Pathways to Sustainable Food Systems in Northland

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KAI Ā-ROHE O TE TAITOKERAU
LOCAL FOOD NORTHLAND

NorthTec
TAI TOKERAU WĀNANGA

Cover image: Kiri and Brandon Edwards on Huruiki Mountain

Brandon and Kiri Edwards were participants in this research. In 2013, they chose to return to New Zealand to give their children the opportunity to grow up here and learn who they are and where they come from. They own Huruiki Station, a 350ha property located on Mt Huruiki at Helena Bay. Huruiki is an ancestral maunga for Ngāti Hau and Ngāti Wai that was alienated from whanau ownership in the 1960s.

They breed Pure New Zealand Angus cattle (ie, 100% Native Aberdeen Angus bloodlines originally imported to New Zealand from Scotland in the nineteenth century). Their cattle are 100% grass-fed, 100% chemical-free and farmed non-intensively. They have trialled a small number of beehives and plan to increase this number in the future to produce natural, native bush honey and manuka honey. Brandon and Kiri have commenced planting large areas of the property in native trees, including Māori herbal and medicinal (rongoa) plants. They have also commenced fencing all waterways on the property. Their vision is "He pāmu ngātahi me te taiao" or "Farming in harmony with our surroundings", which incorporates (in an appropriately balanced manner) environmental, cultural, social and financial sustainability.

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Research Summary

Local Food Northland seeks to support a shift toward sustainable food systems with attendant economic, social and environmental benefits. This aspiration resonates with the tikanga principles and values expressed recently by the Tai Tokerau Iwi Chief Executive's Consortium (2015).

Sustainable food systems will rectify some of the failings of current industrial food systems. An example is the 4.7 billion people impacted by either hunger, micronutrient deficiencies or obesity and overweight (IPES-Food, 2016).

Progress towards sustainable food systems

Movement towards sustainable food systems can be observed at global, regional, city and local level. At the global level The World Health Organisation (2016) identifies that food security is linked to health, sustainable economic development, environment and trade. The International Panel of Experts on sustainable food systems provides a clear voice on the need for a paradigm shift (IPES-Food, 2016).

At regional, city and district levels Food Policy Councils have proliferated, growing from 12 in North America in 2000 to 282 in 2015 (Center for a Livable Future, 2015). The Center for a Liveable Future, based at Johns Hopkins University is a research centre for sustainable food systems, a repository of knowledge and a communication hub for food policy councils. Their mission is "to promote research and to develop and communicate information about the complex interrelationships among diet, food production, environment, and human health" (Center for a Liveable Future, 2016).

Food plans are another manifestation of formalised sustainable food systems. Evidence of these are clearly available in the English-speaking world, including Australia, and also evident in other nations (Agence D'Ecologie Urbaine, 2015). Vermont's Farm to Plate Website has a comprehensive strategic plan for sustainable food worthy of emulation (Vermont Farm to Plate, 2016).

Most activity in New Zealand is confined to local initiatives.

The change process

Change initiatives to effect transition from the industrial to sustainable food systems will require a deep re-examination of the assumptions driving current systems at a cultural level (Schein, 1985). Otto Scharmer (2013) points us beyond current socio-economic paradigms grounded in traditional authority, the free market and socialism

to create a cultural shift towards a co-creative society. This is based on looking beyond personal interest to a wider systems perspective – what he calls eco-system awareness. In other words, rather than competing for a "slice of the pie" we need to work together to make a bigger and more sustainable pie. The necessary shift is supported by new insights into our empathic nature (The RSA, 2010) and observations about changes to our collective use of power (Heimans & Timms, 2014).

The iPES-Food (2016) report identifies eight lock-ins that perpetuate the current food system. These range from trade protocols, market dynamics, but most importantly, the quality of our thinking. This leads us to the challenge of envisioning an alternate future that generates better results for the seven billion people on the planet.

This in turn leads us to the challenge of engaging others in envisioning system change (Cammock, 2003) by creating greater cohesion and collective action. If successful, the transition to sustainable food systems will be supported by enabling the voice of those not heard in the market place, enhancing democracy, trust and transparency, and fostering collaboration and co-creation.

While current sustainable food system initiatives in Northland are admirable, as yet, they remain relatively poorly connected. If this were to continue, such initiatives will remain as a counter-culture in the prevailing industrial food system. Establishing a Northland food policy council, founded democratically as a "grass-roots" initiative with the task of preparing a regional food plan and fostering greater connectivity appears to be a desirable step toward a more sustainable food system.

The research

An email survey distributed to 83 "thought leaders" involved in sustainable food systems from across Northland garnered 52 responses. The thematic analysis of their responses to the question *"What are the challenges and/or barriers that you are facing in our transitions from industrial to sustainable food systems?"* revealed:

- lack of awareness/ need for education and change capability
- monocultures and the industrial food system as an impediment
- infrastructural deficiencies
- frustrations with range of produce available
- regulations and governance issues
- engagement and planning challenges
- procurement co-ordination and scale challenges

- environmental concerns

Respondents were also asked *"What have been highlights for you in our transition toward a sustainable food system?"* Their responses were also analysed thematically with the main themes emerging as:

- engaged community / good people
- initiatives
- quality of food
- growing awareness / changing attitudes
- health and nutritional quality
- the Whangarei Growers Market
- organic food
- food sovereignty

When asked "*Do you support in principle, the establishment of a Food Policy Council?*" 43 of the 52 respondents (83%) gave an unqualified "yes". The same number (but not necessarily the same people) were willing to participate in a reference group tasked with developing a Northland Food Policy Council.

Nine recommendations emerged informed by background work from Local Food Northland and the survey analysis.

1. Create a social media ecosystem and directory to build traffic to intensify engagement. (A step here is to identify relevant Northland and National social media pages and websites).

2. Foster the development of a pool of authors and multi-media bloggers.

3. Develop a broad coalition of support for the establishment of a food hub as a Northland pilot.

4. Explore funding support for a Northland food hub pilot.

5. Explore research and education partnerships that support the development of innovative software solutions for sustainable food systems.

7. Facilitate reference group communication through web-mediated software such as Loomio.

8. Develop a Northland Sustainable Food plan based on broad input from Northlanders.

9. Pursue research partnerships to support sustainable food system development.

Introduction

In 2014 *Local Food Northland* was established to reshape Northland's[1] food production, distribution and consumption systems. The initiators saw the growing awareness of the importance of local food, notably from research into the social and economic impacts of the Whangarei Growers Market (Bruce, Patrick, & Romer, 2014), a visit to the U.S. focussing on local food initiatives, and attending the Far North's *Resilient Economies Conference* (Maxwell, 2014).

From its inception *Local Food Northland* (2015) has focussed on collaboration and "joining the dots". While local food initiatives have been emerging across the region, there was limited evidence of collaboration, and perhaps more importantly, discourse about the development of sustainable food systems for the region.

E tu kahikatea hei whakapae ururoa.

Awhi mai awhi atu. Tatou tatou e.

(Stand like the kahikatea to brave the storms. Embrace and receive.
We are one together).

Over the two years of its existence, *Local Food Northland* has been envisioning a future with a sustainable food system and engaging others around this process. This research has three aims to support this process:

- to identify progress made internationally and nationally in sustainable food systems, that might inform similar developments in Northland
- to further understand and elaborate the systemic and cultural changes required to support sustainable food systems
- to identify thought leaders from the region engaged in food system initiatives, explore their aspirations and means for broader engagement.

The literature review that follows lays the groundwork for these aims.

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[1] Northland is New Zealand's northernmost region.

Literature Review

Part one: Sustainable Food systems

Defining sustainable food systems

The locality of food, and the proximity of producers and consumers is one dimension of sustainability. Generally, those advocating for local food also have aspirations around sustainability. *Local Food Northland* favours an inclusive approach in efforts to reshape food systems – conceptualising food systems for their sustainability enables a broad approach as there is strong consensus that sustainability encompasses financial, social and environmental considerations.

The Calgary definition of sustainable food systems is:

> a collaborative network that integrates several components in order to enhance a community's environmental, economic and social well-being. It is built on principles that further the ecological, social and economic values of a community and region (Community Research Connections, n.d.).

The USDA definition enshrined in the Food, Agriculture, Conservation and Trade Act, 1990) characterises sustainable agriculture as

> an integrated system of plant and animal production practices that meet America's need for food and fiber and enhance the natural resources that food growing depends upon. These practices also include efficient use of nonrenewables, keeping production economically viable and enhancing both the farmer's and society's quality of life (Community Research Connections, n.d.).

Community Research Connections (nd) offers four definitions of sustainable food systems. The characteristics of systems gleaned from these definitions can be categorised as system features, production qualities and community benefits.

System features

- generates economic benefits for producers and others
- provides local food seasonally appropriate
- is energy efficient
- enhances quality of life
- effective stewardship of water, soil, biodiversity and waste

- mitigates climate change
- creates rich connections between producers, distributors, institutional food consumers, commercial food outlets and consumers
- supports fair trade.

For producers

- models environmental stewardship
- production practices are appropriate for the locality and ideally organic
- values animal welfare
- supported by accessible infrastructure

Community benefits

- enhances resilience
- provides food security including healthy food
- contributes to community and ecological health
- enhances access to food
- engages health and education institutions

Clare Hinrichs cautions that defining sustainable food systems is problematic. Sustainability, for example, is a process rather than a prescription and is often contested discursively. Our understanding of sustainability will continue to evolve (Blay-Palmer, 2010).

In the Northland context, the Te Tai Tokerau Iwi leaders group provides a model of sustainability based on Mātauranga Māori. While similar to the triple bottom line model, first articulated by John Elkington (1998) in 1994 the model places the social (manākitanga) and environmental (kaitiākitanga) above, but foundational to orānga (generational and sustainable economic wellbeing and prosperity). It also resonates, but contrasts with an eco-centric model that conceptualises the economy as embedded in community which is in turn embedded in the environment (Future Oxford, 2014). While the eco-centric model positions the environment as the preeminent value, the Iwi leaders model privileges both the human and environmental dimensions as the pre-cursors for economic wellbeing. This is consistent with the well know whakataukī (proverb).

> *He aha te mea nui o te ao? He tāngata, he tāngata, he tāngata.*
> *(What is the most important thing in the world? It is the people, it is the people, it is the people).*

Tikanga Matters

MANAAKITANGA	KAITIAKITANGA
The sacred obligation to look after people	The sacred obligation to protect Papatuanuku

HE ORANGA
Generational and sustainable economic wellbeing and prosperity

HE TIKANGA TAPU
Three Sacred Principles of Conduct

TIKA	PONO	AROHA
What is right, fitting and worthy of tapu. (We are tapu by virtue of our divine creation)	How reality arrives at the truth. Pono demands the highest level of integrity and discipline	Compassion for others

TIKANGA MAHI

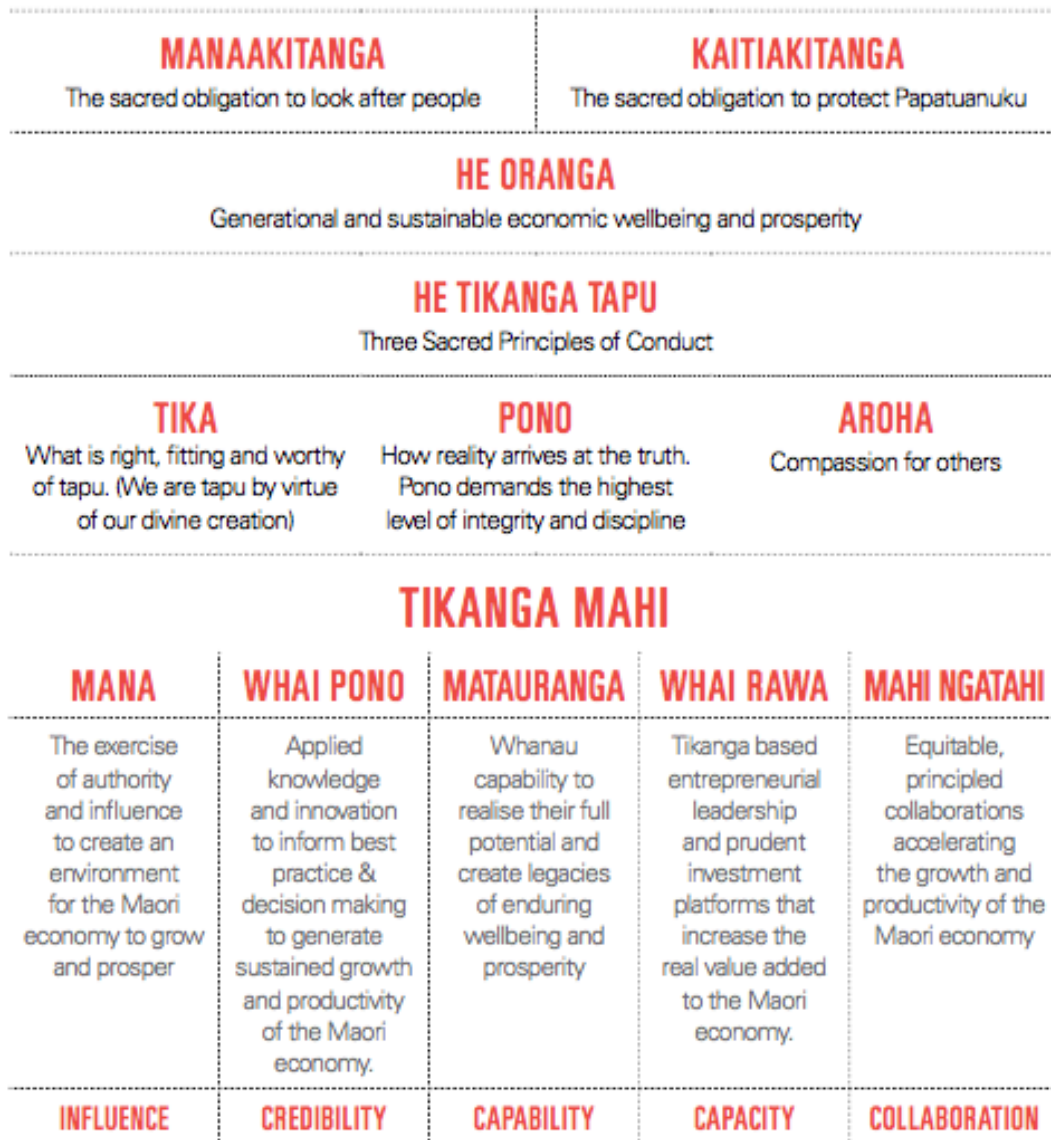| MANA	WHAI PONO	MATAURANGA	WHAI RAWA	MAHI NGATAHI
The exercise of authority and influence to create an environment for the Maori economy to grow and prosper	Applied knowledge and innovation to inform best practice & decision making to generate sustained growth and productivity of the Maori economy.	Whanau capability to realise their full potential and create legacies of enduring wellbeing and prosperity	Tikanga based entrepreneurial leadership and prudent investment platforms that increase the real value added to the Maori economy.	Equitable, principled collaborations accelerating the growth and productivity of the Maori economy
INFLUENCE	CREDIBILITY	CAPABILITY	CAPACITY	COLLABORATION

Figure 1: Tai Tokerau Iwi leaders sustainability model (Tai Tokerau Iwi Chief Executive's Consortium, 2015)

From industrial to sustainable food systems

For millennia food has occupied a central role in human history, fundamental to our survival, sense of place, economy and society. Cities and agriculture co-evolved (Steel, 2009) but with the advent of the industrial age our alienation from food production began. The negative impacts of industrial food systems are well

documented (Blay-Palmer,2000, 2010, Howard, 2016, Marsden, Banks, & Bristow, 2000, Roberts, 2014, IPES-Food, 2016) An alarming trend is the concentration of market share into the hands of a small number of powerful corporates (EcoNexus, 2013). Industrialisation of food has in the most benign analysis coincided with the rise of diet-related health conditions, such as obesity (Stuckler & Nestle, 2012).

Figure 2: Outcomes of the industrial food system (IPES-Food, 2016)

In response there is an evident rise in the number of farmers markets, a renewed interest in home gardening and the role of nutrition in health and other innovations in sustainable food systems (Bruce & Neeley, 2016).

Figure 3: Soybean harvest in the Matto Grosso, Brazil (O'Brien & Taylor, 2015)

Alongside concerns about industrial food production, attention is also focussed on the business systems and ideologies that fostered them. Those advocating for the

free market privilege market dynamics, personified as the "invisible hand" as the main arbiter and shaper of business systems. It is now clear that a consequence is an increasingly disproportionate concentration of power and wealth (Korten, 2015).

Forces of change, such as increasing levels of education and the democratisation of information expose the deficiencies of industrial systems.

> Community, transparency, freedom, meritocracy, openness, and collaboration—these comprise the fundamental ethos of the Web. Within the precincts of corporate-dom, the values of control, discipline, accountability, reliability, and predictability reign supreme. Twenty-first-century organizations must integrate these counterposed values…(Hamel, 2012)

The financial muscle of industrial food

Northland is a small territory on the maps of corporations in the industrial food / health realm. Here are some examples compared to Northland and two significant New Zealand and Northland organisations.
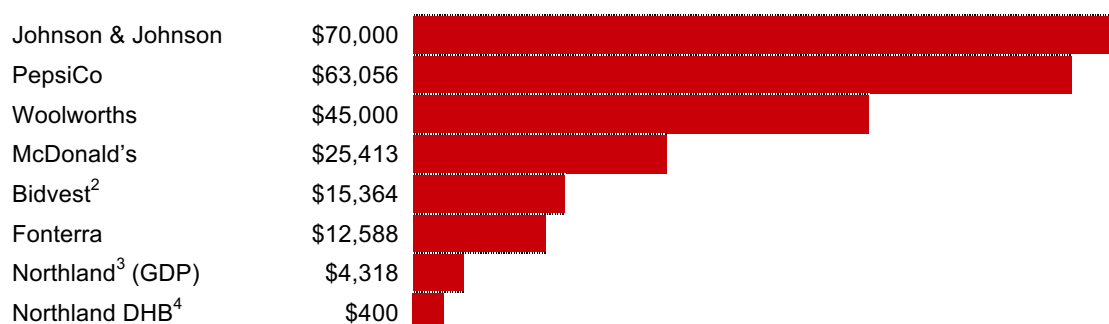
Johnson & Johnson	$70,000
PepsiCo	$63,056
Woolworths	$45,000
McDonald's	$25,413
Bidvest[2]	$15,364
Fonterra	$12,588
Northland[3] (GDP)	$4,318
Northland DHB[4]	$400

Table 1: Operating revenues in $US millions of corporations, Fonterra, the Northland DHB and Northland Region GDP. Data from Wikipedia ('Main Page', 2016) unless otherwise indicated.

International developments in sustainable food systems

Global developments

The World Health Organisation (2016) acknowledges food policy as contentious.

> Food security is a complex sustainable development issue, linked to health through malnutrition, but also to sustainable economic development, environment, and trade. There is a great deal of debate around food security with some arguing that:

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[2] Sourced from the Bidvest Annual Report 2015 and reports turnover.
[3] Sourced from New Zealand's Regional Economies 2015 - Infographic
[4] Sourced from Northland DHB Annual Report 2015

- There is enough food in the world to feed everyone adequately; the problem is distribution.

- Future food needs can - or cannot - be met by current levels of production.

- National food security is paramount - or no longer necessary because of global trade.

- Globalization may - or may not - lead to the persistence of food insecurity and poverty in rural communities.

Over the last two decades, at the global and national levels there are increasing numbers of NGOs aspiring to sustainable food systems.

The recently formed (2015) International Panel of Experts on Sustainable Food Systems (IPES-Food) is an example of the proliferation of organisations focusing on sustainable food systems. Co-chaired by Belgian Olivier De Schutter and Kenyan Olivia Yambi, the IPES-Food is a "transdisciplinary initiative to support, inform and advise the policy debate on how to reform food systems across the world" (International Panel of Experts on sustainable food systems, 2016). The nature of their work is reflected in the breadth of policy they seek to integrate and influence.
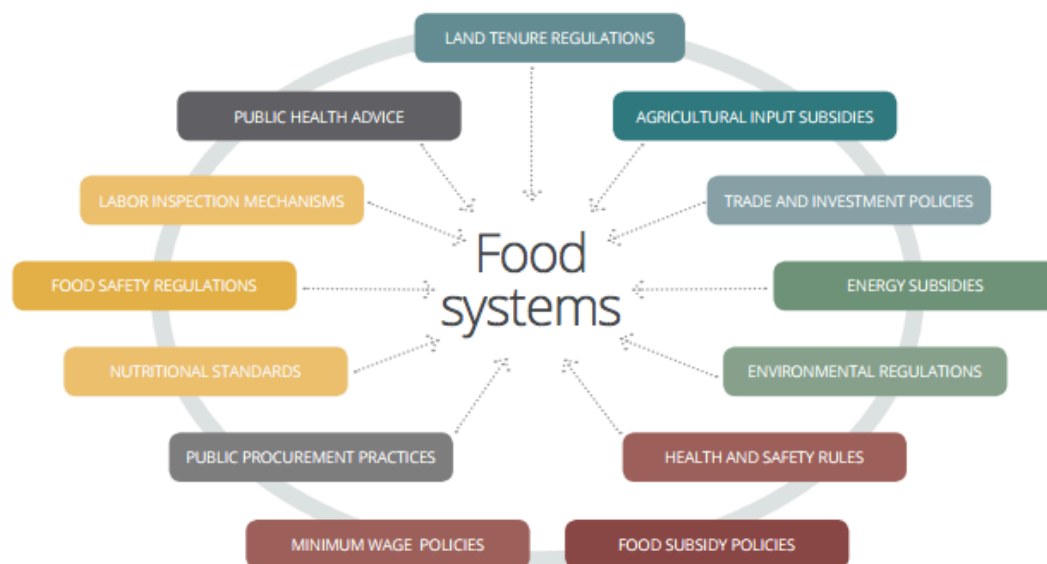

Figure 4: Some of the potential policy influences on food systems (International Panel of Experts on sustainable food systems, 2015)

Food policy councils

It is not surprising that we find strong momentum towards establishing sustainable food systems in the nation that has been at the forefront of the proliferation of fast

food chains, food processing and long food chains. In 2015, The United States had 215 Food Policy Councils, with a total of 282 in North America.
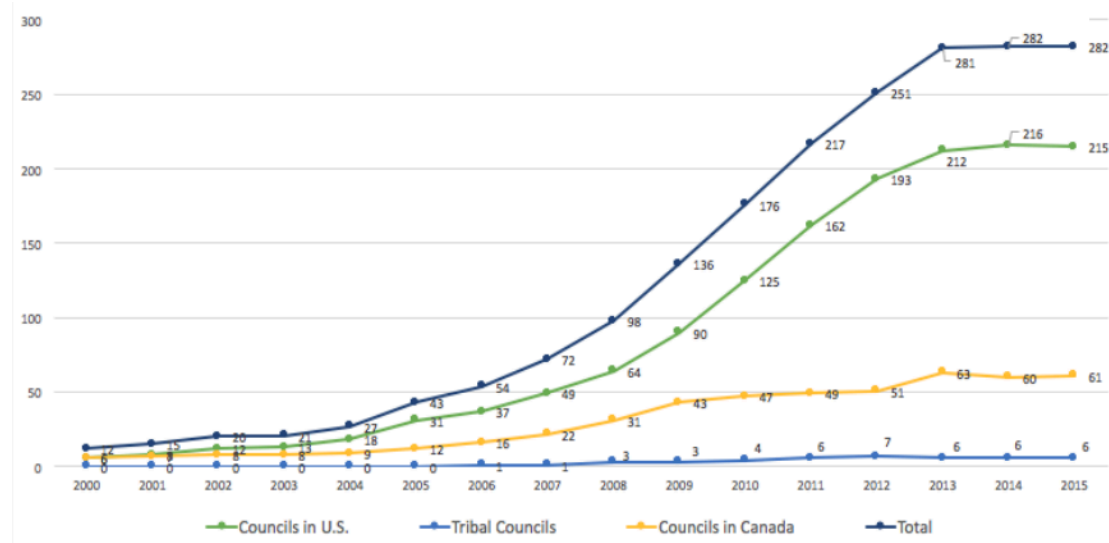

Figure 5: Food Policy Councils in North America (Center for a Livable Future, 2015)

This graph (from Johns Hopkins Center for a Livable Future) reveals dramatic growth in Councils from 2000 to 2015. Growth appears to have plateaued, but based on its proliferation in North America, is primed to expand in other locations world-wide.

Seventy eight percent of these councils are either independent grass-roots organisations or NGOs with twenty one percent embedded in government or government funded organisations (Center for a Livable Future, 2015).

The Center for a Livable Future's mission is "to promote research and to develop and communicate information about the complex interrelationships among diet, food production, environment, and human health" (Center for a Livable Future, 2016). The top priorities for Food Policy Councils are healthy food access, urban agriculture/food production, education, purchasing and procurements, networking and food hubs. Other interests are anti-hunger, food waste and fitness (Center for a Livable Future, 2015).

Two examples of Food Policy Councils follow – the first metropolitan and the second regional.

The Toronto Food Policy Council (TFPC)

The Toronto Food Policy Council, established in 1991 is one of the oldest. The TFPC "connects diverse people from the food, farming and community sector to develop innovative policies and projects that support a health-focused food system, and

provides a forum for action across the food system" (Toronto Food Policy Council, 2016).

Key documents include the *Toronto Food Charter* and *Cultivating Food Connections, Toronto Food Strategy*. The TFPC also collaborates with other organisations in Ontario to promote policy and legislation to shape a sustainable food system. Wayne Roberts (2014) uses a flywheel as a metaphor for food policy councils. They institutionalise and foster innovation providing momentum, rather than having new projects have to start unaided and poorly connected to the diversity in the food system.

Puget Sound Regional Food Policy Council (PSRFPC)

The PSRFPC is much younger, established in 2010. Its vision is a "thriving, inclusive and just local and regional food system that enhances the health of: people, diverse communities, economies, and environments"(Puget Sound Regional Food Policy Council, 2011). In addition to policy work, the PSRFPC has worked on farmers market viability.

Food plans

Food planning has developed alongside the development of food policy councils. They seek to draw together the diverse elements underpinning sustainable food systems.

The recently published *From Uniformity to Diversity* advocates both policy and planning.

> None of the changes envisaged above will move far or fast enough while policy processes are constrained by compartmentalized approaches (Lock-in 4) and short-term thinking (Lock-in 5). It is therefore crucial to establish new, more inclusive and more-joined-up processes, responding to the growing proposals for redesigning food policy-making (Opportunity 2). Long-term, cross-party, inter-ministerial planning around food systems – reaching across political boundaries and transcending electoral cycles - should therefore be facilitated. (IPES-Food, 2016, pg 73)

A sample of brief summaries of food plans follows.

A Good Food Plan for Bristol (Bristol Good Food, 2013)

Bristol's plan seeks to transform its food culture, safeguard the diversity of food retail, safeguard land for production, increase urban food production, redistribute, recycle and compost food waste, protect infrastructure for local food supplies, increase market opportunities for suppliers and support community food enterprises. more

The People's Food Plan (Australian Food Sovereignty Alliance, 2013)

The Australian Food Alliances plan opens with: "Our food system is broken. People are hungry in the outer suburbs at the same time that supermarkets are throwing away food. Farmers are leaving the land in increasing numbers. Food is full of additives that are making us sick. We, the Australian Food sovereignty Alliance, are a national coalition of people and organisations working for a fairer food system better suited to a democracy. We've come up with a plan for a better food system — it's called the People's Food Plan". more

Sustainable Food Plan 2015-2020 (Agence D'Ecologie Urbaine, 2015)

The Paris plan reports gains in organic foods served from public purchasers from 7.4% in 2008 to 24.3% in 2013 and sets more ambitions goals for its municipal and departmental catering services including no GM foods, 100% free-range eggs, no deep-water sourced fish, no palm oil and reducing meat products by 20%. more

Edible Edinburgh

Edible Edinburgh envisions a city "where good food is available for all, making for healthy people, thriving communities and a sustainable environment". The aims of the plan are broadly health and well-being, land use, the environment, buying food, the economy and cultural change. more

Vancouver Food Strategy (City of Vancouver, 2013)

The Vancouver Plan lays out 5 clear action areas, food production, empowering residents, food access, food processing and distribution and food waste. The strategy is based on a legacy of food planning, preceded in 2004 by an action plan, in 2007 by a food charter and 2011 by the *Greenest City Action Plan*. more

These plans reveal clear commonalities revealing aspirations for sustainable food systems. As a sixth example here is the Vermont plan in more detail.

Vermont

The state of Vermont in the north-east of the U.S. has approximately four times the population of Northland. It has made impressive progress with sustainable food systems and ranked as the U.S. state most committed to locally-sourced food for 2014, 2015 and 2016 (Strolling of the Heifers, 2016).

The *Farm to Plate 2015 Annual Report* reveals some impressive achievements from the five years of the 2011 to 2015 strategic plan. Here are some highlights.

- 11.6% increase in food system employment
- 32% increase in food system gross sales
- 58% increase in net value added food manufacturing
- 72% increase in recovered food from 2014 to 2015.

A sobering reality is that given the state's leadership in sustainable food systems, there is yet to be a clear impact on health. In 1995 52% of Vermonters were normal weight but by 2013 this had dropped to 37%, with 63% either overweight or obese. Read the full report here. However Vermont is rated as one of the healthiest states in the U.S.

A more sustainable health system should inevitably lead to better health outcomes. Perhaps this points to the importance of an integrated whole of system approach to turn the tide of the social, cultural and regulatory influences that continues to shape an environment hostile to good health.

The Farm to Plate Strategic Plan

The new strategic plan maps out Vermont's progress to 2020. It is presented comprehensively on the Farm to Plate website.

The 25 goals of the plan resonate with those of the plans and policy initiatives outlined above and reflect the advanced development of Vermont initiative.

Figure 6: The key elements of the Farm to Plate plan

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Figure 7: the 25 Vermont Farm to Plate goals (Vermont Farm to Plate, 2016)

The graphic presentation to these goals lend an impressive clarity to the Vermont plan. Each of the icons is hyperlinked to detailed data of the current situation as a benchmark for further gains.

The Vermont Farm to Plate plan provides a planning framework that could easily be replicated. One of the strengths of the plan is the diversity of it goals and the consequent diversity of the disciplines that can be integrated into sustainable food system planning.

New Zealand developments in sustainable food systems

In New Zealand there are emerging signs of the degree of cohesion revealed in the planning and policy initiatives outlined above. A summary of some of the organisations follows.

When searching the Internet there was no evidence of integrated sustainable food policy initiatives in regions in New Zealand. However, the Sustainable Business Network (SBN) established the National Good Food Network in 2015 to connect the diverse organisations promoting sustainable food (Sustainable Business Network, 2015). Partners are Healthy Families New Zealand, Hutt City, Toi Te Ora and Well

South. Other initiatives are evident from health and local government institutions, for example the Canterbury DHB.

The Organic Explorer website lists 44 farmers markets in New Zealand, and there are no doubt more. There are also a number of sustainable production organisations nationally focusing on organics, bio-dynamics, permaculture and Maori organics.

There is some strong academic activity supporting the development of sustainable food systems. Dr Jessica Hutchings of NZCER is a researcher and organic gardener. Her book, *Te Mahi Māra Hua Parakore: A Māori Food Sovereignty Handbook,* defines what a sustainable food system is from a *Māori* perspective.

> Māori food sovereignty is the practice of ensuring food-secure futures for whānau, independent of multinational and national food systems and in harmony with Te Ao Tūroa (the natural world). It is about whānau having access to sufficient, safe and nutritious food that is produced locally and free from chemicals, pesticides and genetic modification (Hutchings, 2015).

Amber Pearson and colleagues from the Department of Public Health at the University of Otago has generated an impressive number of journal articles on food system themes. Dr. Miranda Mirosa is another University of Otago academic researching food systems. Massey University has recently appointed Dr Barbara Burlingame as Professor of Public Health Nutrition.

The evolution of the food system

The evolution of the food system follows the pattern of paradigm change (Kuhn, 1970). The industrial food system is firmly established and remains on a trajectory of centralising power into a number of large multinationals. This system can be regarded as orthodoxy with reaction to its negative impacts fuelling experimentation with alternatives.

In most places those advocating sustainable food systems run small-scale initiatives without a lot of co-ordination. Among the exceptions are those localities that have Food Policy Councils. From the perspective of a paradigm shift, these councils may represent shifts towards a new orthodoxy that may eventually displace the industrial food system. Thus we can observe around the globe a range of situations – from those communities where industrial food systems dominate – through to sustainable food systems projects that over time become more networked – through to efforts to create policy with the support of city and/or regional, and ultimately state legislative support. The diagram on the next page attempts to map this continuum.

Gap analysis

7 — a sustainable food system characterised by a healthy people, environment and economy

- ☐ industrial food system atrophies
- ☐ food systems support human health
- ☐ diverse food options available
- ☐ food systems enhance the environment

6 — unified planning and policy supported by integrated national policy

- ☐ national laws support SFS.
- ☐ the legislative context generally supports sustainability

5 — unified planning and policy supported by integrated regional policy

- ☐ regional regulations support SFS
- ☐ the regional legislative context generally supports sustainability
- ☐ regional finance options available

4 — unified planning and policy aspiring to a sustainable food system

- ☐ has a food policy council
- ☐ has a food plan
- ☐ the plan is widely supported
- ☐ there is support from elements of the industrial food system

3 — collaborative, cross-disciplinary networks emerging

- ☐ food policy initiatives emerging
- ☐ strong networks established
- ☐ strong support from educational and health institutions and local government

2 — projects developing with networked support

- ☐ diversity of production and processing developing
- ☐ emerging support from educational and health institutions
- ☐ some support from local government

1 — some independent projects with weak links

- ☐ alternative outlets such as farmers markets emerging

0 — disconnected – dominated by multinational food chains

- ☐ industrial food systems dominate

Part two: The change process

The nature of society and quality of life at any place and time on the planet is the product of social, cultural and technological influences. The degree to which people in societies have reflexive awareness of the unique confluence of these influences and a deeper appreciation systemic dynamics is a precursor to their engagement in system rethinking and redesign.

Systemic and cultural change

What are the decades or centuries long social and economic forces that have shaped systems, including our food systems? Otto Sharmer's framework helps us make sense of the societal forces that shape economic activity and provide an encouraging vision of how they may further evolve.
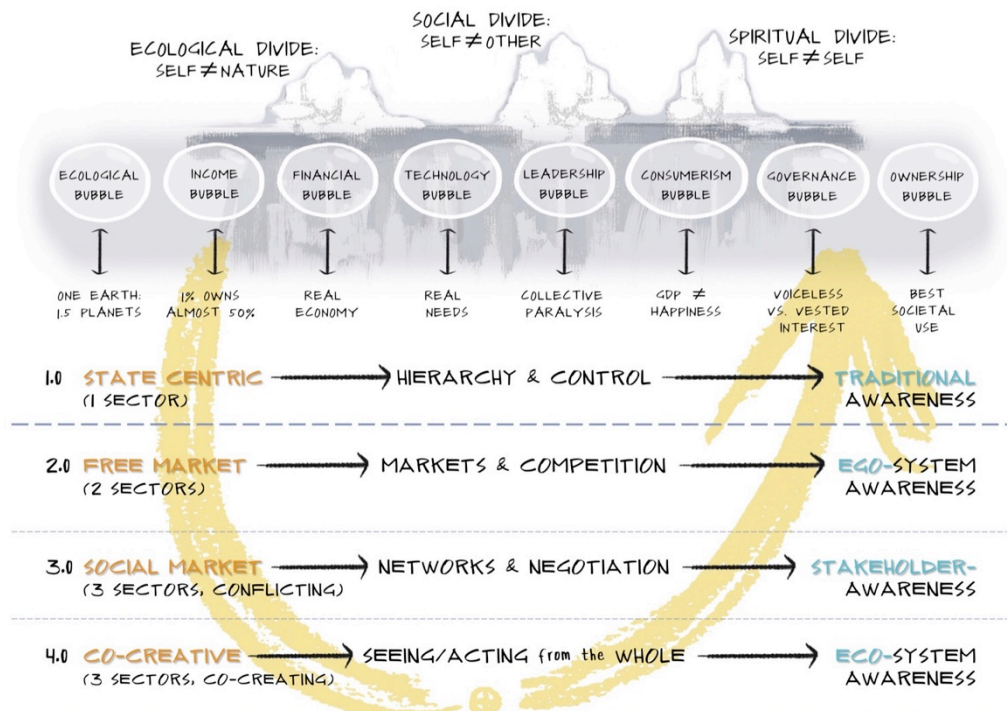
Figure 8: The evolution of society and economy (Massachusetts Institute of Technology, 2015)

This framework traces the dominant design elements of economy and society. In "Society 1.0" the state is the dominant actor. With the emergence of "Society 2.0" the free market and the dynamics of competition dominate. To counter the more extreme impacts of free market "Society 3.0", the social market develops with non-

governmental organisations (NGOs) introducing stakeholder awareness as an element of design.

Over time these developments help to generate value, but sooner or later come up against the limits of their usefulness. Today's social and economic landscape is shaped by the interaction, often conflictual, of these three forces. Advocates for each of these "societies" believe a return to their dominant values will solve the problems they perceive (e.g. more free market). Otto Scharmer identifies the co-creative society, "Society 4.0" as the next stage of our collective development. It is characterised by an awareness of the broader needs of the society and economy and seeks to find synergies. In "Society 3.0", the larger corporations strive to dominate the economic ecosystem, while in "Society 4.0", the dominant drive is ecosystem stewardship (Scharmer & Kaufer, 2013).

	Primary societal challenge	Response: Coordination mechanism	Primary sector / players	Primary source of power	Dominant ideology	Primary state of consciousness
Society 1.0 State-driven mercantilism, socialism	stability	commanding hierarchy	state/ government	coercive (sticks)	Mercantilism: socialism (state centric) thought	Traditional awareness
Society 2.0 Free market-driven laissez-faire	growth	competing markets	capital/business: state/ government	remunerative (carrots)	Neoliberal and neoclassic (market-centric) thought	ego-system awareness
Society 3.0 Stakeholder-driven social-market economy	negative domestic externalities	negotiating: stakeholder dialogue	civil society/ NGOs, capital/business, state /government	normative (values)	social democratic or progressive thought	stakeholder awareness
Society 4.0 Eco-system driven, co-creative economy	global disruptive externalities, resilience	presencing: awareness-based collective action (ABC)	cross-sector co-creation, civil society/NGOs, capital/ business, state/ government	awareness: actions that emerge from seeing the emerging whole	eco-system-centric thought	eco-system awareness

Table 2: Characteristics of the four societies (Scharmer & Kaufer, 2013)

Based on this understanding of social and economic drivers, food system design will be based on awareness of externalities, will strive for resilience, aspire to collective action, be driven by wider societal needs rather than narrow economic drivers and value and expand the assets of the commons.

Other perspectives, reflexive modernity, democracy, power and reconceiving human nature

The modern era provided opportunities for widespread education, democratisation and the development of science and industry, enabling humanity to control nature to a greater extent than in the agricultural age. Reflexive modernity responds to the negative impacts of modernity and encourages a reconceptualisation of the dynamics of national power and globalisation. In relation to food, the transition from modernity to reflexive modernity is manifest in a shift from trust in authority to a broader appreciation of the diverse risks embodied in long food chains (Spaargaren, Oosterveer, & Loeber, 2013).

Over the last century, public governance structures have evolved alongside the process of corporate power coalescing into fewer hands. The leading world economy, the United States is now considered by some an oligarchy (Gilens, Page, Princeton University, & Northwestern Univeristy, 2014). In New Zealand, central government is the dominant political force and is increasing its reach and influence. For example, the Polytechnics Education Amendment Act in 2009 reduced the size of Polytechnic Councils, and removed stakeholder representation.(Rainsbury, Malcolm, & Hart, 2013). Democracy is more than the occasional participation in elections. Active participation in the food system is an expression of democracy, aligned with food sovereignty. Ideally, citizens have a say over how food is produced, distributed and consumed and are engaged in the complex decisions around food sovereignty (Carlson & Chappell, 2015).

> It is important to think about the wider context in which we grow kai to feed our whānau. Acting locally has global implications and this has never been more important than it is now. The drive to achieve Māori food sovereignty is part of a complex political landscape that is shaped by factors such as climate change, peak oil, GE and the tension between multinational and local food production (Hutchings, 2015).

According to Harvard Business Review authors Jeremy Heimans and Henry Timms the way power is manifest is changing. Old power is like currency, held by a few and jealously guarded while new power is like a current, made by many, and is open and participatory. There insights are seem particularly relevant to the shift to a sustainable food system.
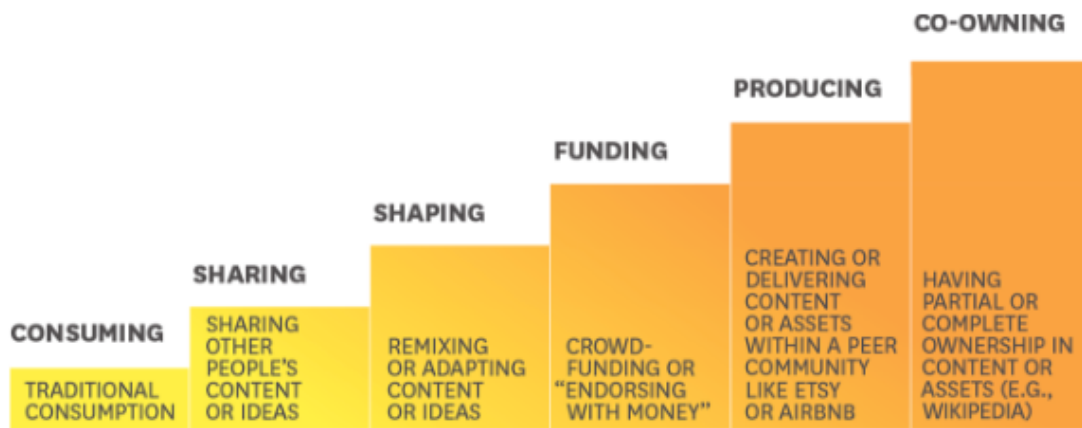
Figure 9: New power encourages participation (Heimans & Timms, 2014)

Figure 10: Old power values (left) contrasted with new power values (Heimans & Timms, 2014)

In addition to the broad sociological currents shaping society, rethinking human nature also informs our ability to change. Jeremy Rifkin claims our new understanding of neuroscience reveals our empathic nature and that our brains are "hard-wired" for empathy. The empathic drive is fundamental to human nature, but when it is supressed, secondary drives of competition and greed emerge. This contrasts with the perspective that humans are motivated primarily by self-interest. Jeremy Rifkin asks:

> Is it possible that we could extend our empathy to the entire human race as an extended family, and to our fellow creatures as part of our evolutionary family and to the biosphere as our common community? If it is possible to imagine that, then we may be able to save our species and save our planet… If its impossible to imagine that, then I don't see how we are going to make it (The RSA, 2010).

Barriers to change

John Kotter's research revealed that 70% of organisational change initiatives failed (Kotter, 1996). Perhaps the shift to sustainable food systems are inevitable, but by understanding change dynamics, we can accelerate that progress.

The iPES-Food report (2016), *From Uniformity to Diversity: A paradigm shift from industrial agriculture to diversified agroecological systems* identifies eight "lock-ins" that lock "industrial agriculture in place, regardless of its outcomes".

These are:

1. *Path dependency* – the embedded nature and interlocking of investment, mechanisation, production systems dependence on low energy costs and distribution channels.

2. *Export orientation* – food traded internationally has increased from 15% in 1986 to 23% in 2009, based on the interaction between agricultural, trade, development and energy policies.

3. *The expectation of cheap food* – as the proportion of household income spent on food decreases in relation to other items such as other consumer goods and debt-servicing.

4. *Compartmentalised thinking* – in politics, research and business and creeping privatisation of the commons perpetuates industrial agriculture.

5. *Short-term thinking* – based on short electoral cycles, dividend expectations of shareholders and retail system imperatives.

6. *"Feed the world" narratives* – argue the need to continue the Green Revolution trajectory to feed the growing population.

7. *Measures of success* - that fail to account for externalities and broader environmental societal and economic needs.

8. *Concentration of power* – created when "food systems, in their current forms, allow value to accrue to a limited number of actors, reinforcing their economic and political dominance, and thus their ability to influence the policies, incentives and imperatives guiding those systems".

Figure 11: Examples of the concentration of power in the food industry (IPES-Food, 2016)

In Force field analysis (Lewin, 1951) provides a tool to evaluate forces for, and against change. If we use the iPES-Food "lock-ins" as restraining forces, the tool can be used to clarify countervailing forces to impel change towards sustainable food systems. It is outside the scope of this document to elaborate on these forces – they are offered here as a tool.

1. Innovations around localising food.	1. Path dependency
2. Develop a "trade from strength" ethos.	2. Export orientation
3. Build appreciation of local growers and farmers.	3. Expectations of cheap food
4. Co-creative thinking.	4. Compartmentalised thinking
5. Re-democratising	5. Short-term thinking
6. Local resilience - globally	6. "Feed the world" narratives
7. Externality focus	7. Measures of success
8. All of the above.	8. Concentration of power

Figure 12: Applying force field analysis to the iPES-Food eight lock-ins

Change models

There are many models that guide the change process. A model appropriate to guide a change from industrial to sustainable food systems is Peter Cammock's 3Es model (2003). Central to the model is the dynamic between the processes of envisioning, engaging and enacting. Rather than vision, it stresses the envisioning process, that

is enhanced by on-going enacting and engaging. The vision is improved by engaging others.
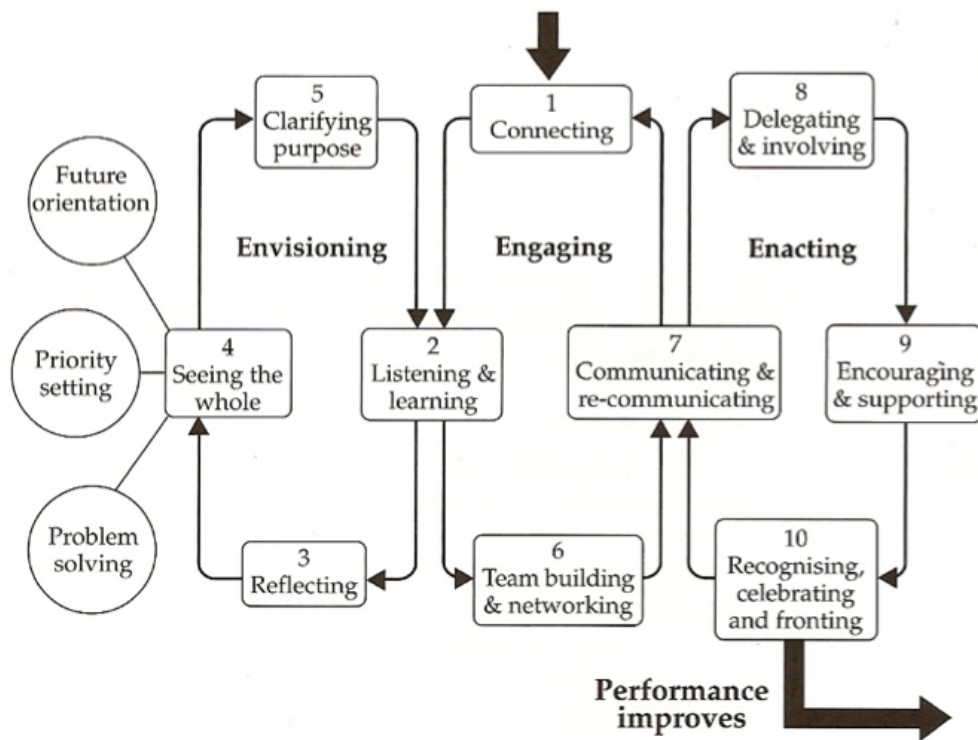

Figure 13: The 3Es model of change (Cammock, 2003)

This model guides the methodology of this research. Identifying good practice in sustainable food systems internationally helps in "seeing the whole" and "clarifying purpose". The next step is to return to step one to "connect" and move through the engagement process. Those who engage will expand the envisioning process.

Part three: Foundations for engagement

When his book *Strategic Management: A Stakeholder Approach*, Edward Freeman (1984) introduced the notion of the stakeholder into discourse he gave stronger voice to a range of those with interests in organisations. It was not just those investing financial capital who had the dominant voice, but those investing other forms of capital, such as employees, customers, suppliers, the community and the voiceless. Thirty years on, this concept has survived discursively and changed the nature of communication to enable broader dialogue, albeit sometimes more in form than substance.

Communication with stakeholders is commonly referred to as engagement. As models of communication have developed from a transmission model in the mid twentieth century to more reflexive models where communication is shaped as shared meaning (Barnett, & O'Rourke, 2011), so has engagement emerged as a collaborative practice.

Further convergences are found with the work of Michael Porter in *Creating Shared Value* (Porter & Kramer, 2011). Otto Scharmer model introduced in part two above is overlaid with a communication model guiding the emergence of co-creation (presencing)
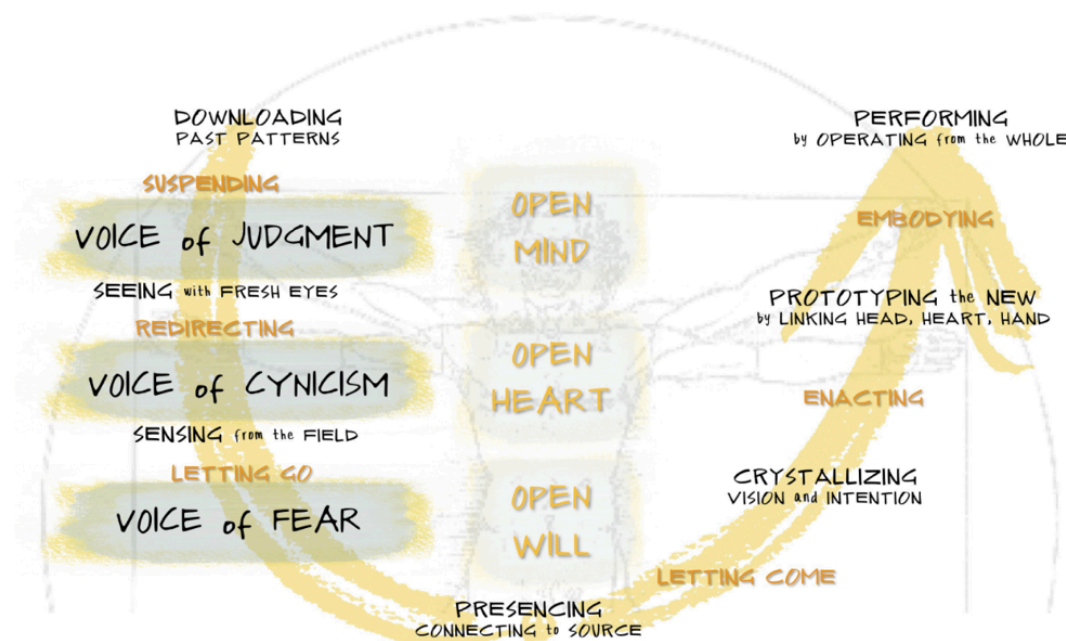

Figure 14: Otto Scharmer's model of communication (Scharmer & Kaufer, 2013)

Otto Scharmer encourages communication practices that enable us to learn from the future that wants to emerge.

Engagement, cohesion and collaboration in food systems

This brief coverage of the development of our understanding of communication and engagement should provide encouragement for possibilities to engage and co-create sustainable food systems.

There is a growing body of literature exploring engagement around food. For example, the paper *Engagement for Transformation*, (Block et al., 2008) distinguish between supply chains, value chains, and then value webs. This shifts communication and the conduct of trade from a linear potentially unidirectional flow to a much more diverse and interactive collaboration. Two examples of this follow.

Engagement in the North East Kingdom

The Northeast Kingdom is three counties in the north east of Vermont, with a combined population of 64,764 (Northeast Kingdom, 2016), roughly the same population as the Far North District in Northland. It has a food system plan integrated with the wider Vermont Plan. The plan's authors anticipate a diverse engagement web.

> A food systems governance network in the NEK will need to be diverse and consist of many groups and individuals: farmers, food producers, value-added processors, wholesale distributors, retail establishments, nutrient management organizations, land conversation groups, food security groups, local leaders, town planners, farm-to-school organizations, economic development organizations, and others. (Northeast Vermont Development Association, 2011, pg 101)

The plan then maps out the diverse elements in the food system and then comments on the complexity of communication that is a pre-requisite for effective implementation.

> The implementation structure being suggested here draws on an emerging body of network development research that calls for the assemblage of robust social networks that are tied together through discrete functions and resource flows. (Northeast Vermont Development Association, 2011, pg 102)

Lessons from Wayne Roberts

The Toronto Food Policy Council formed in 1991 and employed Wayne Roberts as manager from 2000 to 2010. In guiding the further development of the Council effective engagement was vital. In his book *Food For City Building: A Field Guide for Planners Actionists and Entrepreneurs* he dedicates a chapter to "grateful thinking" –

the personal strategy underpinning his ability to build relationships. Here are some insights from that chapter (Bruce et al., 2014).

- *Food organizers need to travel light in terms of personal baggage. Otherwise, their ego gets in the way of dealing with very personal and sensitive issues inherent in conversations about food.*

- *It takes a high level of emotional intelligence and interpersonal skills to engage people in constructive dialogue about food choices.*

- *… so many local food meetings are so filled with high spirits, chatter and laughter. I think that's why local food issues have such appeal for people, especially youth, looking for places to replenish, rather than dash, their hopes.*

- *Arguing policy is a no-win situation,... If you lose the argument, you've lost, but if you win the argument, they'll hate you forever.*

- *I didn't use e-mail to conduct arguments but spoke face-to-face, providing an opportunity to gauge reaction as I talked and correct for misunderstood statements. I gave in easily on minor differences. I didn't talk about subjects that weren't my expertise, such as nutrition or food safety, invitations to turf wars. I asked critics for their advice on how to handle a problem.*

- *I found that being a champion for my city also made it easier for me to speak a deep truth about public health—that it benefits everyone, not just the poor or the middle class or the rich. That majority-oriented discourse of serving the city and all its people, which has lost ground to a minority rights discourse over the past 30 years, is what pride in your city restores. I'd give that advice to anyone anywhere. If you can't be in the place you love, love the place you're with. Make sure your proposal comes from, and is seen to come from, good will.*

Some principles for engagement

There is a compelling confluence been the development of sustainable food systems, and the forces of change becoming apparent in society. Along with energy systems and financial systems (to name but two) the food system is ripe for reform. These systems exist as social constructions shaped by dynamics of power, culture and the ways we engage with one another.

Ideas explored earlier such as "new power", the empathic civilisation, democracy, acknowledging stakeholders, voice, co-creation, and value webs all point to better ways to work with one another. Otto Scharmer describes this as a shift from ego-systems (systems dominated by individual ego and personal advantage) to eco-awareness based on the realisation of our interdependence.

In the Northland context, these developments create fertile ground for the development of true partnership between the Tangata Whenua and Pākehā.

This move towards a greater maturity of humankind coincides neatly with the growing desire to achieve sustainable food systems. Here are some principles gleaned from the above to guide engagement with those aspiring to sustainable food systems.

- *Voice and democracy* – engagement is based on the principles of giving voice to those typically not heard in industrial food systems and enhancing local control over critical systems.
- *Trust and transparency* – trust will grow as systems of engagement and organising are shown to be transparent. Internet technologies can assist with transparency.
- *Collaboration and co-creation* – for the food system to deliver to the all people, and support their health and well-being, the focus of engagement is in serving the common good.

Part four: Pathways to sustainable food systems in Northland

The literature review provided clarity that the local food movement can be conceptualised as a shift from industrial food systems to sustainable food systems. In addition to the concept of a regional food plan, identified in earlier research, the rapid growth of food policy councils in North America led to the question "Is a food policy council feasible for Northland?"

An email survey distributed to 83 "thought leaders" in sustainable food systems garnered 52 responses. Of these, eleven were from the Far North District, six from Kaipara District and 39 from Whangarei District. One respondent was from the neighbouring South Kaipara. Some had strong affiliations with more than one district.[5]

All were involved in sustainable food systems and several had multiple roles:

growers (19)	distribution (8)	environmentalists (11)
farmers (3)	retail (7)	educationalists (9)
fishers (1)	commercial kitchens (2)	health (14)
bee keepers (3)	governance (21)	community (12)

Growers are represented more than other food producers While our health focus promotes fresh unprocessed foods, our emphasis is on increased production of fresh fruit and vegetables.

More detail on the research methodology is in appendix one.

Challenges and barriers

Respondents were asked *"What are the challenges and/or barriers that you are facing in our transitions from industrial to sustainable food systems?"* Their responses were analysed thematically with themes emerging as:

- lack of awareness/ need for education and change capability (18 responses)
- monocultures and the industrial food system as an impediment (14)
- infrastructural deficiencies (11)
- frustrations with range of produce available (8)

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[5] As the author, I have affiliations with all three districts. I have lived in the Whangarei District for about 28 years, was born and raised in the Kaipara and worked for 18 months in the Far North.

- regulations and governance (8)
- engagement and planning (7)
- procurement co-ordination and scale (7)
- environmental concerns (6)

Other themes are poverty (3) access to organic inputs (2) funding (2) and land (2).

Lack of awareness/ need for education and change capability (18 responses)

Approximately a third of the responses (35%) cited awareness, or lack of awareness, and the need for education as a barrier to change. This included a lack of knowledge around food and seasonality.

Participants were articulate about the need for systems level change and identified barriers as the "noise" created by prevailing industrial systems and their dominance. This required changes to individual and organisational mindsets.

> Having been involved in moving towards sustainable growing for twenty years, the barrier facing sustainable growing systems is society's unawareness there is a problem with current agricultural practices. The high price of cheap food has yet to be paid. Society's consumer economy means that food is the last item on the shopping list, and cheap food has become the expectation. …Supermarkets became the vehicle for this demand for cheap food and as society has convinced its self that it is time poor, convenience food has become the norm. The rise of the supermarket is because of this. The shift to sustainable agriculture will occur in my opinion with collaboration between political will, science, industrial agriculture and education. Without all of these moving in the same direction cheap food will continue to extract a high price. *Murray Burns*

Another impediment to momentum for change is the admission by some of these "thought leaders" of the difficulty of changing personal consumption habits.

Infrastructural deficiencies (18 responses)

While industrial food systems have sophisticated supply chains, emerging sustainable food systems remain as a counter-culture, typically unable to achieve the scale deemed necessary for consistent performance. For example a café owner expressed the need for regular delivery schedules to to meet their busy production needs.

To support the development of sustainable food systems infrastructural support, such as training, education, finance, regulatory environment reform and business development is required. Those structures tailored to support industrial food systems may not necessarily fit.

A major infrastructural requirement is the need for co-ordination to build scale.

Monocultures and the industrial food system as an impediment (14 responses)

The industrial food system is identified as a major barrier to establishing sustainable food systems. Participants link this system to neoliberal economics and consumerism. Its scale is hard to compete with and it is often supported by regulation favourable to its scale. Industrial food systems are supported by a system that privileges financial performance over environmental and social performance.

> I think one of the biggest challenges is creating a mindset for change. Our food system is based on neoliberal market ideology that has created a consumerist culture of convenience. This mindset seems difficult to overcome. This feeds the growth of industrial production of food - larger commercial growers and larger supermarkets. There is clearly a power differential that makes it difficult for people to engage in change. *Dr Laupepa Va'a*

Frustrations with range of produce available (8 responses)

Consumers sourcing produce from sustainable food systems and health practitioners express concern over the availability of produce and access to it, especially for those who are financially poor. Those seeking organic produce express frustrations with supply.

> Often the shops nearest to home will have products from less sustainable supply chains. Having to go further is a barrier. The dominance of vast national and international supply chains can often make it easier to source food from another country locally, than food made locally. Positively disrupting these supply chains will be a great challenge. *Andrew Glen*

Regulations and governance (8 responses)

There is a trend towards larger operations to take advantage of economies of scale. Smaller producers, or those wanting to produce boutique values in their products find themselves in a regulatory environment more suited to large operations. Local government does not do enough to support smaller operators or to enforce environmental compliance.

> For ourselves specifically, we believe home-kill processing (as opposed to freezing works processing) produces a superior product in terms of tenderness and general meat quality and is more animal-friendly. Home-kill processing also allows for clear traceability along the entire supply chain from producer to consumer, which is not currently the case with freezing works processing. For these reasons, our plan is for 100% home-kill processing of our meat for direct sales and marketing in the future. Current homekill processing regulation can be cumbersome and/or expensive. *Brandon and Kiri Edwards*

> Small producers are restricted by the money spent on compliance (i.e. food safety) and then need to sell through alternative marketing systems which are still not big enough or co-ordinated enough to move serious volume of products. *Anonymous*

A similar trend in fishing sees the migration of Annual Catch Entitlements (ACE) to larger companies, leaving fewer local fishers owning ACE to supply the local market.

Engagement and planning (7)

Earlier, co-ordination was identified as an infrastructure requisite. When people are distracted by the need to make a living in a dominant food system that doesn't support their aspirations, it can be difficult to rise above the survival drive and engage and co-ordinate effectively with others. According to survey respondents, getting buy-in, have credible proponents of sustainable food systems and mutual support are essential.

> Mutual support is critical. Understanding and working with a holistic ecosystems approach doesn't mean those people actively involved in the transition get the support they need as being part of the system.

> Selfishness and ego (I rather than we) are often still present. Ensuring everyone is cared for requires a level of development of the individual and the team(s). I think this aspect of the work needs to be built into the whole transition process. Only by addressing our perceived separation, and the behaviour that causes, can we begin to really talk about holistic ecosystem thinking. There are so many ways (and groups) that help us listen deeply, share deeply, and live into our interconnections more, shift from I to we, that we need to make the most of them. This requires great skill and I don't think enough value is placed on it. *Ruth Marsh*

Environmental concerns (6 responses)

Environmental concerns were threaded through responses. There were appeals for greater diversity in production systems, better land management practices to protect land and waterways and action on climate change. One respondent connected soil health to human health.

> Quality soil and soil health. The production will only be as healthy and full of nutrition if the soil is balanced and maintained. Socio-economic factors mean that organic foods are generally reserved for the wealthy, and less affordable and plentiful for the rawa kore (those below the poverty line). *Jef Murupaenga Ikenn*

Highlights

Respondents were also asked *"What have been highlights for you in our transition toward a sustainable food system?"* Their responses were also analysed thematically with themes emerging as:

- engaged community / good people (20 responses)
- initiatives (19 responses)
- quality of food (12 responses)
- growing awareness / changing attitudes (12 responses)
- health and nutritional quality (12 responses)
- the Whangarei Growers Market (9 responses)
- organic food (5 responses)
- food sovereignty (4 responses)

There were also some comments on the economy and activism.

Engaged community / good people (20 responses)

A strong sense of enthusiasm characterised responses to this question and a notably excited tone about the "joy" of deeper community engagement. Some commented on the positives emerging from the dynamic of producers and customers interacting directly. Others expressed excitement about discovering the various peoples and initiatives underway in Northland and gratitude for the willingness to share. Māori respondents commented on strengthening relationships with Papatuanuku, marae, hapu and other local communities.

> The willingness of people to be involved, the tenacity of our local producers to continue their quest to feed our local population with nutritious locally grown food despite a growing corporate food presence and efforts to squeeze out the "little people". Also the committed altruism of those who strive to help them succeed. *Eloise Neeley*

Initiatives (19 responses)

Respondents are enthused by the proliferation of farmers markets and similar initiatives. They are seeing children connecting with food through education. Two respondents noted the Northland District Health Board's (DHB) first steps to increase the percentage of locally grown food in their kitchens.

> Discovering we have many people and communities doing their bit and succeeding. There is a growing movement of people over profit, health over wealth. *Shirleyanne Brown*

The Whangarei Growers Market (9 responses)

Of the initiatives identified, the Whangarei Growers Market was mentioned by nine respondents.

> The increasing visibility and availability of organic food and foods grown sustainably. Places like the Saturday growers market in Whangarei and the wholefood co-operative, these provide fresh and reasonably/ modestly priced produce. *Ani Pitman*

Quality of food (12 responses)

Respondents were effusive about their enjoyment of local food and seeing others enjoy its taste. Those in the hospitality industry commented on the quality of food available and the new products emerging.

> The joys of eating your own food and watching it grow. It also provides a great sense of pride and security. *Anonymous*

Growing awareness / changing attitudes (12 responses)

Respondents have been involved in, or witnessed a wide range of initiatives, and as more emerge, awareness appears to grow and the network of relationships strengthen. Again, there was reference to children's education. Young people returning from their OE (overseas experience) add to the pool of knowledge.

> For me personally it has been a very interesting journey. The challenge of adapting to what might be a sustainable system of food production has been full of learning... soil, micro organisms, plant biology, ecosystem understanding, human psychology, community development issues. And the food gets better all the time! *Doug Bogardus*

Health and nutritional quality (12 responses)

References to health are embedded in respondents' comments, including initiatives from the Northland DHB. It is encouraging that respondents, especially practitioners, are reporting signs of better health and well being.

> Its alignment with tikanga and focus on building resilience, food sovereignty and shift towards nutritionally dense food. *Rangimarie Price*

Organic food (5 responses)

The development of organic standards was a highlight for one respondent. Others appreciated the increasing availability of organic food and its taste and quality.

> Seeing happy customers and receiving good feedback on the taste and quality of the local goods. *Anonymous*

Food sovereignty (4 responses)

Respondents commented on food sovereignty in the contexts of Māori sovereignty (kaitiakitanga, manaaakitanga, whanaungatanga, rangatiratanga and hau ora) and personal sovereignty.

> Using gardening as a social tool and community project. Seed sharing and local collaborations incorporating elderly and youth and all walks of life. Seeing the health begin to return to those with poor dietary habits is also invigorating. Regaining sovereignty by self-regulating what finds it's way into my body. *Jef Murupaenga Ikenn*

A Northland Food Policy Council

When asked "*Do you support in principle, the establishment of a Food Policy Council?*" 43 of the 52 respondents (83%) gave an unqualified "yes". Two responded "no" and one expressed no confidence in the process. Of the remainder four respondents expressed concern about the potential for a council to be a bureaucracy or adding additional compliance. One respondent stressed the importance of acknowledging regional differences and the need for local self-governance and another is reserving their decision for now.

When asked *"An initial step will be the establishment of a reference group to guide decision making contributing to the creation of a food policy council. Are you prepared to be a reference group member?"* the same number (43 of the 52 respondents, 83%) responded positively. Some added provisos around their availability.

Part five: Pathways

This section integrates literature review data and the knowledge gleaned from thought leaders represented in part four to hopefully create path finding strategies.

Tracing the development of our sustainable food systems

In New Zealand, the industrial food system had its genesis with the arrival of Europeans, in the early days of the industrial revolution. With the passing of time, food based enterprises have grown significantly based on the growth requisite embedded in the modern ethos. What we have now is a system that has evolved to greater and greater concentrations of market power as illustrated in table 1 in part one. Ironically New Zealand growers and farmers have been colonised by multinational companies and their global supply chains.

We have a choice. In rejecting the worst of industrial food systems do we retreat and become survivalists, or do we work together to consciously create a new and better system?

Home and kaianga (village) gardens continue to survive, but in Northland, if we were to trace the origins of the sustainable food systems movement, it would be with the establishment of the Whangarei Growers Market (WGM) in 1988. Nine of our 52 respondents identified the WGM as a significant force. Earlier research (Bruce et al., 2014) identified its significant social and economic impacts. In the 18 years since there has been erratic progress towards more sustainable food systems.

Local Food Northland emerged in 2014 as a voluntary organisation. Over the last two years we have worked to increase our knowledge of steps people are taking towards sustainable food systems. A part of this process was conceptualising the diverse connections in a sustainable food system, including the vital connection between food and health. We think of this as "joining the dots. While collectively we are in the early stages, through this lens, we have been able to connect with diverse individuals and groups through the north. This is the beginning of the system's self-awareness.

A research framework also helps to surface connections. As a researcher, I acknowledge myself as part of this community. While this project was live, I have made some strong connections and seen a number of new initiatives arise. For example, a respondent commented that it would good to see a mid-week market in Whangarei. That coincidently happened a few weeks later.

We now have the opportunity to more consciously shape and accelerate the development of sustainable food systems in Northland.

Pathways

The data surfaced about barriers to a sustainable food system and highlights, together with the secondary data from the literature review, inform the development of strategies to support the development of sustainable food systems. We can think of these strategies as pathways because organisation around them is organic. Individuals will be navigating and clearing pathways without knowing about them in any formal sense. On the other hand, people and groups can use this material to further their aims, help them to connect with like-minded people and to create connections that will help to counter the size advantage that industrial food system leaders have.

Each of these pathways will conclude with one or more recommendations.

Education and engagement

There is an engagement trajectory underway now that can be accelerated. Engagement pathways are between:

- those involved in the diverse initiatives in sustainable food
- customers of sustainable food initiatives (such as farmers markets and co-ops)
- those involved in education around sustainability, health and sustainable food systems
- those involved in industrial food systems that are interested in changing their practice
- those from other organisations with synergistic aspirations.

This is potentially a large percentage of the population. For example 34% of Whangarei Growers Market customers found the availability of organic or spray-free produce a draw card. Freshness of the produce was a draw card for 66%. The Lifestyles of Health and Sustainability (LOHAS) demographic has been estimated as anywhere between 13 and 30% of the population (Bruce et al., 2014).

Social media and websites can be utilised to create a stronger digital ecosystem. As at 8 November, the Whangarei Growers Facebook page has 2,650 people "liking" it more than the Northland Regional Council (2,251). Local Food Northland has a website with regular posts to build traffic. A post featuring an article on the Northland

District Health Board elections, outlining brief research about candidates position on food only attracted 57 views, but in an election where some very close results were reported, this can be significant. Projecting forward to the next election in 2019, Local Food Northland will be better placed to increase transparency around food related issues.

Photographing and recording events and initiatives can provide good material for blogs and social media pages. The Old Packhouse Market's Facebook page featured posts by the Northland Regional Council in November.

Figure 15: NRC posts on KeriKeri's Old Packhouse Market Facebook page.

Local Food Northland has also commissioned a website to build a database of contacts and members. Our target is a modest 2,000 by mid 2017.

Inclusiveness

In part two and three several concepts were presented that underpin the nature of engagement and dynamics of the change process. These can also be considered in the context of the small number of respondents who, concerned by the establishment of another layer of bureaucracy, expressed caution about the formation of a food policy council.

To accelerate the establishment of sustainable food systems, communication patterns need to be very different to those that have emerged alongside industrial systems. A key engagement requisite is inclusiveness. That involves:

- engaging across the diverse elements of the system, e.g. food production and health
- embedding principles of partnership to acknowledge the importance of engagement between Māori and others
- focussing more on commonality rather than differences
- engaging people embedded in the industrial food system to explore opportunities for change.

Local Food Northland is planning its inaugural conference in February 2017, providing opportunities for engagement.

 Recommendations

1. Create a social media ecosystem and directory to build traffic to intensify engagement. (A step here is to identify relevant Northland and National social media pages and websites).

2. Foster the development of a pool of authors and multi-media bloggers.

Food hubs

Producers being able to scale up production, or diversify, or to increase market channels for produce will enhance the development of a sustainable food system in Northland. Food hubs can help to deliver these benefits. They can be used to aggregate produce, both virtually and physically, to help counter the sophistication of industrial food supply chains. They can provide shared facilities for processing, logistical support for altruistic initiatives such as food recovery and spaces where food and health interests can interact.

Recommendations

3. Develop a broad coalition of support for the establishment of a food hub as a Northland pilot.

4. Explore funding support for a Northland food hub pilot.

Software solutions

Software provides the means to level the field between big organisations and their smaller competitors. Sean Stanley's [Whangarei Food Co-op](#) transacts through a website that enables producers to set the price, with the co-op taking a small

percentage. Similar applications of software can be used to aggregate product for restaurants, commercial kitchens and those seeking specialist product.

Recommendation

5. Explore research and education partnerships that support the development of innovative software solutions for sustainable food systems.

Food policy council

Part one of this document led to the identification of food policy councils as enablers of sustainable food systems. Survey respondents mostly endorsed this. Recently, concern has grown around the Food Safety Law Reform Bill (New Zealand Parliament, 2016). Two posts published on the Local Food Northland website cover concerns about the bill, expressed by Murray Burns and the diminishing number of people nationally making cheese from raw milk. In both cases small businesses are under threat by central government regulations generating excessive compliance burdens. One role of a food policy council may be to advocate for regulations that do not disadvantage small business.

It is beyond the scope of this document to anticipate or pre-empt the role and mandate of a food policy council. Anne Palmer, Director for the Food Communities and Public Health Program from Johns Hopkins University, is attending the Local Food Northland Conference providing an opportunity to explore the establishment of a food policy council. Johns Hopkins University acts as an information and knowledge hub for North America's food policy councils.

The 43 respondents who indicated they would be reference group members can help to form the food policy council proposition. Reference group activity can be facilitated both face to face where practicable and also virtually.

Recommendations

6. Convene a reference group to design a Northland Food Policy Council and a democratic process to form it.

7. Facilitate reference group communication through web-mediated software such as Loomio.

Regional food plan

A regional food plan, based loosely on the Vermont Farm to Plate plan provides an opportunity to generate further dialogue between the diverse interests aspiring to a sustainable food system. The goals as they stand now include goals around:

- food consumption, including literacy, access, recovery

- health

- production infrastructure, resources and support

- processing and distribution infrastructure

- education and careers

- governance, including balanced regulations and strategic co-ordination.

Many of the initiatives that are represented in the goals are already underway in Northland, and this plan will help to provide lateral support across diverse goals by those aspiring for a better food system. It will also embed measures for tracking progress.

The Local Food Northland Conference has spaces for workshops to initiate work on clusters of goals.

As with the food policy council, ideally the compilation of these goals will be driven by those who step up to be involved in areas where they have expertise and aspiration, rather than centrally controlled. This models crowd-sourcing strategy.

Recommendation

8. Develop a Northland Sustainable Food Plan based on broad input from Northlanders.

Research

Research provides a framework to investigate aspects of the food system, enables diverse voices to be heard, provides an evidence base and support decision-making. My experience with food systems research has revealed the potential of research to help systems to become more self-aware.

Local Food Northland continues to enjoy the support of NorthTec and is seeking partnerships with academic institutions both in New Zealand and overseas. Strong community connections and participation is vital for community-based research. Participants are partners in research rather than subjects.

Research projects can be shaped to support any of the recommendations generated from this report.

Recommendation

9. Pursue research partnerships to support sustainable food system development.

Conclusion and recommendations

This project began as a desire to engage more broadly nationally with those involved in the local food movement. The scope was soon narrowed down to regional engagement. As I worked through the literature review, the discovery of food policy councils and the iPES Report redefined research questions. The focus became *Pathways to Sustainable Food Systems* and our move away from industrial food systems.

The research process created a framework to further extend Local Food Northland's networks in Northland, and to a lesser extent nationally and in North America, so the research process itself has been valuable in strengthening that network. There is a group of people supporting diverse initiatives towards sustainable food systems, and a much larger portion of the population sympathetic to supporting local food and more integrative approaches to health.

The greater clarity about the pathways forward provided by the literature review, coupled with the enthusiasm and insights from research participants helps to create greater momentum along these pathways. My deep gratitude to those who have supported this project, especially my colleagues in Local Food Northland, Jeff Griggs and Clive McKegg.

Recommendations

These recommendations are repeated here from part four.

1. Create a social media ecosystem and directory to build traffic to intensify engagement. (A step here is to identify relevant Northland and National social media pages and websites).

2. Foster the development of a pool of authors and multi-media bloggers.

3. Develop a broad coalition of support for the establishment of a food hub as a Northland pilot.

4. Explore funding support for a Northland food hub pilot.

5. Explore research and education partnerships that support the development of innovative software solutions for sustainable food systems.

7. Facilitate reference group communication through web-mediated software such as Loomio.

8. Develop a Northland Sustainable Food Plan based on broad input from Northlanders.

9. Pursue research partnerships to support sustainable food system development.

Appendix one: Research Methodology

This research is about a paradigm shift. In line with the nature of that shift, expressed in some of the principles around communication and engagement in the literature review, older research paradigms don't fit.

Community-based participatory research (CBPR) has emerged from the humanities and from Action Research (Lewin, 1946). It is now showing up in food system research. "A key element in the transformation of the food system is how we share and create new knowledge that supports this transition towards a food system that delivers good food for all" (Ana Moragues-Faus, Aziz Omar, & Joan Wang, 2015)

It is more an approach to research rather than a method. The researchers are members of the community and probably involved in the community in roles other than their research roles. Participants are not subjects but collaborators in the research process. In pursuing reciprocity, respectful relationships, shared power and operating from a humble posture of learning, researchers seeks to be part of a process that builds local capacity and to foster reflexivity. Researchers and the community learn from cycles of research, action and reflection.

> CBPR challenges researchers to listen to, learn from, solicit and respect the contributions of, and share power, information, and credit for accomplishments with the groups that they are trying learn about and help (Horowitz, Robinson, & Seifer, 2009).

This research report does not exemplify CBPR. If it were, the research design would have included a broader group of community members. Possibly its strongest manifestation of CBPR is the strength of relationships with participants I knew before the project and those I have met since.

The next stage of this project could be the establishment of a reference group of the thought leaders surveyed here to shape a food policy council for Northland. This will be a stronger expression of CBPR.

The research process

The researcher sought thought leaders in the local food movement. Participants were initially selected by direct knowledge of the Local Food Northland research team, and then referrals and recommendations. The number of participants snowballed as the first round of participants identified other thought leaders. This process could continue for many cycles, but to meet timelines, was stopped after two cycles.

It was intended that the number of participants would be limited to 30 for districts and community, nine for health organisations and five for educational organisations. These limits were a guideline only. The motive was to have diverse geographical and food systems spread.

While it is important to conform to research protocols, community based research positions participants as more like partners than subjects. The instinct is not to protect them with a paternalistic attitude, but rather to engage with them as equals. Having said that, participant confidentiality was protected with these protocols:

- participants were asked to consent to participate
- data was secured in a password protected file, with the exception of one paper-based response (this was destroyed at the completion of the report)
- participants were asked for permission to use their direct quotes in the report
- apart from consented quotes, the only information that would identify individuals was already in the public domain
- participants were provided access to a draft report for their feedback.

Permission was sought from those responding positively to be listed in the report as a reference group member.

More detail of the process is provided at beginning of part four. The survey is here: https://goo.gl/forms/eNjgBJ0ir6j4m2B82.

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