of the local community. The disadvantage generated by the local patriarchal and hierarchical social structure is also explored. The chapter analyses the findings from research conducted in West Java as part of transformative research led by the following: Centre for Decentralization and Participatory Development Research, Universitas Padjadjaran (Unpad) led by Widianingsih located in Bandung, West Java, in collaboration with Flinders University (Resilience Institute, Humanities and Social Sciences, Business Government and Law) located in South Australia. The universities in turn collaborate with the Indonesian diaspora. The diaspora network is closely supported by Pak Rudolf Wirawan of Wirasoft (who in turn collaborates with IBM). We use transformative mixed methods praxis to address the problem of land loss, urbanisation and vulnerability. The focus on wicked problems addresses themes raised by the Mixed Methods International Research Association task force report as reported by Mertens et al. (2013). The joint paper explores examples of how research can support communities to address the risks associated with human trafficking in an ecologically rich region. Social, economic and environmental resilience strategies around commercial plantations, communal and household gardens are explored in Cibodas, Cianjur and Alam Endah. Examples of productive and reproductive labour, double and triple workload, decision-making, value chain challenges and responses through gender mainstreaming and community empowerment are discussed. We use qualitative focus groups with key stakeholders, in depth interviews, ethnographic insights of the leader of Indonesian women’s empowerment (PKK) and the analysis of publically

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<sup>45</sup>A *pesantren* is a secondary level Islamic boarding school.

available statistical data. This informs improved policy development as well as offering suggestions for moving towards the enhancement of governance opportunities for women including greater social inclusion in key decision-making roles.

The entrepreneurial endeavours of Alam Endah arose out of the 2014 presidential decree, which required all villages to establish local government-sponsored economic activities owned and run by the local authority for the benefit of the community. This presented a challenge to all villages but most especially those with limited natural resources. This was not a problem for the village of Alam Endah which rose to the challenge establishing many local enterprises and developed community infrastructure through successful fundraising. In line with the presidential decree, 140/KEP 10 DESA the head of the village council appointed a management committee to oversee the enterprise. Fundraising within the village over a few months helped to fund the building of a new road and a large local mosque, which cost 500 million rupiah. Alam Endah is based in Rancabali Subdistrict, Bandung District, West Java Province. It is one of the most resource-rich agricultural areas due to its volcanic soil and provides us with a case study of successful rural development. Administratively, the village is divided into 112 neighbourhood groups and 30 villages consisting of 6887 households of 22,000 people in an area which covers 505.6 hectares. Alam Endah relies on agriculture with 95% of the inhabitants working as farmers. Apart from the agriculture sector, ecotourism can be supported further through visiting places of interests such as the tea and coffee plantations, the waterfalls, hot springs and strawberry farms. This case study demonstrates that it is possible to develop local agricultural industry not centred on rice production such as the production of berries, a range of vegetables, coffee, tea and bamboo.<sup>46</sup> Whilst in the past there was an emphasis on bamboo production, the head of the village informed us that the bamboo gardens also included the production of coffee to provide biodiversity. Moreover, the expansion of local enterprise has led to a heavy dependence on active productive inputs and organisation of women increasing earning potential and self-employment in an environment within which women's agricultural labour on the family farm goes unrecognised and unpaid. This has held female labour within the rural community in situations such as land loss, and declining economic opportunities has elsewhere drive young women especially into the cities to seek paid employment and placed them in circumstances vulnerable to trafficking and exploitation. The research is based on a case facilitated by Dr. IW, a PhD graduate of Flinders University who also runs her own participatory engagement institute as part of Padjadjaran University. The rapid field work appraisal, on which this article is based, was built on qualitative focus groups, observation, interviews and the analysis of secondary quantitative data. The field

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<sup>46</sup>In 2013 in Indonesia, there are 72 million 944 thousand villages, and there are 32,000 villages in the eastern part of Indonesia. Of these 43% of the poor villages are in eastern Indonesia have limited support. This is one of the reasons for introducing the Ministry for Village and Less Developed regions. In 2013, 63% of the poorest of the poor are farmers, and they make up 28.6 million farmers. Another point raised by Ida is that food insecurity in many parts of Indonesia is linked with the inability to grow rice.

visit conducted on 17 December 2018 is an extension of a series of visits linked with the UNPAD centre for decentralisation and participatory development research for a project called 'Living Virtuously and Well': mitigation and adaptation to climate change detailed in the next chapter. It also extends the pilot detailed in McIntyre-Mills (2017).

Women clearly had little participation in decision-making in the village but are responsible for managing the integrated service force. As such, they managed a system of integrated preventative healthcare, which includes waste management. Access to the clinic was enabled through a points system linked to the management of recycling. Whereby handing over household waste for recycling awarded points to the women on a visible chart on display in the clinic. The clinic provides a free service to all women who bring recycled waste to the clinic. In this system they would also get green, yellow or red dots on their clinic card to show how well they integrate public health into their service delivery. The individual and public health commitment is thus very well represented in this example and offered clear incentives to all members of the community. Ironically, although the members of the committee stressed the importance and success of recycling the overflow of rubbish did not go unnoticed. Behind the scenes the lack of processing of recyclable materials continued as was evident in the clinic kitchen behind the meeting room.

The participants in the focus group discussions [FGD] on 18 December, 2017, emphasised that they valued tradition and the strong community links with Elam Endhah and that they 'love the area and the beautiful land'. They stressed that although some families had sold their land, the guaranteed high prices had enabled them to buy much larger plots of land, albeit in less strategic places, to expand agricultural production and be more productive farmers. Overall, they stressed that they were happy with the management by the enterprise committee. It was unlikely that they would offer an alternative opinion given the manager of the village committee was part of the FGD.

They stressed that they liked getting higher prices for their goods as a result of the organisation, but they did not like not having the control of all their activities without having much of a say or 'influence' over decisions. They stressed that their main concern was that outsiders with bigger business interests were coming into the area.

The *pesantren* provides training for all the children of the village free of charge. Primary and secondary education is free for the first 9 years. After that, they are required to pay for higher education.

The potential for building vocational educational training as an extension of the *pesantren* is clearly a possibility with the support of the Minister of Education through UIN. Young people in the community are fully engaged in helping the family businesses as well as community projects, and as such they are responsible for sorting rubbish and helping with the packaging of farm produce. They spend much of their time engaged in community activities associated with the mosque, and training is at present undertaken by the *pesantren* which provides free education.

Young people undertake the design of the packaging and labels for local products and produce which they also make.

Clearly, the potential exists to remunerate work within the co-operatives, which is presently undertaken by volunteers the majority of whom are women and children. This would acknowledge and reward their contribution financially or through a point system for their work in the community. Moreover, this would facilitate monitoring from below with respect to social, economic and environmental accounting and accountability.

At the moment, the social capital contribution of young people is very high, but if they move they lose it. They need to be able to have some share that recognises the volunteering. In 2015 the Bandung District introduced a new program called 'reduce, reuse and recycle project'. By 2020 all the waste will have a value added as energy or another form.

Local government training is provided to manage waste and not to pollute the river. The village government has land, and the young people are asked to help the company every Friday—they are given a small contribution of about 2 cents to take the rubbish to a temporary waste processing centre. The youth group collects the rubbish. They employ six people to sort the rubbish into organic and inorganic waste for compost. They collect 12–17 tons of waste every week, and every 3 months they make 3 tons of organic fertiliser. However, it does not last long because of the high demand of farmers.

The downside of the model is the high dependency on unpaid productive female labour in the home, on the farms and in the community whereby women at times work 24/7 even in the opinion of the men. They plant the crops, weed, spend time selling in the kiosks or shops, they return home to work in their home gardens and they do most of the household chores. Women are virtually solely responsible for fund raising. Examples of fund raising capacity were given such as the community of a nearby village—raised money for a new mosque in matter of weeks demonstrating the strong social capital within the village communities.

In all practical respects, the women of the village have the knowledge required to identify things such as needs, difficulties and measures for cooperation and division of labour especially among women. This gives a 'ghosted' influential position which serves as a pathway to empowerment within a highly patriarchal traditional set of gender relations demarcated and manifested within village politics.

Once people are part of a co-op they are at the mercy of the leadership. If they are wise and fair, then everyone prospers. If not, then they risk being exploited. As farmers they need to be able to control and own their personal source of income, namely, land. The diversification of agricultural activities and the stabilisation of the environment and landscape were important to this end. Alam Endah certainly seems a model village with respect to retaining if not growing its population rather than losing it to urbanisation and income-generating opportunities in the city.

The risk of being bought out by big business and then losing land is a major concern. This occurred in a nearby area whereby the local government-owned tea

planation was taken over by a Chinese-owned business. The tea pickers who had worked for many generations on the plantation were then rendered both unemployed and landless. The tea pickers and their families lost access to their place of work along with their personal plots that needed to be accessed via the tea plantation. Previous generations had worked for the same tea plantation their entire working life and on retirement received a grant that enabled them to buy a plot of land.

Moreover, these families also lost access to the lake nearby and the source of income they generated by rowing boats for tourists to access the beauty spots. The local waterfall was also declared to be on private property, whereas previously it was accessible by way of the government-owned tea plantation.

The political decision to sell the land was clearly made at a senior level without informing people of their rights. All landless people in Indonesia are entitled to land under a scheme announced by President Jokowi, but the tea pickers were unaware of their rights. The new neoliberal economics of short-term contracts in a 'for profit' private business was however imposed with the full knowledge of someone senior in West Java government.

An Indonesian academic, who is part of our team and indigenous to the region, had at that time tried to find members of the dispossessed families in order to inform them of their rights, but by then many had already moved to the city in search of employment. According to Dr. Ida Widianingsih (Pers. Comm, 2017):

This is a very 'political dance'. An Indonesian state company ran the company and it was possibly going bankrupt. They decided to sell land to the investor... This is unusual to sell a state owned enterprise to a private owner. They turned it into a tourism spot and the pickers were the victims of the decision. In the past retirees received 80 million as a pension so that the pickers could buy their own farm and survive. These pickers left with nothing and the new owners imposed new contracts on the people who work there. The pickers and their families had lived there since the 18<sup>th</sup> century. The new business was imposed on the locals who had voted for the Golkar and the tea company. And now the present generation suffers. They had worked as pickers for many generations and all their skills and devotion had been to the tea plantation and now they are destitute as a result of the transition. How did they manage to go bankrupt? It is an excellent business. People suffer and no longer can afford to retire in the area. The pickers earned 50c per kilo per day. This is about 3-5 Australian dollars per day. They did not pay for housing or for schooling. When they reached the pension age they used to receive a payout. Normally they used to stay on the land or nearby.

Displacement and loss could be averted if more emphasis was placed on educating rural and urban residents of their rights in terms of the Indonesian constitution and current policy. This will also help to address the concerns raised in the next chapter where young people are at risk of trafficking when they face land loss and destitution and the process of proletarianisation renders them vulnerable to predatory 'job offers' in factories or as domestic workers where the conditions of employment are not closely governed and can be a front for trafficking in some instances. Land loss does not need to be inevitable if people are made aware of their rights to land as per the presidential decree.

## Democracy and Governance for Resourcing the Commons: Towards Human Security

Globally women, children and vulnerable members of the population face complex health, housing and social inclusion needs especially in disaster-prone areas (Anderson cites Figueres, 2017 in conversation<sup>47</sup>). The border protection mentality is becoming more prevalent globally, but human trafficking, disaster and climate change are transnational issues that require a big picture approach. This collection of papers could provide improved understanding of how to manage complex needs based on mixed methods (Hesse-Biber 2010; Mertens et al. 2013; Mertens 2016). It aims to critique governmentality (Foucault and Gordon 1980) and the existing governance context for UN Sustainable Development Goals through exploring frontiers (Rose 2005; Nussbaum 2006), discourses (Bacchi 2009) and scenarios of different policy and practice.

The links across greater equality and wellbeing and the prevention of global warming appears to involve ‘limiting consumerism’ and narrowing the gap in living standards between rich and poor (Wilkinson and Pickett 2009: 221). It is assumed that greater social and economic equality will provide the key to reducing the cultural pressure to consume at the expense of the majority in this generation and the next.

At the time of writing, the rationale for a new way of living is developed with participants in Africa and Indonesia, where risks associated with displacement and loss are explored in more depth. Resilience is defined as the adaptive capacity of the physical environment, of an individual or of a group. It includes factors such as the capacity of members of a community to act together creatively and to transform existing ways of life (Rose 2005; Shiva 2012) as well as the social, economic and environmental determinants of wellbeing.

According to Stiglitz et al. (2010) wellbeing spans ‘1. Material living standards (income, consumption and wealth), 2. Health, 3. Education, 4. Personal activities including work, 5. Political voice and governance, 6. Social connections and relationships, 7. Environment, 8. Insecurity, of an economy as well as a physical nature’.

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<sup>47</sup>Women and children are particularly vulnerable to exploitation after natural disasters. Conceptually and methodologically research needs to focus at the intersection of ecological humanities, multispecies ethnography and by a critical reading of the sociology and anthropology of development (Sen 2000, 2005, Nussbaum 2011). *Transformation from Wall Street to Wellbeing* (McIntyre-Mills et al. 2014) stresses the importance of relationships across living systems (including sentient beings, non-sentient beings and our shared habitat on which we depend). This is elaborated clearly as follows: ‘Let us try to think “economy” not as a unified system or a domain of being but as diverse processes and interrelations through which we (human and more than human) constitutes livelihoods. Gibson-Graham and Miller (2015:12 explain this in terms of living together as ‘multi-species assemblages’. “Economy” (oikos-habitat; *nomos*-negotiation of order) might then become a conceptual frame or theoretical entry point through which to explore the diverse specificities of livelihood creation by a population (members of the same species) or a community (multi-species assemblage)’. (Gibson-Graham and Miller 2015: 12)



This definition fits well with the ways in which both indigenous and non-indigenous populations connect with the biophysical environment and how critical systems thinkers and complexity theorists understand human interrelationships.

Accordingly, the theoretical underpinnings of the project are informed through combining Nussbaum's (2011) concepts on norms and rights with Stiglitz et al.'s (2010) on functioning as a multidimensional measure of wellbeing and resilience.

The research addresses environmental change and vulnerability to food and water insecurity (Cruz et al. 2009; Waters 2014). Instead of seeing the world through the lens of property, the social democratic argument makes a case for enabling all members of the community to live sustainably and well through regeneration of the environment on which they depend.

## Conclusion

The paper explored some case studies of displacement and loss through asking questions about the implications of displacement of people, plants and animals in Cape Town and Bandung, two major cities with a shared colonial history, namely, the Dutch East India Company.

### *Social and Environmental Justice Supported by Value-Based Governance*

Giddens (1990) discusses trust as part of the challenge for modernity. Trust in elected leaders is at a low ebb given the extent to which self-interests rather than the public good prevails. An understanding of the commons and the common good is greatly needed.

Unfortunately, trust has been eroded by big business from the era when companies operated for profit and in the name of the nation state. The lack of insight into the interconnected context of policy formation and the extent to which politics should strategically support policies that will protect human security is part of the problem. Ramaphosa delivered the address and used the symbolism of past leaders to try to invoke the time when ANC was seen as a beacon of hope to the dispossessed in which he stressed:

We should put behind us the era of diminishing trust in public institutions and weakened confidence in leaders. We should put all the negativity that has dogged our country behind us ...

At this point, he is referring to the problems associated with the so-called Zuma era, which was characterised as an era of state capture. He then returns to the theme of the leaders who stood for justice and asks for a renewal of the vision of the founder members:

It is a new dawn that is inspired by our collective memory of Nelson Mandela and the changes that are unfolding. As we rid our minds of all negativity, we should reaffirm our belief that South Africa belongs to all who live in it. For though we are a diverse people, we are one nation. There are 57 million of us, each with different histories, languages, cultures, experiences, views and interests. Yet we are bound together by a common destiny. For this, we owe much to our forbearers – people like Pixley ka Seme, Charlotte Maxeke and Chief Albert Luthuli – who understood the necessity of the unity and harmony of all the people of this great land. We are a nation at one.

The symbolism of past heroes of resistance are held up to encourage South Africans to have trust in the future of the ANC. Ramaphosa also stresses the importance of honouring diversity, and in this sense, he follows the ‘rainbow nation symbolism’ of his mentor, Mandela. Ramaphosa then went on to stress the importance of practical engagement to address the problems associated with the current education system that does not provide enough places for vocational training linked with immediate employment opportunities:

Next month, we will launch the Youth Employment Service initiative, which will place unemployed youth in paid internships in companies across the economy. Together with our partners in business, we have agreed to create a million such internships in the next three years.

He then goes on to stress the importance of listening to their voices:

If we are to respond effectively to the needs of youth, it is essential that young people articulate their views and are able to engage with government at the highest level. I will therefore be establishing a Youth Working Group that is representative of all young South Africans to ensure that our policies and programmes advance their interests.

### ***Trust, Politics and Policy Based on Interconnected Knowledge***

The need to address sustainable development requires ensuring that those who are displaced and disposed have access to land. Food security is one of the aspects on which he focused. Much of the commentating on News 24 is by white South Africans. The context of apartheid history is never far away (but goes unacknowledged) as a vital aspect of the current crisis. The DA have been associated with the old apartheid era. It has been called part of the problem along with ‘white monopoly capitalism’.

The characterisation of capitalism in racial terms is problematic, and a result of the lack of real transformation in the lives of many South Africans as stressed by Alexander (2010) in his analysis of the protests linked with the lack of service delivery.

But these political issues cannot escape the fact that the colonial past is one shared by both the British and the Dutch as stressed by Adam Smith (see reference).<sup>48</sup>

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<sup>48</sup><http://www.globalpolicyjournal.com/blog/06/02/2018/bitterness-adam-smith>

The announcement that the NEC of the ANZ asked Zuma to step down was made by the ANC secretary, Ace Magashule.<sup>49</sup> Clearly, the invitation couched in the language of political brinkmanship underlines the importance of a voluntary resignation and a face-saving opportunity as it was stressed that Zuma needed to step down in the interests of the party. Any allegations of corruption over Nkandla or the allegations of State Capture were left out of the request.

The language of 'monopoly capitalism'<sup>50</sup> was used by Zuma in his response to the request that he 'step down'.

The request for his resignation has already been tabled by the Economic Freedom Fighters (EFF), the party of ousted Julius Malema who was once a youth leader in the ANC. The need for Zuma to step down with dignity was carefully handled by Ramaphosa who won the ANC presidency against the other candidate, Zuma's ex-wife, Nkosazana Dlamini-Zuma.<sup>51</sup>

Speculation that Zuma had asked to stay on for 3–6 months in order to secure the contested nuclear deal with Russia was also denied. The drought in South Africa has resulted in three provinces<sup>52</sup> being declared disaster zones.

Despite the declaration of Cape Town as a disaster zone by provincial government, Zuma refused to escalate the provincial level declaration to a national level. Without a declaration of national disaster, funds could not be released to assist the province. The management of water provision to address the worst drought in over 300 years requires co-operation across multiple levels of organisation at the local city government level, provincial level and national level.

The political dynamics of Helen Zille (DA Provincial leader) and Zuma are partly to blame for delays in responding to risks of climate change and a lack of trust between the ANC leader and the DA provincial leader.

State capture is the subject of an official inquiry into the role of Zuma's relationship with the Guptas. The issues were raised by the Public Protector and advocate, Thuli Madonsela who bravely asked questions, despite threats to her safety. The current Minister of Security has broadened the terms of reference.<sup>53</sup> But a balance will need to be achieved to ensure that the focus is on the role of the state in relation to big business.

This is an example of how people can work together to address risks. They have faced a common risk through effort, and despite some outbreaks of violence, water points at springs have been self-managed, based on trust.

The spirit of Ubuntu has prevailed and hopefully helped to reduce the risks of a divided society.

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<sup>49</sup> <https://www.news24.com/SouthAfrica/News/zuma-has-done-nothing-wrong-but-he-must-go-magashule-20180213>

<sup>50</sup> <https://www.news24.com/Video/SouthAfrica/News/zexit-goodbye-zuma-jacob-zuma-in-his-own-words-20180213>

<sup>51</sup> <https://qz.com/1159766/anc-conference-cyril-ramaphosa-wins-in-rebuke-of-jacob-zuma-south-africa-president/>

<sup>52</sup> <https://www.news24.com/SouthAfrica/News/drought-crisis-3-provinces-declared-national-disasters-20180213>

<sup>53</sup> <http://www.thenewage.co.za/widen-state-capture-probe-say-mps/>

As a result of the action by civil society, farmers and civil society together with local and provincial government in Cape Town, they have managed to get people to become water warriors through a combination of factors:

- Reducing consumption to 50 litres a day per person (or less)—a digital water map—to show those who are meeting the water restrictions
- Water pricing and policing—to make people value the commodity
- Public education—save water now or queue for water when the taps run dry
- Public-spirited donations of water through ‘gift of the givers’, farmers donating their water to Cape Town

## Reframing Knowledge Through Researching Relationships to Protect the Web of Life

The purpose of the paper is to deepen an understanding of the complex, interrelated factors underpinning decision-making and resource sharing, in order to respond to the UN Sustainable Development Goals. The Intergovernmental Panel on Climate Change (IPCC) formula suggests that the privileged urban lives of some could lead to ‘existential risk’ for people and the planet (Bostrom 2011) which is why it is necessary to enhance the governance and implementation of the UN Development Goals. The paper aims to ascertain if participatory engagement supports *the will* to manage the consumption of human and natural resources carefully – as opposed to denying that by making everyday voluntary changes, we can enhance stewardship and resilience (Dobson 2007; Dobson and Eckersley 2006; Held 2004). Recent work by Hay and Beaverstock (2016) illustrates that the gaps between rich and poor and the powerful and the powerless have become wider and wider. The greatest challenges are the consequences of inaction. This has implications for the way we live and the need to change our way of life through living sustainably. Representation, accountability and sustainability challenges need to be met through addressing consumption choices that are currently very unequal. If non-anthropocentric wellbeing, rather than the economic bottom line (Boulding 1966), needs to be the focus of our attention to achieve cultural transformation in consumption patterns, then we need to develop a deeper understanding of how the intangible aspects of perceived wellbeing can be understood, and we need to measure them in relation to the links across perceived wellbeing, sustainability and resilience (Stiglitz et al. 2010). The number of interrelated factors pertaining to the consumption of food, energy and water will be operationalised in terms of what people have, what they need and what they are prepared to add or discard, turning points for the better and worse barriers to address social, economic and environmental needs at a local and community level. Then indicators of wellbeing will be co-created with the Aboriginal and non-Aboriginal stakeholders. Their narratives are the basis for pathways to protect wellbeing stocks using a multivariate data analysis platform”.<sup>54</sup>

<sup>54</sup> <https://www.news24.com/SouthAfrica/News/drought-crisis-3-provinces-declared-national-disasters-20180213>

In his preface to the *Wealth of Nations*, Adam Smith (1776: 4) discusses the imbalance in development:

some nations has given extraordinary encouragement to the industry of the country; that of others to the industry of towns. Scarce any nation has dealt equally and impartially with every sort of industry.

Adam Smith (1776: 24):

It is not from the benevolence of the butcher the brewer, or the baker that we expect our dinner, but from their regard to their own interest. We address ourselves, not to their humanity, but to their self-love, and never talk to them of our own necessities, but of their advantages. Nobody but a beggar chooses to depend chiefly upon the benevolence of his fellow-citizens.

Enlightened self-interest in today's context would require rethinking the example and rethinking what interconnected cascade economics could look like needs to be confronted if we are to shrug off the old epistemic narratives and create a new approach.

Ways to protect our shared planet could focus on transforming current architectures of governance and economic systems through valuing living systems appropriately and avoiding the commodification of people, other animals and plants. The time and motion principles addressed by Adam Smith in the *Wealth of Nations* were the basis for factory organisation, the commodification of labour and the extraction of rent. Smith believed that if capitalism was applied in an ideal and organised way, then the profits would flow on to all. But the fatal flaw in his analysis was the failure to take into account the powerlessness of the workers and that the absolute power of the owners of capital has resulted in absolute corruption. Reframing the way in which the economic system operates requires ensuring that people own the means of production and that they are able to manage the supply chain in a way that prevents commodification and loss of representation and accountability.

The wicked nature of displacement, loss, unemployment and poverty as it affects multiple species living in cities and the regions on which they depend, the cascading effects of climate change can hopefully be limited through taking control of the production, consumption and distribution cycle, in order to minimise waste and to support the regeneration of living systems. By empowering local people to manage their own social, economic and environmental resources in resilient communities supported by ICT systems, the UN Sustainable Development Goals could become more than rhetoric (see Volume 2, Chap. 16 by Wirawan and McIntyre-Mills).

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