

*Designing
Regenerative
Transitions*

A Field Guide

TRANSITION DESIGN
ELEMENTS OF PRACTICE &
CASE STUDY IN AGRICULTURE

Michelle Miller

Designing Regenerative Transitions—A Field Guide

Transition Design *Elements of Practice* Framework and Case Study in Agriculture

This field guide outlines the discipline of Transition Design, presents a framework that sets out elements of practice for anyone interested in developing their own Transition Design practice, and offers a demonstration of practice through a case study that is based on a project to support farmer, sector, and systems transition to Regenerative Agriculture.

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Terminology

Sustainability In this field guide, the term ‘sustainability’ is used to mean a dynamic condition in which humans live within planetary boundaries—and contribute to ecological systems function and overall environmental health, wellbeing, regeneration, and abundance. It is not intended in a static, not-good-enough sense.

Agriculture & farmers The term ‘agriculture’ is used to refer to the food and fiber production system. The term ‘farmers’ refers broadly to all types of producers, noting that not all producers refer to themselves as farmers. The terms ‘producer’, ‘land manager’ and ‘steward’ are sometimes used in place of the term ‘farmer’. I note the association of the terms ‘agriculture’ and ‘cultivation’ with the practice of plowing—which is minimized in Regenerative Agriculture. I acknowledge the colonial history of agriculture, and how western concepts of agriculture were used to dispossess people of their lands. This work seeks to help address and not perpetuate that history.

ACKNOWLEDGMENT



I acknowledge the Traditional Custodians of the lands on which this research was conducted and of the lands on which I live—the Gringai people, Wonnarua Country. Like the Traditional Custodians, may we all find ways to live, work and act in harmonious relationship with land, sea, sky, community, and creation. I pay my respects to elders past, present, and emerging.

I acknowledge my positionality and privilege as a designer and researcher from a Western context, having worked in corporate, social, and academic contexts. I have the deepest gratitude for those who have shared knowledge and wisdom with me so far, and those who continue to try to find ways forward together. I seek to pay it forward in service of a regenerative and just future for us all.

About

*This is a two-part illustrated field guide for
Designing Regenerative Transitions.*

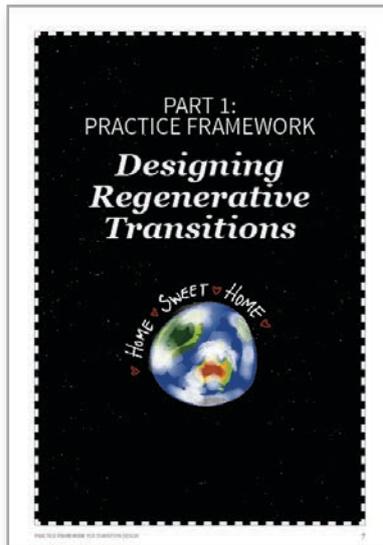
Part 1 gives an overview of Transition Design practice.

Part 2 presents a case study of design for Regenerative Agriculture transitions.

PART 1

Transition Design *Elements of Practice*

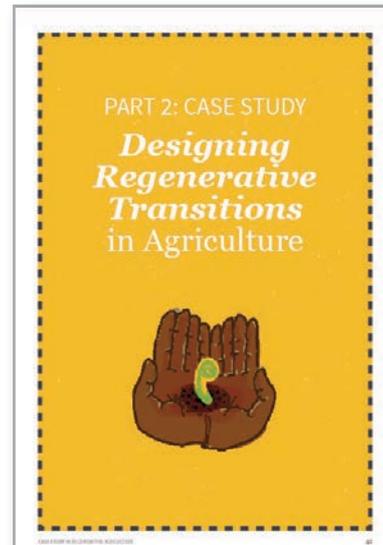
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PART 2

Regenerative Agriculture *Case Study*

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The elements of practice section describes Transition Design as a discipline. It outlines the methodology and practices. The purpose is to give an orientation to practice for anyone interested in Transition Design.

Who is it for?

- Groups collaborating on transition initiatives in complex social, economic, technological, and ecological contexts
- Practitioners interested in a design approach
- People working to bring about regenerative and just futures

The case study is an example of Transition Design in practice. The case study was undertaken to identify ways to support farmers and the sector more broadly to transition to Regenerative Agriculture, by design.

Who is it for?

- Anyone promoting, advocating, or curious about Regenerative Agriculture
- Design practitioners interested in how Transition Design may work in an agricultural context

This document does not seek to convince an audience of the merits of Regenerative Agriculture, or to influence people to undertake transition.

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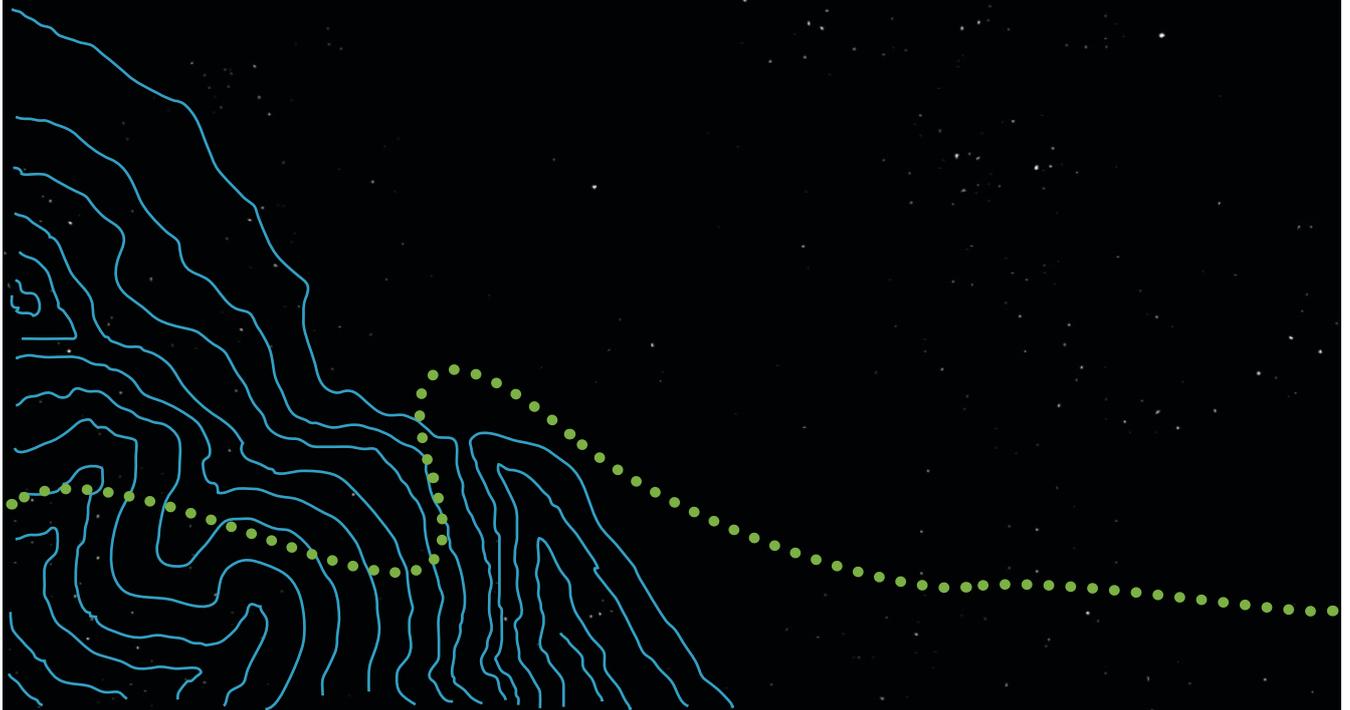
PART 1:
ELEMENTS OF PRACTICE

*Designing
Regenerative
Transitions*



SECTION 1

*Transition
Design
Overview*





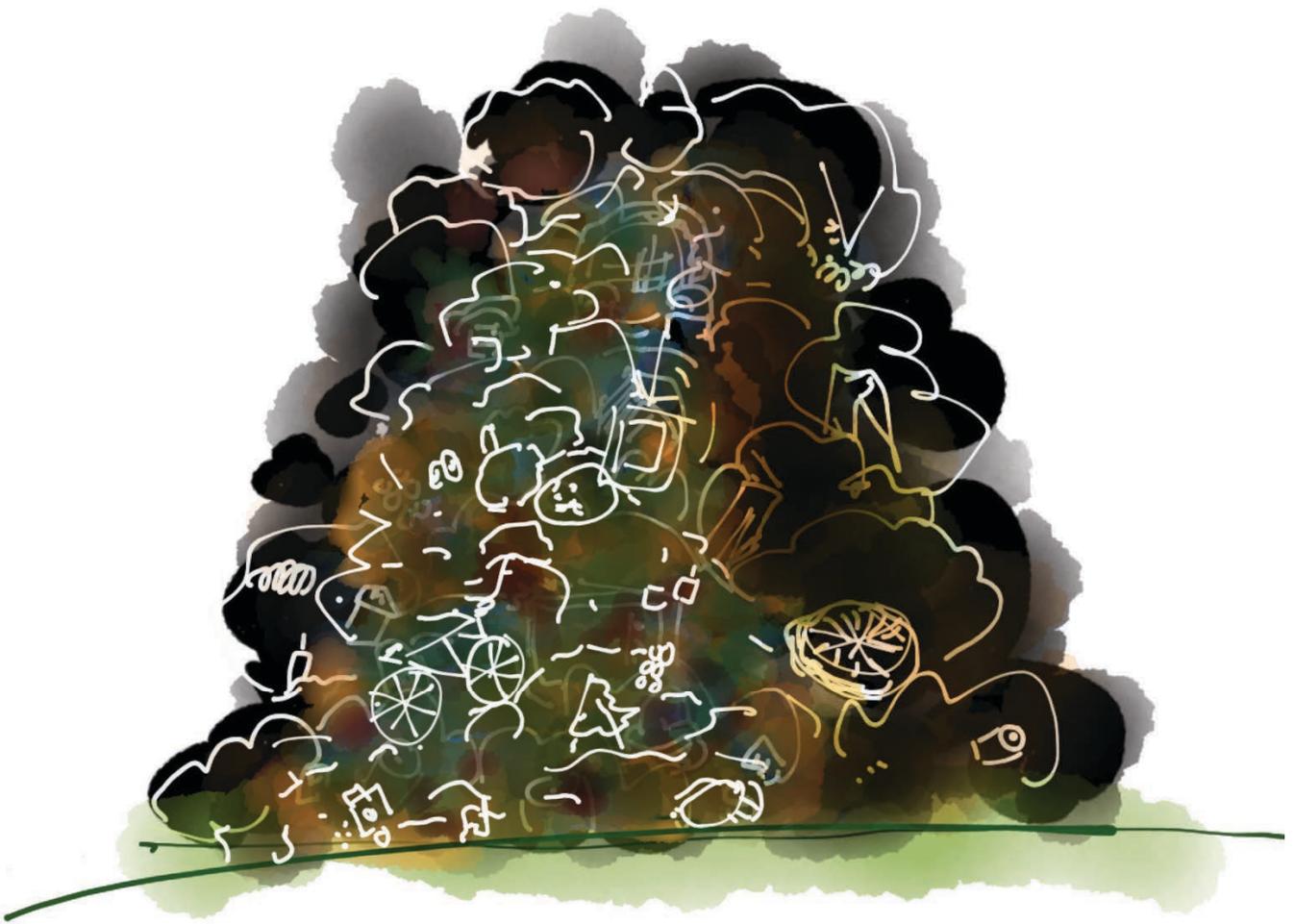
“We do not have a new story yet. Each of us is aware of some of its threads... Here and there we see patterns, designs, emerging parts of the fabric. But the new mythos has not yet formed. We will abide for a time in the ‘space between stories’. It is a very precious—some might say sacred—time.”

—Charles Eisenstein, *The More Beautiful World Our Hearts Know is Possible* (2013)

What we know:

**Every system is perfectly designed
to get the results it gets.**

–W. Edwards Deming



**For instance:
Waste. It's a thing.**

(in our culture at least...)

What is transition and why is it needed?

Tired of the word “unprecedented”?

Arguments for change often start with a burning platform. In keeping with that tradition, I will rattle off a series of challenges facing Australia and in particular the state of New South Wales (NSW), where I live. Over the past five years alone, NSW has faced unprecedented bushfires and then flooding, kicked off by one of the worst droughts in recorded history. Scientists point to these events as well as Australia’s [broken planetary boundaries](#) (biodiversity, land system change, and nitrogen and phosphorus flows) as indicators of disrupted ecosystem function and impacts beyond the carrying capacity of our environment.

Land clearing, deforestation, agriculture, and land management have altered energy, nutrient, and water flows, compromising cycles and systems at many scales, from local ecosystems and small water cycles to broader ecosystems including rivers, underground aquifers, and ocean currents. These changes amplify loss of habitat, species, and biodiversity.

In a ‘sunburnt country’, water and nutrients are precious, and keeping these cycles intact is vital. Farmers are facing increasing input costs and threat of resource scarcity, meanwhile toxin accumulation in our environment and in our bodies continues to emerge in data.

Global dynamics further compound challenges. The COVID-19 pandemic crashed local economies, disrupted supply chains, and put Australian food security into sharp focus. Global political, economic, and market insecurity, complicated by Russia’s war on Ukraine, creates a level of instability and uncertainty that hasn’t been felt for nearly a century. A global market means global interdependence, and much of our policy, export, and infrastructure locks us into these dynamics, at least for the short to medium-term. The Australian population continues to grow, which places more demand on agriculture. Economic vicissitudes directly impact farmers, where some markets are up but others are down, and labor is harder to access. Meanwhile, urban and regional development puts pressure on peri-urban farming areas, and climate change puts more pressure on marginal farming areas. Agriculture, it seems, gets squeezed on all sides.

Not a pleasant read.

Hope perches in the soul

We humans don’t tend to be very accepting of a grim prognosis, and the idea that we might have brought dire straits upon ourselves particularly rankles. We are an optimistic lot, for the most part. Even in complex, uncertain times, hope “perches in the soul / And sings the tune without the words - / And never stops - at all”, as Emily Dickinson captured so elegantly.

There is growing interest in the idea of “regenerative”, for instance, that is broader than agriculture and calls us to steward nature’s innate capacity—and therefore our own innate capacity—for environmental, economic, social, and personal renewal. For me, the regenerative instinct shows up as an ache for and a stubborn belief that we can see wetlands, dense bush and grasslands interwoven to a much greater extent with our productive agricultural land, urban environments, and broader landscapes, in a way that nurtures all. Time in the landscapes is part of where renewal comes from, for me—so my own renewal and landscape renewal are connected. What ache-meets-stubborn belief shows up for you?

Author Charles Eisenstein named this (and his book), ‘the more beautiful world our hearts know is possible’ (2013). Otto Scharmer (2009) describes this as “the future that wants to emerge.”

How we get from here to there

Getting from “here” (where we have a heap of structurally produced issues cumulatively impacting social, economic, and environmental wellbeing) to “there” (a regenerative and just future—socially, economically, and ecologically) is a question of transition. How do we lift and shift? How do we redesign the airplane while flying it? How do we find and amplify the patterns of the future already present today? How do we transition from where we are now to where we want to be when there is no known precedent in human history?

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Meanwhile, in Australia...

Unprecedented bushfires & flooding

Persisting, intensifying droughts

Disrupted water cycles

*Escalating loss of habitat,
species, and biodiversity*

Toxin accumulation

*Ongoing land clearing and
deforestation*

*Increasing input costs and
resource scarcity*

Climate change

Global Pandemic(s)

Disrupted supply chain, food security

Political and market instability

*Global economic uncertainty
mixed with structural 'lock-ins'**

Population growth

*Pressure on marginal AND
peri-urban farming areas
and communities*

Broken planetary boundaries

And more...

*SOURCE: Iles 2021

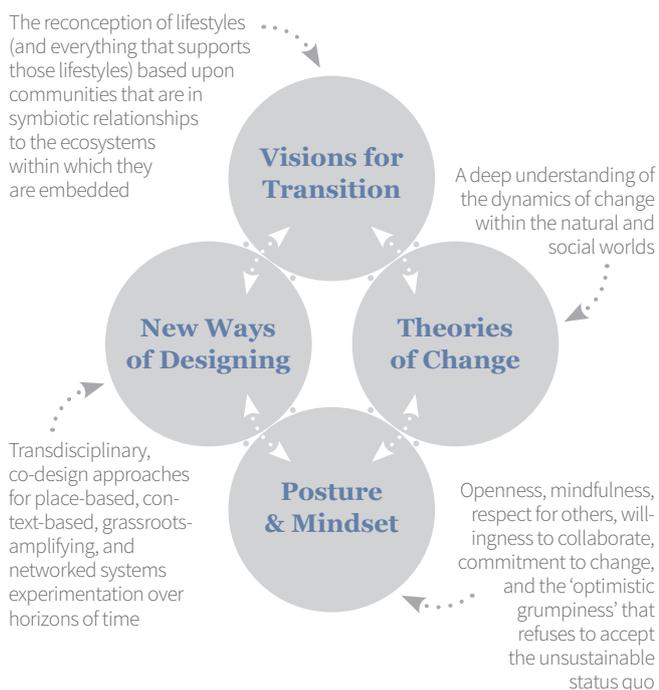
Why Transition Design?

Emergence of Transition Design

Transition Design is a growing area of research and trans-disciplinary design practice framed by Terry Irwin, Gideon Kossoff and Cameron Tonkinwise in 2014 (Irwin et al., 2015). The term ‘transition’ connects Transition Design to transition research, which “[originated] in Northern Europe within the academic fields of Innovation Management and Technology Assessment”, with a focus on socio-technical transitions like energy transitions (Irwin et al., 2015). In this context, the term ‘transition’ refers to the conviction that cumulative human endeavor is endangering all our futures and that “whole societies and their infrastructures must transition toward more sustainable states”, and that it is expected “that these transitions will require systems-level change”—and design (<https://transitiondesignseminarcmu.net>; Loorbach et al., 2017).

Transitions deal with complex social, political, ecological, economic, and technological systems challenges,, in uncertain and unpredictable contexts. Scholars, academics, and business alike have pointed to the utility of design in working on wicked problems like transitions, so named by Horst Rittel who lists 10 characteristics that make wicked problems sticky, tricky, fraught and never truly solvable. Transition Design, then, is an opportunity for designers to contribute to global transition efforts. This practice guide and case study will demonstrate what Transition Design can look like in practice.

The Transition Design Framework (Irwin et al., 2015) names four mutually reinforcing and co-evolving areas of knowledge, action and self-reflection:



What is Transition Design?

“Transition Design brings together two global memes. First, the idea that entire societies must transition toward more sustainable, equitable and desirable long-term futures and second, that these transitions will require intentional, systems-level change...”

Transition Design is a transdisciplinary approach aimed at addressing the many ‘wicked’ problems confronting 21st century societies: climate change, forced migration, political and social polarization, global pandemics, lack of access to affordable housing/healthcare/education and many others. These problems are interconnected, interdependent and always manifest in place and culture-specific ways. Transition Design argues that new knowledge and skill-sets are required to address these problems...”

—from the [CMU Transition Design Seminar website](https://transitiondesignseminarcmu.net)

An integrative and generative discipline

Transitions impact and require a pantheon of stakeholders, across numerous cultures, backgrounds, power structures, and disciplines (transdisciplinary). Transition Design offers an approach that can support diverse peoples to come together, integrate their thinking, generate new responses, build agency, and amplify the fragments of the future here today. Wahl (2016) draws out the integrative role of design:

“Design should not be considered a specialized field of human endeavor; rather, it can be understood as the integrative activity that connects human intentions to their material and cultural expression in the form of artefacts, institutions and processes. A design-based approach will not only help us to integrate many different perspectives and disciplines, it will also remind us that for the transition to be effective it will have to include not just a sound scientific basis informed by systemic thinking, but also ethical, aesthetic, social, cultural, economic and, of course, ecological considerations” (p. 124).



Designing transition to regenerative and just futures

Transition as the object of design

Every form of design has its associated ‘object(s) of design’. Product designers work on objects in our material world; graphic designers work on visual communications; architects design our built environment, landscape architects design landscapes, service designers design service processes, cultures, and operating models, etc. Transition Designers help catalyze transitions.

There are numerous domains undergoing transition that design could support, including: climate resilience and disaster response; water transitions; energy transitions; regional-industry-workforce transitions; urban transitions; land, ocean, and fisheries management; agriculture; regenerative and circular economy transitions; health and social sector; governance and policy; and more.

What are we transitioning to?

Regenerative and just futures

If our goal is a regenerative and just future, then we are asked to re-make, innovate, and re-integrate our societal cultures and constructs. The task at hand is to repair and remake our relationship to one another and the world we are a part of. The image, ‘(Re)braiding Rivers: A Theory of Change over Horizons of Transition’, visualizes this existential challenge as rivers of societal constructs to be re-designed, murky wetlands for reintegrating, healing, and processing change, and transition over many horizons and oceans of time.

The diagram names five rivers of transition:

- 1) **Societal Narratives**—that define meaning and purpose
- 2) **How we care for our environment and steward resources**—seeing ourselves as part not apart
- 3) **How we meet our everyday needs**—via locally thriving and globally connected (cosmo-local) economies, communities, and our social, health, wellbeing, and care systems
- 4) **How we govern together**—continually updating our democracy to ensure equity in participation and representation
- 5) **How we collaborate, experiment and learn** as a networked and diverse society

These rivers merge into wetlands that help us create the space for regeneration and healing by:

- Walking side-by-side, bridging cultures
- Facilitating truth telling, reparation, and healing for justice, fairness, and equity
- Navigating complexity and uncertainty together

“We will come to regard the creation of a globally regenerative civilization expressed in exquisite locally adapted diversity as the creative challenge of our times”

—Daniel Christian Wahl, *Designing Regenerative Cultures* (2016, p. 153) Emphasis added

What is design?

One of the most quoted definitions of design is from Herbert Simon: “devising a course of action aimed at changing existing situations into preferred ones” (Irwin et al., 2015b; Schön, 1983). Swann argues that “visual form is a form of knowledge”, defining designing as a form of research that synthesizes findings not into words but into visible, tangible things. Swann quotes Mike Press (2002), who “suggests that...‘A designed artifact is a researched proposition for changing reality.’”

Design can be a noun, a proper noun, and a verb. ‘A design’ as a noun is the output of creative, form-giving processes to achieve a specific end. Design is both a skilled activity and a universal activity. ‘Design’ as a proper noun is a professional discipline of form-giving in service of specific objectives. ‘To design’ or ‘designing’ as a verb is the universal process of form-giving to achieve an intended outcome. Regardless of the discipline (for instance: product design, interaction design, graphic design, service design, architecture, landscape design, etc.), designing is a goal oriented, form-giving activity in which the end output of multiple cycles of testing, obtaining feedback, and iterating is judged by how well it is ‘fit for purpose’.



IMAGE: Small group discussion using an illustrated systems map at a transition workshop.

The output of design introduces a novelty into a context—and so design is inextricably linked to changemaking, whether the resulting changes are fully intentional or not. Not only do the outputs of design result in change, but also change happens during the process itself. As Schön (1983) notes, “We are in the problematic situation that we seek to describe and change, and when we act on it, we act on ourselves.” When we go through a design process, we change. This characteristic of design—changemaking as both an end product and a phenomenon that occurs through process—is critical for Transition Design.

Design as a universal task

Daniel Christian Wahl (2016) names transition to sustainability as “the creative challenge of our times”, implicating our collective imagination and ingenuity in the task of transitions. (Re)design is everyone’s job:

“We are all designers! We all co-create the world we live in through our relationships and our behaviour as citizens, community members and consumers. We all have real and perceived needs and we all design our own strategies to meet those needs. [...] Our intentions influence both our action and our inaction, they shape how we co-create the world” (Wahl, 2016, p. 123).

In these terms, everyone engages in designing as a verb, as a means of acting upon a situation to bring about our intentions. It is our intentions, and how they flow through our choices and actions, that produce the world we live in—and we can change our choices and actions to bring our reality into better alignment with our intentions and the future we desire.

What is designing—in Transition Design?

You can’t control the future but you can take a design approach

Can we really design a transition, given that transition involves working with complex adaptive challenges that are simultaneously social, technical, environmental, and economic, where change emerges over long horizons of time and not in straight lines? No. Not in the sense of design as problem solving and solution development.

However, we can design *for* transition. We can approach transition challenges using design processes. We can use design in ways that promote change and provide alternative choices, making transition more likely.

Wahl (2016) argues for taking a design approach:

“If we accept that questions rather than answers, and continuous experimentation rather than lock-in solutions are safer ways to guide us through these turbulent times and into the unpredictable future, then we also have to accept that there is a limit to the extent to which we can design our future in the face of complexity and uncertainty. Nevertheless, taking a design-based approach offers us a practical way to propose and implement solutions in order to continue to learn and improve our guiding questions....On the one hand we have to accept that the future will remain unpredictable and uncontrollable; and on the other hand we can work creatively with the future potential of the present moment to envision and navigate towards the third horizon” (pp. 123-4).

Skills and capabilities

Transition Design requires many of the same skills that designers of all types use everyday, adapted for complex contexts. Highlighted by the ‘Design Thinking’ movement, design has become valued for how human, behavioral, cultural, social, and technical dimensions of change, etc. are taken together in context so that those involved can better make sense of and act in complexity:

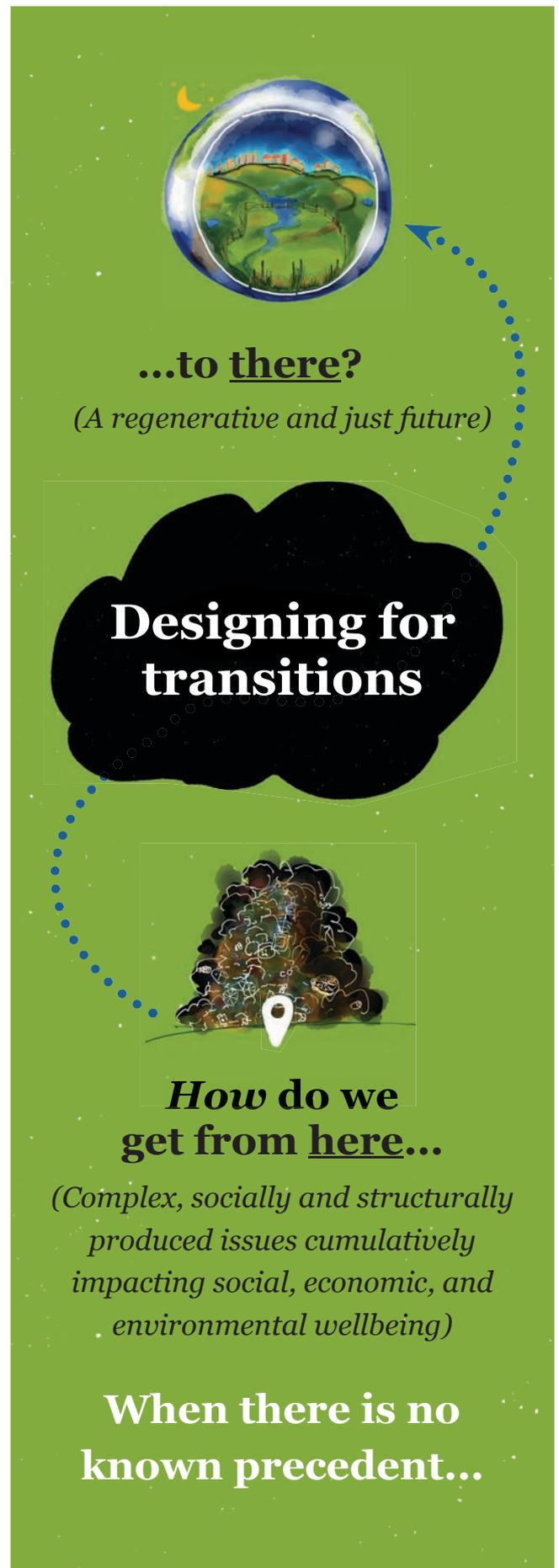
“Design...observes humans and the systems they interact with in their context and using the insights acquired...frames the problem with due emphasis on human experience and the meaning derived through that experience...It has been argued widely and for long that, design is suitable for addressing wicked problems (Dorst, 2003; Goldschmidt, 1997; Rittel and Webber, 1973).” (Gaziulusoy and Ryan, 2017).

Design as sensing and making sense – seeking to better understand and represent various perspectives—for instance, the perspectives of people with lived experience of challenges, diverse stakeholder perspectives, and increasingly the perspectives of non-human entities and stakeholders like rivers and forests; engaging in sense-making through empathy, deep listening, discovery, and observation, parsed by sensing and synthesis (Scharmer, 2009; Kolko, 2007)

Design as an integrative, generative, form-giving practice—drawing upon creativity, imagination, and ingenuity, integrating information, stimulus, and reflection to develop new ideas and responses, which are made tangible, experience-able through the visual, technical, and communicative form-giving skills of designers—a practice of “making it up” (Irwin et al., 2015b; Wahl, 2016; Schön, 1983; Dorst, 2015; Sides et al., 2022).

Design through facilitated conversations and co-creative workshops—As design has extended from solo practices to more social and collaborative processes, designers have needed to develop facilitation skills. Designers combine facilitation skills with generative tools and creative experiences to host workshops, events, and conversations that enable participants to make sense of information, develop their own ideas and visions, sometimes prototype them on the spot or over elapsed time, and chart pathways forward. Design facilitation often occurs in newer design disciplines like service design, strategic design, design-innovation, and social innovation.

Design as progressive experimentation through reflection, (re)framing, and iteration to “[make] it real” – using reflection-in-action as a source of insight and novel action (Schön, 1983); framing and reframing challenge, opportunity, response, roles, and even intent (Schön, 1983; Dorst, 2015). By developing and testing not only an ecosystem of responses but also multiple options to address the same challenge, and deferring judgment to observe how ideas play out, experimentation reduces risk and helps us learn what creates outcomes (Sides et al., 2022).

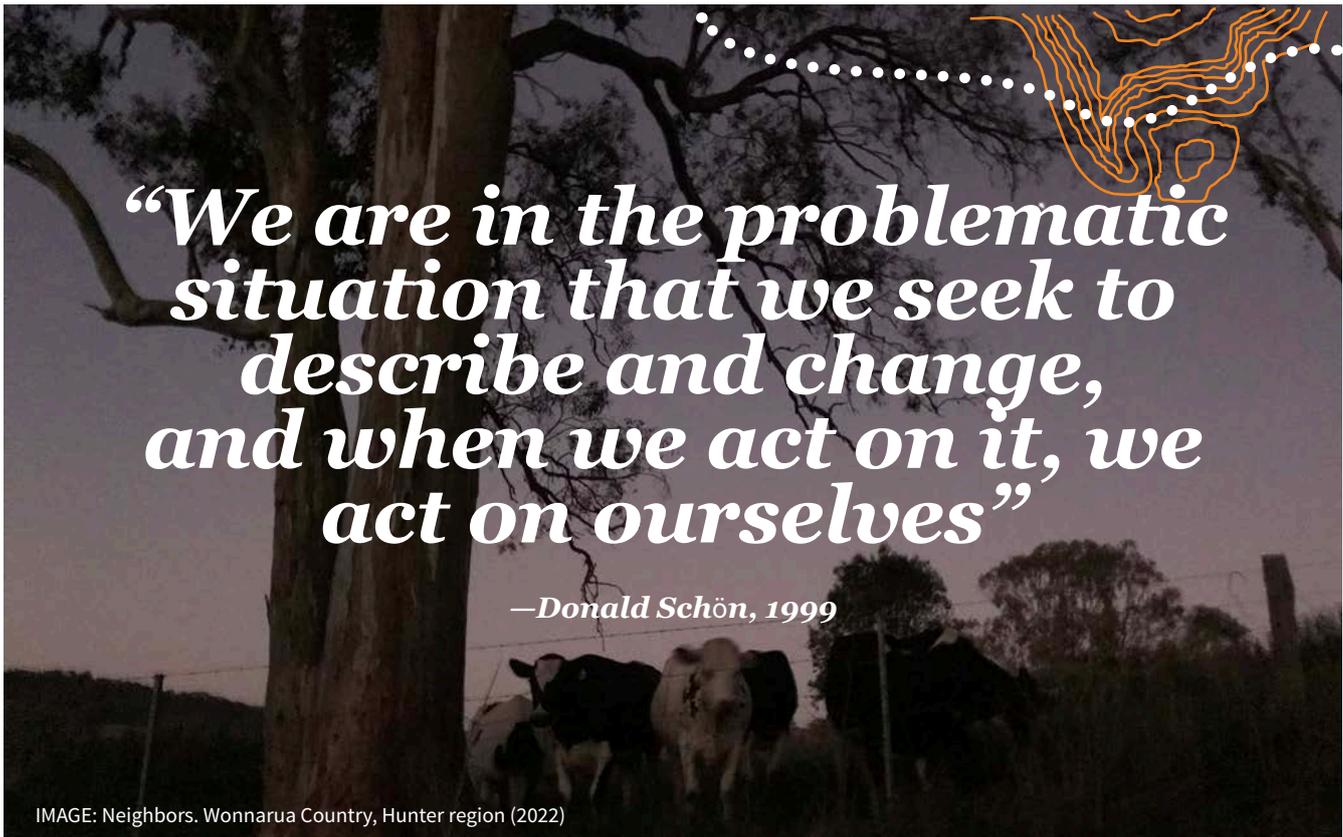


...to there?
(A regenerative and just future)

Designing for transitions

How do we get from here...
(Complex, socially and structurally produced issues cumulatively impacting social, economic, and environmental wellbeing)

When there is no known precedent...



An ethos of co-creation

Design conducted in social contexts follows an ethos that involves co-creating responses that work for people, with people. The underpinning philosophy is one of “doing research with and for people rather than on people” (Löfman et al., 2004). This type of approach originates from social research contexts and follows a similar ethical stance and approach as action research. The researcher/designer directly engages with stakeholders in context as collaborator, as another change agent, to work on ethical, moral, and political questions of the common good through democratic participation in action and self-determination for social change, contributing to the agency and capacity of others to enact transformation (Brydon-Miller, 2009). It involves taking a mutual approach that foregrounds local, contextualized knowledge — walking side-by-side, working shoulder-to-shoulder, and co-identifying challenges, dynamics at play, opportunities, and ways forward.

Transition Design never meets a blank page. Any change we might hope to make was made possible by others that came before us, and by others working right now. We stand on the shoulders of giants. Rather than being responsible for inventing the future, Transition Designers often help locate and amplify possibility. Borrowing strategies from other disciplines like community development and social innovation, a Transition Design approach includes highlighting positive deviance, amplifying existing work, enabling others to take action, and building capacity—particularly local and system capacity.

Transformation through Transition Design

As mentioned earlier, change is built into design itself. Transition Design processes can deliver new visions, theories of change, responses, and ways of working together, as well as be a crucible for societal, group, and individual change and transformation.

Transition Design processes give us the chance to engage and encounter others in new ways, to transform how we relate to each other and the world we are a part of. Design processes expose us to different perspectives, invite us to see our own perspectives as malleable, and develop critical thinking skills—enabling us to change our minds.

By exposing us to new ideas and visions and then making them visible, tangible, and experience-able, design makes new realities possible. Experimentation develops proof that new possibilities are feasible, making the future doable. When taken one step at a time, designing helps us figure out how to manifest, enact, embody, and inhabit a new reality.

People who are directly involved in a Transition Design process—whether as collaborators, co-designers, participants or stakeholders—are the most likely people to experience something that is transformative for them.

But transformation is possible at broader scales too. As insights develop, visions for the future emerge, and possibilities come to fruition, design can amplify changemaking efforts, engage audiences, increase accessibility, and build momentum. Outputs can be packaged and communicated in various forms (like this field guide) through written and visual communications and media. These outputs can then be used to facilitate broader conversations at the group, community, or even societal levels.

The ethos of co-creation tells us that Transition Design is most likely to be successful when we are working with people, building their capacity and agency to develop responses and to take self-determined action in their own contexts. Furthermore, if Transition Design is to help create regenerative and just futures, the means must be congruent with the ends. Working regeneratively also means learning to work holistically, with nature, and the self-organizing properties of life.

Postures: A designer's stance

Design has a particular posture or stance: believing that other futures and possibilities are not only possible, but also that we can bring those ideas into being. This generative, possibility-minded, and solution-oriented stance is intrinsic to design: we can imagine new ways to meet our needs within a myriad of constraints and requirements, and whatever can be imagined, can be made...if eventually. In transitions, where solutions aren't really possible, a solution-oriented approach can mean looking for responses that have *potential* to influence change in the desired direction.

The stance is inherently positive and full of hope—whilst holding to a pragmatism that leans into constraints and challenges. Factors holding the current paradigm in place, such as “structural lock-ins”, are explored—looking for ways to remove barriers, work around constraints, and create shifts (Iles, 2021). That stance meets with a dissatisfaction with the status quo (when it comes to how we humans treat each other and our environment), to form what Transition Design framers call ‘optimistic grumpiness’ (Irwin et al., 2015).

Design outputs

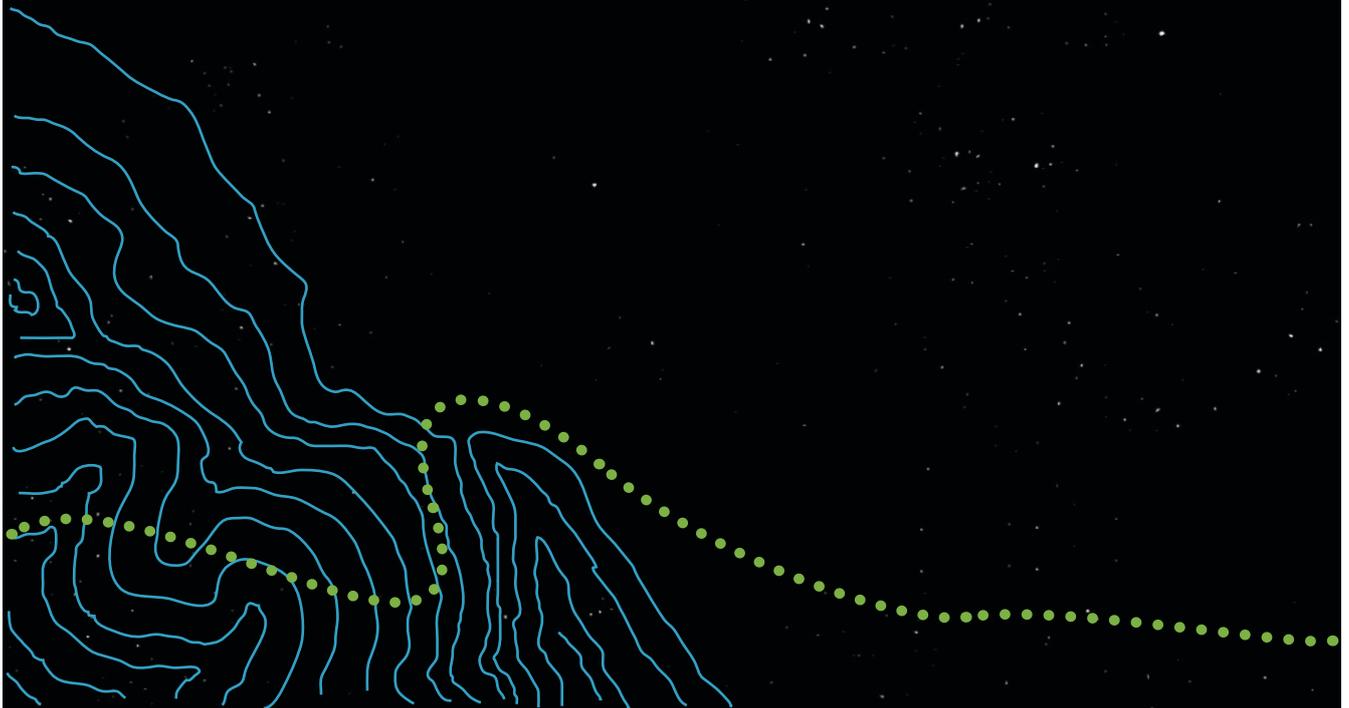
Design is form-giving, and every form of design has its artefacts. For instance, when developing coffee mugs, product designers make various sketches, models, and functional prototypes, etc. This field guide presents a Regenerative Agriculture case study that illustrates a Transition Design approach and outputs. It includes artefacts like diagrams, illustrations, websites, and ads. This field guide itself is a Transition Design artefact.

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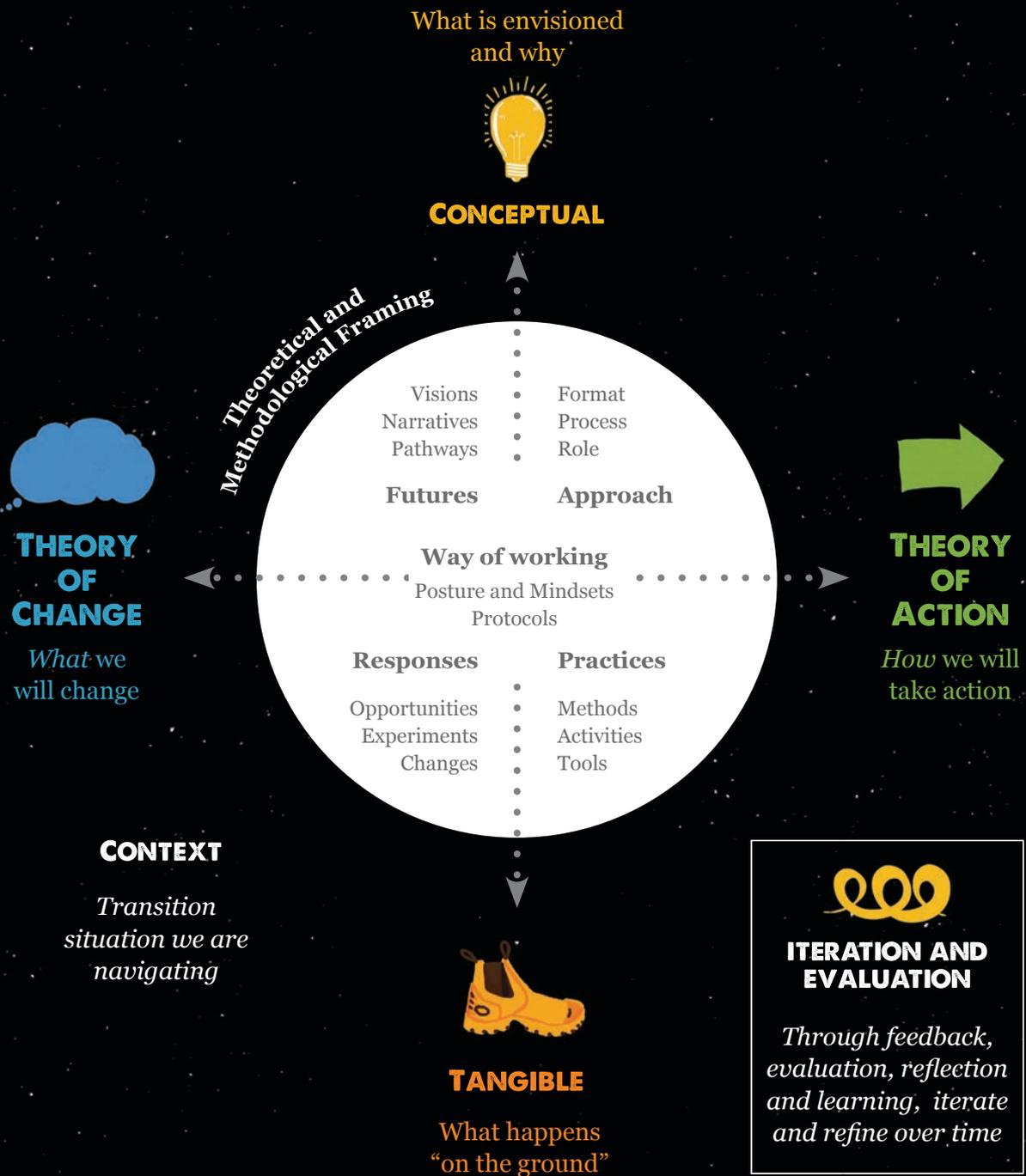
SECTION 2

*Introducing
a Practice
Framework*



Transition Design

Elements of Practice Framework



Introducing an *Elements of Practice* framework for Transition Design

Building on the emerging Transition Design approach

How do you get started *doing* Transition Design? The good news and the bad news: you have to build your own compass. The same process or approach won't work in every situation. There are case study examples, lots of practices out there, lots of experiments you could do, and many ways to achieve a vision. Your job is to pick and mix to find the role(s) you can play in catalyzing systems change.

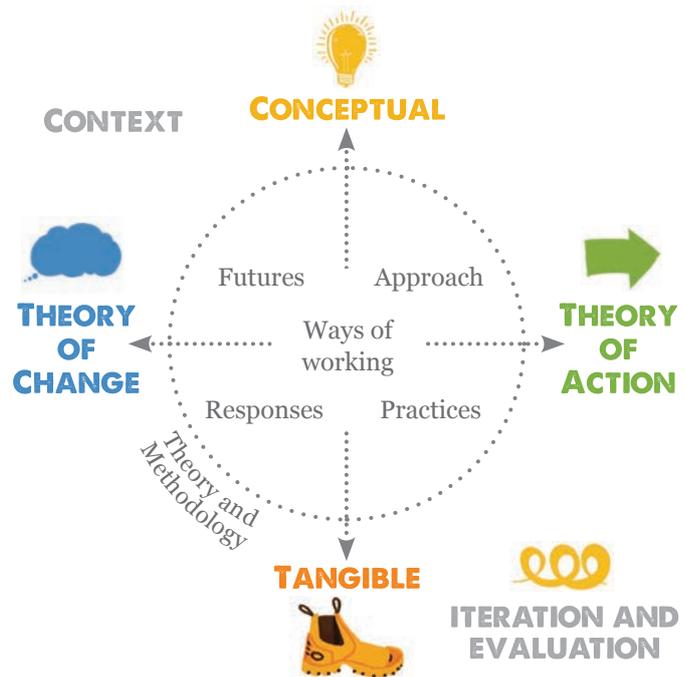
As mentioned, the Transition Design Framework (p. 13) calls for “four mutually reinforcing and co-evolving areas of knowledge, action and self-reflection”: Visions for Transition, Theories of Change, Posture and Mindset, and New Ways of Designing (Irwin et al., 2015). The emerging Transition Design approach also includes three phases, reframing present and future, designing interventions, and waiting and observing, which are a reference point for the process I step out in pages 30-33. Because a little self-assembly is required, the elements of practice framework is intended to help in gathering or formulating—and structuring—all the components of practice needed to put the emerging Transition Design approach into action.

Using the framework: build your own compass

The elements of practice framework is intended to give structure to the process of assembling your own approach. The process is like building your own compass to navigate uncertain times. As you assemble the practice elements you believe you will need, you will work out *what* steps to take and how to *take* those steps. Particularly where you document it, that thinking should serve as a compass to guide you as you weigh options and choices along the way.

When starting Transition Design, use this framework together with any collaborators to help you determine your choices. Work through each component:

- What is your current best thinking about the future that is desired, the changes needed to reach that future, how you'll contribute, and activities you believe are useful?
- What ways of working will be needed for successful collaboration and changemaking?
- How will you document your thinking and learning? How often will you check back, reflect, and iterate your approach? How might this inform an evaluation framework? What do you learn over time about how to bring about change and impact transitions?



Anatomy of the practice framework

x-axis: Theory of Change and Theory of Action

Practice has two halves, a Theory of Change and a Theory of Action. These establish the x-axis of the framework.



- **Theory of Change**—Theories of Change hypothesize causal relationships between action and outcome, outlining the many changes we assume are required to bring about specific outcomes in a given context. A Theory of Change is built from Futures and Responses, underpinned by Ways of Working.
- **Theory of Action**—How we will take action to do our part in impacting the Theory of Change. What are we doing and how are we working to make the elements of the Theory of Change happen? What is our role? Transition Design is a Theory of Action. A Theory of Action is built from your Approach and Practices, also underpinned by Ways of Working.

y-axis: Conceptual versus Tangible

Both the Theory of Change and Theory of Action have conceptual/abstract and tangible/concrete aspects, and these aspects establish the y-axis.

Sections of the framework

Futures—When you start an initiative, there may already be broad goals to aim for, like ‘net zero’ or ‘the uptake of Regenerative Agriculture’, as for the case study. When the stakeholder conditions are right, look for ways to develop multiple and diverse Visions, Narratives and Pathways for the future, including provocations about what is possible and desirable.

Responses—The responses, or interventions, you develop are based in desired futures. What opportunity areas, or domains for action, might you frame? Within those opportunity areas, what experiments and changes are needed, and which ones will you work on? Altogether, how might the responses you undertake form an ‘ecosystem of responses’ and connect with other ecosystems of responses that others are working on?

Approach—What methodology informs your approach and how might you that translate into a process, role for you and others, and then guide your choice of practices? What type of format will serve as a vehicle for working together, such as a ‘lab’, a project, or a platform? Formats are often the mechanisms that can be funded.

Practices—may be informed by the methodology you have selected, but your practices are not necessarily limited to that methodology. Practices from diverse contexts can be adapted to work with a given methodology with attention to the ontology of those practices and fit for context. Practices include: specific methods, for instance backcasting to develop pathways to a vision; activities, such as mapping complex challenges across a system; and diverse tools like using card sets to help generate ideas.

Ways of Working—Your ways of working are the posture and mindsets you bring to working with others and yourself, including practices of care. They are also shaped by protocols, the cultural norms for behavior, communications, and engaging with others including non-human beings and the environment around us.

Context—Practice sits within a broader context. In setting up a practice you will determine the ‘system in focus’ and the boundaries to which you will attend. But there are always broad contexts and other micro contexts operating that influence and can be influenced by your context. Continuing to attend to the layers of context can anticipate dynamics that will influence practice. Refer to the Adaptive Cycle and Panarchy theory (p. 31) for how different systems or system states can influence context.

Iteration and Evaluation—Practice, as represented by both the Theory of Change and the Theory of Action, must be adapted as you progress, circumstances change, and you integrate learning. Even theory may be iterated. Ideas about practice should be held lightly, treated as assumptions that are changeable if new insights come to light. Through feedback, reflection, and critical thinking, new perspectives may surface. How might you set up a reflective practice to enable you to evaluate and iterate your Theory of Change and Theory of Action, including all the elements? Once developed, you have also established a reference point for ongoing evaluation.

Theoretical and Methodological Framing

Transition Design is framed by theories and methodologies from different origins that, for instance, open the door to other ontologies, support a relational way of working, and/or help us to see and shift systems. This includes living systems theory, transition theory, participatory methodologies, pluriversal design, and more. You may need to blend your own mix of these and others. For further discussion please refer to my thesis.

What is a practice framework?

Practice frameworks translate underpinning theories, concepts, and ideas into concrete specifics about what it takes to achieve certain outcomes. They set out a logic and mental model for action, and then provide a collection of tools and concrete practices that enable a practitioner to put the ideas, intentions, and approach into action. They give practitioners a place to start, activities to try, and guidelines for effective practice.

“A practice framework ‘integrates empirical research, practice theories, ethical principles and experiential knowledge in a compact and convenient format that helps practitioners to use the knowledge and principles to inform their everyday work’ (Connolly and Healy, 2009, p. 32)” (Department for Health and Social Care, 2019).

SOURCE: Department for Health and Social Care. (2019). ‘Strengths-based approach: practice framework and practice handbook’. With support from the Social Care Institute for Excellence (SCIE). Accessed via: <https://www.scie.org.uk/strengths-based-approaches/practice-framework-handbook>

*“Who are you?”
said the Caterpillar...*

*‘I—I hardly know, Sir, just
at present,’ Alice replied rather
shyly, ‘at least I know who I
was when I got up this morning,
but I think I must have changed
several times since then.’*

— Lewis Carroll, *Alice’s Adventures in Wonderland*

IMAGE: Lightning strike. Wonnarua Country



SECTION 3

*Elements
of Practice*

Elements of practice in this guide

The elements of practice included in this guide are:

- **Transition Theory**—A brief synthesis of theory relevant to transitions.
- **Process**—Core activities for a Transition Design approach.
- **Protocols for practice and principles of regeneration**—Protocols are cultural norms that guide behavior, engagement, and communication. Principles are durable, unchanging dynamics that can help inform choices.
- **Decision-making**—Methods for decision making when working in groups and complex contexts

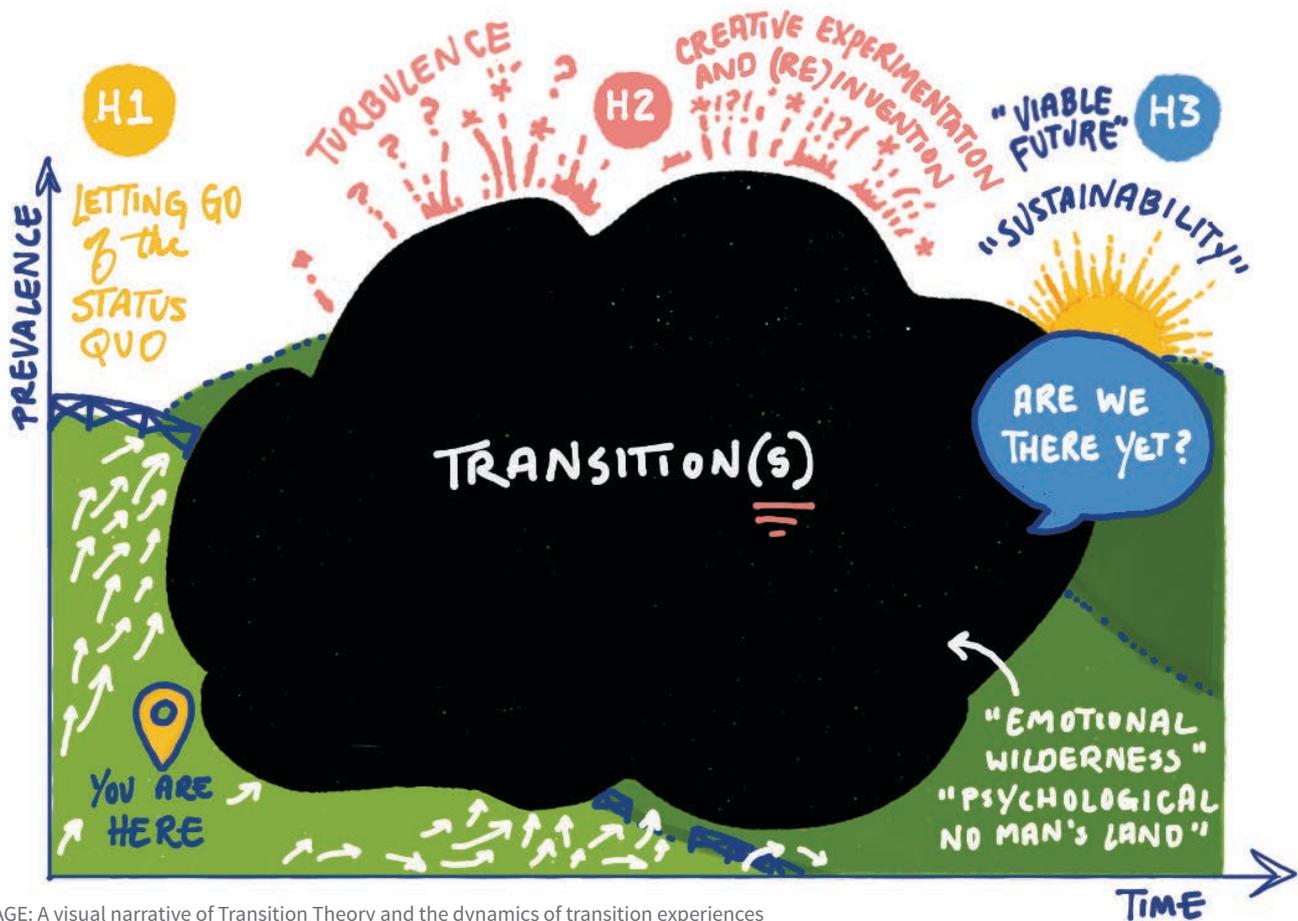


IMAGE: A visual narrative of Transition Theory and the dynamics of transition experiences

Transition Theory

What do we even know about transition, if we've never gotten from *here* exactly (a heap of structurally produced issues cumulatively impacting environmental, social, and economic wellbeing) to *there*, e.g. a viable future where global human activity is regenerative? What can we expect to experience in transition?

Narrating the experience of transitions

The Adaptive Cycle of invention, growth, breakdown, breakthrough, and reinvention underpins most Transition Theory. Three models are compared and combined here in the 'Transition Theory' visual narrative: Geels' MLP, the Three Horizons Framework, and Bridges Transition Model.

Geels' MLP establishes an overview of what's happening between actors and structures to influence change, where niche innovations and emergence influences the dominant regime in an interplay with cultural and contextual shifts in the broader 'landscape'. Niches (small arrows) encounter each other and align into movements that come into friction with the dominant regime (fences).

The Three Horizons Framework and Bridges Transition Model put transition into phases over time horizons,

tracking the challenge of letting go of the status quo, the upheaval of change, and the unfamiliarity of the emerging future. We can nurture seeds of the future here today, quoting William Gibson: "The future is already here—it's just not very evenly distributed".

We can anticipate major phases of transition and personal experiences of transition to be disorienting and turbulent, an "emotional wilderness" (Bridges, 2004). We can expect and work to hold space for loss, conflict, and backlash, while working through power dynamics. This is represented by the dark cloud. Carefully tending to the seeds of the future that come to us through niches, disruptive innovations, and grassroots efforts, it is the very disorientation of transition that creates the opportunity and space for the creative experimentation and re-imagination that is necessary to build bridges to a viable future.

The future, once we get "there", turns out to be a sequence of transitions. The axis of time does not carry a promise that transformations will deliver exactly what "we" want. The third horizon isn't utopia, and it could be dystopia depending on your point of view. The horizons connote the advent of stable new paradigms, but transition is not guaranteed, circumstances will keep changing, and we will have to continue adjusting what it means to regenerate and protect a viable space for humanity. We will keep asking, "Are we there yet?"

Six dynamics of transition experiences

1. First dynamic: Transition has its own dynamics

Transitions are rife with challenging experiences particular to transitions. Inspired by and drawing from the work of William Bridges, this draft list of the dynamics of transition experiences draws together the rules named by Bridges with dynamics highlighted by Geels' MLP, the Three Horizons Framework, observations from Charles Massy's work, and principles of transformations in living systems. It is my hope that becoming attuned to these dynamics can help us be ever so slightly more aware of what to expect and more likely to allow ourselves to be transformed by the experience. These dynamics point to what we can do, whilst offering us a means to empathize with and have compassion for what we and others experience.

2. Endings are part of transition

Bridges (2004) declares that "Every transition begins with an ending". As "business as usual...[loses] its fit for purpose", transition asks us to let go of the status quo (Wahl 2016). Massy (2017) similarly points to the role of loss and crisis in helping to create the mindset shift required for transition to Regenerative Agriculture. What many don't anticipate (as Bridges explains) is that, even if we choose change, we incur loss—and loss comes with grief.

3. Cycling back to old ways over horizons of time

Following Bridges' (2004) first rule that "when you're in transition, you find yourself coming back in new ways to old activities," and bringing this together with the Three Horizons Framework, we may predict that the past or "status quo" will be with us in some way for a very long time. We can hypothesize, as we transition over horizons, that we will find ourselves and society cycling back to familiar territory, old habits, but also remembering what is vital to keep as sacred from the past—whilst equipped with new sensibilities, dynamics, and resources to meet the moment anew (Bridges, 2004 and 2009; Wahl, 2016).

4. Expect backlash; Transition is not guaranteed

Systems have "allergic" responses to change, with friction and conflict arising as niches encounter the structures, norms, and power of dominant regimes—this is the 'revolt' or backlash aspect of change (Wahl, 2016). Transition theories talk about 'turbulence' and 'upheaval, but don't necessarily convey the risks and the losses. There are diverse actors and power structures at play, each with their own agendas. "Successful" transition is not guaranteed. It is likely that some shifts will occur, but they may not be (entirely) the changes we seek. When transition does occur, the result may look like loss rather than success for many. We also personally resist transition's uncertainties, even

when it is something we seek. We may get stuck if we do not reckon with transition (Bridges, 2004).

5. Lost is on track to new ways forward

Eisenstein (2013) describes this in-between stage of "lostness" as the sacred space between stories. Getting lost is what helps us "come home" to the future we seek. The act of being present (presencing in Scharmer) and grappling with the challenge of transition creates a crucible for creative experimentation and reinvention. It is this stage that Bridges, Scharmer, Snowden, and Wahl assert is the perfect time for probing, sensing, making, reflecting, re-making, innovating, re-structuring, and re-patterning.

6. Beginnings come after endings

The future, once we get there, turns out to be one in a sequence of transitions. Transition to sustainability is not guaranteed, circumstances will keep changing, and we will have to continue adjusting what it means to regenerate and protect a viable and just space for humanity. We will keep asking, "Are we there yet?" Meanwhile, every horizon brings the wonder of new learning.

7. Everything is connected

Transition eventually involves everyone and everything. Coming back to ecology and laws of nature, John Muir reminds us that everything is connected: "When we try to pick out anything by itself, we find it hitched to everything else in the Universe." Understanding and making decisions based on the interconnection—relationality and wholeness—of everything (Yunkaporta, 2021a), is advocated by many scholars and First Nations peoples (Mollison, 1988; Scharmer, 2009; Kimmerer, 2013; Suchet-Pearson, 2013; Wahl, 2016; Yunkaporta, 2019, 2021a, and 2021b; Cultural Survival et al., 2020; Bortoft, Goethe, and many more).

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Comparing theories—more detail

The three transition models cited here all underscore that change is not linear, but that shifts occur over time where changes take effect.

Geels' MLP framework provides a narrative of the interlinked causal factors that create change in the status quo of socio-technical regimes and paradigms. Geels also helps us conceptualize how a dominant paradigm is comprised of many independent but interdependent components, all of which have to shift in some way for change to occur. This narrative underpins most transition theory, offering a guide to the dynamics at play.

The Three Horizons framework and the Bridges Transition Model put transition across time horizons. Calling out horizons helps us better conceptualize the time element and even visualize Geels' changing landscape. The metaphor of horizons over a landscape is an accessible idea, helping us to imagine the longitudinal experience of transition.

The phases of the Three Horizons Framework and the Bridges Transition Model have parallels, even though the Three Horizons Framework tracks transition at a societal level and the Bridges Transition Model tracks transition at personal and group levels. They both describe how transition follows a sequence of simultaneously occurring yet dependent phases that re-balance in prevalence over time, and that achieving transition is a result of reckoning with the transition itself.

The Bridges Transition Model draws out the psychological experience of transition and, given the parallels with the Three Horizons Framework, I postulate that the personal and group psychology described in Bridges will have parallels at societal and cultural scale, thus making the Bridges Transition Model relevant to Transition Theory. Likewise the four rules of transition that Bridges defines (cycling back to old ways; endings are the first phase of transition; expect yourself to resist transition; and that endings have to come before beginnings—with a fallow or neutral zone of lostness in between) also scale up, as discussed in 'Six Dynamics of Transition experiences'.

The "psychological wilderness" and "emotional no-man's land" in Bridges describes the black hole that is the unknown of transition phases. It seems we can expect transition to be tumultuous, with the advancing, growing, adapting niches mixing with elements of the dominant regime. All models agree that it is the in-between zone, the mixing of niches and regimes—like the "brackish water" where freshwater floods meet salt water—that is the most fertile zone for re-imagining, experimenting, and re-making (Yunkaporta, 2019).

Relevant transition theory literature

This section gives an overview of relevant models and frameworks that examine how transition occurs.

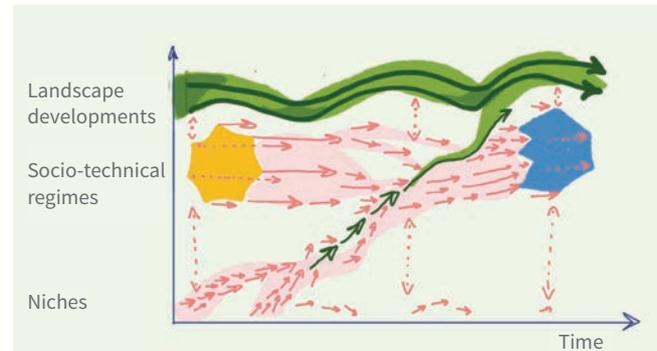


IMAGE: Multi-Level Perspective. Redrawn from F.W. Geels (2002).

Multi-Level Perspective (F.W. Geels)

Multi-Level Perspective (MLP) is one of the most widely cited transition models, conceptualizing transition as the interplay between niches, the dominant regime, and the broader contextual landscape, as Gaziulusoy (2018) observes, "It would not be an exaggeration to state that MLP is the most commonly used theoretical model and analytical tool in the field. MLP explains system innovations and transitions with references to three dynamically interactive levels: i.e., the landscape level at the top, the socio-technical regime level in the middle, and niche innovations at the bottom level of a nested hierarchy." Dahle (2019) steps out how change comes about according to MLP: "Geels (2005) and his colleagues theorized that change unfolds through a system as niche activities, like demonstration pilots and disruptive companies, find some traction, and begin to affect the formal processes that are part of a system, for example, business supply chains. Over time, the changes embraced in formal structures lead to changes in mindset and/or the broader social landscape and context." This model calls attention to the importance of niche activity—which could be called 'grassroots' or 'bottom up'—and how niches influence, and are influenced by existing power structures and a changing environmental, societal, economic, and technological context.



IMAGE: Three Horizons Framework. Redrawn from Wahl (2016).

Three Horizons Framework (Hodgson, Sharpe, Curry)

Wahl provides an overview of this framework developed by Hodgson, Sharpe, and Curry: *“The ‘Three Horizons’ framework is a foresight tool...a versatile methodology for inviting people to explore the future potential of the present moment through a number of perspectives that all have to be considered if we are to steer our course wisely into an unpredictable future”* (Wahl, 2016).

Horizon 1 signifies the ‘world in crisis’, and innovations that maintain the status quo. Horizon 2 *“represents...the entrepreneurial and culturally creative space of already technologically, economically and culturally feasible innovations that can disrupt and transform H1 to varying degrees...”* (Wahl, 2016). Not all H2 innovations change the status quo, but some ‘disruptive innovations’ can be thought of as a possible bridge from H1 to H3.

According to the Three Horizons framework, we never truly reach and maintain H3, a ‘viable world’. Firstly H3 is not the end, rather a new H1—*“the pilgrimage towards a sustainable and regenerative future has an endless string of false summits”* (Wahl, 2016). Furthermore, *“there is no arriving at and maintaining an H3 scenario forever”* (Wahl, 2016).

The Three Horizons framework preferences *“solutions that create conditions conducive to life and establish regenerative patterns”* (Wahl, 2016).

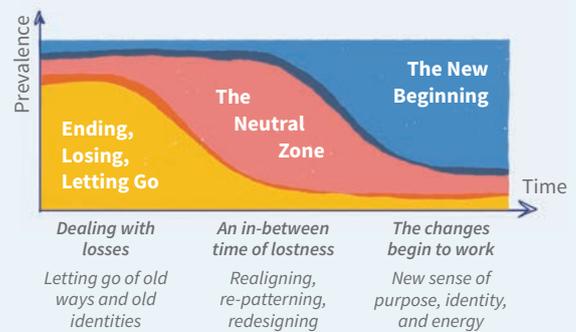


IMAGE: Bridges Transition Model. Redrawn from Bridges (2009).

Bridges Transition Model (w. Bridges)

The Bridges Transition Model comes from the work of William and Susan Bridges in personal and organizational change. Bridges sets out three overlapping phases of transitions and four rules of transition. Phases: 1) Endings; 2) The Neutral Zone; 3) New Beginnings. Bridges explains how the psychological experience of transitions is counterintuitive at each stage.

The idea that transition begins with an ending catches people by surprise—we have to let go of the status quo (H1). In new beginnings, rather than stepping into a shining new world with ease, Bridges describes people experiencing discomfort and even chaos ‘coming home’ to the future.

Bridges names the in-between phase the ‘Neutral Zone’, which turns out to be anything but neutral. Bridges describes the Neutral Zone as a deeply confronting “psychological no-man’s land...a kind of emotional wilderness”. And it is this very poetic darkness, this sacred space between stories (quoting Charles Eisenstein), that is the space for probing, reframing, innovation, and experimentation, just as in H2 of the Three Horizons framework.

Each step to restructure and reorder our lives is a step to further embed new behaviors and identities. When we come to the horizon of the New Beginning, we can see that there is more to do in order to reach our intended goals—just as described in H3 of the Three Horizons. But Bridges reassures us that because we have reached that new horizon that we will have the energy, resources and mindset needed for the next horizon.



Process

About “process”

Curiously, designers use the words “design” and “process” interchangeably. Designing is the process. Designers talk about being “led by the process” and “trusting the process”. When pressed for more detail, design is set out as phases. The ‘double diamond’, a frequently cited process version developed by the Design Council UK, offers four phases to help communicate design: discover, define, develop, and deliver. Meanwhile, designers insist that design is not linear, as represented by another famous depiction of design process as a scribble which eventually becomes a line (Onø Design). Transition Design founders emphasize that it should be thought of as an “approach” rather than a process to underscore flexibility and adaptation instead of rigid and linear interpretations (Irwin, 2019).

Designing through core activities...

This version of process sets out six core activities: Initiate, Situate, Envision, Respond, Harvest, and Reframe. Process can be both sequential and cyclic, and some of these activities can be undertaken at *almost* any time. These activities, once commenced, may occur throughout the life of the initiative or be repeated at intervals.

Initiate and Harvest activities are starting and ending points, or milestones. Initiate activities are critical to building trusting relationships, and they take as long as they take. Initiate activities are not meant to be treated as a list of items to be ticked off, but as a vital and precious time for demonstrating respect and developing the willingness, capacity, and trust needed for working together. Allow generous time and space for Initiate activities.

For an example of what might be involved in Initiate activities, particularly when working with communities and/or complex collaborations, refer to Collaboration for Impact’s ‘Collaborative Change Cycle’ (accessed via Platform C, 2023). For discussion of engaging with Indigenous peoples, refer to Tyson Yunkaporta’s book, ‘*Sand Talk: How Indigenous Thinking Can Save the World*’, Clare Land’s book ‘*Decolonizing Solidarity: Dilemmas and Directions for Supporters of Indigenous Struggles*’, and Linda Tuhiwai Smith’s book, ‘*Decolonizing Methodologies: Research and Indigenous Peoples*’. If considering meaningful co-design with marginalized people and families, refer to Kelly Ann McKercher’s book ‘*Beyond Sticky Notes—Co-Design for Real: Mindsets, Methods & Movements*’.

Harvest activities are often a matter of timing. A group may come to the end of a project or their funding, or may have completed a big phase of work. But Harvesting is also an activity that helps support others to be aware of and engage in work. The feeling for when Harvesting is needed or may be beneficial is a skill that is built with experience.

As mentioned, these activities may be undertaken in patterns or sequences. For instance, Situate-Envision-Respond is a common sequence, but these three particular activities could be done in any order in the right context. Initiate and Situate activities sometimes occur together, complementing and facilitating the other.

...in cycles, over horizons of time

These activities may be undertaken more than once during a process, but they also tend to occur in cycles. A group may undertake multiple cycles of these activities in one project. Multiple projects over time may also form cycles through which knowledge is built cumulatively. A collaboration may be involved in an ‘ecosystem of responses’, and so the aggregate of initiatives may have their own cycles and horizons. Horizons of time, marked by changes that occur in context, also shape the cycles of activities undertaken. [See next spread for images].

...bounded and anchored by framing

What gives design its rhythm is a pattern of framing and reframing through cycles of these activities. Designing is bounded and anchored by frames and driven by the generative way we frame and reframe to find a fit—a ‘click’—between situation, vision, and response (Dorst, 2015). The extent to which frames are deliberately held, inspected, and treated as malleable builds capacity for innovation and change making.

Design is an Adaptive Cycle

The Adaptive Cycle and Panarchy models describe ecological processes of change and transformation. An Adaptive Cycle is: “a model of natural patterns of change in ecosystems and eco-social systems. It consists of four distinct phases: ‘growth or exploitation’ (*T*); ‘conservation’ (*K*) of established patterns and resource distribution; ‘collapse or release’ (*Ω*); and reorganization (*α*). The Adaptive Cycle...is often drawn like an infinity symbol or Möbius loop that joins these four phases” (Wahl, 2016; citing Gunderson and Holling, 2001). The Adaptive Cycle expresses cycles of birth, growth, death, decay, composting, and renewal. A Panarchy is a stacked or ‘nested’ set of Adaptive Cycles that scale from the micro to the meso, macro, and meta. The term ‘Panarchy’ comes “from the Greek god Pan representing the unpredictable and elemental forces of nature” (Baumber, 2012). The Adaptive Cycle and Panarchy models explain and help us navigate transitions as ecological processes.

It is not just that Transition Designers should be aware of Adaptive Cycles; design is an Adaptive Cycle. Consider the tiniest cycle of sketching out an idea, sitting back in your seat to have a look at it, crumpling it up, and making a different version—informed by what you learned in that set of steps. In those few minutes, you demonstrated the Adaptive Cycle by crystallizing your thinking into an idea you could sketch then elaborate (growth), tinkering with it for the short time that you were still happy with it (conservation), shedding the idea to make room for the new version of the idea that emerged (breakdown / release), and then working through a new series of sketches to get your new idea working (reorganization). The idea you are holding, your concept, is akin to the ‘stable state’ which is either responding with resilience or being transformed into a new concept (a new stable state).

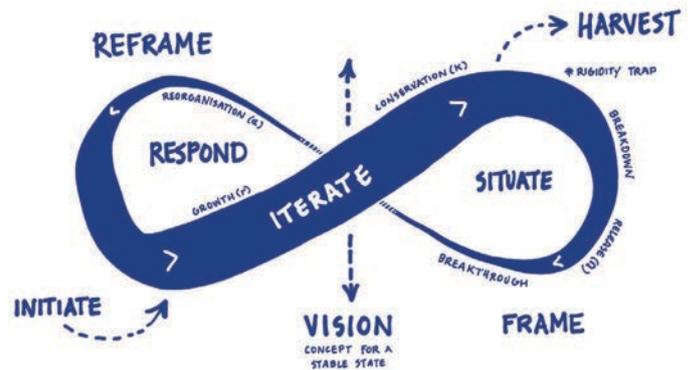


IMAGE: Design as an Adaptive Cycle
(Adapted from Gunderson and Holling, 2002)

This pattern holds for design activities and processes at other scales—including Transition Design. In transitions, the Adaptive Cycle pivots around a vision for society, the stable state. As that vision proves flawed or insufficient, it begins to crumble. Different actors, moving at different speeds, begin to (re)situate within the rapidly changing (collapse) context. As actors begin to get a sense of an alternative preferred future they reframe and respond in new ways to bring about that future, reorganizing in niches and reconfiguring the regime, working to articulate and grow the resilience of those visions in the power grab to anchor a new stable state. It is into this complex adaptive dynamic that Transition Design seeks to intervene in different ways appropriate for each stage to catalyze systems change.

In this version of a Transition Design approach, I have spatched together—with the deepest respect—the work of: Terry Irwin, Gideon Kossoff, Cameron Tonkinwise, Tyson Yunkaporta, Daniel Christian Wahl, Donella Meadows, and Donald Schön; Andrew Curry, Anthony Hodgson and Bill Sharpe’s work on the Three Horizons Framework, Otto Scharmer’s Theory U, the William Bridges Transition model, Dave Snowden’s Cynefin Framework, Kees Dorst’s Frame Innovation, Cheryl Dahle’s Future of Fish case study, Collaboration for Impact’s ‘Collaborative Change Cycle’, Tony Golsby-Smith and Second Road’s Thinking Wave and AcdB method, and Madeline Sides, Hillary Carey, Erica Dorn and Noah Theriault’s take on three types/themes of action in Transition Design; and the work of Lance Gunderson and C.S. Holling.

Further reading on Process



Theory U and
Social Labs



place-based
Collective Impact



Deliberative
Democracy
example: the
Lewis method

SOURCES FOR FURTHER READING

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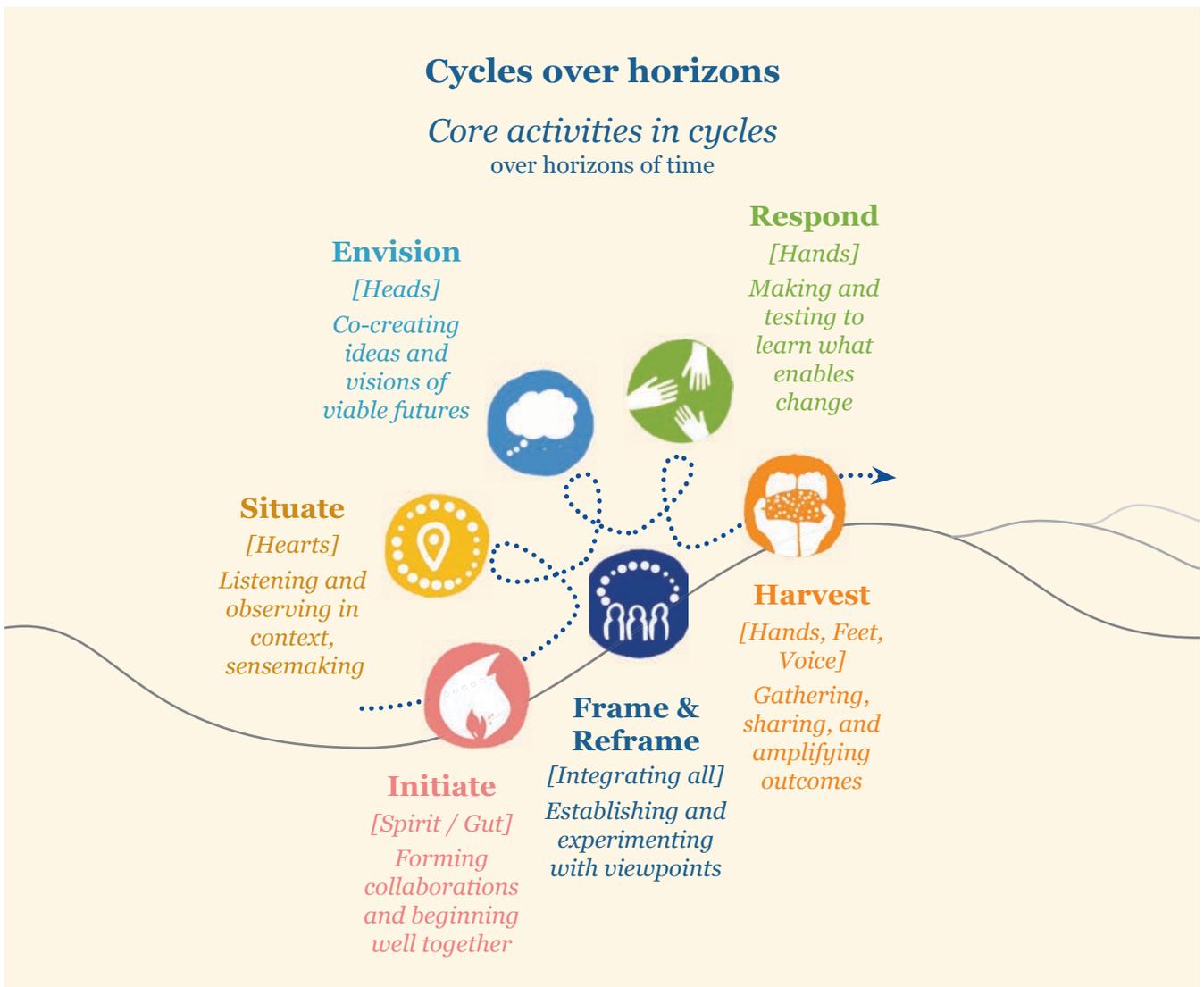
Process Cycle

One sequence or cycle of potential activities

(Lucky / Scribbly Gum version)



“Muddling through”—cycling through collective inquiry, imagination, and experimentation, putting creativity in service of the future, to bring about transition together—in place.



SOURCES:

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IMAGE: Regenerative grazing example during drought with reduced stock, South East New South Wales (2019). With farmer David Marsh.



“...creating cultures and societies of transition”

— Tyson Yunkaporta, Sand Talk

Protocols for practice

How do we translate theories of transition into action? Having a process or approach plus a collection of methods gives structure and activities that can be undertaken. *How* we work matters as well. There are often mindsets, postures, protocols, and principles underpinning personal, group, and organizational activities, whether explicit or implicit, and they shape how we work together. Working explicitly with them can help collaborations be more effective. So, what ways of working help promote the goals of transition?

What are protocols?

Protocols are cultural norms that guide behavior, engagement, and communication. Protocols for different contexts are filtered by the values, ethics, and principles that we personally hold and/or the cultural context we are operating in. First Nations peoples, for instance, have protocols of respect for introduction, acknowledgment of country, roles, and boundaries that may be unfamiliar to people who are not from those cultures.

Protocols originate from the intent to live in accordance with values and goals. How we manifest our values, ethics, and principles are choices. Collectively, we as societies, organizations, families, etc. preference certain cultural norms as representations of our ideals and goals. These preferences become protocols for behavior and communication, and each culture has its own protocols.

For instance, as a sign of respect for others and a signal of being organized and competent, some cultures place high

importance on timeliness and punctuality. Other cultures may have different ways of showing respect, and a different relationship with time.

As cultures change, protocols can remain attached to previous values and generations of people. Protocols can also cause unintended consequences. Work cultures that focus on innovation may value playfulness and hold ‘safe to fail’ protocols. Without balancing protocols of learning and accountability, for instance, ‘safe to fail’ cultures can become places where no one discusses issues or merit.

What are principles?

Principles are fundamental truths or propositions that form a basis for beliefs, behaviors, or lines of reasoning. As an example, the case study identified three principles that define ‘regenerative’. An approach is regenerative when it is holistic and works with nature, and is regenerative in ends when it is regenerative in means.

Defining practice protocols & principles

Negotiating protocols in early stages and establishing processes for attending to them over time—doing regular ‘housekeeping’ to make sure they are working—can help groups navigate working together.

In the image, ‘Shaping your own Practice’, consider the principles of regeneration from the case study and examples of protocols of collaborative practice. Which of these feel particularly relevant? What would you add? How would you translate them into your own work and into the work of different groups you are involved in?

Shaping your own Practice

Consider the below principles of regeneration, from the case study, and the examples of protocols for collaborative practice, drawn from literature and best practice.

What might these principles mean, in practice? What protocols might guide your approach?

Principles of Regeneration



*Holistic.
Governance by
wholeness*



*Working with
nature and the
self-renewing
properties of life*



*Regenerative and
just in means and
ends*

Examples of Protocols for Collaborative Practice



*Relational.
Start with con-
nection, conven-
ing, initiating*



*Respect cultural
protocols, honor
and bridge
cultures*



*Learn what is
needed to build
trust and rela-
tionships over
time*



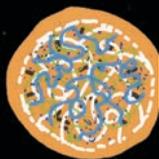
*Honor gifts; take
strengths-based
approaches*



*Transparent, re-
spectful, and open
communication*



*Enable
self-organizing,
build on momen-
tum, capacity,
and capability*



*Interact and
diversify. En-
gage with differ-
ent people and
groups*



*Tend to individ-
ual and group
reflection. Keep
experimenting,
learning and
adapting*



*Take care of
yourself, and
check that others
do the same*



*Know where
the boundaries
are; work within
limits*

SOURCES:

- Meadows, D. (1999). Leverage points. Places to Intervene in a System, 19.
- Scharmer, C. O. (2009). Theory U: Learning from the future as it emerges. Berrett-Koehler Publishers.
- Schön, D. A. (1968). The reflective practitioner. New York:
- Yunkaporta, T. (2019). Sand talk: How Indigenous thinking can save the world. Text Publishing.

IMAGE: Sheep blocking the farm gate as I go to drive home after a few weeks of interviews (January 2019). Wiradjuri country.



Decision-making

Decision-making at the scale of transition has its own dynamics. Sometimes decision-making dynamics are shaped by the structure of industries, like the decentralized agriculture sector versus the centralized energy sector. Decision-making at scale is also shaped by leadership, political cycles, public sentiment, and social license.

Decision-making with groups

Collaborations require groups to decide how they will decide. Which decisions can be made by a single individual? Which decisions need to be made together? *Who* gets to participate in decision-making? How will the group decide? Consensus, majority, consultation, blind voting, etc.? Working through these decisions about decision-making when a group forms helps to establish group norms, but the protocols for decision-making need to be re-visited periodically as part of group housekeeping.

Decision-making criteria

Design disciplines have their own decision-making practices, including during the early days of concepts when potential is difficult to discern. For instance, designers are trained to participate in critiques, and although the word may give some people a shudder and has been replaced in some contexts with the Agile concept of “showcases”, the habit of having to regularly defend your decision-making attunes designers and teams to their design rationale and criteria. Teams often set up design criteria at the beginning of projects, which helps mitigate the risk of falling down the rabbit hole of opinions and “taste”.

Different design criteria are used in different situations. The criteria of desirability, viability, feasibility, and usability are a famous example. An organization’s vision, mission, and purpose can guide decisions. When evaluating the quality of emerging designs, designers talk about intangibles like whether or not the design is congruent, elegant, and generative. These are defined as:

- Congruent: self-similarity; ends and means aligned; all parts belong to the same whole
- Elegant: aesthetically pleasing, no more complicated than it has to be, no more simple than it can be, and complex in its simplicity
- Generative: the idea has energy, leads to more ideas, seems to “design itself” and “has a life of its own”.

These last three criteria—congruence, elegance, and generativity—are very interesting for Transition Design practice because they speak to the same ecological criteria as the principles from the Regenerative Agriculture case study: holistic, working with nature and the self-renewing properties of life, and congruence between means and ends.

These are a starting point only—further research and development is required for decision-making approaches and criteria in Transition Design.

There is a decision-making framework used in agriculture that may apply to Transition Design: the Holistic Decision Framework, taught as part of Holistic Management practice—which is commonly known for practices like high-density, small cell, rotational/ration grazing.

Opportunity to adapt the holistic decision-making framework for transition

My very first on-farm interview was a bit of luck. An interviewee ended up not being able to meet me and, by way of apology, introduced me to a friend. This other friend was a well-known early adopter of what later came to be known as Regenerative Agriculture. The farmer generously gave me a tour of his property, master plan, and grazing charts, orienting me to what I was seeing. When I asked about how farmers can be confident in their decisions, he stopped the ute, opened his glove box, and pulled out a well-creased copy of the 'Holistic Management Framework', originally from the book 'Holistic Management: A New Framework for Decision Making' by Allan Savory and Jody Butterfield. During the project that happened *three* times.

Interviewees talked extensively about the importance of having the framework to support their decision-making, sometimes reporting that this was even *more* valuable than the farming practices taught in holistic management.

The Holistic Decision Framework is relevant to Transition Design because it is used in complex, adaptive contexts where consequences play out over long horizons. There is precedent for adapting it into other contexts, for instance in the work of the late Dan Palmer.

A starting point to adapt the framework would be to work through it with a collaborators, for instance:

- The 'Whole Under Management'—the System in Focus
- Holistic Goal—outcomes, including quality of life
- Ecosystem Processes—social, ecological, economic, and technological system structures, processes, and dynamics at play
- Tools available for addressing the situation—the range of possible actions and responses
- Testing Questions—your design criteria and testing protocols for any prototypes and pilots
- Management Guidelines—protocols for each person's role and activities of the group
- Planning Procedures—what is your Transition Design approach (process) and what are your related sub-processes for planning, coordination, etc.?
- Feedback Loop—How will you gather and evaluate feedback? How will you conduct group reflection and decision-making?

A completed holistic decision framework would set out a strategy and 'standard operating procedures' for a group, providing the ground rules for group processes and decision-making, and setting the group up to further develop your Theory of Change and Theory of Action.

SOURCES

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Decision-making frameworks

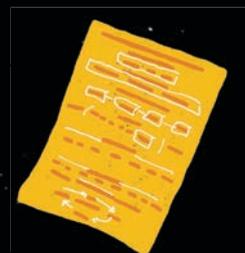
*How will you make decisions?
Decide how you will decide*

Examples of tools from practice and literature

*Vision,
Mission,
Purpose,*
SOURCE: Strategy



*Holistic
Decision-Making*
(from Agriculture)
SOURCE: Savory
and Butterfield



*Congruence,
Elegance, and
Generativity*
For early stage ideas
SOURCE: Design practice



*Desirability,
viability,
feasibility,
usability*
Mid- to late-stage ideas
SOURCE: Design practice

*Wholeness,
in relation,
connected to source*
From First Nations cultures
SOURCES: Yunkaporta,
Goodchild, Meadows,
and Scharmer



Design Criteria
SOURCE: Design
practice



Practice catalogue

This section summarizes the roles Transition Design can contribute to, and related methods, capabilities, and pathways for collaborative action. It also provides a summary of the elements of the Elements of Practice framework set out in this guide.

Elements of practice framework—a compass

Constructed in two halves, Theory of Change and Theory of Action, the Elements of Practice framework includes the following sections:

Futures

- Visions and narratives
- Pathways for transitions

Responses

- Opportunity areas
- Changes and experiments—which can take innumerable forms: campaigns, processes, projects, businesses, services, and more
- The sum of responses should form an Ecosystem of Responses and link into and help amplify other Ecosystems of Responses

Approach

- Formats—mechanisms and vehicles for experimentation and collaboration (at right)
- Process, including design as an Adaptive Cycle
- Underpinning methodologies

Practices

- Including specific methods and activities
- Tools, outputs, and artefacts
- Skills and capabilities

Way of working

- Postures/stance, mindsets and protocols

Iteration and evaluation

- Pursuing feedback, reflection, and learning
- Iterating and refining over time
- Including evaluation as needed

Context

- Explicitly placing the Theory of Change and Theory of Action within the transition context

Roles for Transition Design

The Transition Design framers name three areas of practice for Transition Design: “(1) narratives and visions of the future... (2)...amplify and connect grassroots efforts and projects... [and] (3)...work in transdisciplinary teams to design new, innovative, and place-based solutions...” (Irwin et al., 2015). In *The Reflective Practitioner*, Schön (1983) describes a need for practitioners to help facilitate processes of cooperative societal inquiry, and that role is included here.

Transition Design is uniquely positioned to bring together skills for discovery, reframing, invention, and experimentation to play a role in supporting groups and society at large in transition efforts. Transition Design has a role in the following:

- **Cooperative societal inquiry** for a sustainable future— I imagine societal inquiry to be a collective act of exploration that involves making the activities of listening, imagination, experimentation, reflection, and reframing accessible at scale, inviting people to participate in numbers. Transition Design can help facilitate collective exploration by finding ways to engage people at scale in Transition Design processes and activities, and by making those processes and outputs visible, e.g. through social media, campaigns, and other ways of communicating. Transition Design can influence *what* people see, and support people to experiment with *how* they see things
- **Developing narratives and visions** of the future, and for transition as well—helping groups, communities and our society at large better “see” a regenerative and just future as well as how we might get there
- **Amplifying and connecting grassroots efforts** and projects by weaving people together and supporting them to explore ways to mature, spread and scale their efforts
- **Designing responses**—facilitating and contributing to the development of new, innovative, and place-based responses

Methods, Tools, and Outputs

Examples of methods and tools:

- **Data collection and discovery**—including methods like semi-structured interviews, “rigorous hanging out” and observation, focus groups, surveys, generative tools and methods, critical design ethnography, literature review, and any methods under the category ‘design research’ together with social research and scientific research
- **Sense-making**—through analysis and synthesis, visual synthesis and mapping, including systems sense-making and mapping
- **Framing**—as a skill and a process. For examples of framing process, refer to Dorst’s book ‘Frame Innovation’ (2015)
- **Futuring**—practices like visioning, backcasting, scenario modeling, and critical design futures; developing futures visuals, illustrated and written narratives, and conceptual ‘provocations’
- **Invention and idea development**—through co-creative and generative activities. May draw on tools from service design, strategy, and entrepreneurship (etc.)—like service model blueprinting, Lean Startup, and Business Model Canvas
- **Materializing change, particularly through prototyping**—sketches and paper prototypes, tabletop prototypes, interaction prototypes, online prototypes, functional models, live prototypes. Trials and pilots. Anything can be prototyped: interactions, services, policies, processes, businesses, etc.
- **Media, art and culture**—via mediums like films, videos, books, magazines, art, theatre, music, campaigns, social media, and social ‘sculpture’ (performative demonstrations)
- **Group facilitation and deliberative democracy methods**—refer to resources like the Lewis method of Deep Democracy, ‘The Handbook of Large Group Methods’ by Bunker and Alban (2006), the ‘Facilitator’s Guide to Participatory Decision-Making’ by Kaner (2007), and the NCDD website, <https://www.ncdd.org>
- **Participatory decision-making**—perhaps through dialogue, debate, consensus, and/or voting. Consider experimenting with the Holistic Decision Framework.
- **Reflection, learning and evaluation**—through reflective practice, enable iteration over time

Collaboration formats and strategies for amplifying what exists

Collaboration for transition initiatives requires some sort of container or mechanism to hold and give shape to collective action. Formats, backed by legal entities, are often the “thing” that can be funded.

- Workshop series
- Projects and programs
- Social Labs (Hassan, 2014), Living Labs
- Innovation Funds, Incubators and Accelerators
- “Sandboxes” - regulatory, policy, legal, and commissioning agreements that have settings to enable and facilitate experimentation
- Cooperatives and collective action—including “backbone” organizations (see Collective Impact)
- Platforms, networks and peer-to-peer models
- Movements and campaigns
- Catalyst models - for systems change incubation and amplifying the work of change makers (see Dahle, 2017)
- Personal practice and life projects (self-funded)
- Education studios

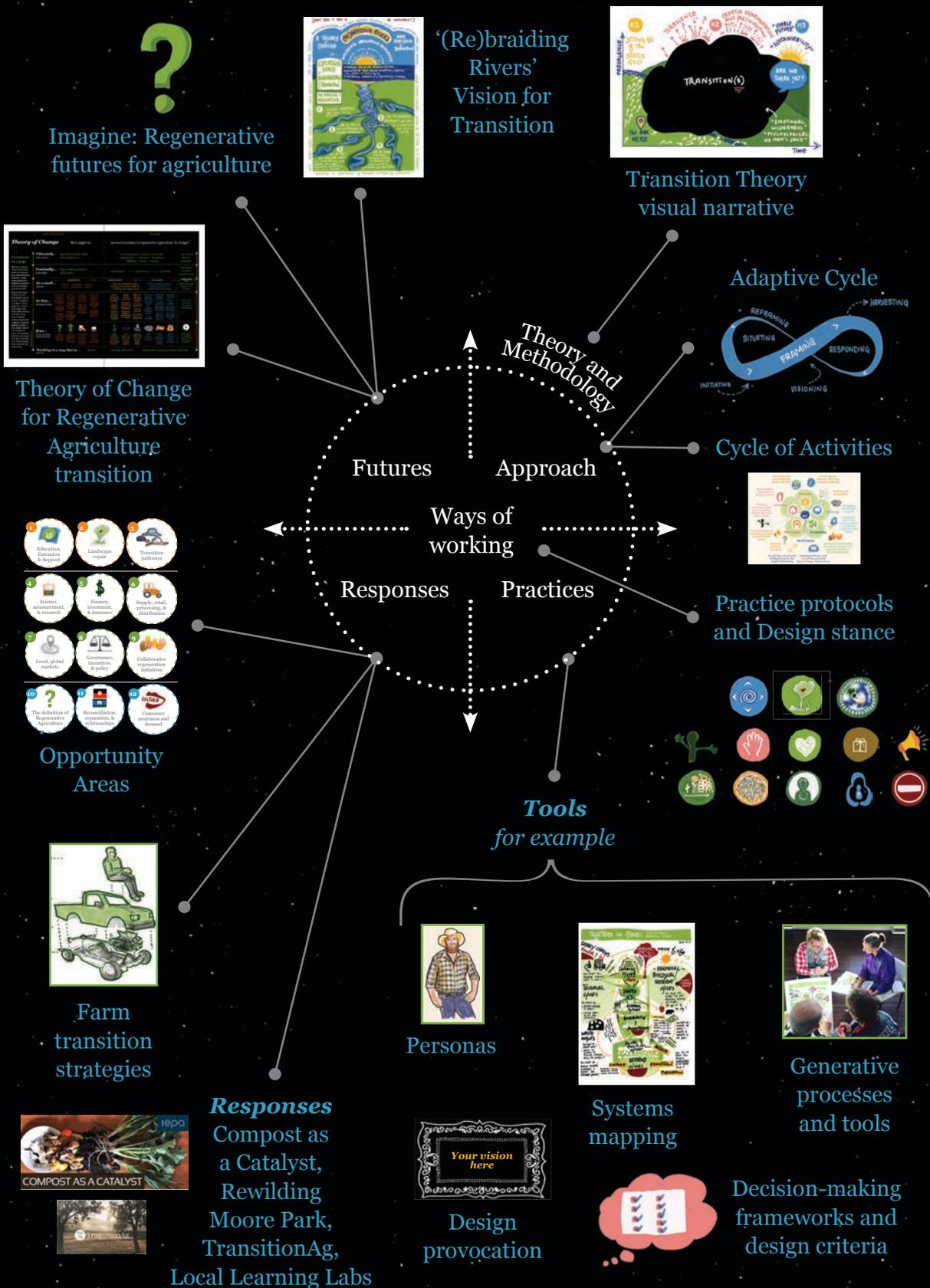
Skills and Capabilities

Transition Design draws upon skills from design as well as from systems thinking, strategy, community development, and more. Collaborations also require skills relevant to the topic area and the responses being designed. Key skills and capabilities:

- Connecting and weaving relationships; communicating, bridging and being an ambassador
- Leadership and entrepreneurship
- Integration—supporting transdisciplinary and participatory sensemaking, framing and synthesis
- Process, including facilitation—designing and facilitating group dialogue and deliberation
- Inventiveness, creativity, imagination, ingenuity
- Producing changemaking propositions—Technical skills for “making” and knowledge of “the system in focus”; technology skills
- Design experimentation, prototyping, testing
- Understanding of ecology and living systems

Transition Design also seeks to learn from and acknowledge the wisdom and knowledge that First Nations peoples are open to sharing and contribute to sustainability efforts.

Examples of practice in this field guide



?
Imagine: Regenerative futures for agriculture



'(Re)braiding Rivers' Vision for Transition



Transition Theory visual narrative



Theory of Change for Regenerative Agriculture transition

Adaptive Cycle



Cycle of Activities



Practice protocols and Design stance

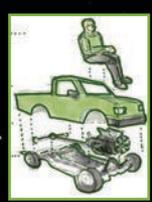


Opportunity Areas

Futures Approach
Ways of working Responses Practices



Tools for example



Farm transition strategies



Personas



Systems mapping



Generative processes and tools



Responses Compost as a Catalyst, Rewilding Moore Park, TransitionAg, Local Learning Labs



Design provocation

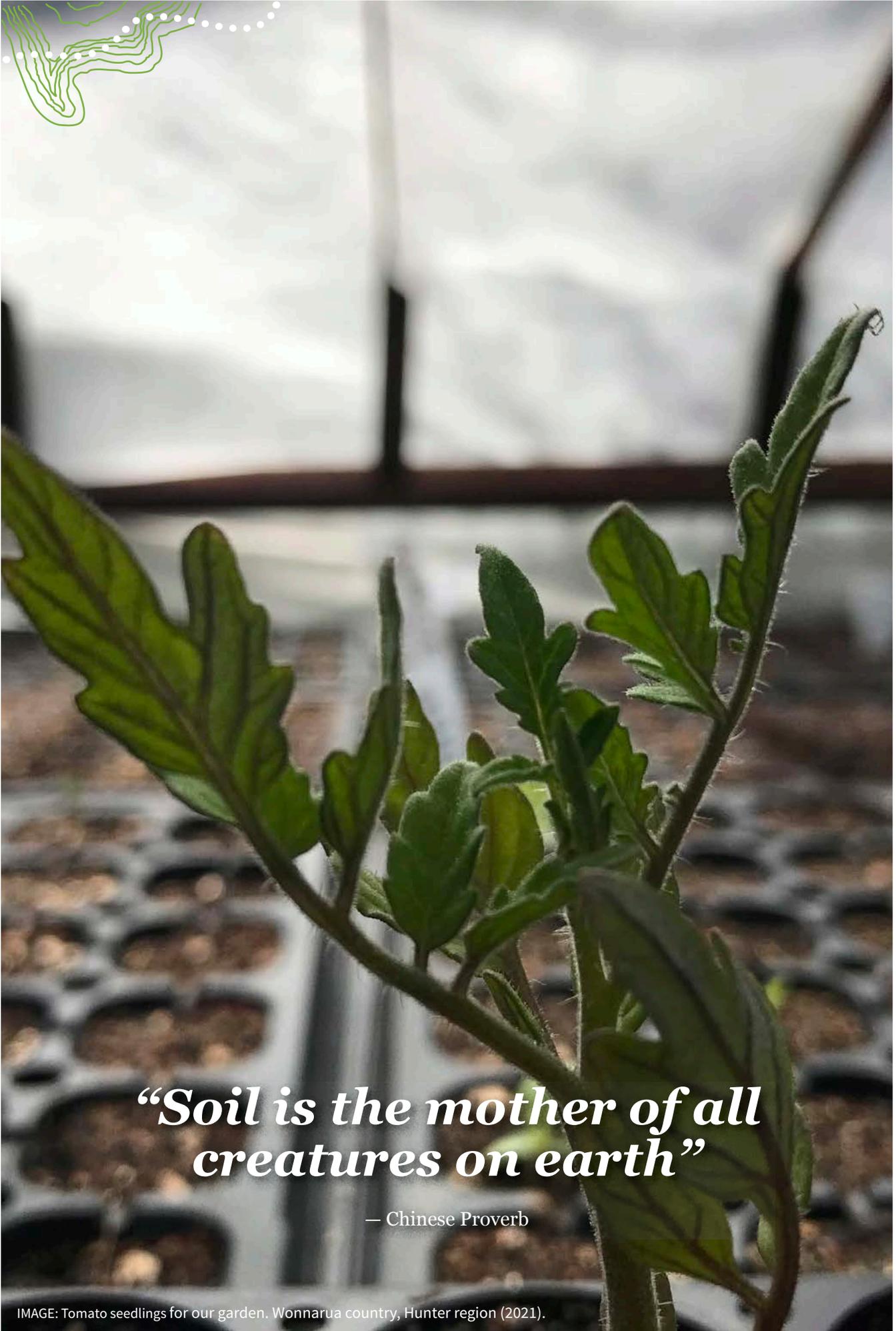


Decision-making frameworks and design criteria

PART 2: CASE STUDY

*Designing
Regenerative
Transitions
in Agriculture*

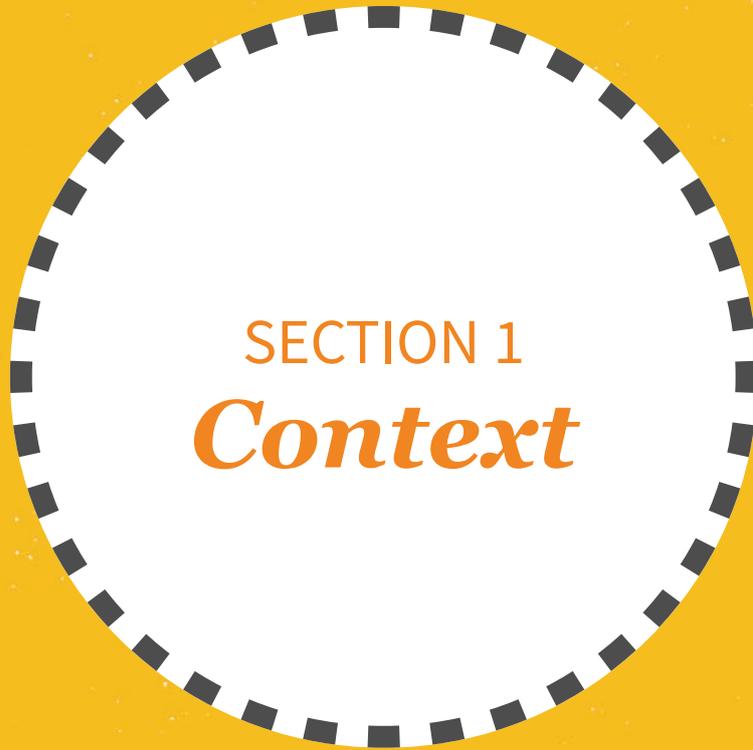




“Soil is the mother of all creatures on earth”

— Chinese Proverb

IMAGE: Tomato seedlings for our garden. Wonnarua country, Hunter region (2021).



SECTION 1
Context





PHOTO: January 2019 (summer), leaky weir during drought. South East New South Wales, Australia. Mixed cropping and grazing. Regenerative management practices helped retain water and moisture in the landscape through the 2017–2020 drought. Water from this property was used to help fight catastrophic bushfires in 2020.

PART 2: CASE STUDY—SECTION 1

Context

Identifying a suitable transition project

Working on viable futures means wading into complex social, political, economic, technological, and ecological systems challenges that manifest in ways unique to places and cultures. In Transition Design, designers join in collaboration across disciplines and the many parts of society to work on these complex and interlocked challenges, putting collective sense-making, imagination and experimentation in service of regenerative and just futures, and how we transition from *here* to *there*.

Transition Design projects:

- Seek to catalyze systems change
- Involve transdisciplinary and multi-stakeholder collaboration
- Envision regenerative and just futures and then look for practical, tangible ways to contribute to transition

In Transition Design, the designer-researcher is an active change agent, seeking ways to influence change. In this case study, I narrate the project through my first person experiences as a designer seeking to support farmers and the sector more broadly to transition.

Focusing on Regenerative Agriculture

This case study is in fulfillment of PhD research into Transition Design *practice*—exploring what it means to do Transition Design in a real transition context. It is my story of getting to know the agricultural sector in my state, and working with others to influence change.

Like most PhD research, my topic changed a few times. I arrived at agriculture after some soul searching a couple setbacks, asking myself what I cared about most. The long term viability of agriculture and vitality of the environment is very close to my heart, sacred to me.

In the first iteration of my research question, I identified

governance of ecosystem services as a potential project topic. However, the feedback I received in a first round of interviews revealed that ecosystem service governance was still conceptual, and there weren't many regions engaging with the idea near me.

But there was growing interest in Regenerative Agriculture. It had been around in various forms for nearly 30 years, and uptake was slow but it was gaining traction. This was early in 2018 and Charlie Massy had just released his book, *Call of the Reed Warbler: A New Agriculture, a New Earth* in 2017. I was pointed to this challenge and opportunity.

Meanwhile, Australia is home to the oldest continuous living culture on the planet. Aboriginal and Torres Strait islanders have been here for 65,000-80,000 years, depending on the source. Their worldview, cultures, and practices ensured ecological resilience in ways that other cultures have not.

Poet Dorothea Mackellar put to words the beauty and the vicissitudes of this “sunburnt country”,

*“...A land of sweeping plains,
Of ragged mountain ranges,
Of droughts and flooding rains...”*

The time from 2017 to 2023 has seen “regenerative” become a global, cross-sector phenomenon. Will the term “regenerative” follow the same fate as so many buzzwords and trends, painfully falling into disuse or abuse after so much energy and hype? Or will it have a more enduring role in agriculture? Will it translate into changes in our relationship to the environment, our planet, and each other? That is entirely up to us.

The purpose of this Transition Design project was to identify what it takes to transition to Regenerative Agriculture, and what it might require for our agriculture to contribute to global regeneration.

2017-2023: Challenges for agriculture in New South Wales, Australia

Drought, dust, bushfires, and floods

This research was conducted from 2017-2023, amongst some of the most challenging conditions on record. Industry NSW reports that: “The 2017-2020 drought was the worst over the historical record from the 1890s until now for most river valleys across NSW, with some more impacted than others.” Many farmers, seeking to minimize damage to the landscape, sold off stock. The summer from the end of 2019 to 2020 saw catastrophic bushfires across the continent. News outlets reported that “Australia was burning”.

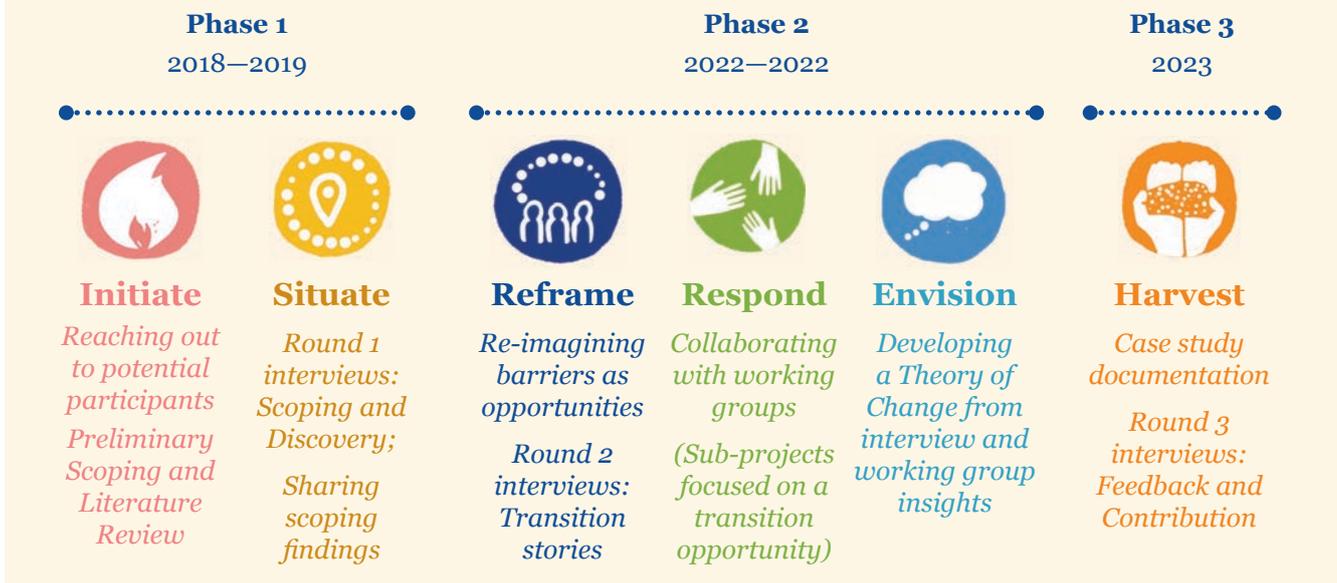
In Australia, legend holds that droughts are followed by flood. Multiple cycles of La Niña 2021-2023 delivered repeat flooding at unprecedented levels across the state, which is 1.15 times the size of Texas, as well as in the neighboring states of Victoria and Queensland. Some areas flooded catastrophically more than once, with the Lismore area flooding twice—and one time at 2 meters higher than previous recorded floods. The Varroa mite, a honeybee parasite, was discovered in a sentinel hive in Newcastle, NSW in 2022, leading to the euthanization of more than 13,000 beehives in the state.

It's an understatement to say that growing conditions haven't been ideal in many parts of the state for much of 2017-2023. Food production has been compromised in many areas. Meanwhile, a global pandemic and war in Ukraine disrupted supply chains and economies around the world.

PHOTO: January 2019 (summer), dust storm in drought. Central West New South Wales, Australia.

Project phases

Key activities



Project phases

Phase 1: Initiate and Situate

Phase 1 began in January 2019, traveling around my state of New South Wales (NSW) in a campervan named ‘Fish’. I visited 12 properties, of which 8 used regenerative methods. 32 people met with me, and 25 agreed to participate in semi-structured interviews. Because I was unknown to the sector, many people wanted to meet me first, hear about the research in person, and then decide if participation was right for them.

This first phase involved a preliminary round of scoping and discovery. Through semi-structured interviews, I tested the research question and, as the potential became clearer, tested the viability of a project focused on Regenerative Agriculture transition. I compiled the findings of preliminary scoping and discovery into a report and presentation on barriers and opportunities for transition, as identified by participants, and obtained their feedback.

The semi-structured interviews and feedback on findings was just a beginning. To research Transition Design in practice, I needed a project in which I could actively contribute to Regenerative Agriculture transition as a change agent. This approach is referred to as ‘action research’.

The process of sharing the scoping findings gave me a way to build relationships and seek out projects—to ‘initiate’ the potential for working together. Holding onto the idea that systems change requires an ecosystem of responses, I sought out diverse opportunities at different leverage points—or ‘acupuncture points’—across the sector, looking for projects that might contribute to transition to Regenerative Agriculture.

Over time, a number of collaborative opportunities emerged that met the criteria for potential to contribute to transition. Some opportunities turned into projects, others never fully materialized. Some collaborative opportunities that I never expected arose over time. The elapsed time for the Initiate phase and for the research overall also effectively resulted in ethnographic-type immersion with the local agricultural community.

Phase 2: Reframe, Respond, and Envision

The second phase was when the bulk of the project work was undertaken. Seeking a number of transition ‘acupuncture points’, I got involved with a diverse range of opportunities and continued interviews. You might suspect this already, but to my genuine surprise, seeking an “ecosystem of responses” meant I quickly found myself involved in more than I could realistically contribute to. It was a good sign for the need for a focus on transition, but proved tricky to manage. Transition Design lesson number one, manage to your carrying capacity. LOL ;)

Some of the project opportunities never really materialized. Take, for example, two different ideas with two different sets of collaborators: 1) a research and knowledge hub and 2) a course focused on the financial and business side of transition. Both of those ideas required funding, dedicated coordination, and significant time from all collaborators—which we just weren't able to make happen for either of those projects. This is a dynamic that people working in collaborative spaces know well, and which works in tension with capacity: plant more seeds than you expect to grow.

Reframe activities occurred iteratively with Respond activities. Sprints of working group activity led to opportunities for reframing and re-presenting findings, so that new thinking was incorporated at each step.

Four sub-projects (working groups) are discussed in this case study:

- **Compost as a Catalyst**—to help develop a market for source-separated recycled organics (e.g. compost), as part of enabling farmer transition to more ecological, regenerative approaches to agriculture.
- **TransitionAg**—a business experiment in meeting farmer transition needs.
- **Rewilding Moore Park**—A look at Regenerative Agriculture from the perspective of public awareness, higher education, and landscape design.
- **WWF Local Learning Labs**—An experiment in building local regenerative entrepreneurship.

Bringing together the findings from the first and second round of interviews with the findings from the working groups, the next step was to draft a Theory of Change. The Theory of Change summarizes all of the elements identified in this research that can support transition to Regenerative Agriculture. It may look daunting, but it's not meant to present a big a task—it is meant to show that everyone has a role to play in transition.

Phase 3: Harvest

In the final phase of the project, I shared this field guide and sought feedback from agriculture sector participants, practitioners, and change makers interested in regenerative transitions. The feedback enabled me to notice what I had missed, better articulate the research and findings, and keep honing the approach to enhance the potential for transition.

Once begun, this work never ends. It is my sincere hope that these projects and the relationships that they have helped foster will continue on, in various permutations, for a very long time. I take comfort in the advice from Wes Jackson of The Land Institute:

"If your life's work can be accomplished in your lifetime, you're not thinking big enough."

Project participation

The findings in this guide are based on input from a broad range of sources, including at least 444 project participants, interviewees, and collaborators.

Semi-structured interviews

50 participants (12 were also collaborators)

- Innovators / Early adopters – 8
- Regenerative / ecological farmers – 6
- Farmers in transition or working toward transition – 8
- Skeptics – 2 (spoke to more but they declined)
- Consultants and advisors – 8
- Extension and research – 4
- Educators and academics (2 regenerative farmers) – 5
- Supply chain – 2
- Advocates of agriculture change / regenerative ag – 2
- Design / social / transitions practitioners – 6

Working Groups

27 people across 10 projects/groups

Over the course of this project, I engaged with 10 different projects or groups, including: a project to grow the market for source separated recycled organics, an advocacy cooperative, a research and knowledge hub concept, an idea for a course focused on the financial and business side of transition, a group working to scale landscape and hydrology repair, a class looking at rewilding a 20 hectare section of a city park, and a learning lab for regenerative entrepreneurship. Some of the collaborations were able to progress, some were not. Stories and anecdotes from those experiences are included in this guide. Some of the collaborators participated in the interviews.

Workshops

160 people over 8 in-person workshops with input via group discussions; an additional 193 people via 5 Facebook Live events.

Of the in-person workshop participants, roughly 35% had already transitioned to Regenerative Agriculture, 40% were in transition, and 25% were potentially interested but had not yet transitioned. Of the total, roughly 10% were actively working to promote or support Regenerative Agriculture. Workshops were linked to the source separated recycled organics working group.

TransitionAg

29 survey responses

To inform the development of my TransitionAg business experiment, I conducted a survey to test offers and better understand farmer transition support needs. Within the first week of launching the business I had 29 responses, and published those responses on the TransitionAg website. Insights from that survey are included here.

SECTION 2
*Initiate
& Situate*



Initiate and Situate

Barriers to transition

Process

In this project it was important to allow time for ‘Initiate’ activities. This included reaching out to potential participants, opening new conversations, and creating the potential for new relationships and experiences. It requires respecting cultural values and acknowledging existing and previous work. Particularly when working with First Nations peoples, it requires following protocols of introduction, roles, and boundaries.

If collaboration is agreed on, it is a time for doing all the relational, logistical, communication, and organizing tasks that help people ‘start well’ together and participate equitably. This can mean ensuring the work is accessible, open, visible, and transparent—across scale, levels, and power.

Getting ‘situated’ means getting oriented to context. It is a time for building connection between people—and place. It is a time for listening, inquiry, and sense-making.

Two road trips through NSW (one in the campervan named Fish) and countless phone calls helped me to build relationships and become more familiar with the context and sector. Time invested in initiation, situating the research, and discovery enabled the longer-term project activities.

Semi-structured interviews

Two rounds of semi-structured interviews were conducted in this phase. The first was to understand Regenerative Agriculture context, barriers, and opportunities from the perspective of farmers and people in the sector. The second set of interviews focused on stories of supported transitions.

Literature review

As is standard in research approaches, a literature review was conducted to understand what has been published on supporting Regenerative Agriculture transition and Transition Design.

Design methods

Personas are a tool borrowed from service design. The idea behind using personas is that there are different needs among beneficiaries of a service (for instance) and that understanding the patterns can help tailor to differing needs. Personas are one way designers use their own capacity for empathy to help build empathy among others.

Systems mapping is used to make systems and their dynamics visible. When people involved can literally see and better understand systems dynamics, they are better equipped to take productive action and assess improvements in how systems work.

Generative approach — Designers make and remake things like systems maps together with participants in order to draw out and experiment with ideas live, on the fly. Generative approaches bring out participant knowledge and experience, inviting play, curiosity, and creative problem solving.



IMAGE: Fieldwork with the campervan named Fish (2019).
Wiradjuri Country, Central Tablelands, NSW.



What is regenerative agriculture?

One of the first tasks of this project was to understand what Regenerative Agriculture is, and what that means out in the paddock. What makes Regenerative Agriculture work, *how* do regenerative outcomes come about? Looking across a fence that divides two paddocks with two different management practices, the difference in outcomes you will see emanates not just from the practices but also from the paradigm behind the practices.

In this project, participating farmers—primarily with grazing and mixed grazing and cropping operations—discussed a series of mindset shifts required for them to manage regeneratively, for example: managing holistically—for ecosystem, animal, and human health; viewing the landscape (inclusive of soil, plants, and hydrology) as the primary asset to invest in and steward rather than the product e.g. the livestock (becoming “grass growers”); preferencing natural and biological approaches rather than synthetic chemical approaches; decreasing off-farm inputs and minimizing intervention; viewing soil health, ecological life, and biodiversity as resilience; stimulating biology and fertility; working with beneficial insects like dung beetles and certain types of wasps, seeking the adaptive strength of native plants, especially perennials; seeing weeds as a sign of needs in the landscape; valuing quality, like nutrient density, together with quantity; managing

for profitable production and long-term viability rather than yield at any cost. These practices were described as “getting out of the way of nature” so that the self-renewing properties of nature can operate:

“According to Mary E. White, it was twice as dry and four times as windy 18,000 years ago—and [Aboriginal] people lived through that. The plants know how to deal with conditions much more extreme than they are currently. Because of evolution, they’ve adapted. Whether the climate further out west becomes our climate, the plants know how to change. I’ve come to the view: we need to lessen our interventions and allow for natural processes to take place. The natural world is always trying to move to a more complex state—if not, it’s because of our interventions. We are intervening with grazing and [so] we’re giving long periods of rest to allow natural processes to express themselves” (122 Regenerative Farmer).

For some practitioners, taking a regenerative approach has led them to get to know the history of their land, meet Aboriginal neighbors and community, and appreciate traditional custodians and their knowledge in new ways.

Some participants discussed the mindset shift in terms of holism and spirituality, which puts some people off:

“I learned about complexity and how we need to work with and manage for it. Knowledge of whole systems is important in that. But holism sticks around because it provides something fundamental that people



IMAGE: Regenerative grazing example during drought with reduced stock, South East New South Wales (2019).

need...In working holistically, we can find that connection back to everything around us...Connection to the spiritual is a basic human need – that’s why holism doesn’t go away” (135 Ecological manager).

Participating farmers stated over and over again that Regenerative Agriculture works because they took a mindset of farming *with* nature’. Nature has life-giving, self-healing, renewing, self-organizing properties, and these qualities are referred to as the regenerative qualities inherent in nature—that is, in the sum of all that is living and non-living, including humans.

Farmers identified that they were achieving ecological and human wellbeing, climate resilience, and production by working with the self-renewing properties of life itself, in the way that nature works. In how farmers described Regenerative Agriculture, there is congruence between means and ends: the approach to farming works with the capacity for renewal, and so yields regenerative outcomes. To restate that, **Regenerative Agriculture achieves regeneration and production by working with the self-renewing qualities inherent in nature.**

Regeneration has nested, fractal, and interdependent qualities. Taking this concept further, we can ask the question ‘Is it regenerative?’ at different scales. Farmers can evaluate whether their management feasibly contributes to regeneration at micro, meso, macro, and meta levels. Refer to image ‘Scales of Regeneration’. For example, regeneration at the scale of the:

1. Plant, animal, individual, microbiology, and soil
2. Family, herd, paddock/field, riparian zone, and block of land (e.g. multiple paddocks/fields)
3. Local watersheds, regions and communities
4. Planetary boundaries

Listening to farmers describe how regenerative farming achieves regeneration by working *with* nature and its self-renewing properties draws out the paradigm—the mediating factor between practices and outcomes—that makes Regenerative Agriculture successful.

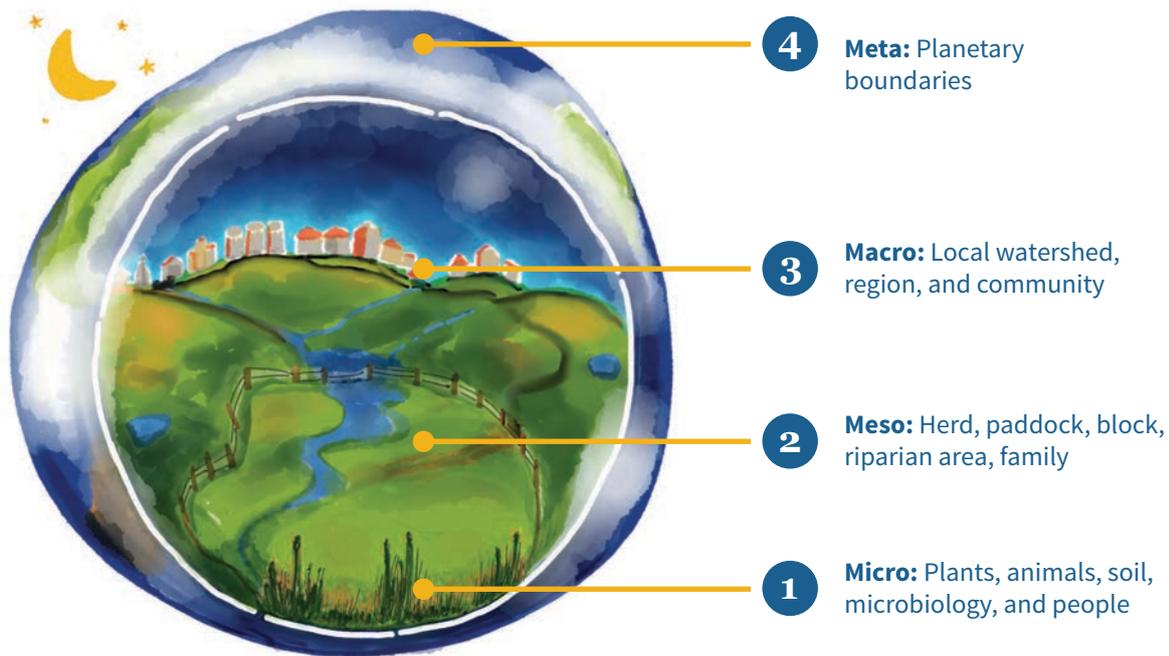
Redefining the farmer’s pride and joy

Rather than pitting production against conservation, the regenerative mindset brings the two together. Furthermore, regenerative management provided resilience during times of stress, as one farmer described:

“In a drought if there’s no green leaf there’s no farm. You have no production, no factory” (125 Regenerative Farmer).

The implication of this, however, is profound and profoundly painful: climate stresses like drought have been made worse by our approach to managing landscapes. And this is why Regenerative Agriculture is seen as an avenue for farmers to contribute to ecological resilience: agricultural management impacts climate resilience. Participants shared how they perceived that taking up Regenerative Agriculture has afforded far reaching benefits for the landscape, for themselves, their families, and their communities. This is why proponents believe that taking up Regenerative Agriculture at scale has potential to be a primary contributor to creating climate resilience at the scale of planetary ecosystem health (Hawken, 2017).

All of this adds up to a completely different view of success in farming. More than a different way to manage a property, participants described how Regenerative Agriculture redefines what a farmer takes pride in: stewardship of health, wellbeing, and resilience across many dimensions for long term viability of production—and to be able to stay on the farm.



A contested definition

Although there was consistency in how the farmers participating in this project defined Regenerative Agriculture, the formal definition is contested.

On one hand, Regenerative Agriculture may be framed by associated practices: continual ground cover, multi-species cover cropping, no or low tillage, high density rotational/ration grazing, using natural/biological inputs like compost, vermicast, fish emulsions, biochar, etc., increasing biodiversity above and below ground, natural pest control, low-stress/stress-free stockmanship and self herding, repairing hydrological function, and more. There are an unlimited number of practices that could contribute to regeneration and participants underscored the need to leave room for innovation.

On the other hand, definitions emphasize outcomes or attributes of Regenerative Agriculture: building soil health, increasing biodiversity, capturing carbon, improving the water cycle, promoting ecosystem function, delivering holistic benefits, contributing to farmer and community health, reversing climate change, etc.

Grelet et al. (2021) argue that Regenerative Agriculture is unquestionably outcomes focused:

“While [Regenerative Agriculture] is informed by the many predecessors of alternative agricultures, unlike them it does not preclude any particular practice if it is needed to facilitate the transition of the agroecosystem to a state of increased health. In other words, the means are less important than achieving the ends. Therefore, a defining attribute of [Regenerative Agriculture] is that it is ‘outcomes-focused.’”

Academics and institutions do not all agree. To encapsulate the discussion: at one end of the spectrum definitions begin with “soil conservation as the entry point to regenerate” (Giller et al., 2021); meanwhile at the other end of the spectrum, agriculture on the whole is asked to draw upon holistic, ecological and systems approaches to not only “transition the agroecosystem to a state of increased health”, but also to regenerate our environment, society, economy and spiritual wellbeing as an ultimate goal. I would observe as well that what is being debated is ‘regenerative’ as a production system versus ‘regenerative’ as an agricultural paradigm. Some frame the debate as: Should we define “Regenerative Agriculture [as] an end, or a means to an end”? (Giller et al., 2021). Listening to farmers, I would argue that Regenerative Agriculture is successful when it is regenerative in means *and* ends.

There are risks at both ends of the spectrum e.g., practices versus outcomes, production system versus paradigm. Definitions focusing on “soil conservation as an entry point”, practices, and production system have been criticized as making the movement vulnerable to green-washing. In these definitions, anyone who uses prescribed methods without attention to broader ecological outcomes can use the term ‘regenerative’. This end of the spectrum may whittle outcomes down to single measures like soil organic carbon, which risks encouraging behaviors like carbon credits for practices that are not carbon neutral. This measure is also easily parlayed into a technology problem—as an example, driving investment in pursuit of the ultimate soil organic carbon molecule, microbe, and product. Critics perceive this form of definition as side-stepping the contentious use of chemicals, and serving corporate and political agendas. A too-familiar definition risks watering down the potential for making a difference in agriculture, as Gordon et al. (2022) observe,

“Regenerative Agriculture cannot be understood differently if the language still frames it within the conceptual confines of industrial–productivist thinking.”

On the opposite end of the spectrum, a definition that calls for holistic outcomes that include the transformation of the agricultural paradigm and our worldview may further alienate and put on the defensive those who already are inclined against Regenerative Agriculture, risking slowing down or impeding the growth of the movement. In a 2020 policy brief from the Menzies Institute, the authors chose to go with the term ‘Resilient Agriculture’ because they felt the term ‘Regenerative Agriculture’ was too divisive:

“Resilient Agriculture is the mix of agricultural practices that results in the improvement of soil health... The term ‘Regenerative Agriculture’ was not used for the policy brief because it was seen as too divisive, e.g. ‘overly prescriptive rules on the types of farming that should or should not be practiced’ vs ‘simply... practices aimed at improving a farming system’s sustainability’” (Hyett, 2020).

It is worth further understanding the extent to which this conundrum poses a problem to the growth of the Regenerative Agriculture movement and regenerative outcomes. Does the definition need to be palatable to a broad audience right now for the movement to keep growing and ultimately become mainstream? To what extent does a palatable definition compromise regenerative outcomes?

Transition requires pluralism

Meanwhile, transformation of agriculture means working within the dominant farming paradigm at some point. For wide-scale transition to occur there is opportunity for “transformative organizing” that “constructively [engages] with those who have oppositional beliefs,” including “‘conventional’ farmers who are threatened and annoyed by the ‘holier than thou philosophy’ (Henly, 2021, p. 77) of Regenerative Agriculture” (Gordon et al., 2022).

What does wading into dialogue in “oppositional” territories mean for Regenerative Agriculture? What are the key areas of tension? To what extent should this interaction between niche (Regenerative Agriculture) and dominant paradigm (conventional agriculture) produce a plurality of new forms (like resilient agriculture)? Might these interactions bring innovation to Regenerative Agriculture? In what ways can practices vary and still have regenerative outcomes? Are incremental changes enough to make a difference in climate outcomes?

Weathering drought

“We don’t have any machinery anymore – we sold all our equipment. We didn’t have a lot – we weren’t big in cropping. We had a tractor and the gear we needed. Never owned chemical spraying or harvesters – that was all contracted. The tractors and cultivation gear – sold. Used [the money] to put into [our] water scheme and fencing and reduce debt. Diverting the former chemical and inorganic fertilizer budgets for two years paid for the water and fencing infrastructure...”

As soon as we started practicing holistically we went into a 9-year drought then in 2006 we had a bushfire that burned 1/3 of the property...Challenging times. 2006 was the driest of the nine dry years. We destocked by 30% immediately and for the rest of 2006 we were shearing and selling until we were totally destocked in November 2006. This combined with several small falls of rain meant we were confident to purchase a large mob of ewes for \$5 a head in a collapsed market, which began the process of rebuilding our livestock capital.

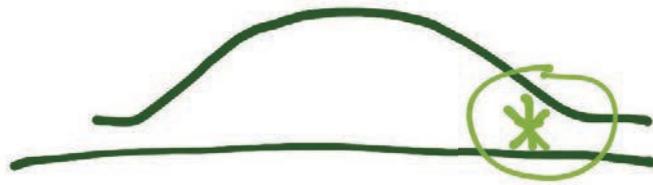
We spent absolutely nothing on feeding. We used to reduce by 30% and then feed. I calculated [if we had done that] we would’ve spent half a million dollars but instead we weren’t going backward, we didn’t have that expense. So effectively our livestock capital was in our bank account.”

—122 Regenerative Farmer

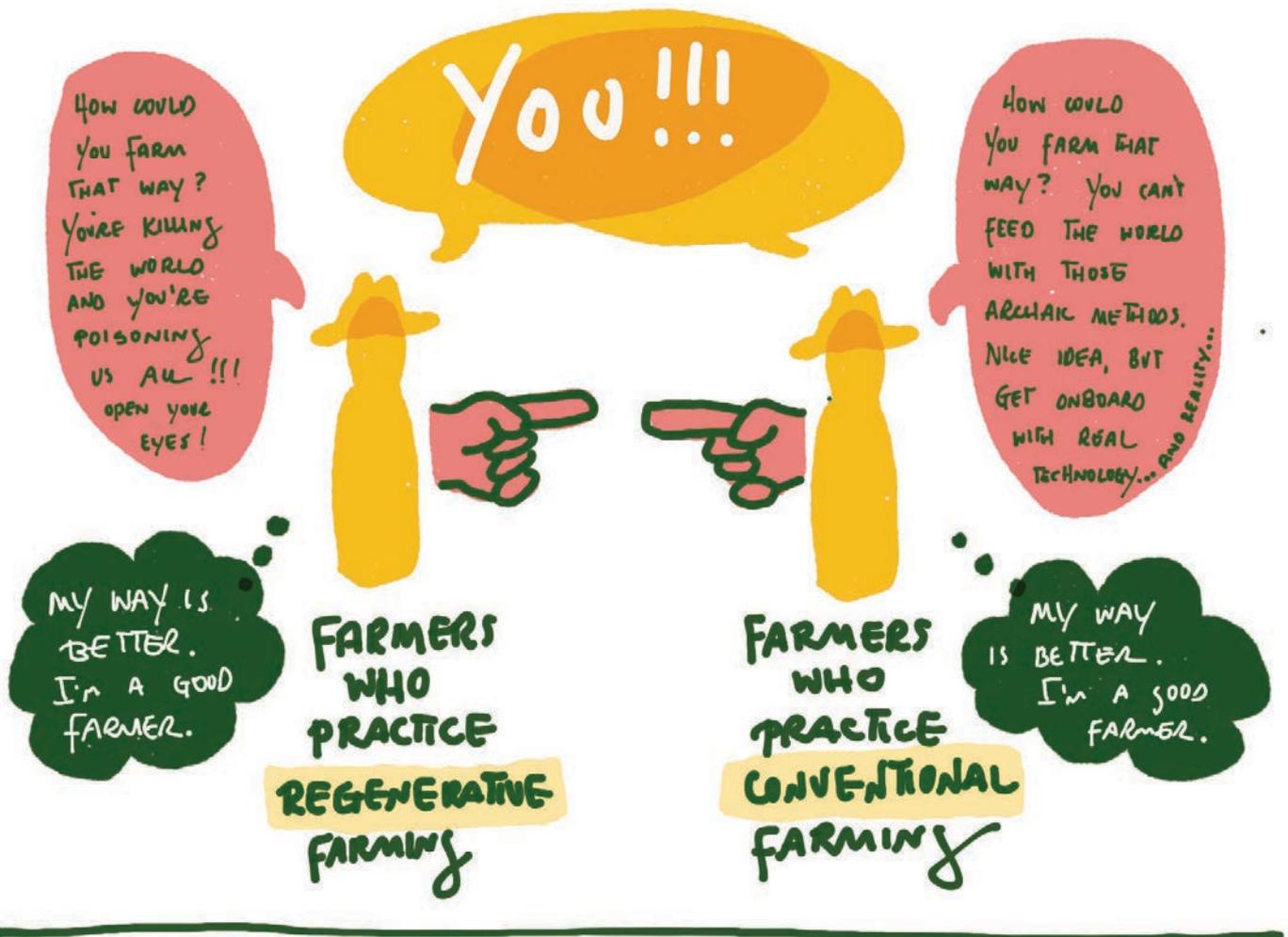
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Who is the LAGGARD?



ROGERS' INNOVATION ADOPTION CURVE



People see “success” in agriculture very differently

Barriers to transition

This section discusses dynamics that complicate the adoption and spread of Regenerative Agriculture.

Allergic reactions and differing views

Systems thinking and change management teach us that a system is set up perfectly to get the current outcomes it's achieving (for better or worse)—and that the people within systems and seemingly the system itself will defend the status quo. Defensive mechanisms can be like allergic reactions—automatic. That being said, not every reaction is defensiveness, and differences in perspective cannot be discounted. People working in change employ various strategies to work with this dynamic as well as differing perspectives, whether with humor, non-confrontational conversation, carrot, stick, small steps, negotiation, direct confrontation, grassroots, advocacy, influencing, etc.

Push back—“cultural scripts”

Regenerative Agriculture challenges industrial agriculture, and there is push back. This section outlines a handful of the most common “cultural scripts” (Vanclay and Enticott, 2011) that participants noted.

“We have to feed the world.”

Skeptics of Regenerative Agriculture who participated in this research discussed their concern that Australia has to ‘feed the world’ (in particular, China), as a reason for not switching to other forms of agriculture. They see industrial agriculture as the only way to meet this challenge in a competitive market.

As reported by ‘[Our World in Data](#)’, (citing Vincent Ricciardi et al.) half of crop production and 55% of the world’s food comes from farms 10 hectares and less. Furthermore, contrary to “conventional wisdom that the world cannot be fed without chemicals and synthetic fertilizers... the U.S. Department of Agriculture is now running trials on farming methodologies that eschew tillage and chemicals. Evidence points to a new wisdom: The world cannot be fed unless the soil is fed.” (Hawken, 2017)

“Where’s your data? Glyphosate is good science”

There is a belief that “glyphosate is good science” and a perception that there is not enough independent evidence behind Regenerative Agriculture—regardless of the mounting evidence against the widespread use of synthetic chemicals in agriculture. Meanwhile proponents of Regenerative Agriculture voiced concern that the science being undertaken is not doing it justice:

“Modern ag is...a multidisciplinary field – plant science, animal science, physics, soil science. The one field [of science] that industrial ag doesn’t do well is ecology. It’s the integrative field of science...brings these all together. [And] that’s the problem with industrial ag [and the science]: most of the time it doesn’t include ecology within its approach” (129 Agroecologist and Extension Consultant).

“It won’t work for me”

Proponents reported being challenged by the assertion that regenerative practices were ‘fine for them’ but that they wouldn’t work for others. This assertion needs to be investigated further, and may be tied to the idea that Regenerative Agriculture involves a limited set of practices, rather than an “open and flexible toolbox” (Grelet et al., 2021). To counteract this, proponents in this research emphasize that demonstration (and teaching) sites are required in every biome and for every farming type.

“It’s hard to go green when you’re in the red”

Proponents in this research tend to emphasize that the cost and time to transition to Regenerative Agriculture are not insurmountable, but it is a barrier to transition for some, as one researcher shared:

“[The farmers say to me], ‘This is how my family has been doing it – pesticides, herbicide and good seeds’... What stops some people is ‘how do I get from a to b’? They say to me ‘It’s hard to go green when I’m in the red. I feel trapped’...Farmers are very proud. They don’t want handouts. Charity. Sympathy. None of them want to see their crop fail or shoot their animals due to starvation. That’s what can lead to depression, family breakdown and potentially suicide. [We have] got to prevent farm families from going into a downhill mental spiral that they get to that point. If the government spent money on education and training to transition rather than bail out...” (123 Researcher).

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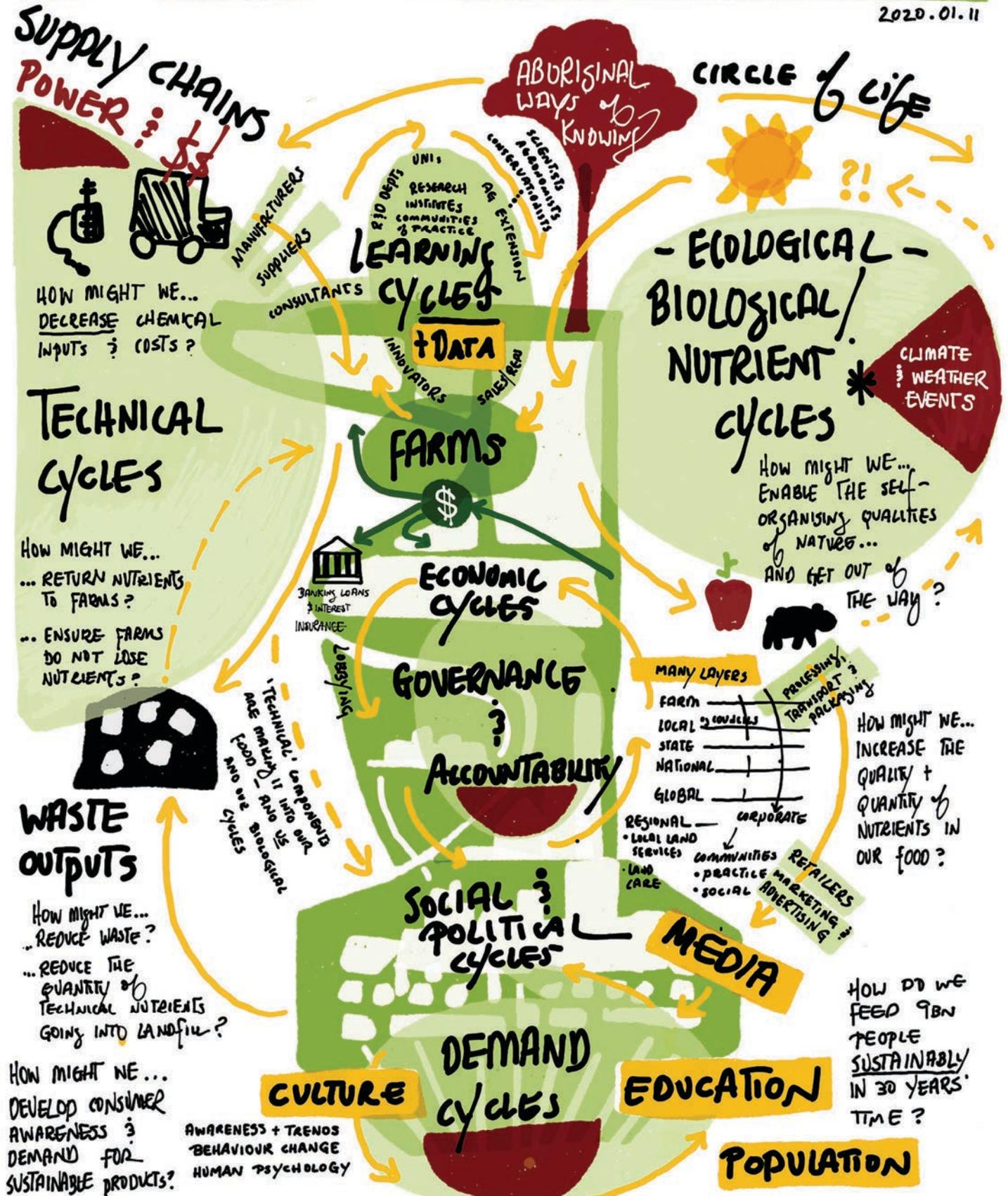
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SYSTEM IN FOCUS: AGRICULTURAL PRODUCTION SYSTEM

2020.01.11



Mapping barriers and constraints

In interviews and workshops, participants were provided with the systems map on the previous page, ‘System in Focus’. This map gives a visual representation of how the Australian food production system operates. Interview participants were asked to consider this visual, whether or not the system was working as depicted, how the system might not be functioning optimally (for instance, note the gap between waste and nutrient cycles), and what might be missing or in the wrong place. Feedback from interviewees was used to iterate the map to this version, which was then shared with Compost as a Catalyst workshop participants. Both interview and workshop participants were asked to name barriers and constraints that they felt make it difficult to transition. Themes are described here.

Definition

Because the definition of Regenerative Agriculture is not fully settled (at the time of this research), it makes it tricky to transition. Debates rage on social media as to who can call themselves a “regenerative farmer”.

Education and constructing your own approach

In addition to the moving target that is the definition of Regenerative Agriculture, there are no turnkey solutions to adopting Regenerative Agriculture. “Conflicting advice” got 2 workshop mentions and the need for demonstrated examples was also raised. Each property requires a unique mix of approaches which farmers must individually learn, test, and implement. This takes time as well: Having the time or making the time to plan and implement transition amongst the rest of life garnered 5 mentions in 3 workshop locations.

Education was a common theme for interviews and workshop participants, as both a barrier and an opportunity. At 24 mentions, it was the most commonly identified topic in workshops—but the comments were often general, e.g. “Education”, and some comments may have pertained to consumers and/or farmers. Specific farmer education themes included: Education for transition (7 mentions); Mentoring (2); Getting the message out to farmers (2); Outdated education and data (1); Bringing the many practices together (1) for organic (1), resilient (1) outcomes; and blending conventional and new approaches (1).

Markets and distribution

Markets were the second most frequently mentioned barrier in workshops with 27 discussion group mentions, noted in all 8 workshop locations. “Competing in (cheap) commodity markets” was specifically noted in 8 groups. Other themes included: Access (4 mentions); Size of farm and price taking (2); Unable to meet minimum orders (e.g. birds min order 1000) (1); Variability of prices (1); Middle man (1); Getting premium prices for regenerative products (1); Primary producers paying retail for inputs and getting paid wholesale for their outputs (1).

One aspect of distribution that came up separate to the discussion of markets was the identification of the need for abattoirs suitable for regeneratively produced products (5 mentions, in 5 locations). Regulatory restrictions were discussed, and participants mentioned looking for independent abattoirs with little luck, on-farm abattoirs, and home kill options.

Scale and distance

Small- and medium-sized farms have been finding that legislation, policies, grants, markets, etc. are designed for larger scale operations, making it hard to access supports available and customers.

Distance is a factor in Australian agriculture. Even regions have distance challenges. Distance to markets got 3 mentions in 3 locations.

Policy and regulation

Interviewees discussed the mismatch between Regenerative Agriculture and current agricultural policy, regulation, and incentives (like subsidies). In workshops, regulation got 13 group mentions, coming up in 6 locations. Themes included: Amount of compliance/paperwork and over-governance (6 mentions); Opportunity to embed the concepts and philosophy of Regenerative Agriculture within government, regulators and authorities (3); Governance of unmanaged grazing (2); Specific rules /governance as roadblocks to adopting specific practices (1); Regulation standards for compost/soil (1).

Supply—Relevant equipment and natural inputs

Appropriate tools/machines and natural, biological inputs are slowly becoming more available. Many farmers modify equipment to make it suitable for regenerative practices.

In terms of natural inputs, demand for quality compost outstrips current supply, and interest has only just begun to turn to compost, vermicast and other biological inputs at scale in Australia (inclusive of bulk compost, liquid applications, and pellet products). It is worth noting that 160 people turned up at 8 workshops across the state of NSW to learn about and discuss farmer adoption of compost and growing the market for source-separated recycled organics.

Workshop discussions were split between the lack of organics recycling in regional and rural areas, frustration with current compost supply quality, interest in using (more) compost or more affordable alternatives, and interest in making compost on farm. 31% of workshop participants were already making their own compost, and 52% of participants (63% of land managers) were interested in making compost on farm.

Consumer demand

Consumer demand was discussed as both an opportunity and a barrier. Consumer sentiment, arising from awareness, education, culture, and connection to provenance, were seen as a driving force of demand for regeneratively / ecologically grown, nutrient dense foods. Thus, a major enabler or barrier to transition: people asking more for regeneratively produced items.

Financials and planning

As noted, there are costs associated with transitioning to regenerative management, whether transitioning an existing property or taking on a new property. Financials were mentioned in 12 workshop groups, coming up in 7 of the 8 locations. Themes: If you don't already have land, the cost to begin farming is high (4); If you need to shift your infrastructure, there are costs associated (3); Cost barriers too high for large farms (1); Limited grant availability (1).

Measurement and science

Existing measures, “reductionist science”, and controlled trial methods were considered unsuitable for researching Regenerative Agriculture (e.g. methods not accounting satisfactorily for ecological factors and dynamic management decision-making).

Succession

Some of the newer generation have difficulty convincing their families to take a different approach. Some farms want to transition but do not have family succession available to help make that happen.

Social pressure

Despite the reputation of farmers for being independent, there is known to be a significant amount of peer pressure to do what everyone else does. Success, pride, and identity in farming are tied to the dominant approach: *“Being a good farmer is tidiness...going with the pack. Not stepping outside the main group identity in your district”* (129 Agroecologist and Extension Consultant). Financial and reputational prestige are attached to industrial, productivist farming approaches.

The social pressure is isolating. Farmers have reported having to develop a very tough skin in the face of criticism and judgment from neighbors and community:

“There is real social unacceptability of the regenerative approach or natural farming. It almost pits neighbors against neighbors. To me, if you are able to explore the social blockages, why it hasn't been taken up, that would be helpful. It's also rattled the cages of state government extension services, local Landcare, DPI and technical sales people—of which there are a lot.

Incredibly strong, well-resourced departments are undermining it. It's a threat. No wonder it's almost become an underground movement. I think to explore why is there so much negativity – when a farmer does something different on his farm – would be helpful. When a farmer doesn't take traditional best practice advice and still achieves as good or better outcome, why does that agent see it as criticism? There is a lot of stuff bound up in it. For the sales guy – it's their livelihood. You can see it at the moment – people have ground cover and others have bare ground. And it probably drifts into where there are change agents...

We can no longer look to government for the lead. We're looking for those positive deviants. Where are they in agriculture? We don't have many of them because it's such a tough social environment. I can't recall a time when there's been so few private farm consultants in NSW. We could be some of the few left. These are some of the questions that are important to look at” (120 Holistic Management consultant).

Whether tied to social pressure or the risk of transition, both, or something else, the word “fear” turned up as a barrier on three post-it notes in 2 locations.

Vested corporate interests

Proponents felt that the conventional model hinges on “selling something” and “making money off farmers” rather than “what may be best for the land”. Large industry, chemical companies (“big money”) are perceived to be holding the relationships with political players, government, and research bodies.

Climate

Climate is at the forefront of farmer thinking at all times. Climate-related weather challenges were named as opportunities for forward planning but also barriers in the future (5 workshop mentions).



IMAGE: Tocal workshop. Michelle Miller facilitating.



IMAGE: Tocal workshop. Bruce Maynard presenting.



IMAGE: Wagga Wagga workshop. System barriers discussion.



IMAGE: Ellenborough workshop.



IMAGE: Albury workshop. John Barton presenting.



IMAGE: Wagga Wagga. System barriers discussion.



IMAGE: Tocal. David Sivyer and Lee Fieldhouse presenting.



IMAGE: Weethalle silo painted by Heesco Khosnaran (2019). Riverina region

Structural lock-ins

This research focused on the barriers, constraints, and opportunities for transitioning to Regenerative Agriculture, which is a growing niche, and how it intersects with conventional agriculture, the dominant regime. Although agroecology is connected but not the same as Regenerative Agriculture, recent research in agroecology transition is comparatively illuminating for Regenerative Agriculture transition as it reveals the landscape and dynamics of the regime which Regenerative Agriculture seeks to influence.

One of the most common frameworks used to explain and analyze transition is the Multi-Level Perspective (MLP). As Iles (2021) describes: “First developed by Dutch sociologist Frank Geels (2002), the MLP framework follows the growth of a transition through many processes interacting simultaneously with one another at niche, regime, and landscape scales. A transition happens when these processes ‘link up and reinforce each other.’”

Arguing that “relatively few analysts have applied transitions scholarship to agroecology, particularly the Multi-Level Perspective (MLP) framework”, Iles (2021) draws attention to the interaction between the regime and the broader landscape, raising the challenge of “structural lock-ins”, or architecture of the dominant conventional agricultural regime that reinforces and supports this regime—and impedes related alternatives to the regime like agroecology, Regenerative Agriculture, organics, permaculture, and more.

Iles (2021) sets out the enormity of the transition challenge:

“Australia faces seemingly impossible barriers to transitioning to agroecology. Since the 1980s, Australian agricultural policy has taken a strong neoliberal stance. Farmers are exposed to global markets with little government assistance. Like other industri-

al countries, corporate power has intensified through domestic market oligopolies. Supermarkets and food processors have pursued low-cost strategies, further squashing many farmers. Instead of a national food policy, the country has an agricultural competitiveness policy that devotes superficial attention to environmental concerns. Atop long-running environmental declines in biodiversity, soils, and forests that make it harder to farm, climate change is amplifying the effects of drought and bushfire. Policy-maker, industry, and scientist elites believe in technological solutions to sustain growing production.”

Iles outlines and defines eight structural lock-ins, which I will quote in detail here for their relevance to Regenerative Agriculture transition in Australia. These were also raised by participants as barriers, particularly interviewees, if not in the same terms.

Lock-ins facing Australian “agroecological prospects”:

- 1. European agricultural model** – “Ongoing challenges of adapting to dynamic climate; land/soil damage; destruction of biodiversity; production heavily based on less suitable crops and animals; dependence on irrigation and ‘cash crops’”
- 2. Settler colonialism** – “Erasure of Indigenous agricultural knowledge and practices; ‘war’ on nature; frontier exploitation attitudes”
- 3. Geography** – “Diverse agricultural/land zones; mostly semi-arid continent; lower soil fertility in parts; extremely dynamic climate”
- 4. Policy-making institutions** - “Capture of government decision-making by industry interests and economists; farmer lobby predisposed to productivism; major parties committed to extraction”



IMAGE: Bushfire (2019). Nundle, North West region

5. **Neoliberal agricultural policies** - “Evisceration of historical rural welfare system; lack of farmer support; growing farmer and rural poverty; emphasis on exports and competitiveness; absence of national food policy”
6. **Industry supply chains** - “growing industry consolidation; dominance of supermarket chains; emphasis on low cost food”
7. **Environmental / climate developments** - “Accelerating climate impacts; lengthy droughts (2 in the past 20 years); bushfires; water scarcity”
8. **Science & technological visions** – “Long-running scientific agricultural paradigm; emerging interest in robotics, big data, gene editing, glasshouse production” (Iles, 2021).

Not unlike agroecology, Regenerative Agriculture in Australia (when the definition includes regenerative outcomes), circumscribes an approach to agriculture which: is climate adaptive and opportunistic; works *with* nature; focuses on increasing ecosystem function through biodiversity, plant density and biomass, photosynthetic capacity, ground cover, forests, wetlands, hydrology, and nutrient cycling, etc.; (is becoming more) encouraging of diversity of crops, animals and business models; (is becoming more) (re)appreciative of Indigenous knowledge and land management practices; eschews extractive, reductionist, and exploitative land management; cautions against productivism; builds and protects soil fertility and biology; is recentering around local communities and economies together with export; originates from a grass-roots movement and is in danger of capture by corporate interests; comes from an eroded farmer and rural power, economic, and population base; involves investing in national food sovereignty; struggles to differentiate and protect revenues amongst industry consolidation and low

cost supermarket maneuvering; is working to establish climate resilience at a time of unrelenting unprecedented climate events; incorporates ecology in the scientific agricultural paradigm; and is often overlooked in technology-oriented visions.

All of these qualities of Regenerative Agriculture and agroecology stand in contrast to the dominant regime and structural landscape, and face risks posed by the ‘structural lock-ins’ named here.

SOURCES

- Geels, F.W. (2002). Technological transitions as evolutionary reconfiguration processes: a multi-level perspective and a case-study. *Res. Policy* 31, 1257–1274. [http://dx.doi.org/10.1016/s0048-7333\(02\)00062-8](http://dx.doi.org/10.1016/s0048-7333(02)00062-8).
- Geels, F. W. (2005). The dynamics of transitions in socio-technical systems: A multi-level analysis of the transition pathway from horse-drawn carriages to automobiles (1860-1930). *Technology Analysis & Strategic Management*, 17(4), 445-476.
- Iles, Alistair. (2021) Can Australia transition to an agroecological future? *Agroecology and Sustainable Food Systems*, 45:1, 3-41, DOI: 10.1080/21683565.2020.1780537



IMAGE: Pasture raised chooks (2021). Awabakal country.

Summary of existing enablers of transition

Adoption of innovation is extensively researched in agriculture, and the sector has developed a broad range of ‘social technologies’ to support farmers to take up new methods. Some of the most common enablers are extension services like those available via Local Land Services, tertiary and vocational education, such as the Regenerative Agriculture degree at Southern Cross University, training like that offered for Holistic Management or offered by consultants, peer networks, and grassroots initiatives like Landcare. The range of supports available has taken various forms over the years. Participants, in search of independent advice, recounted swings between supports being available via government versus supports being provided by private services.

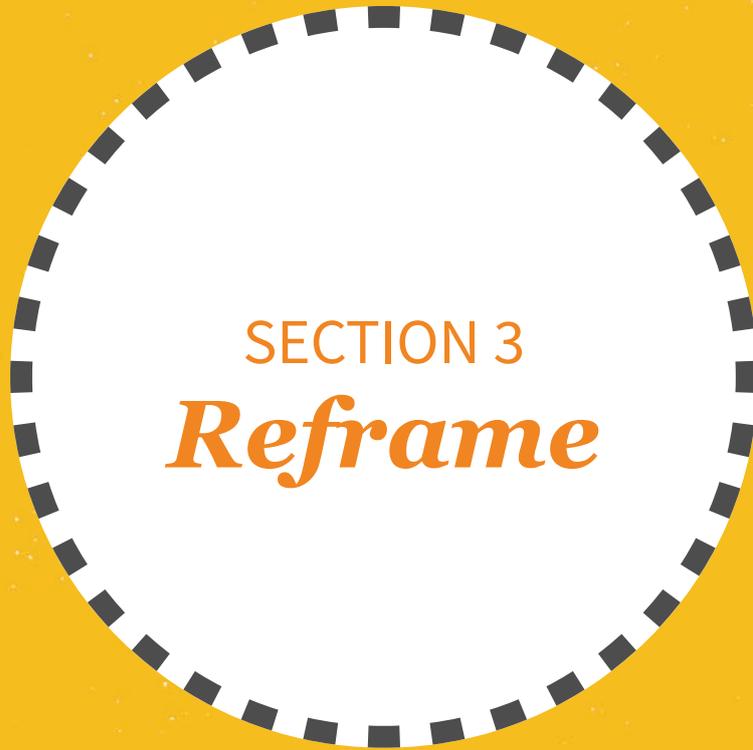
Other factors are known to influence transition as well. In *‘The Call of the Reed Warbler’*, Massy describes the role of personal crisis in facilitating change. Participants spoke to the role of consumers in demanding food and fiber that is produced regeneratively, noting that farmers grow what people buy.

The table at right summarizes known enablers of transition in three categories:

- 1) Farmer transitions and capability
- 2) Sector capacity
- 3) Narratives, discourse and culture

Known enablers of transition

THEME A: FARMER TRANSITIONS AND CAPABILITY	<p>Crisis</p> <p>Personal reflection</p> <p>Holistic decision-making, including articulating the holistic context and goals</p> <p>Whole farm planning, including landscape repair, farm layout, production plan, business model development, and more</p> <p>A persistent friend or partner</p> <p>Education, extension, peer networks, mentoring, and support—including: Technical advice, ‘boots on the ground’ support, and lowering the thresholds for adoptability of methods in how they are explained or enabled</p>
THEME B: SECTOR CAPACITY	<p>Strategic extension—whole sector or region approach</p> <p>Group workshops and projects, including collaborative ecosystem or watershed regeneration projects</p> <p>Consumer demand, market dynamics</p> <p>Policy incentives</p>
THEME C: NARRATIVES, DISCOURSE AND CULTURES	<p>Campaigns, journalism and reporting, social media, and social movements</p> <p>Cultural norms of success in agriculture</p> <p>Societal visions and narratives</p>



SECTION 3
Reframe



Reframe

From barriers and enablers to opportunities

Process

Analysis, synthesis, and reframing

All interview and data analysis in this research involved practices like reviewing transcripts of interviews, and identifying and coding themes using qualitative research methods. Themes were identified for barriers, known enablers of transition, and potential opportunity areas.

Opportunities—areas for action

Design processes involve identifying opportunities, and in some cases this includes reframing barriers and constraints as opportunities. Opportunities are then clustered into opportunity areas.

Opportunity areas in this research are organized by the same themes named in the analysis of barriers. Those themes are continued across Sections 3, 4 and 5:

- A. Farmer transitions and capability
- B. Sector capacity
- C. Narratives, discourse, and cultures

Sub-projects—experiments in action

In design, it is important to analyze and understand, but the dominant stance is to take action, to ‘make’ things that help bring desired conditions and futures into existence. This is why I engaged with collaborative working groups. For this case study, by the end I had engaged with 10 different working groups and associated sub-projects to support experiments in bringing about transition. In this section the sub-projects are summarized, and then four are highlighted in Section 4.

Design methods

Reframing is experimenting with different frames—conceptual viewpoints—to find a ‘click’ between our understanding of the situation and responses that might help. Sometimes reframing is as straightforward as re-imagining a problem as an opportunity. But reframing also involves looking for different ways to see situations. For instance, a problem of dependency on fertilizer can be framed, for instance, as an opportunity for natural options, or of needing transition pathways to reduce dependence, or both.

Opportunity areas are domains where (new/innovative) action can be taken to help facilitate, enable, or accelerate transition. Each ‘opportunity area’ is a chance for innovation, re-invention, and design. From a positive, problem solving stance, they are leverage points where new ideas, actions, and responses can be introduced to effect change. Opportunity areas should point to the known sum of places for action, the potential for an ecosystem of responses.

Theme

Opportunity Areas

(A)
FARMER
TRANSITIONS
AND CAPABILITY



(B)
SECTOR
CAPACITY



(C)
NARRATIVES,
DISCOURSE
AND CULTURES



Reframing barriers as opportunities

Opportunities: building conditions for change across leverage points

In the spirit of possibility, barriers are re-imagined through the frame of opportunity based on ideas, goals, and hopes that participants shared. Opportunity areas were iterated several times.

This process yielded twelve opportunity areas. Each is a design challenge, an area for experimentation and diverse responses. Opportunity areas are summarized in this section and explored further in Section 4.

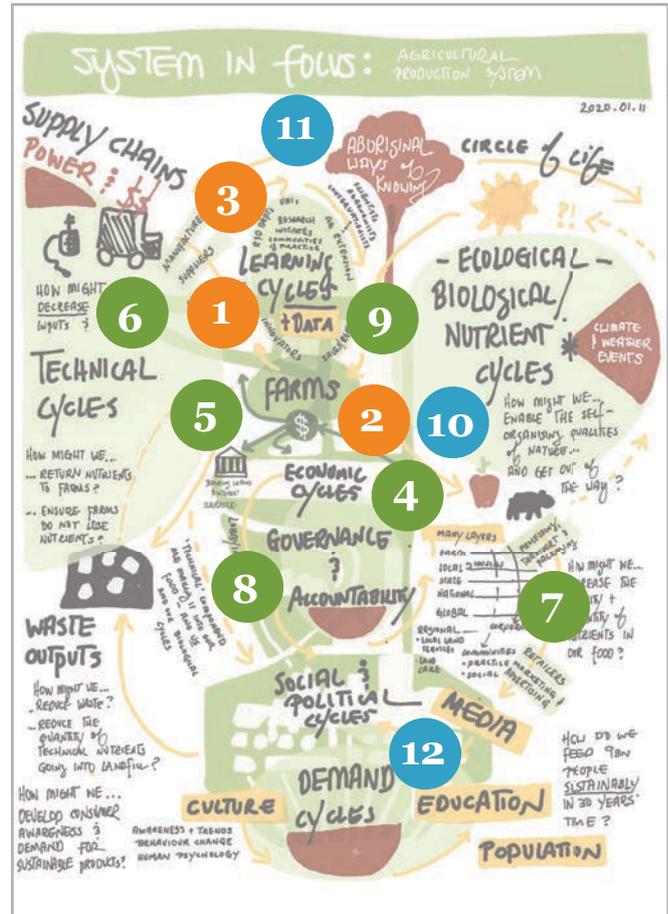
Each opportunity is interdependent and mutually reinforcing, a piece in the puzzle for creating the conditions for transition to Regenerative Agriculture. More opportunities are always possible. Other audiences might frame or re-cut these opportunity areas differently.

The idea of opportunity areas is influenced by the concept of Leverage Points and the work of Donella Meadows, but interpreted somewhat differently. Each opportunity area is like an acupuncture point, a place in the system at which innovation, redesign, and re-invention could impact transition.

Everyone has a role in transition

Transition is a systems change opportunity—every part of the system has a role to make change tenable. To illustrate this point, the SMI report ‘Scaling Regenerative Farming’ details how we can “[identify] the role each sector of the value chain needs to play to drive action and unlock scale”; furthermore, SMI asserts that those who stand to benefit ecologically and financially should co-fund transition so that farmers do not bear the whole burden:

“Farmers, large or small, farm the way they do as a result of the market dynamics we have created through the food system. Right now, those dynamics favor current farming methods but...we can make changes that mean farmers can—and will want to—farm in a more sustainable way. We have therefore chosen to focus on what we, the private sector actors in the value chain, need to do ourselves to make regenerative farming a ‘no-brainer’ for the farmer and support and enable them to transition to and sustain this new system over the long term” (SMI 2022).



Opportunity areas by theme

(A) FARMER TRANSITIONS, CAPABILITY	1 Education, Extension and Support
	2 Landscape repair
	3 Transition pathways
(B) SECTOR CAPACITY	4 Supply, processing, distribution, retail
	5 Finance, investment and insurance
	6 Science, research and measurement
	7 Local-global markets
	8 Governance, policy, and incentives
	9 Collaborative regeneration initiatives
(C) NARRATIVES, DISCOURSE AND CULTURES	10 The definition of regenerative agriculture
	11 Reconciliation, reparations, and relationships
	12 Consumer awareness and demand

SOURCES

Sustainable Markets Initiative (SMI) Agribusiness Task Force. (2022) ‘Scaling Regenerative Farming: An Action Plan’. White paper. Accessed via: <https://www.sustainable-markets.org/taskforces/agribusiness-task-force/>

Summary of insights and reframing

Theme Scripts, Barriers & Lock-ins x Known Enablers → Opportunities → Responses

<p>(A) FARMER TRANSITIONS AND CAPABILITY</p>	<ul style="list-style-type: none"> • Definition—what is Regenerative Agriculture? • Education favors dominant model • Having to construct your own approach • Succession challenges 	<ul style="list-style-type: none"> • Crisis, disaster, reflection • Holistic decision-making • Business model and Whole farm planning • Education, extension, peer networks, mentoring, and support • Persistent friend/partner 	<ol style="list-style-type: none">  Education, Extension and Support  Landscape repair  Transition pathways 	<ul style="list-style-type: none"> • TransitionAg • The Australian Landscape Science (TALS) • High Performance Landscapes; Chaos Garden • Agroecological Knowledge Commons and Research Network (AKCARN) • Business of Transition short course • Online Event: A year of regeneration • Institute of Ecological Agriculture (IEA)
<p>(B) SECTOR CAPACITY</p>	<ul style="list-style-type: none"> • Scale and distance challenge “local” • Policy, regulation, markets, distribution, finance, etc. incentivize industrial farming, productivity, extraction, commodities, global trade • ‘Reductionist’ measurement and science • Technological visions • Supply—Relevant equipment and inputs • Industry consolidation, low cost food models, vested interests • European agricultural model in Australia • Accelerating climate impacts and variability 	<ul style="list-style-type: none"> • Strategic extension • Community-led regeneration projects • Policy incentives • Market dynamics 	<ol style="list-style-type: none">  Science, research and measurement  Finance, investment and insurance  Supply, processing, distribution, retail  Local-global markets  Governance, policy, and incentives  Collaborative regeneration initiatives 	<ul style="list-style-type: none"> • Compost as a Catalyst • WWF Local Learning Labs
<p>(C) NARRATIVES, DISCOURSE AND CULTURES</p>	<ul style="list-style-type: none"> • Lack of consumer awareness and options • Social pressure and cultural scripts favor the status quo: “We have to feed the world”; “Where’s your data? Glyphosate is good science”; “It won’t work for me”; “It’s hard to go green when you’re in the red” • History and historical paradigms: settler colonialism, war mentality, exploitation 	<ul style="list-style-type: none"> • Building consumer awareness and demand • Media and campaigns • Social movements • Cultural norms/ideas of success in agriculture • Societal visions and narratives 	<ol style="list-style-type: none">  The definition of Regenerative Agriculture  Reconciliation, reparation, and relationships  Consumer awareness and demand 	<ul style="list-style-type: none"> • Rewilding Moore Park • Lismore Living Lab

Summary of sub-projects

Over the course of the project (2019-2022), I got involved with 10 different working groups. Some progressed more than others. The COVID-19 pandemic also dictated much of what could and couldn't be done during that time frame. This page lists all of the projects undertaken as part of relevant working groups during this research.

Agroecological Knowledge Commons and Research Network (AKCARN)

The intent of this project was to create academic, scientific, and farmer collaboration to progress a field of research around a shared body of agroecological knowledge. The starting point was an online literature database tool for Regenerative Agriculture developed by Serenity Hill. The initiative, requiring funding, resourcing, and an owner, merged with an initiative of the Australian Food Sovereignty Alliance (AFSA).

Business of transition short course

This opportunity looked at developing a short-form learning series with Mark Gardener focused specifically on financial and business skills for transition. It required dedicated funding to progress further.

Compost as a Catalyst

Bruce Maynard is a farmer, innovator, and educator, and 2022 Landcare Farmer of the Year. He developed no-kill cropping and helped bring stress-free stockmanship and self-herding to Australia. I supported two of his EPA-sponsored projects, Compost Buddy and Compost for Conservation Cropping (together, Compost as a Catalyst), to help build demand for recycled organics (in the form of compost). The collaboration continued on into other projects.

Institute of Ecological Agriculture (IEA)

The IEA (formerly AIEA) is an advocacy co-operative committed to transforming agriculture by encouraging ecological and holistic thinking. Members of the IEA contributed to the development of the Regen Ag degree at Southern Cross University. The collective is also looking at educator, consultant, and associate professional accreditation. Kerry Cochrane is the president. I participated in the IEA for two years, one year as a guest and the second year as a board member.

Online Event: A year of regeneration

Two participants in this project agreed to keep a photo diary of the regeneration on their property alongside their normal record keeping once the drought broke (rainfall, etc.). George Hamilton, known as Farmer George and who has been a long time vendor at the Carriageworks Markets in Sydney, agreed to host a Facebook Live event to walk people through what regeneration looks like post-drought on a regeneratively managed property including rates of growth, weeds, signs of resilience, etc. The event was attended by 31 people.

Rewilding Moore Park

At the invitation of Professor Martin Bryant, I co-taught a UTS architecture and landscape design class given the challenge to reconfigure Moore Park in Sydney to accommodate both golf and increased access to green space for residents. The concept was to offer an experience of wilderness, based on ecological learnings from regenerative approaches to agriculture and the rewilding movement as a counterpoint to other parks in the city.

The Australian Landscape Science (TALS)

Through his work with Peter Andrews, my partner Scott Middlebrook introduced me to TALS. Peter Andrews is an innovator in landscape repair and rehydration, based on his insights into how the Australian landscape functions. I facilitated two field days, and contributed to efforts to articulate the work.

TransitionAg

Focusing on the challenge of transition sparked a big response among participants. During the course of project, the idea emerged that a business focused on supporting farmer transition might also be needed. I participated in the 2020 Wild Idea Incubator, facilitated by Adam Gibson and sponsored by Odonata Foundation. Through that process, I launched TransitionAg and began experimenting with value propositions.

WWF Local Learning Labs

As part of my work with The Australian Centre for Social Innovation (TACSI), we contributed to the World Wildlife Foundation (WWF) Innovate to Regenerate Local Learning Labs. The Labs were part of the Regenerating Australia film campaign, and focused on building local capability and ecosystems of regenerative entrepreneurship. We designed and hosted labs in Eurobodalla, the Adelaide Hills and Fleurieu Region, and Gippsland, experimenting with the Lab design in the process. We also developed resources to support communities to design and host their own Labs.



SECTION 4
Respond



Respond

Opportunities and experiments to create the conditions for transition

Process

Opportunity areas—the detail

In the section that follows, each opportunity area is defined and explained. Some opportunities are defined by criteria, some include ideas. Some opportunities include a project example from working group collaborations (sub-projects).

Collaborative experiments

Four of the sub-projects I supported are highlighted alongside the relevant opportunity area. These sub-projects are experiments in change making—either by supporting transitions directly or by creating the conditions for transition.

Design methods

Working groups—sub-projects

Any change agent has available to them a number of ways of working to promote change. They may invent solutions, influence opinion, facilitate collaboration, procure investment, etc. In developing an approach for this transition project, I considered what ways of working were most relevant to the project (e.g. the transition need), most feasible for my skills and time, and most likely to promote change. I felt that getting involved in collaborative working groups dedicated to a key initiative, project, event, etc. was the most likely way to support change across an “ecosystem of responses”.

Workshop design and facilitation

With design engaging more and more in social contexts, designers have developed ‘design facilitation’ approaches. The goal of design-based workshops is not only to hear various perspectives and find clarity through conversation, but also to co-create (generate) potential responses.

Value proposition testing: Lean Startup, Business Model Canvas

The disciplines of innovation and entrepreneurship offer a suite of generative tools and methods for developing and testing business ideas. The Business Model Canvas, created by Alexander Osterwalder and Yves Pigneur, helps to identify and experiment with the building blocks of businesses. Lean Startup, developed by Eric Ries, is an approach for quick value proposition testing.

Graphic design, branding, video, illustration, and website layout

Transition Design may focus on complex social change, but it is the visual, form-giving/making, and communication skills of designers that help people to make sense of complexity, imagine potential futures, experiment with ideas, and then make change a reality.

SOURCE

Kolko, J. (2007). Information architecture: Synthesis techniques for the muddy middle of the design process. 23rd International Conference on the Beginning Design Student Proceedings. Savannah, GA.



OPPORTUNITY
THEME A
*Farmer
Transitions &
Capability*

“There are those who choose the swampy lowlands. They deliberately involve themselves in messy but crucially important problems and, when asked to describe their methods of inquiry, they speak of experience, trial and error, intuition and muddling through”

— Donald Schön (1983)

IMAGE: Split Rock / Balancing Rock (2020). Wiradjuri and Kamilaroi country, Golden Highway NSW

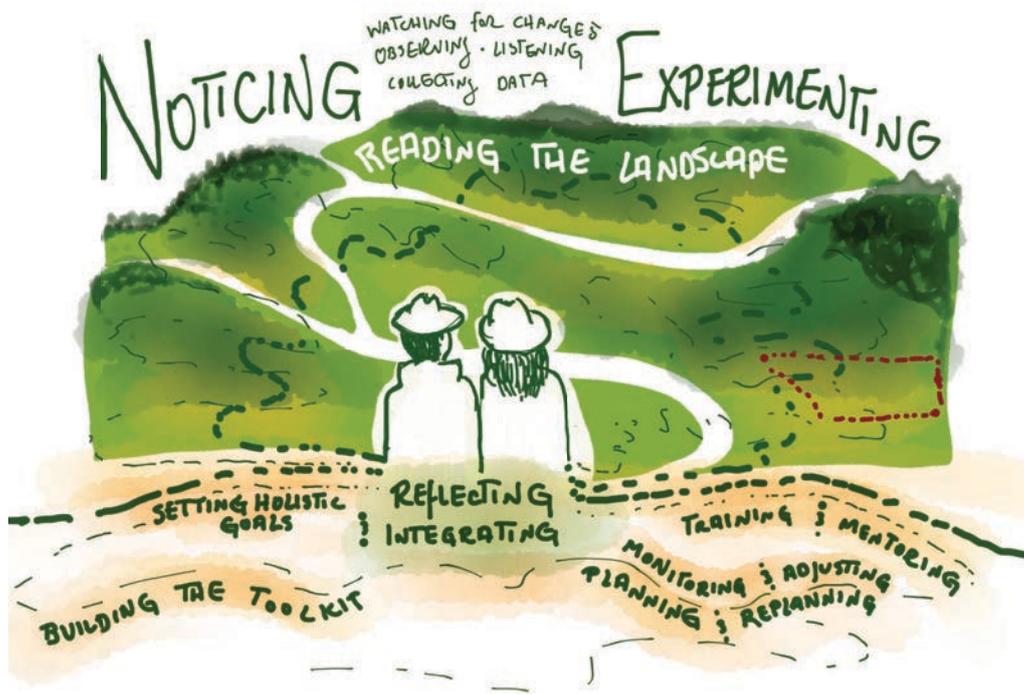


IMAGE: 'Reading the Landscape'

1



Education, Extension & Support

Participants in this research underscored that farmer capability is critical to being able to farm in a way that results in restoration, regeneration, and resilience. These are considered agroecological skills.

How might we increase knowledge of agroecology and on-the-ground skills for reading the landscape, experimentation, holistic decision-making, and regenerating ecosystem function? How might transition be supported through: land planning, business model development, financial planning, sequencing, and implementation of works? How might we grow networks for peers and mentoring? How might we support transition with the labor required, as in the case of tree planting?

Education, extension and support

Transition to Regenerative Agriculture requires the capability to undertake new methods and, in many cases, rework one's approach to farming. This is a tricky undertaking. Awareness is raised and capability is developed one person at a time. This is the primary role that educators, trainers, and extension agents play in transition, and many have a deep understanding of what helps dissemination of ideas and adoption of innovation be successful among farmers. They are at the frontlines of developing farmer capability to implement new management practices, to make decisions compatible with regeneration, and to navigate the stages of transitioning a landscape.

Taking up Regenerative Agriculture requires new capabilities like agroecological science and practices, reading the landscape, and holistic decision-making. There is opportunity to strategically extend education and extension to include these capabilities, as well as grow the market of support for Regenerative Agriculture.

Capability: Agroecology

Agroecology is sometimes used interchangeably with Regenerative Agriculture, but they are not the same. Agroecology is simultaneously agricultural science, practice, and a political movement. Regenerative Agriculture is underpinned by agroecological science and practices, and agroecological knowledge is critical to making decisions that work with nature.

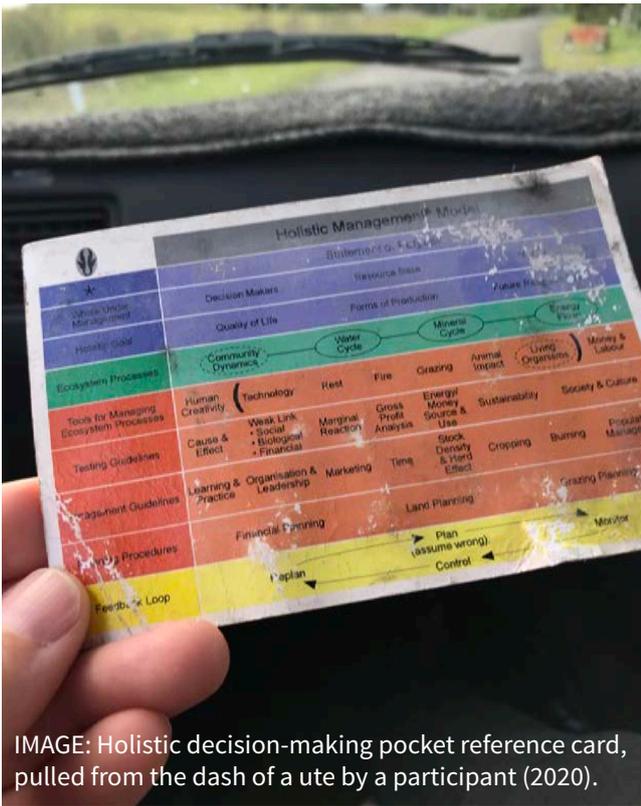


IMAGE: Holistic decision-making pocket reference card, pulled from the dash of a ute by a participant (2020).

Capability: Reading the landscape

One of the key agroecological skill sets is referred to as ‘reading the landscape’, or ecological literacy. Ecological literacy enables farmers to see different information in the landscape, and to have a better awareness and systems understanding of what is happening. Reading the landscape infers that practitioners take a whole systems view of ecological function, which may extend their observations beyond their property boundaries. Participants saw building agroecological knowledge and skills to notice differently and read the landscape anew as a first step in transition.

Capability: Holistic decision-making

The Holistic Decision Framework is a tool that supports purposeful decisions in complex ecological systems. The Holistic Decision Framework comes from Holistic Management (HM), pioneered by Allan Savory and Stan Parsons, but is not the entirety of the practice, which is primarily renowned for teaching high-density, rotational/ration grazing. Participants found the Holistic Decision Framework applicable across any form of land management, and even in life decisions. The Holistic Decision Framework was described as the farmer’s go-to guide for navigating complex decisions. In fact, three different participants pulled a copy of the framework out of their dash or other easily accessible place during our interview.

The framework, which leads with the development of the farmer’s holistic context and goal as the overarching frame, provides people with a series of lenses to think through the situation from an ecological systems perspective and a personal values basis, consider the tools and options available, work through testing and management protocols to decide the course(s) of action, and then observe feedback and make changes over time.

This approach effectively embeds a design process into farming, and the Transition Design approach in this guide has parallels. There is potential for further research into how the two could enrich each other.

Support, mentoring, and peer groups—for transition

At the time of this project, some support was available for Regenerative Agriculture but very little support was available specifically for transition. There was also a perception that the advisors who could support transition were at capacity. The farmers who did have transition support available mentioned how critical it was to have help: building their agroecological knowledge and ability to read the landscape; constructing a landscape repair and farm master plan; identifying the best or most appropriate training and education to undertake; developing a business model and financial plan; understanding and accessing markets; implementing key landscape repairs; navigating grants and funding; assessing improvements; and continuing to check in on progress and decision-making. They valued having a sounding board, whether mentors or peers.

In launching my TransitionAg business experiment, I conducted a survey to better understand specific support farmers were looking for. The survey asked participants to name their transition goals and specific support they were looking for, and finally they were asked to respond to potential offers. I shared survey findings on the website, www.transition-ag.com.

The following transition support needs got the most responses (29 responses total): How to profitably transition to Regenerative Agriculture (7 responses); how-to-guides for methods and quick problem-solving—particularly video format (e.g. holistic grazing, regenerative broad acre, cropping and planting routines, plant varieties and animals, replacing weeds) (6); Case studies with the how and the science, not just the outcomes (6); Synthesis of the information out there (4); Practical plans/steps to transition (3); Weeds—identification and what to do (4); Information relevant to a specialty or biome (3); Reading soil tests, assessing improvements (3).



PROJECT EXAMPLE

TransitionAg

This project is an example of: Using design and entrepreneurship approaches to develop, test, and iterate a business value proposition.

Origins of the business idea

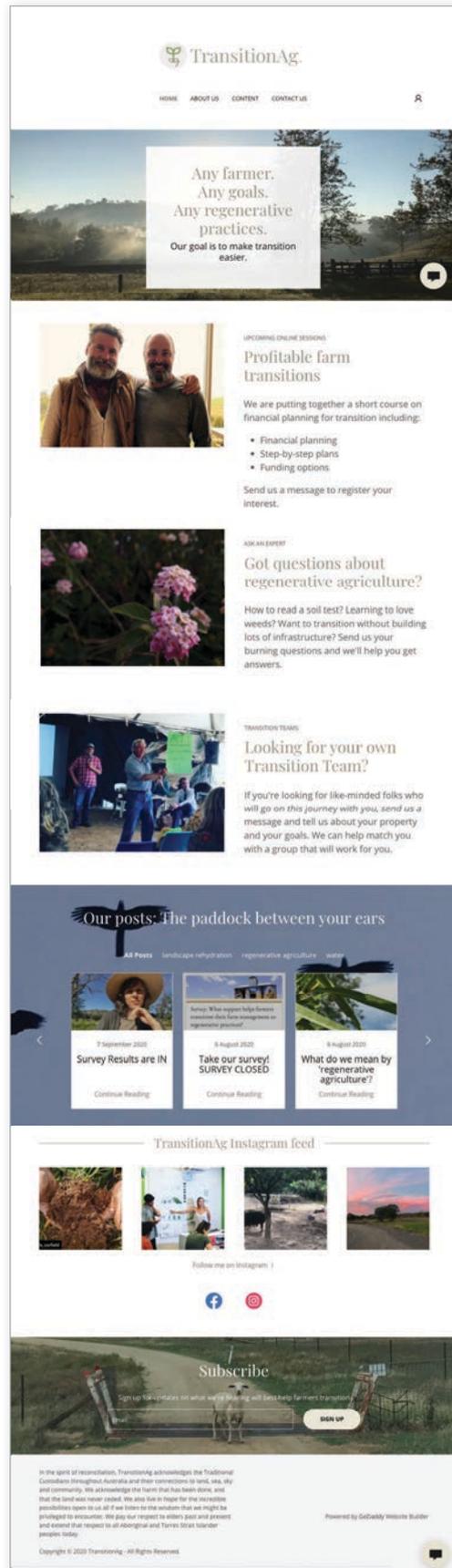
From the research, one of the pieces of the emerging Theory of Change was a gap in the support for transition. There were a number of ad-hoc supports in the sector at the time, often focused on teaching new techniques. Some offers went farther, providing guidance on the business of farming with expert and peer-based mentoring to help them solve management (and other) problems. By 2020, the market of support for Regenerative Agriculture was growing and diversifying.

Between 2017-2020, there emerged a number of new types of coaching offers, a new regenerative agriculture degree, a wave of fresh investment and financing models, etc. However, farmers typically still needed to assemble their own end-to-end regenerative management approach, together with the financials, planning, on-farm transition, supply chain, marketing and distribution. There was also more demand for training than supply, and offers were financially out of reach for some.

2020 Wild Idea Incubator

During my second round of interviews and scoping feedback discussions in 2019, more than one participant remarked that they felt that my research held a business for supporting transition. There were certainly market gaps. Given my lack of expertise in agriculture, I didn't necessarily feel this was my role nor did I feel that my research was anywhere near ready, but from a research perspective, it was worth testing. I applied and was accepted to the 2020 Wild Idea cohort, sponsored by Odonata Foundation, coached by Adam Gibson. Charlie Arnott and Bruce Maynard acted as my advisors. The incubator stepped us through Lean Startup and business model development activities in weekly coaching sessions with peers.

IMAGES: Left—TransitionAg business cards. Center—TransitionAg website iteration 2. Right—TransitionAg website iteration 3.



Value proposition testing

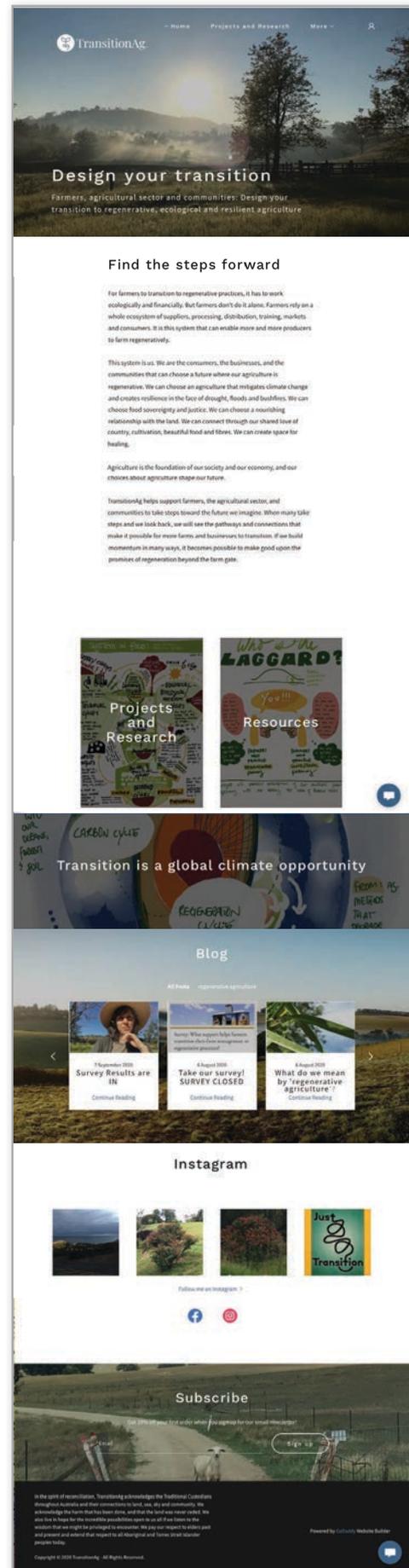
From a methodological perspective, I treated the business idea as a Transition Design experiment. During the incubator program, I fleshed out the idea and launched it through Instagram and Facebook with a website, blog, and a survey.

I began by testing offers like: coaching, peer support, online learning, resources and referrals focused on transition, where my role might be to “hold the network”, bringing together various experts to support the offering, and providing insights into transition through research.

The survey drew 29 responses from a very diverse set of farmers, including grazing, cropping, viticulture and horticulture. The need for technical support came through strongly. Specific mentions included how-to guides (especially video) for methods and quick problem-solving, case studies, working with weeds, soil testing and improvement, information relevant to a specialty or biome, etc. How to profitably transition to Regenerative Agriculture was the most common request. Synthesis of the available information and practical plans/steps to transition were also mentioned. In terms of support format, there was some interest in online small group/peer sessions—alongside “boots-on-the-ground” support. For participants willing to be contacted, I followed up and tested a referral offering—assessing needs, identifying supports, making referrals. I tested business model options like farmer pays or referred advisor pays. Neither party were adverse to paying, but I leaned toward farmer pays to assure independence. In design we call this approach “live prototyping”, and it required very little effort to set up and test.

The breadth and depth of expertise that would be required to meet these requests speaks to a whole market of support. Together with my advisors, we furthermore theorized that the need was broader than farmers—that there was also a need to support transition across the sector, including with suppliers, distributors, and retailers.

As mentioned, I found it tricky to be involved in more than one project at a time, so I put the value proposition testing on pause to focus on working groups. However, the TransitionAg business proved to be an important vehicle that enabled me to join or form working groups. It meant that I could be a part of collaborative efforts to address needs and gaps in the market and could be paid. Participating in the working groups as TransitionAg, in turn, enabled me to build awareness of the concept of transition and grow social media reach and impact. I also realized that having an online platform allowed me to talk about this project and research, putting ideas out into the market as part of the design experiment. Recognizing this additional value proposition, I updated the website to better reflect the transition collaboration offers, including case study information from this project. At the time of this writing, I have been through three iterations of the business concept, which is reflected in website iterations.



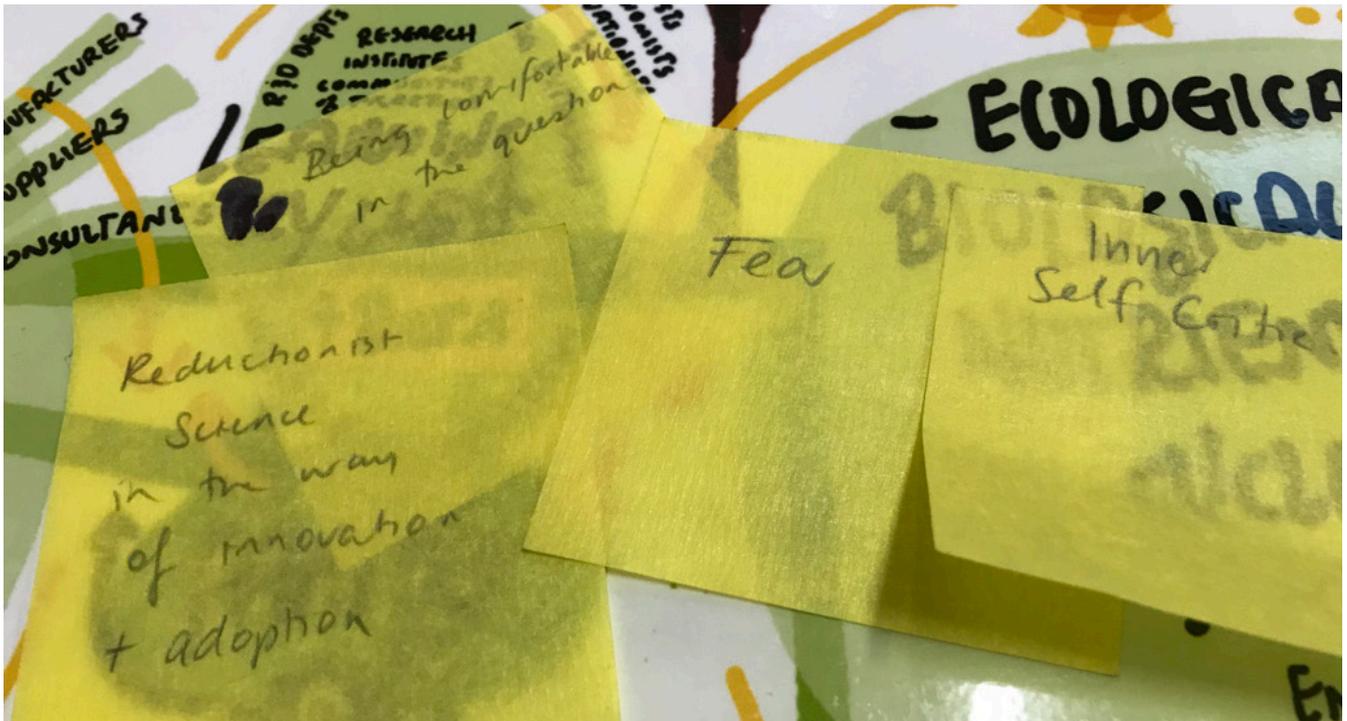


IMAGE: Barriers to transition named by workshop participants

Transition story: *Sell the bulldozer*

The following story was shared by a farmer who had first-hand experience of supporting another farmer to transition to Regenerative Agriculture.

Trigger warning: discussion of suicide ideation

“[I ran a] ‘Farmer-to-farmer’ workshop through Landcare—I applied for a grant to do it as a pilot exercise through the rural counseling service. [In the first session there was a] lot of arm folding. By the end they were relaxed, happy, wanting to know ‘Is this true?’ I had photographs, this is me.

Phase 2 was ‘come have a look’. We had a busload. Everyone turned up here to see the place. Seeing is believing. Phase 3 was one-on-one. I think there were eight. I got half. That was the harder part.

By the end of the second phase – at the woolshed – the wives came, more women than blokes – desperate for their husbands to wake up and see. The thing that really got me: they were in tears. And they brought me to tears.

One farmer said, ‘I was about to shoot myself. There was no end. And you’ve opened the door.’ It was probably the most emotional day I’ve ever been through—because it’s about life and death.

The next phase was to go see their place and I did. But by then this guy wasn’t available. He was hiding. I talked to my daughter [before I went]—she had training in social science—how to approach him, to approach the situation. ‘Don’t go in guns blazing’, she said. ‘Find out: where did he come from? His family. Why don’t we have a cup of tea? Get to know the wife, kids’.

I said I’d like to see a map of your farm. The wife got the map out. They had a few lines drawn. So I thought: this is good. Let’s go for a drive. There was a huge great bulldozer sitting there. D9. And bare ground—hard, and compacted. They were ripping the ground. Why? To make it softer?

I asked, what do you reckon the bulldozer is worth? \$150K. You could redevelop your whole property for that. I did mine for less than that.

Two years later he won the Landcare award for farmer of the year. And he was on a suicide mission, so there you go. But people can do that. [This is] job creation. Let’s train people to do that...to know the game. They have to have the confidence to tell them to sell their bulldozer—to turn the farm around by selling the bulldozer.

But if his wife wasn’t there, he wouldn’t have been there. She got him to the woolshed. He wouldn’t have gotten there himself’.

—107 Regenerative Farmer

2



Landscape repair

One pathway into regenerative approaches is to undertake landscape repair. Landscape repair is usually project based, which means it has a clear beginning and end, and is attached to clearly defined expected results. Successful landscape repair makes an—often visible—immediate or near-term difference for a property, production, and overall landscape health. Landscape repair can be a pathway for learning about landscape function, ecosystem health, and reading the landscape, seeing how one’s property can work within and is impacted by the broader landscape, and building agroecological skills. Landscape repair is potentially a less difficult starting point than re-tooling an entire management practice, or learning farming from scratch. It may also be a less threatening way to deal with damage that has been done through past management practices because that damage (such as erosion and soil compaction) is potentially highly visible and hard to dismiss.

Getting the vehicle running (*better/again*)

Landscape repair projects as well as design and planning support are pathways to transition. Landscape repair projects can support farmers to take the first steps in transition by identifying strategies to repair ecosystem function—and then directly implementing the strategies and monitoring for results. Landscape design and planning can help farmers create a vision for a transitioned farm, and identify what needs to be done so that the landscape and its ecosystems will function optimally.

Through landscape repair, design, and planning, farmers can learn how farm management works hand in hand with the overall landscape function. Understanding and taking steps to restore or ensure landscape function is a bit like auto repair. See image: ‘Analogy’.

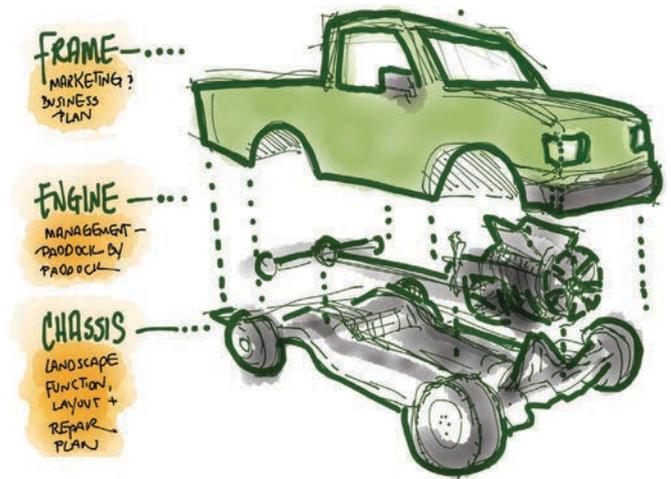


IMAGE: Analogy—Landscape repair and vehicle repair

An auto chassis provides the structure for a vehicle, without a chassis there is no ability to direct energy and motion. Like a chassis, the major ecological functions of the landscape—energy cycle, nutrient cycle, water cycle, biodiversity—must be working well in order to support production. Rather than taking from these, in an extractivist mindset, stewarding these cycles sets the foundation for production. Farmers seeking to transition can work on landscape function as a starting point. This may translate to activities like fencing off riparian areas, repairing hydrology, planting trees, and re-locating infrastructure.

To continue the analogy, agricultural management is the engine that is embedded into the landscape function chassis. It is perhaps more appropriate to say that both agricultural management (via farming methods) as well as landscape repair interventions can have an effect on landscape function as well as productivity.

And finally, the auto body is like the business model, marketing, and distribution. Not pictured is the human is the driver, pointing the vehicle toward their goals, or the mechanic, advising and supporting the driver.

Natural Sequence Farming, developed by Peter Andrews, is an example of landscape repair methodologies. It may be associated with hydrological interventions like leaky weirs and trenches/contours, but interventions are a means to achieve the goal of landscape function for a productive ecosystem. The exact same interventions are not always used. The association with hydrology sometimes misses the goal of re-establishing hydrological function and nutrient flows so that *plants* (as inseparable from and together with landforms, soil, and geology) can act in their capacity of managing surface water, ground water, hydrostatic pressure, and nutrients, etc. to maximize photosynthesis. Andrews puts a significant amount of focus on how the Australian continent used to function, and the levels of productivity possible when it functions again.

3



Transition pathways

Taking up Regenerative Agriculture requires acquiring new capabilities and practices, but it can also mean piecing together your own transition management approach from scratch. In extension terms, the adoption threshold is high, and can be a deterrent. Proponents of Regenerative Agriculture warn against over-simplifying regenerative approaches to the extent that regenerative outcomes may be compromised. How might we make adoption easier without oversimplifying?

One strategy is to develop transition pathways. How might communications, education, training, and extension activities integrate practices into different transition pathways for various contexts? How do transition pathways vary by: scale (from small blocks to millions of acres), industry and product type (for example viticulture, cane growing, cattle, wool, and grain), biome and climate conditions, circumstances (for example debt and succession), business model and market, the conditions of the property and ecosystem, the personal goals and choices of each farmer and farming family, etc.? Amongst the variance, are there patterns in transition?

Farm transition stories

About these transition stories

As mentioned, suitable transition pathways depend on an array of factors. Despite any commonalities, no two farms are alike. The following section contains a series of ‘transition stories’ that present a variety of transition experiences, challenges, and needs based on patterns observed through this research. They have limitations—they do not represent all farmers interested in transition, or even all of those in NSW, Australia, and they overly skew white and male. They are intended to communicate diverse perspectives of farmers interested in Regenerative Agriculture. Farmers may use them to draw from others’ experiences. Industry stakeholders may use them to help meet a range of needs. For anyone wanting to work with these transition stories or develop your own, I heartily encourage taking a design approach, including testing with your audience.

What is a persona?

These transition stories are based on a tool from user-centered design and service design called ‘personas’. Personas are an exercise in empathy. They are developed from qualitative research and express patterns of experience, needs, and perspectives among stakeholders. Personas are often used to identify the diverse needs in a market, help gauge whether or not offerings meet the needs in a market, or to hone offerings to specific audiences. A set of personas should quickly communicate the diversity across an audience and the complexity of people’s goals, contexts, and choices.

Personas deliberately avoid depicting a single individual, in part to protect people’s identities. Care should be taken not to over-generalize, over-simplify, or stereotype. Personas are no substitute for learning from people, getting their feedback, and involving them in decision-making. Just as the map is not the territory, a persona is not a person or family, their specific circumstances, challenges, strengths, and goals. Stories of real people are an alternative to personas, noting that express consent must be obtained to use people’s stories.



TRANSITION STORY

The next generation

Making their own way

From a few generations of farmers, perhaps having come back to the farm after education and work elsewhere, this farmer navigates protecting the family reputation while making their own way. In many ways, they have the support of their family. On some things, however, the father just won't budge. They are making changes, but it's slower than this farmer would like. There is a lot of upkeep, maintenance and some landscape repair to be done, and not a lot of cash lying about for that work. A degree in ag science was a good foundation, but this farmer's values are more in line with regenerative approaches, and no matter how many extension events they go to, they still end up working it out as they go.

Transition challenges and barriers

- Hard to find practical, real-world examples of application
- Regenerative approaches have to be integrated
- Have to save for a while for big changes; making infrastructure improvements a little at a time

Potential transition strategies

- How-to videos, case studies, demonstrations
- Integrated education / extension offers
- Grants and funding for fencing, water infrastructure and tree planting
- Succession planning



TRANSITION STORY

Industry lead

Best in class

This farmer aims to be a best in class producer. Always offering their property as a research trial site, they quickly adopt proven new technology. Targeted spot-weeding, beneficial pests, sensors, drones? You got it. Careful, vigilant management keeps this sizable farm organized and profitable. Not much can be done about drought, it's part of being a farmer. You can anticipate that climate volatility will be a part of the big picture, and you just have to take it in stride when it comes. As part of an export industry, there are constraints on what they can do, but collaboration keeps the industry competitive. This farmer is proud of their product and doing their part to "feed the world".

Transition challenges and barriers

- This farmer always looks for opportunities to lead innovation, but taking up innovation from outside industry channels is risky and can be socially unacceptable
- Making drastic changes on farm risks years of production
- Export markets dictate product and price settings

Potential transition strategies

- Research into regenerative approaches and product development for cropping in their industry
- Further development in diversifying and transitioning broadacre monocultures
- Building local and alternative markets, processing, and distribution channels

TRANSITION STORY

Crisis response

Transition challenges and barriers

- The landscape—or what’s left of it—is one of the only resources that remains
- Limited knowledge of regenerative practices
- Significant damage impacting farming viability

Potential transition strategies

- Support to develop/revise the farm master plan
- Training in regenerative approaches
- Funding and incentives for regeneration



No other way forward

A farming family for decades, a future in farming seemed like a solid bet for this farmer. Some crises creep up—like slow erosion of profitability, soil, and ecosystem health year on year. Other crises come fast—a health scare that stops them in their tracks; a flood or bushfire that rips everything away. Either way, this farmer reaches a point where continuing to do things as they have been doing becomes untenable. They have to find a new way forward, even though the path is unclear and resources are thin. With low input costs and some farm modifications, perhaps paid for by selling off remaining equipment, they might survive. Whether discovered through experimentation or coming across a course, this farmer arrives at working with nature as the most cost effective strategy. *Research has shown crisis to be one of the most common causes of a dramatic shift in perspective leading to transition.*

TRANSITION STORY

Tree change

Transition challenges and barriers

- New to farming
- Off-farm employment—funds transition efforts but constrains time to weekends and holidays

Potential transition strategies

- Building skills: reading the landscape, holistic decision-making, practical skills, e.g. managing grazing
- Support to develop a plan for regenerating the farm
- Business model and financial planning
- Grants, labor, and expertise for key projects



Seeking quality of life for their family

Well educated, two incomes, experienced entrepreneurs and business people, familiar with navigating grant and funding mechanisms, and social media savvy, this family bring skills and resources that other farmers don’t always have. They are hoping to bring an ethos of sustainability and community building to the farm. But they still have to learn the basics of land management. As graziers, they will be grass farmers and livestock managers. And the property, overgrazed for a long time, will need rest and repair.

TRANSITION STORY

Just need the land

Transition challenges and barriers

- Sufficient funds for a down payment and work that will need to be done once a property is purchased
- Getting experience managing a property

Potential transition strategies

- Options like farm share, farming on other people's land (FOOPL), cooperatives, and farm management positions as a stepping stone
- Alternative funding and investment mechanisms
- Grants for on-farm projects



How to make a dream come true?

Always looking for ways to live a more self-sufficient lifestyle, deeply connected to country, this pair have taken every course available—Permaculture, Biodynamics, Holistic Management, No-Kill and Pasture Cropping, Syntropic Agriculture, Agro-forestry, learned from Aboriginal cool burning, you name it. They've put everything possible to use on their tiny 1/4 acre block in the city, but they long for land. They've been renting for years and are still saving up for a down payment on a small block. People leaving the cities during the COVID-19 pandemic have driven up land prices, and their dream looks even further away than before.



TRANSITION STORY

Strong & determined

Transition challenges and barriers

- Property was flogged out by previous use
- Business would benefit if the whole property could be transitioned faster but has to make a choice about where to invest available cash

Potential transition strategies

- Markets favorable for small producers and high-end products
- Access to niche markets around the world
- Grant packages for end-to-end transition or eliminate the paperwork with one-off grants (tree planting, fencing riparian areas, infrastructure)

Success requires more than 'regenerative'

This farmer has returned to the land, buying an old dairy after a successful but grueling career in management and marketing. She's determined to make a success of it, and through her contacts has found a niche market interested in specialty, high-end wool products. She's a hard worker and grew up on the land. Patronizing comments about 'lady farmers' have made her even more determined, but she knows to work smarter, not harder. And besides, most of the food around the world is produced by women. Her farm will need to be regenerative, but she needs more in order to compete: the best breeding and genetics, state-of-the-art facilities, and a competent team. Her challenge is to establish firm footing in her market while transitioning the property and getting everything working well.

TRANSITION STORY

Continually improving



Transition challenges and barriers

- Remote location
- Property size requires cost-effective practices
- Limited access to new and novel approaches

Potential transition strategies

- Online learning for exposure to new practices
- DIY how-to videos and case studies
- Research that includes economics

Quietly making changes over time

This pair don't make a fuss or ruffle any feathers, they get on with their work. They have a family to raise and a large property to manage in a fairly remote area. They've never been comfortable with chemicals, and they're always looking for more natural options. It has to make sense financially, too. They have crops and livestock, and extensive re-fencing is impractical. With such a large property they have to feel confident that any changes they make will be cost effective and deliver a return—so they trial things. In a remote area, new things either have to be readily available or they have to be able to do it themselves. They like to be open minded but clear about what works for them, and are happy for the latest technology to sit alongside centuries-old practices. With their strong partnership, they've been able to think things through and implement a lot of changes over the years, even if they took their time.

TRANSITION STORY

What's old is new again

Transition challenges and barriers

- Do regenerative practices get different outcomes as compared to traditional practices, Biodynamics, or elements of Permaculture that they might incorporate?
- What will 'regenerative' add to the business?
- Will the growth in demand continue?

Potential transition strategies

- Information comparing models and results
- Growth in consumer demand and regenerative organic certification schemes

Regenerative organic?

This farmer's family have been growing food for centuries, and operate a multi-generational business growing veggies outside Sydney. Her Chinese relatives came to Australia with the gold rush and found their living through market gardens, adapting to the climate and geography. The Vietnamese side of her family migrated during the 'green revolution', and felt forced to give up many of their traditional practices to keep up with cost pressures. They cannot expand locally and so have to be smart about what they do. When supermarkets introduced organic sections they transitioned their blocks to organic and brought back some of their traditional practices. They are curious whether regenerative organic is meaningfully different in outcomes from what they've known all along. They are looking into certification, wondering if it will hold value long enough to make the expense worthwhile. Either way, they've gotten good results combining the old with the new, and will just get on with doing whatever works.



TRANSITION STORY

All in the family



Four generations of land managers

This farmer is proud of the family legacy, and is determined it won't suffer on their watch. Their family has been managing the property for generations, and grandfather was an absolute legend. They've done well in good times, got lucky a few times—found a sweet spot in the market, and there have been tough times too. They've built their industry relationships so as to make well-informed decisions and even have a bit of influence. People sometimes suggest that they do this or that differently, but what's the reason in making change when they've done OK so far? Sure, things are tough right now, and people talk about climate change, but this land has always been a land of drought, flood, and bushfire.

Transition challenges and barriers

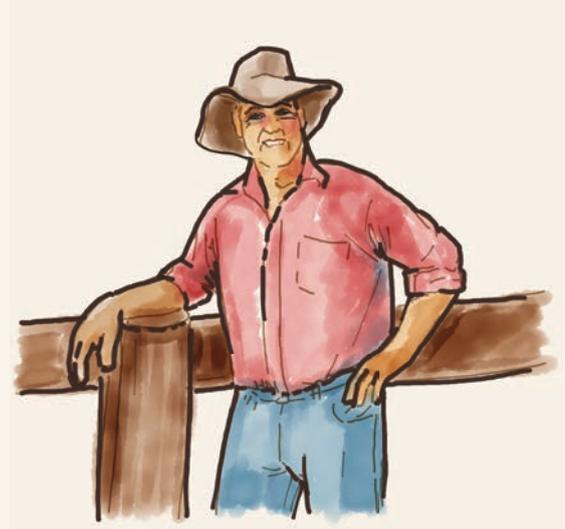
- History of success favors a steady hand and risk avoidance
- Legacy and succession are important: Finances, management, family, reputation
- Climate variability is to be respected but change is not perceived as real

Potential transition strategies

- Growing social acceptance and accessibility of regenerative approaches
- Products and methods requiring little adjustment to machinery, application, or practices and that are readily available alongside products currently being used
- Incorporating changes over time
- Succession planning

TRANSITION STORY

The innovator



If there's a popular new practice, chances are they're already doing it

A natural innovator and early adopter, this farmer is relentlessly experimenting with new ways to meet their own ideals and make ends meet. Scouring any available resource and following leads, this farmer is far ahead of trend. If there is a new practice getting popular, it's highly likely that this farmer has been doing it for a long time—and may be well beyond it—but no one knew what they were talking about back then. That part has been pretty hard on them and their family. He's had so many experiences of being dismissed out of hand, derided, and even shunned, then proven right decades later—with no recognition. There is a social price for marching to the beat of a different drum. Investing time and resources in forging his own way forward, profitability can sometimes be thin or non-existent.

Transition challenges and barriers

- Relevant supply chain and market likely does not exist yet
- Financial management
- Push back from others; social isolation

Potential transition strategies

- Creative development of supply/market options
- Business model and financial planning
- Partnerships for business, advertising, marketing, social media influencing
- Teaching/training others in new methods

TRANSITION STORY

Weaving community



Transition challenges and barriers

- What markets exist in the space between local, national, and global scales?
- Incentives, markets, funding etc., all seem to favor large scale, conventional producers

Potential transition strategies

- Investment and incentives for local, inter-local, and cross-regional, small to medium-sized producers, entrepreneurs, technology, communications, supply chains, and markets

Local is the future

This pair believe deeply in the power of community. When not working on the farm they can be found organizing some new gathering. They are constantly weaving relationships and the fabric of community.

They also believe that investing in local—regional, remote, and rural local—is how we can transform both our economy and our environment to something that feels more livable, more regenerative. But they can't depend on farmer's markets without off-farm income. A level of inter-connection across regions is a necessity for food security, but the dominance of global markets doesn't seem to be working consistently in favor of food security or healthy ecological systems. They want to help address the disconnect between local and global markets, and build community at the same time.

TRANSITION STORY

Locked in

Transition challenges and barriers

- Scale plus sunk costs in equipment and machinery
- Limited regenerative options for broadacre monocropping

Potential transition strategies

- Further development in diversifying and transitioning broadacre monocultures
- Awareness and availability of regenerative strategies: multi-species and cover cropping, pasture cropping, no-kill cropping, stress-free stockmanship, self herding; liquid and pellet compost and biological products
- Market support for regenerative products

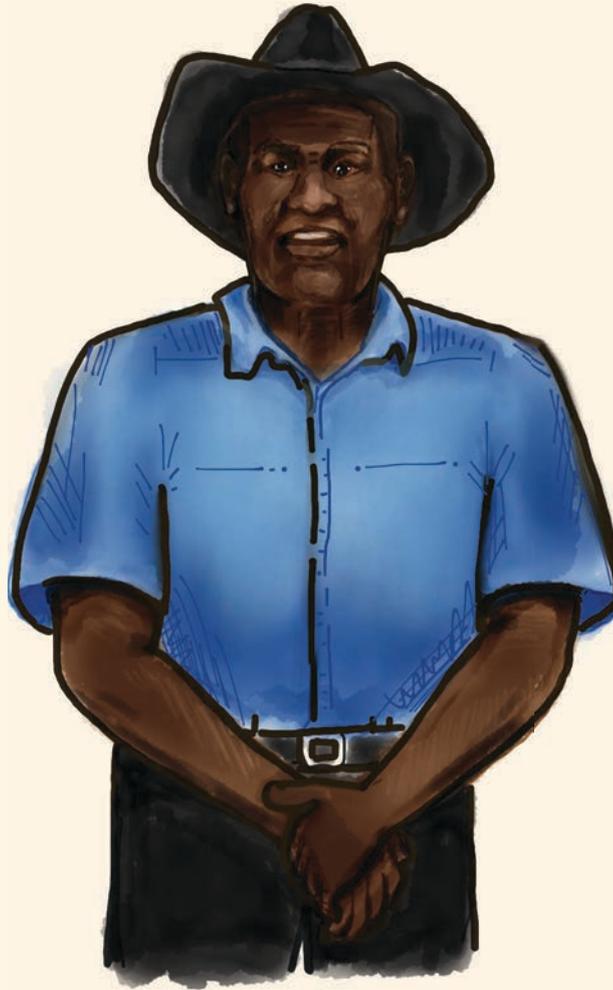
Interest in transition, but the path is unclear

This broadacre farmer is convinced of the value of regeneration for their property and the environment. They have started with easy things: fencing the boundaries of the property and re-introducing animals, but can't incorporate more fencing at this point. They are miffed by the idea that zero chemicals and high density rotational grazing is the only way to be regenerative and feel slightly rejected by the movement. Although they currently rely on a monoculture, they see the value of biodiversity and business model diversity, but they are not finding a lot of information on regenerative cropping. The local information seems to all be about grazing or mixed farming—and there's definitely no information on how to transition. They feel locked in, either way they go, and frustrated.



RESPECTFULLY, NOT A STORY.

For the love of Country



On country, without Country

[Author's discussion] Aboriginal and Torres Strait Islander culture, like other First Nations cultures, is embedded in country—in place. History, identity, community, kin, and lore (as law) are tied to place. During colonization Aboriginal and Torres Strait Islander peoples were removed from their country, cultures, and kin.

Colonization is still here: the effects of those actions together with existing societal norms and systems have a tendency to structurally reinforce and perpetuate both marginalization as well as harms done, causing ongoing harm. An Australian Prime Minister has said, “Sorry”, and there is a growing reconciliation movement, but at the time of this writing there has been no treaty or Voice. The “gap” is not “closing”. The land rights movement has helped to return some land to the Traditional Custodians. Aboriginal and Torres Strait Islander people walk in two worlds—mainstream Australian culture and the culture and lore of their ancestors (where it still remains).

Programs to support Aboriginal and Torres Strait Islander people have been developed (and some have gone). Many opportunities require access to land, including ranger programs, cool burning training, native food industries, cultural tourism, clothing, crafts and art, and more. Some of these are in combination with agriculture. How might Aboriginal and Torres Strait Islander self-determination and agency be supported, in ways that do not perpetuate colonization, are not extractive, and are careful with commodifying culture and nature? How might we restore access to land? How might we give back, pay the rent, and reconcile?

Some regenerative practices originated through millennia of First Nations practices. How might the knowledge traditions that informed regenerative practices be better acknowledged? Holding a goal of local and global environmental regeneration, there is potential to learn from First Nations wisdom—if there is a willingness to share that intellectual property. How might we learn what it takes to transition, together?

OPPORTUNITY

THEME B

*Sector
Capacity*

“...they all agreed that the in-between place was strange and confusing. They hoped to get out of it, in favor of either the Good Old Days or the Brave New World, as quickly as possible...”

—William Bridges 'Transitions: Making sense of life's changes' (2004)

IMAGE: Eastern long-necked turtle (2021). Wiradjuri Country.

4



Science, measurement, & research

Participants described the possibility for holistic science, research and measures farmers can use that reflect ecology, biology, chemistry, complex adaptive systems and Indigenous knowledge.

Measuring regenerative outcomes

The benefits of Regenerative Agriculture are described as follows, summarized from Massy (2017), a longitudinal study published by Ogilvy et al. (2018), and participant input. Benefits can be translated into measures:

Ecological—near term, over time, through weather events and climate variability

- Soil structure, absorption rates; water holding capacity; soil biology; carbon sequestration
- Plant and animal resilience; insect defense
- Decrease in chemically-related ecological harm
- Increasing biomass, biodiversity, complexity
- Landscape resilience—drought, bushfire and flood mitigation and resilience; faster response after stress
- Temperature regulation (e.g. via plants, water, soil)
- Ecosystem function: energy cycle—maximized energy use, photosynthesis, and carbon sequestration; water cycle—earth macro cycles, catchment function, small water cycle; nutrient cycle—waste loops closed, nutrients returned to soil
- Regenerated landscapes; Resilience within planetary boundaries; Mitigated climate change impacts

Human / Social

- Farmer quality of life and mental health improved
- Decrease in health issues connected to farming
- Farming accessible to more people, diverse people
- Growing, thriving farming communities

Financial / Economic

- Farming remains economically viable year on year (in the context of market factors)
- Profit margin retention with yield (revenue); funds in reserve for down times and future investment
- Risk reduction via diversified revenue streams
- Thriving local economies and food security
- Local—remote, rural, regional, and urban—and national economic resilience through disturbance
- Food sovereignty

SOURCES

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Ogilvy, S., Gardner, M., Mallawaarachichi, T., Schirmer, J., Brown, K., Heagney, E. (2018). *NESP-EP: Farm profitability and biodiversity project final report*. Canberra, Australia.

Sustainable Markets Initiative (SMI) Agribusiness Task Force. (2022). 'Scaling Regenerative Farming: An Action Plan'. White paper. Accessed via: <https://www.sustainable-markets.org/taskforces/agribusiness-task-force/>

5



Finance,
investment,
& insurance

Participants described a need for financial mechanisms fit for all shapes and sizes of operations, mechanisms that promote non-extractivist, holistic management, reward regeneration and resilience, and spread risk. There is opportunity for financial mechanisms to ensure benefit is returned to the farmer, farming is viable and affordable long-term (e.g. does not raise land prices without a corresponding raise in farmer income), does not lock aspiring farmers out of land purchase or participation in financial mechanisms, and does not drive out smaller farms.

Carbon and biodiversity markets are a developing opportunity. As SMI reported, currently there are “a range of different approaches, not all of which are credible and trusted”, but interest remains for “a well-functioning market with a credible system of payments for environmental outcomes, trusted by buyers and sellers alike, and helping to fund the long-term business case for regenerative farming” (SMI 2022).

6



Supply, retail,
processing, &
distribution

The capacity of supply chains, retail outlets, processing facilities, manufacturing capabilities, and distribution to enable/facilitate, support, and procure regeneratively produced products enables transition.

As regenerative approaches are taken up in various types of cropping, there is opportunity for innovation in equipment, methods, and inputs. Equipment sometimes has to be modified, and there may be demand for contract options.

Livestock producers often require additional fencing, flexible fencing, water infrastructure, riparian protection, and tree planting. Livestock producers seek a good life ending for their animals (“just one bad day”), suitable abattoirs, on-farm, and home kill options, and opportunity to differentiate their product. Producers are looking for (local) processing and distribution that maintains and rewards quality.

Regenerative Agriculture increases demand for natural and biological inputs (i.e. compost, vermicast, biochar etc.), and cost-effective applications like liquids and pellets. See the Compost as a Catalyst discussion for more detail.



IMAGES: Compost Buddy and Compost for Conservation Cropping project advertising materials

PROJECT EXAMPLE

Compost as a catalyst

This project is an example of:

- Co-designing and co-facilitating transition workshops
- Engaging participants in generative activities
- Supporting a collaboration with visual communication and marketing skills

Growing the market so compost can be a catalyst for transition

As part of this research, I joined a couple projects already underway with Bruce Maynard and the Constructive Farming Co-operative: Compost Buddy and Compost for Conservation Cropping. Both projects were aimed at increasing the overall market demand for high quality recycled organics in order to divert more organics from the waste stream and return nutrients to food production. The projects were made possible by grants from the NSW EPA under the Waste Less, Recycle More levy.

Compost is a recognized catalyst for landscape and soil regeneration, and presents a significant opportunity to reduce waste. Recycling organics, e.g. via the composting process, is an opportunity to close the loop, bringing nutrients and fertility back to farms and the landscape. Although compost and fertilizers do not work the same way, compost helps create a pathway to reduce and optimize fertilizer use, and thus is a significant enabler of Regenerative Agriculture transition.

The Compost Buddy project delivered an online compost advice tool with information, videos, and case studies, and a series of workshops to test the tool, share information about compost, and gather land manager questions. Workshops were conducted in 8 regions in NSW, with 160 participants. The first half day of the workshop was dedicated to compost and the second half day was dedicated to transition to Regenerative Agriculture.

The Compost for Conservation Cropping project included a compost demonstration study, field days, and online events during the COVID-19 pandemic. Before my involvement, a total of 13 on-farm events had been conducted, featuring agroecology and agronomy workshops as well as a demonstration of compost spreading across different broadacre crop and pasture types. Joining the project after the field days, demonstration sites, website, and advice tool had been set up, my role was to design and co-facilitate workshops and Facebook Live sessions with Bruce Maynard and featured experts, produce the events (including coordination and social media advertising, support reporting), and update the tool and website based on scientific advice and participant feedback.

I facilitated five expert extension events on Facebook Live, providing Australia-wide and even international access to experts speaking on a range of in-depth discussions on compost use and biological inputs. The Facebook Live series attracted 193 participants across the 5 events, and 4,199 views.

Key takeaways

The data from the two projects provided rich insight into questions from land managers with respect to compost and biological inputs, and how to increase demand. In order to grow the demand for recycled organics among farmers, we learned that it will be important to meet the existing demand for quality compost and biological inputs, grow demand through further education and information, ensure capability for successful application, and build capacity for on-farm composting. The compost demonstration study had surprising results in the face of drought, and warrants further research into compost effects on drought resilience. This will be discussed further in this section.

More compost information and knowledge

Farmers are hungry for more information about compost and other biological inputs, assessing quality, finding waste sources, and how to make these products themselves. There is limited information available for on-farm composting—most of the information available is for garden-scale composting.

Participants wanted information about what compost is, the science behind it, and how it works. Participants were interested in how to judge the quality of compost and if it is finished or not, sources of compost supply, and where to find suppliers and advisors. They were curious about the different composting processes, and what ensures quality in those processes. They wanted to know what to expect in terms of benefits from compost, timing, and evidence.

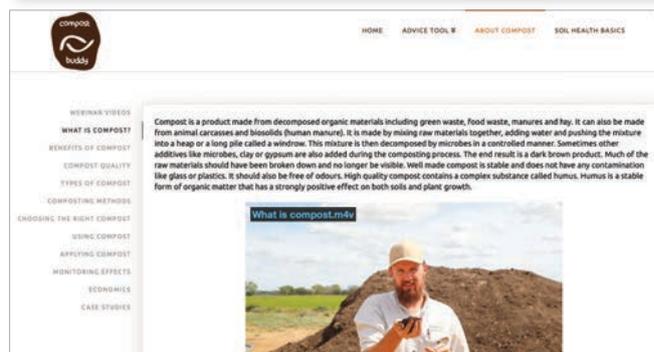
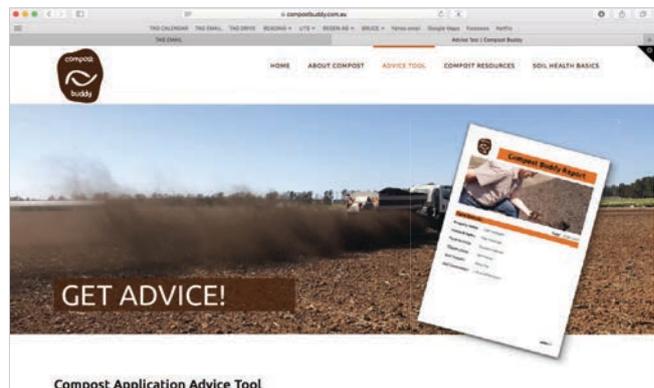
Participants wanted to be able to discern between products, identify quality products, know what they do for soil and crops, and how biology (inclusive of bacteria and fungi), chemistry, and nutrients work together. There is a need to understand how biological products work as compared to fertilizers. Assessing the appropriate product can involve understanding soil and crop nutrient needs together with the nutrient component of available compost in order to make appropriate decisions about a product or combination of products for a given situation and timing. Participants also wanted guidance in finding testing facilities, requesting compost tests, and reading those tests.

For farmers to work with compost and biological inputs, they need to understand application methods in combination with management, quantities, timing and frequency—relevant to crop, soil and climate type.

There was a desire for information to include the economics (costs and benefits), particularly for rural and remote locations. Participants were looking for examples and case studies relevant to their biome, soil type, climate zone, and crop type, etc.

Demand for quality, finished compost

There is more demand than there is supply of quality (low or no contaminant) finished compost. Consistently across NSW, farmers were looking for more compost than was available, and higher quality supply than they were getting. Farmers have experienced issues related to contamination and unfinished compost, which was sold as finished compost. Contaminants like plastic, debris, and chemicals have occurred in compost supplies, resulting in damage to crops and contamination of soil. Unfinished compost, which is often hydrophilic and/or still 'hot', has a different effect on soil and crops than finished compost. With finished compost, the nutrients are readily available for plant uptake. Unfinished compost has nutrients that have not been fully broken down, can damage or chemically 'burn' crops, and can cause heat damage to crops. Always looking for opportunities, farmers were interested in uses of immature compost. Another related option is learning to amend compost and soil to meet nutrient needs.



IMAGES: Compost Buddy website pages and Compost Buddy Advice Tool report cover.

Increase capacity and finish compost on-farm

Given the constraints of current suppliers, farmers are open to the potential to obtain composted organic material from facilities that meets the AS4454 standard but is not yet fully composted so that they can ‘finish’ the composting process on-farm. Finishing compost on-farm is potentially a time- and space-saver for facilities and a cost saver for farmers. In order to finish compost on farm, producers would need to know that on-farm finishing is possible and then receive guidance on obtaining a quality ‘base’ product suitable for finishing and appropriate for their crop type. They would be looking for tips and guides for finishing compost including methods and troubleshooting issues, EPA compliance regulations, and any environmental controls.

Making compost on-farm

Farmers are very interested in making compost and biological inputs themselves, from raw inputs, which would help address the broader capacity for organics recycling, ensuring as much of our available organic material as possible is returned to the agricultural production system. There is awareness that there are EPA requirements specific to on-farm composting, and farmers would like to be confident that they set up on-farm composting within appropriate environmental controls. Materials available are quite diverse, and so a range of “recipes”, methods, and techniques for troubleshooting and correcting would be needed. Farmers may not have all the materials they need for composting on-farm, and so coordination with others to source input materials and undertake quality management is an opportunity. Distance to facilities and the cost of getting programs going in regional areas can be an issue, and so making compost on-farm may be an attractive option for farmers in rural and remote areas.

Other biological inputs and applications

There are more products made from recycled organics available to farmers than compost alone. In the right context, they can be more cost effective than compost and still provide ecological and production results. Biological products such as biochar, and pellet and liquid applications made from materials like compost and vermicast, have a broad range of applications: surface, sub-surface, seed inoculant, spray irrigation, drip irrigation, foliar spray, etc. Participants wanted to better understand the options. Introducing these various applications can require training as well as specialty application equipment, which can be bought, modified, or contracted.

Further research into compost-related drought and climate resilience benefits

Another compelling argument for further investment in compost and biological products came from the compost use demonstrations.

Before I joined these projects, site demonstrations had been initiated on 10 farms in 5 NSW local government areas. Properties were provided 2-3 applications of compost on trial paddocks over a 6-18 month period at minimum, medium, and highest potential response rates as determined by an agronomist. Participating farmers self-reported results.

Across the board, most of the participants had difficulty producing a crop during the study time frame due to extreme drought conditions. That cast a dim view over the study. At this point my role was to help interview participants to identify resulting outcomes—if any.

The compost study did not set out to demonstrate the effects of compost in drought. However, the results indicate that compost afforded a level of crop resilience in drought, even if no crop could be obtained.

Participating land managers noticed a range of differences in paddocks with compost application: higher strike rates and better germination; an increase in biomass, particularly as compared to paddocks where compost had not been applied; longevity of the crop, even without sufficient moisture; and improvement in the quality of the crop.

Where crops did not emerge, paddocks in which compost had been applied developed enough biomass for grazing. For land managers who got sufficient rain for a crop, it translated to 10-30% higher yields at the medium and high application rates. For the land managers who got “just enough” moisture, the compost application meant the difference between a crop and no crop at all—and this is significant.

These demonstrations point to potentially important benefits for areas facing severe drought. Although no one wishes for more drought or climate-related stresses, these findings call for further research into the role of compost through drought and other climate-related challenges.

7



Local, global markets

The concept of (re)'local' and/or cosmo-local is at the heart of nearly every Theory of Change I have come across during this research for how we increase social, economic, and ecological resilience and achieve regenerative and just transitions. Design looks for solutions that solve multiple challenges all at once, and 'local' fits that task. By focusing on local, bio-regional, markets that are connected across scales we can:

- Weave local connection and community
- Nurture the vitality of local economies
- Attune to bio-regional ecosystem health
- Decrease food miles, energy consumption
- Improve local and national food security
- Strengthen provenance and food tourism
- Build producer-consumer relationships
- Better close local waste loops, and more

Remaining connected to broader markets, aided by technology, we can seek the benefits of local and global. Thanks to COVID-19, remote working is more common, creating other avenues for regional growth and economic (re)development. There is opportunity to increase local regenerative entrepreneurship skills and build ecosystems of local regenerative initiatives and businesses. Refer to the WWF Local Learning Labs example.



IMAGE: Kurnai elder Cheryl Drayton presenting

PROJECT EXAMPLE

WWF Local Learning Labs

This project is an example of:

- Co-design and co-facilitation with communities
- Generative and capability-building workshops
- Developing regenerative entrepreneurship and local regeneration capacity.

In 2020, following a season of horrific bushfires in Australia, WWF-Australia embarked on a listening campaign with communities around the country to understand their vision for the future. That listening campaign germinated the [Innovate to Regenerate Program](#) (I2R). The program included a short film set in 2030 entitled 'Regenerating Australia', produced by Regen Studios with WWF-Australia, and followed by a community vision workshop to help cultivate action. The film can be [viewed on The Regenerators website](#). As part of the program, WWF-Australia set up a \$2 million I2R Challenge for grant funding, to host capability building workshops for shortlisted ventures, and to provide coaching support.

WWF-Australia also partnered with The Australian Centre for Social Innovation (TACSI) to develop and pilot an approach for Local Learning Labs in regional communities. The Labs were two-day workshops focused on local regenerative entrepreneurship whilst growing local innovation ecosystems. It was a privilege to work in intensive collaboration as part of the team to co-design the labs with communities and to co-facilitate the events in Eurobodalla, the Adelaide Hills and Fleurieu Region, and Gippsland.



IMAGE: Adelaide Hills & Fleurieu Lab, Peramangk Country

The labs included a Walk on Country led by a local elder, and we engaged local Aboriginal elders or representatives in advisory for the labs. We introduced the following tools and methods: regenerative principles, a social and regenerative business model canvas, and doughnut economics. Participants had opportunities to share their own work and to connect with each other.

Participants appreciated learning about the business model canvas, which we paired with a set of questions to help them identify ways their business could contribute to regeneration, though it was not necessarily easy to think through. Although the scale of the problem could be overwhelming, participants were energized by the idea that a regenerative economy could be possible through concepts like Doughnut Economics, including the idea that their businesses could contribute to regeneration globally.

Participants LOVED the chance to share their work, which we facilitated through a fast-paced marketplace activity. They appreciated the chance to ask for what they needed, and enjoyed sharing what they could offer with others. The labs made the power of local visceral and inspired the working group in return.

Perhaps most of all, participants deeply appreciated and were profoundly impacted by their interactions with local Aboriginal elders and representatives, and the opportunity to learn from them. This experience, and the awareness it generated, influenced the tone and topic of conversations and initiated new relationships in those regions.

Lab materials are available for download on the [WWF-Australia Innovate to Regenerate webpage](#).



IMAGES: Gippsland Lab, Kurnai Country



IMAGES: Doughnut prep. Eurobodalla Lab, Yuin Country

8



Governance,
incentives,
& policy

Government mechanisms like policy, regulation, incentives, etc. shape markets and can help 'loosen' settings that preference and 'lock in' the dominant agricultural paradigm whilst facilitating transition. They can also ensure that the risk and burden of transition is not carried by farmers alone, but instead shared across society, by the consumers who benefit, and by key actors, like investors, financial managers, supply, distribution, processing, and retail, etc.

Even as the definition of Regenerative Agriculture is debated, these mechanisms can reward outcomes, like social, economic, and ecological regeneration, wellbeing, and resilience. They can drive effort toward issues of climate, environmental resilience, food security, food sovereignty, and ecological repair. They can set expectations for land management that is regenerative, resilient, and viable long term.

Conditions for transition can be created through:

- Support for transition
- Funding and incentives for measurement
- Supports for micro, small and medium sized farming operations, greater access to farming, and alternative land ownership/use models
- Non-extractive export paradigms and markets
- Fair wages and worker protections. Worker support and retraining in transition.
- Food security and food sovereignty
- Regulating corporate action and market settings that hollow out farmer and farming community value, agency, and viability.

Governments, institutions, agencies, and community organizations can invest in the conditions, supports, facilities, and activities that nurture farming families, community wellbeing, and mental health.

Regenerative transitions are just transitions

Transition in agriculture is interdependent with many other transitions, like energy transitions, water transitions, economic transitions, and more. Governing structures and mechanisms for markets, fair labor conditions, and support through worker transition will play a significant role in shaping productive transitions. How we care for the wellbeing of people, communities, place, the environment, and our economy through transitions will determine the overall health and wellbeing of our society into the future. How might we facilitate just and regenerative transitions?

Just Transitions is a movement that originated from the North American trade union (labor) movement, based on the objective of supporting workers through energy transitions. Australians may be able to relate to the need for just transitions, for example, based on experiences of the collapse of the automotive manufacturing industry, and the social and economic uncertainties linked to moving away from coal to more sustainable energy sources.

Just Transitions offers principles and a Framework for Change to guide transition to regenerative economies—of which Regenerative Agriculture could be a key element. Just Transitions seeks a regenerative economy that operates within social and environmental boundaries, like those set out in Kate Raworth's Doughnut economics. In Regenerative Agriculture the outcomes are not regenerative if the means are not regenerative, and the same principle of congruence applies to transitions. If we want a just and regenerative future:

"The transition itself must be just and equitable; redressing past harms and creating new relationships of power for the future through reparations. If the process of transition is not just, the outcome will never be. Just Transition describes both where we are going and how we get there" (Climate Justice Alliance).

Movement Generation express it more urgently:

"Transition is inevitable. Justice is not..."

Solving one problem while creating another is no solution at all. The new economies that our communities construct must take a holistic approach and foster equity, democracy, and ecological renewal" (Movement Generation).

An opportunity for solidarity

The global agroecology movement, represented by organizations like La Via Campesina, seeks to address a diverse range of issues worldwide, including social justice, poverty, and food sovereignty—for instance the rights of peasant farmers to retain control of their land, plant crops of their own choosing, and save their own seed. Although most Australian farmers may not resonate with the word “peasant”, there is a growing ‘neo-peasant’ movement and, perhaps more pertinently, the issues named by participants in this research as barriers to the uptake of Regenerative Agriculture are some of the very issues that agroecological and peasant movements address. This is an opportunity for international solidarity on shared issues, practices and global-scale challenges.

Participants in this research did report frustration with all of the following: companies positioning for dominance of GMO seeds; the increasing off-farm control of inputs end-to-end, including seeds; reliance on a never-ending chemical application regime; how global markets dictate what farmers produce; the encroachment of suburbs and non-agricultural uses on farming land removing valuable land from agricultural use; and the increasing cost of land putting pressure on overall rates of production, making it difficult for farmers to be able to afford to continue farming, and difficult for people to purchase land for farming. Advocacy organizations exist in Australia, like the Australian Food Sovereignty Alliance (AFSA), which “is a farmer-led civil society organization of people working together towards socially-just and ecologically-sound food and agriculture systems that foster the democratic participation of Indigenous Peoples, smallholders, and local communities in decision making processes” (AFSA, 2023).



**“There is a green core
in just about every
farmer.”**

—126 Organic Farmer and Academic

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9



Collaborative regeneration initiatives

Collaborative regeneration initiatives are a means to make regeneration more socially acceptable, build a platform for local action, and impact regeneration at catchment and even regional scale. These collaborations can also be activated in the event of weather events and natural disasters.

How might we convene more collaborative initiatives for ecosystem and catchment regeneration, stewardship, and resilience? What role might land managers, Local Land Services, Landcare, grassroots initiatives, and natural resource management play in convening and coordinating collaborative regeneration initiatives? What funding, grants, mutuals, commoning, etc., could enable this? How might technology, like that used by the Open Food Network, better facilitate networks? What spaces, mechanisms, structures, processes, entities, etc. could enable local organizing?

Example: Upper Mooki Rehydration Project

“In 2019, 13 landholder enterprises joined forces as a Landcare group partnering with North West Local Land Services on a \$660,000 project” to “regenerate the functions and water holding capacity of the soil profile as well as increasing groundcover and ecosystem services.”

Link to the Upper Mooki Case Rehydration Project case study: <https://www.lls.nsw.gov.au/regions/north-west/key-projects/natural-resource-management-case-studies/upper-mooki-rehydration-project>

Engaging constructively with difference

Like the ‘structural lock-ins’ named by Iles, the article ‘Regenerative Agriculture needs a reckoning’ summarizes issues that are structurally and philosophically interlinked with the existing dominant food production system, including: “forces that compel farmers to focus on yield at the expense of everything else”, “the financial model that keeps farmers ‘[yoked]’ to chemicals and conventional agriculture”, commoditization, subsidies that incentivize overproduction, resource intensive, fossil fuel-driven methods, and more (Fassler 2021). These issues underscore the many interlocked elements of the current regime that are difficult to shift. For more people to transition to Regenerative Agriculture, proponents will inevitably engage with people who are involved in the dominant regime:

“[You’ve] gotta get more than just the Regenerative Agriculture crowd in. Bridge the gap to average farmers. [If you] want the movement to grow, it has to transform as it broadens.” (129 Agroecologist and Extension Consultant)

Meanwhile, conventional farmers are also pushing back against Regenerative Agriculture. Resisting the movement, detractors remain unconvinced that the approach will deliver the yields they are after, risk averse without a clear pathway to lift and shift existing methods. Skeptics have protested being excluded from the movement and being judged for use of chemicals, expressed defiance and resentment at the insinuation that their approach is *degenerative*, and argued that it’s just not practical—‘we have to feed the world’ and ‘you can’t go green when you’re in the red’. Adding the concepts of social justice and a regenerative economy into the mix might be even more off-putting for some.

In any case, supporting transition means navigating difference at some point. Transition approaches ask us to be mindful of what people stand to lose in the process of change. Just Transitions emphasizes: just means for just ends; *‘what the hands do the heart learns’*; that *“solving one problem while creating another is no solution at all”*; and that *“if it’s the right thing to do we have every right to do it”* (Movement Generation 2016). A design approach seeks to work productively with constraints and tensions. These mediating stances ask: How might we engage constructively with difference?

*“Most of our farming families love their land and want to look after that and they—mostly—recognize the mistakes of the past. But we are pushed by survival. We can’t complain or b*tch about it. We [just have to] keep pushing, keep learning.”*

— 108 Industry entrepreneurs & former farmers

Strategies for bridging perspectives

Here are a few strategies:

- Acknowledge that farmers love their land and that they do not want to see the landscape, their animals, crops, families and communities suffer; Many hope to leave things better than when they began
- Avoid shaming, criticisms, accusations, and approaches that put people on the defensive; seek to make reparations and build bridges when offense is taken
- Develop relationships and connections. Identify shared goals and challenges (for instance long-term viability) that most people can support
- Engage in collaborative problem-solving and find ways to grow something, together
- Emphasize the need for a plurality of approaches; see value in outcomes that range from ‘light green’ to ‘deep green’ (incremental to transformative); treat regeneration as an ongoing journey
- Value each of the horizons—the status quo, the outlines of the future here today, and the future-future (see section on Transition Theory)
- Welcome ideas and innovation that conventional agriculture brings to regenerative approaches
- Make the “revolution irresistible”—in visual, visible and tangible ways; connect to joy, caring, beauty, fun, passion, compassion, and community—to things that feel meaningful and life-giving.



“If it’s not soulful, it’s not strategic”

—Just Transitions

IMAGE: Adaptation of the three sisters, one of the most well known—and used—First Nations planting methods (2022). Wonnarua country, Hunter region

OPPORTUNITY
THEME C

*Narratives,
Discourse &
Cultures*

*“When we try to pick out
anything by itself, we find
it hitched to everything else
in the Universe.”*

—John Muir

IMAGE: Spiderweb (2022). Wonnarua country, Hunter region



What's in a definition?

The task of defining Regenerative Agriculture is framed as either a way to uphold the integrity of outcomes or a way to open the doors to more farmers, but not both. Is this a legitimate dilemma? Are there ways to define Regenerative Agriculture that can achieve both? Are there ways to open Regenerative Agriculture to a plurality of approaches that all contribute to regeneration?

Farmers who participated in this project identified that they were achieving ecosystem health, climate resilience, production and human wellbeing by working with the self-renewing properties inherent in nature, by working *with* nature. They described congruence between their approach and their outcomes, asking “what can I grow?”—rather than “what do I need to go out and kill today?” The definition they conveyed may lead to framing regeneration as an ongoing journey, whilst leaving it open to a plurality of approaches.

If Regenerative Agriculture is defined by outcomes, and congruence between approach and outcomes, is it easier to evaluate what is regenerative, and what is not? Regeneration can be tested at different scales: micro (plant, animal, person, soil, biology), meso (herd, paddock, block), macro (watershed, region, community), and meta (planetary boundary). Defining Regenerative Agriculture by its contribution to regeneration at multiple scales could help tune our attention to managing health and resilience at each scale.

What would it mean to define Regenerative Agriculture in the most holistic sense, including social, economic, and environmental regeneration? It would call for an examination, for instance, of: chemical application, dependence on fossil fuels, import and export policy, food sovereignty, land rights, and ownership. This has risks: as Donella Meadows points out, “The higher the leverage point, the more the system will resist changing it”. A holistically defined Regenerative Agriculture, however, can contribute to a more just transition.

What if all of agriculture was expected to be regenerative? The ‘paradigm’ definition of Regenerative Agriculture is an opportunity to reframe agriculture as one way humans, as a custodial species, can make a positive impact on the planet. All of agriculture could be regenerative—environmentally beneficial and climate-positive.

10



The definition of Regenerative Agriculture

The highly contested definition of Regenerative Agriculture is seen as having the power to open up Regenerative Agriculture to as many farmers as possible *or* ensure the potential for agriculture to contribute to global regeneration—but not both. Is the definition of Regenerative Agriculture truly a win-lose dilemma? Further research and experimentation could help find productive pathways forward that result in both transition and regeneration at scale.

Refer to Section 5 ‘Envision’ for further discussion of the definition of Regenerative Agriculture.

11



Reconciliation, reparation, & relationships

Reconciliation and healing involve facing the legacy and harms caused by colonization, dispossession, slavery, genocide, racism, bigotry, and hate—as well as working on the cultures that continue to produce these harms. There is opportunity to acknowledge history and address the social norms and structural conditions that reproduce disenfranchisement, disadvantage, inequality, poverty, and injustice. There is also opportunity to further enable access to land, farming, and enterprise on Country.

Although much of the power to facilitate reconciliation sits with government, reconciliation is something that everyone can engage in:

- Acknowledge Country and Traditional Custodians; acknowledge history.
- Build relationships and connections.
- Acknowledge the Indigenous wisdom and knowledge that informs farming practices.
- Explore land-sharing or other models like Farming on Other People's Land (FOOPL).
- “Pay the rent”—donate a percentage of profit to Indigenous communities and causes.
- Return land to Traditional Custodians.
- Forge collaborations that bring together diverse wisdoms for mutual opportunities.



IMAGE: Trelawney Station, owned and managed by the Tamworth Local Aboriginal Land Council. Kamilaroi/ Gamilaroi/ Gomeri country (2022).

Reckoning with history

Regenerative practices often originate from Indigenous cultures. In some cases this has been acknowledged, and in other cases it has not. Angela Dawson observes:

“Black and Indigenous farmers have been practicing this form of agriculture without any specific title or performative acknowledgment for generations. This is the way I learned to farm from my grandparents” (Fassler 2021).

As Regenerative Agriculture grows in popularity, as old practices become new again, proponents have been blindsided in some cases by anger, rather than positive reception, from Indigenous people.

In a letter titled “[A Whitewashed Hope](#)”, 10+ Indigenous leaders and organizations direct criticisms at Regenerative Agriculture (Regen Ag) and the Permaculture movement. The letter challenges Regenerative Agriculture and Permaculture movements for “[claiming] to be the solutions to our ecological crises” but “[leaving] out our worldviews and [continuing] the pattern of erasing our history and contributions to the modern world”. The letter argues that practices cannot be holistic, and healing cannot occur, if history is not acknowledged:

“Regen Ag and Permaculture claim to be holistic in approach. When regenerating a landscape, ‘everything’ is considered: soil health, water cycles, local ‘wildlife’, income and profit. ‘Everything’, however, tends to EXCLUDE history: Why were Indigenous homelands steal-able and why were our Peoples and lands rape-able? Why were our cultures erased? Why does our knowledge need to be validated by ‘Science’? Why are we still excluded from your ‘healing’ of our land?” (Cultural Survival et al., 2020).



IMAGE: Aboriginal young people attending a stock handling course hand feed a bull for the first time. Trelawney Station, Kamilaroi/ Gamilaroi/ Gomeroi country (2022).

Opportunities for reconciliation

According to reconciliation.org.au, reconciliation is the work of “strengthening relationships between Aboriginal and Torres Strait Islander peoples and non-Indigenous people, for the benefit of Australians”. This includes making reparations, addressing past harms, remediating on-going dynamics (whether structural, cultural, economic, etc.), and actively engaging in healing. Everyone, from citizens, farmers, corporations, academics, institutions, communities, to governments (et al.) can engage in reconciliation. This is not meant to downplay the significant role governments serve in matters of reconciliation, justice, and equity, but rather to encourage individuals and entities to do what they can.

One example of “positive deviance”—people demonstrating new approaches now—is Murray Prior’s efforts to share his story, and the collaboration between his family and Paul “Girrawah” House. Prior speaks of a realization that he is just a steward of the property he purchased, his learning in engaging with Aboriginal people, and his growing relationship with House, a Ngambri (Walgalu), Wallaballoo (Ngunnawal) and Wiradjuri (Erambie) custodian. Prior has spoken publicly, on his own and with House, sharing learnings, the developments in their relationship that led to House choosing the name Nguurruu for the property, and the two entering into a land sharing arrangement, which they describe as Yindyamarra. As examples of their sharing, the land use agreement is described in proceedings of [The Global Foundation’s May 2021 Canberra Roundtable](#) (2021) and explained by Prior in [AFSA solidarity session #17, ‘Nguurruu Farm’](#) (2021).

Healing people, healing land

‘Whitewashed Hope’ asserts that regenerative farming practices are important but “do not encompass the deep cultural and relational changes needed to realize our collective healing” and regeneration. The letter includes an invitation to “jointly work towards collective healing”, in part by opening up to the worldview that humans are not separate from nature, but rather part of a “communion of beings and not objects” in which “all matter and energy is alive and conscious”, never dead. It frames healing relational and historical traumas as healing Earth’s traumas “because we are ONE”:

Among Indigenous cultures, people belong to land rather than land belonging to people. Healing of land MUST include healing of people and vice versa. Recognizing and processing the emotional traumas held in our bodies as descendants of assaulted, enslaved, and displaced Peoples is necessary to the healing of land. Returning our rights to care for, harvest from, and relate to the land that birthed us is part of this recognition” (Cultural Survival et al., 2020).

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12

CULTURE

Consumer
awareness and
demand

Consumer demand influences farmer choices as much as if not more than governance, regulation, policy, research, funding, investment, etc. Consumer awareness of regeneratively produced products is growing, but its power has yet to be fully realized. There is opportunity to build consumer demand through:

- Marketing and storytelling
- Campaigns, media, and news
- Bio-nutrient density labeling and pricing
- Farmer and/or product certification
- Increasing ecological education in schools
- Growing the regenerative movement
- Improving access—distribution and retail
- Making hidden environmental costs visible

Charlie Arnott’s podcast, *The Regenerative Journey*, is an example of building awareness among both farmers and consumers.



IMAGE: Scientist conducting a soil sample (with permission) at Moore Park in Sydney for UTS architecture and landscape design students with Professor Martin Bryant. Gadigal Country, Eora Nation (2022).

PROJECT EXAMPLE

Rewilding Moore Park

This project is an example of: Teaching design students to address diverse stakeholder needs and to undertake design in a way that can influence social and ecological regeneration.

Influencing change through design of public spaces

Building ecological awareness among the public as well as farmers is part of creating the conditions for transition. Urban design and development has a role to play here. Design choices that “green” urban areas not only provide environmental, economic, and social wellbeing benefits, but also attune consumer awareness to the environment. The design of parks, as an example can communicate an underlying ethos and offer an opportunity for educating the public and building ecological awareness.

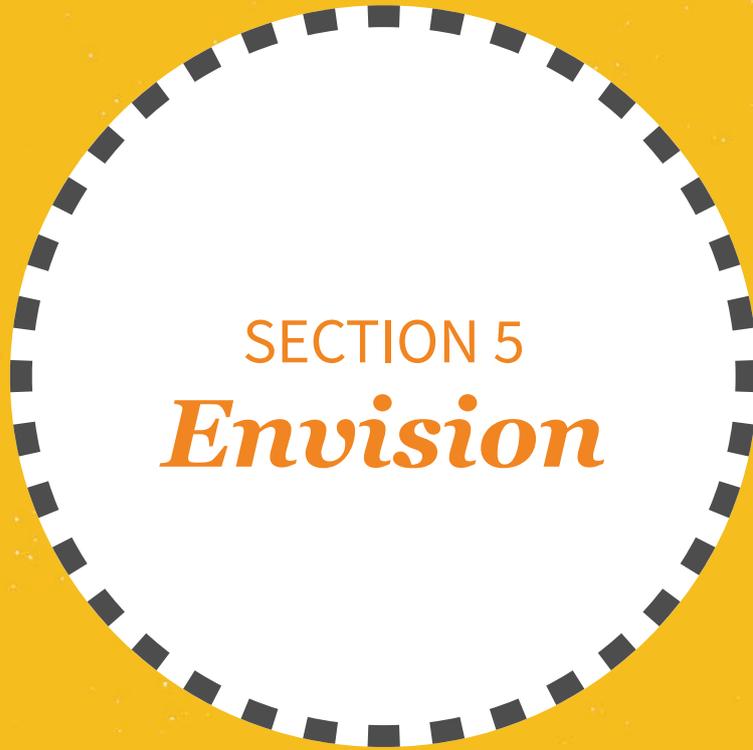
The City of Sydney and former Premier Bob Carr have been in active discussion with Moore Park for a number of years regarding the opportunity to reconfigure a 45-hectare golf club site to share the site between golfers and the public, thus introducing more public parkland into an area that will continue to see significant population growth over the next decade.

UTS Professor Martin Bryant held design studios for architecture and landscape design students in 2021 and 2022 to generate creative ideas for the site. The 2021 class went for the bold idea of introducing Regenerative Agriculture and food production to the site. The 2022 class, which I was invited to co-teach, pursued rewilding, setting a point of difference with other local parks, whilst offering environmental benefits like increasing animal habitat, foliage density, and wetlands. Both of these concepts provided the opportunity to build public awareness of how ecology works and knowledge of environmental challenges.

Students, working in groups, were asked to reconfigure the site based on their own concept of rewilding. Each group anchored their design around a different idea, for instance: key species, like eels and birds; diversity of habitat and spaces; wild journeys; and a refuge from the city nearby. Students also learned about influencing change through their design process, presentation approach and materials, and the design itself.

In addition to the design of public spaces, this example speaks to the potential of education for building ecological awareness.

As a note, Rewilding is another movement that advocates regeneration. Land managers working to regenerate can incorporate rewilding into their toolbox, or use it as their primary strategy.



SECTION 5
Envision



Envision

An ecosystem of action for a regenerative future

Process

The vision process for this case study is active and ongoing. Through this research, I have compiled perspectives from participants and literature about what it takes to transition. Those perspectives described the many elements of the agricultural sector, the systems (including social) that agriculture is nested in, and how they might enable transition. Those perspectives also contained traces, outlines of a very different potential future.

(En)vision this—a design provocation

On the following page, the reader is asked to contemplate what a Regenerative Agriculture might look like. For agriculture to transition, there will need to be many—a pluriverse—of variations on this same theme in order to work for the diverse variables and contexts farmers face. We need more than one vision.

Theory of Change

On the two-page spread after the ‘vision challenge’ there is a diagram that contains the ‘summary on a page’, a Theory of Change, that brings together the many elements of the system that can be re-designed, re-imagined, or innovated to help support transition. This Theory of Change is a draft, to be iterated over time—because there is much to be learned about what works, for whom, in what circumstances. This Theory of Change can also be used as a starting point by anyone interested in supporting transition, and as a way to structure and identify your own strategies.

Design methods

Design provocations are a creative all-call, a challenge and an ask, put out to an audience. The intent is to engage collective imagination and wisdom in problem solving. A stimulus is provided, and responses may come from anywhere.

Theory of Change — The term ‘Theory of Change’ refers to logic models that capture our assumptions about the conditions and activities that are believed will create specified change outcomes and the desired future. Theories of Change hypothesize a causal narrative: ‘If we have the following conditions and available resources, and if we make or do this, this and this, then something will happen, and that something will have an impact, and eventually the broader changes we seek will come about.’ Theories of Change outline with specificity the many-fold elements we believe are necessary to bring about change, enabling us to test that thinking and iterate the Theory of Change over time.

Visual synthesis — To synthesize is “to organize, manipulate, prune and filter gathered data into a cohesive structure for information building”; Sense-making through synthesis involves “organizing complexity or finding clarity in an overwhelming amount of data” (Kolko, 2007). Visual synthesis is the act of representing the results of synthesis in artefacts like illustrations and diagrams. Visual skills are used in synthesis to help others engage with complexity and contribute to building understanding together with others.

Prototype testing — Designers make and remake things like systems maps, business models, and Theories of Change together with participants in order to experiment with ideas live, on the fly. Generative approaches bring out participant knowledge and experiences, inviting play, curiosity, and creative problem solving. The Theory of Change presented here is an early prototype, for further testing and iterating.



Imagine a future in which agriculture contributes to global wellbeing, abundance, resilience, and regeneration—in environmentally, socially, spiritually, and economically holistic ways

Imagine: Regenerative futures for agriculture

This is a design provocation for you, dear reader.

This case study focuses on transition to Regenerative Agriculture. But let's think bigger, let's consider the long-term viability of agriculture around the world. What if all of agriculture contributed to holistic regeneration? What if our food and fiber production system was a net contributor to the health of ecosystems and the environment, protected planetary boundaries, provided the foundation of a more equitable global economy, and nourished social and spiritual wellbeing?

We need more than one vision—we need many visions. Different agricultural products, biomes, and farming contexts will call for different methods. Food systems will be configured differently based on their relationship to local/regional, national, and international markets. And every culture has a right to cherish, own, and continually renew their food cultures. We need a pluriverse of visions that help us reimagine how agriculture can be a part of regeneration around the world.

Design provocation

Consider it homework ;)

A design provocation is a creative all-call, a challenge and an ask, put out to the world.

How would you envision—through *writing* and/or *drawing*—an entirely regenerative agriculture? How would you *tell the story* of the future you want, and agriculture's place in that future?

Consider these prompts, and the Theory of Change on the next spread.

If you give it a go, share your work!

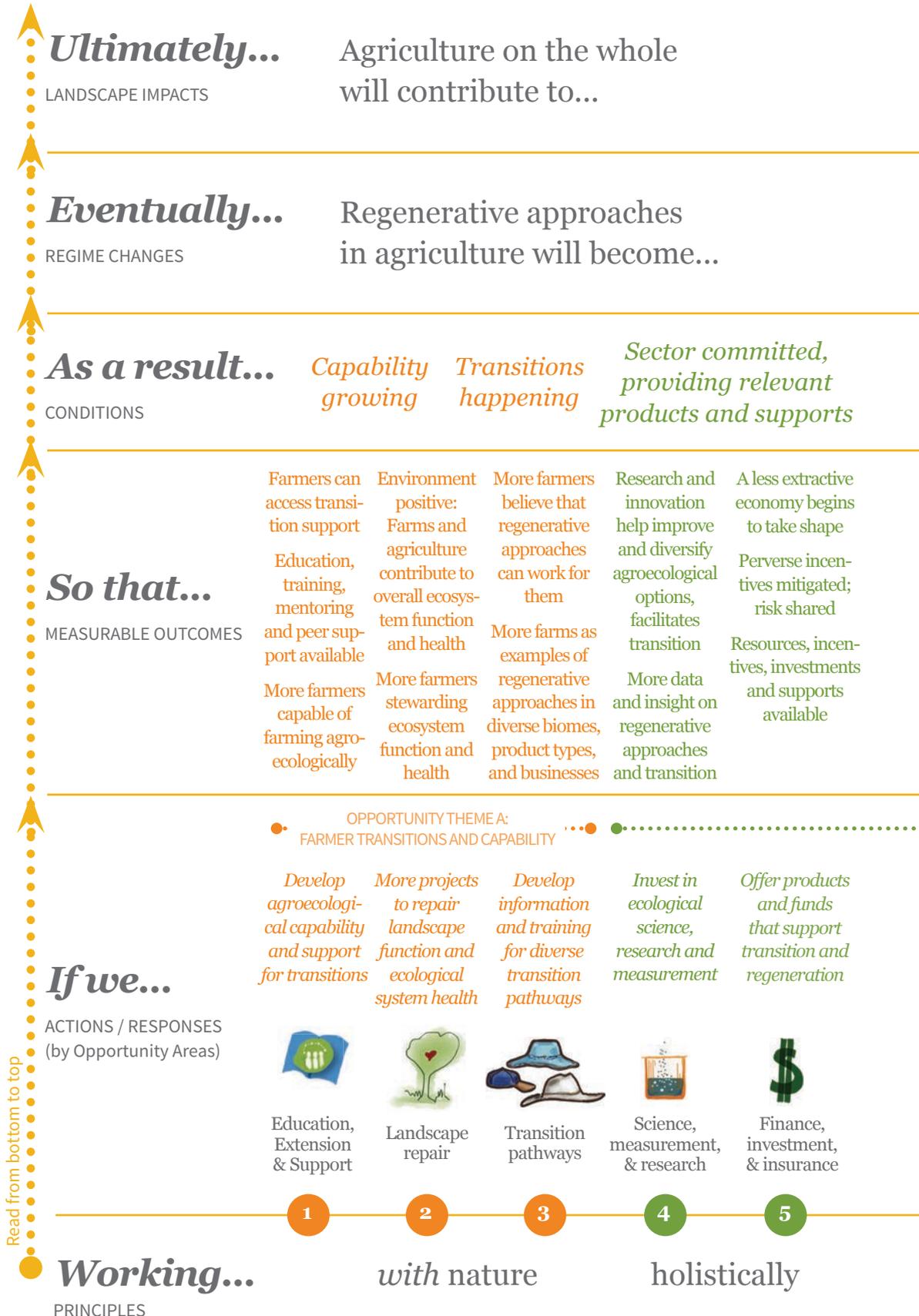
Theory of Change

How might we...

A summary on a page

This Theory of Change, presented as a logic model, sets out a summary of assumptions about how we might increase transition to Regenerative Agriculture based on the discussion in this case study.

This particular format is meant to be read from bottom to top as a narrative: "Working... [with Principles]; If we... [Actions/Responses]; So that... [Measurable Outcomes]; As a result... [Conditions]; Eventually... [Regime changes]; and Ultimately... [Landscape impacts]. Note that this summary also includes a series of environmental outcomes at the right hand side that are the cumulative result of each of the rows. These environmental outcomes also read bottom to top.



increase transition to Regenerative Agriculture, by design?

environmental, social, spiritual and economic
regeneration resilience abundance wellbeing justice viability

...as well as
climate
resilience

widespread... >>> mainstream... >>> standard

a key driver
of global
regeneration

*Transition risk
and burdens
shared*

*Economic conditions
favor resilience, wellbeing,
and regeneration*

*Social conditions
demand uptake of
regenerative approaches*

*Environmental
benefits seen
at scale*

Processing, distribution, manufacturing, and retail fit for regenerative products
Sector readily supplies compatible inputs, machinery, technology, etc.

Markets more favorable to regenerative products
Growing local economies and communities
Less total food miles
Increased local and national food security

Transitions are just and regenerative
Regenerative, resilient, holistic outcomes incentivized
Transition risk and burden minimized and shared/spread

Collaboration with global movements
Increasing ecosystem resilience across forms of land management
Repair and regeneration visibly occurring at scale

More producers can see themselves managing agroecologically
Diverse farmers engaging
Definition does not limit regenerative potential

More people access land and engage in regeneration
First Nations leadership involved in agriculture
Sector increasingly engages in reconciliation

Regenerative approaches and outcomes are expected more and more
Demand and pressure on existing regime increases
Socially acceptable

*More and more land
managed
ecologically,
holistically*

OPPORTUNITY THEME B:
SECTOR CAPACITY

OPPORTUNITY THEME C:
NARRATIVES, DISCOURSE AND CULTURES

ENVIRONMENTAL
IMPACT

*Grow capacity
to supply,
process and
distribute
regenerative
products*

*Cultivate
resilient local
economies,
integrated
with global
markets*

*Align
incentives,
mechanisms
to holistic well-
being and food
sovereignty*

*Establish
(more)
collaborative
ecosystem
resilience
initiatives*

*Define
Regenerative
Agriculture
holistically
and enable
plurality*

*Working
toward recon-
ciliation,
supporting
First Nations
leadership*

*Raise
consumer
awareness
and demand*

*Build capacity to
manage ecosystem
health and
planetary bound-
aries on a strong
social foundation*



Supply, retail, processing, & distribution

6



Local, global markets

7



Governance, incentives, & policy

8



Collaborative regeneration initiatives

9



Definition of Regenerative Agriculture

10



Reconciliation, reparation, & relationships

11



Consumer awareness and demand

12



Planetary boundaries, ecosystem function and health

in a way that is regenerative and just in means and ends

IMAGE: Paterson River in flood. Wonnarua country, Hunter region (2021).

**“Regenerative ag—if it’s true—
should rock the fricking boat”**

—Sylvia Secchi

A vision for a Regenerative Agriculture

Listening to farmers, Regenerative Agriculture was defined as **a holistic approach to agriculture that achieves regeneration and production by working with the self-renewing qualities of nature.**

Definitions as a rule try to avoid using the word that is being defined in the definition. In the case of Regenerative Agriculture, there is significance to breaking this rule: regeneration is the goal, and that goal is achieved through regenerative means. The question, “Is it regenerative (agriculture)?” is answered by, “Is it regenerating?”. In Regenerative Agriculture, the capacity for and quality of regeneration is the basis of production. Furthermore, in this definition, regeneration applies across scales—micro, meso, macro, and meta—and does not just refer to environmental/ecological regeneration but social and economic regeneration as well. This definition asserts that agriculture as a sector has a responsibility to contribute to global regeneration. Is this definition open enough for regeneration to be a journey, for there to be a plurality of approaches, and meanwhile to hold accountability for outcomes?

The potential for transformation

Beyond a growing interest in Regenerative Agriculture, some see a much bigger opportunity to transform the whole of the food and fiber production system—an entirely new agricultural paradigm. Silvia Secchi expresses concern that she sees a movement increasingly focused on small improvements—“fiddling at the edges”—and how, by not addressing the underlying dynamics of the food production system, Regenerative Agriculture could become “a massive deflection” that enables the existing paradigm to keep operating without making sufficient changes to deliver the regenerative outcomes that people would expect from Regenerative Agriculture (Fassler, 2021). Secchi attributes this dynamic, at least in part, to the penalties of challenging the existing system, citing a need to “keep...funding flowing” and instances of “political retaliation for scientific findings that were unfriendly to big agribusiness” (Fassler, 2021). Fassler and Secchi argue that, if regenerative approaches were implemented throughout the food (and fiber) production system, it would be a radical transformation. Secchi declares, “regenerative ag—if it’s true—should rock the fricking boat” (Fassler, 2021).

Large-scale transition to regenerative approaches to agriculture is not guaranteed, however, and the definition will influence the outcome:

“Make no mistake: In this, something crucial is being negotiated. The debate over what Regenerative Agriculture means, and who gets to decide...touches on our changing relationship to science and technology, on access and antitrust reform, on workers’ rights and racial injustice, on conceptions of the natural world and our place in it. It’s a conversation that forces you to draw a bigger circle, only to realize that circle isn’t big enough” (Fassler, 2021).

“The higher the leverage point, the more the system will resist changing it.”

—Donella Meadows

Holistic means holistic

Regenerative Agriculture is often defined as a holistic approach to agriculture. ‘Holistic’ includes social, economic, and environmental regeneration—and regeneration of one element is linked to regeneration of the others. The contested definition of Regenerative Agriculture however, includes a range of interpretations of ‘holistic’. In terms of environmental transitions more broadly, Regenerative Agriculture is considered at risk of achieving regeneration in meaningful ways at scale if it is compromised ecologically, economically or socially. The idea is that Regenerative Agriculture will succeed where it takes a truly holistic ethos.

‘Ecologically holistic’ includes complex, adaptive, self-organizing ecosystems replete with biodiversity, increasing complexity, resilience, and adaptive capacity. As an example of what ecologically holistic might mean, the Regenerative Agriculture movement has been criticized for an over-emphasis on cattle. There is opportunity to evaluate the “ecological logic” of a range of different animals and their suitability for a given environment, which could provide ecological and business model diversity and potentially do a better job than cattle of repairing a particular ecosystem (Fassler, 2021).

‘Economically holistic’ includes ideas of thriving, just, and regenerative economies. It is tricky to separate ‘economically holistic’ from ‘socially holistic’. As an example, equitable access to land was identified as a barrier to transition by participants in this project. Population in farming communities has been declining in Australia for decades. It is attributed to a number of factors, including conventional agriculture. More big farms reliant on machinery means fewer people working in farming, and in farming communities. The economic is inextricable from the social.

Proponents have noted that Regenerative Agriculture may create opportunities for families to come back to farming, for farming communities to grow again—and that takes more people. In Australia, the cost of land creates a signif-

icant barrier to entry for even middle-class wage earners, and cost pressures mean farmers often require off-farm income. If economic access and equity are not addressed, Regenerative Agriculture may not have the workforce it will depend upon:

“Plenty of new farmers, many of them people of color, want the opportunity to work the land. They’re simply hitting up against a system that rejects them” (Fassler, 2021).

Land prices have continued to rise in Australia, and people leaving cities during COVID-19 has raised land prices even more. People getting into farming find it harder and harder to afford land.

Social benefits

Regenerative Agriculture is endorsed for its social as well as ecological and economic benefits, and the social benefits of Regenerative Agriculture were emphasized to me by most participants in this research. But what are ‘social benefits’, exactly?

As it turns out, ‘social benefits’ can mean many things:

- “Good physical and mental health of farmers and employees. Enjoyment and fulfillment from work. Healthy food. Thriving rural communities and jobs. Urban and rural communities engaged with farming. Consumers connected to food” (Grelet et al., 2021).
- “Quality of life and the social wellbeing of the individual [farmer]” (Gordon et al., 2023)
- Reduced social isolation (Gordon et al., 2021)
- Social learning e.g., through communities of practice (Gosnell, 2020; Gordon et al., 2023)
- Self-efficacy (Brown et al., 2022) and empowerment
- Community support (Gordon et al., 2023) and social license (Grelet et al., 2021)
- Regenerating farm families, adaptive and regenerative farm enterprises (Schreefel et al., 2020)
- Community wellbeing e.g., communities growing and thriving because farming is thriving and more people are working in farming and farming communities again; community resilience (as a result of improved ecosystem function, environmental condition, and community thriving) (114 Regenerative Farmer).

Outside of Regenerative Agriculture discourse the concept of ‘social benefits’ has numerous other meanings, including societal-scale wellbeing and spiritual wellbeing:

- Operating within an ecological ceiling and a social foundation in order to create “a safe and just space for humanity” (Raworth, 2017)
- A ‘fair share’ (setting limits to population and consumption, redistributing surplus) (Mollison, 1988; PermaculturePrinciples.com, 2023; Perkins, 2019)

IMAGE: A very good doggo. Yuin Country (2019).



*“Do not go gentle into
that good night”*

— Dylan Thomas

- Social fairness, as defined in Rodale’s regenerative organic certification scheme (Burgess et al., 2019)—includes law and code compliance, labor standards, harassment, abuse, discrimination, wages, benefits, health, safety, buyers, and supply chain (Burgess et al., 2019; RegenOrganic.org, 2021).
- Equality (Hawken, 2017), power, equity, racial parity (Movement Generation, 2016; Gosnell, 2020; Gordon et al., 2021; Gordon et al., 2023; Fassler, 2021)
- Social capital, social welfare, social organizing (Iles, 2021); Sustainable food supply and food security (Schreefel et al., 2020); Food sovereignty and democratic participation in food systems (Power et al. for AFSA 2023; Gordon et al., 2023)
- Just transitions (Movement Generation, 2016); A regenerative, redistributive, and just economy (Rath, 2017)
- Regenerative cultures (Wahl, 2016); Regenerating the social system (Schreefel et al., 2020)
- Cultural re-appreciation, respect, and diversity (Yunkaporta, 2019; Schreefel et al., 2020)
- Social justice (Schreefel et al., 2020; Gosnell, 2022)—healing, reconciliation, and reparations for past harms of colonialism; Land rights and access to land (Land, 2015; Smith, 2012; Yunkaporta, 2019)
- Spiritual wellbeing (Rodale, 2014); Worldviews rooted in holistic and ecological wellbeing; (Social) identity based on oneness with nature (Yunkaporta, 2019; Cultural Survival et al., 2020); “Caring as country” (Suchet-Pearson, 2013); “A rekindling of whakapapa, mātauranga and tikanga” (Grelet et al., 2021).

Despite the many purported social benefits, some describe a ‘chronic omission’ of “the importance of addressing social and political issues as part of the regenerative ethos” and that “conversations around Regenerative Agriculture often grew uncomfortable—even antagonistic—when issues related to power, access, compensation, and equity were raised” (Fassler, 2021; Gordon et al., 2021).

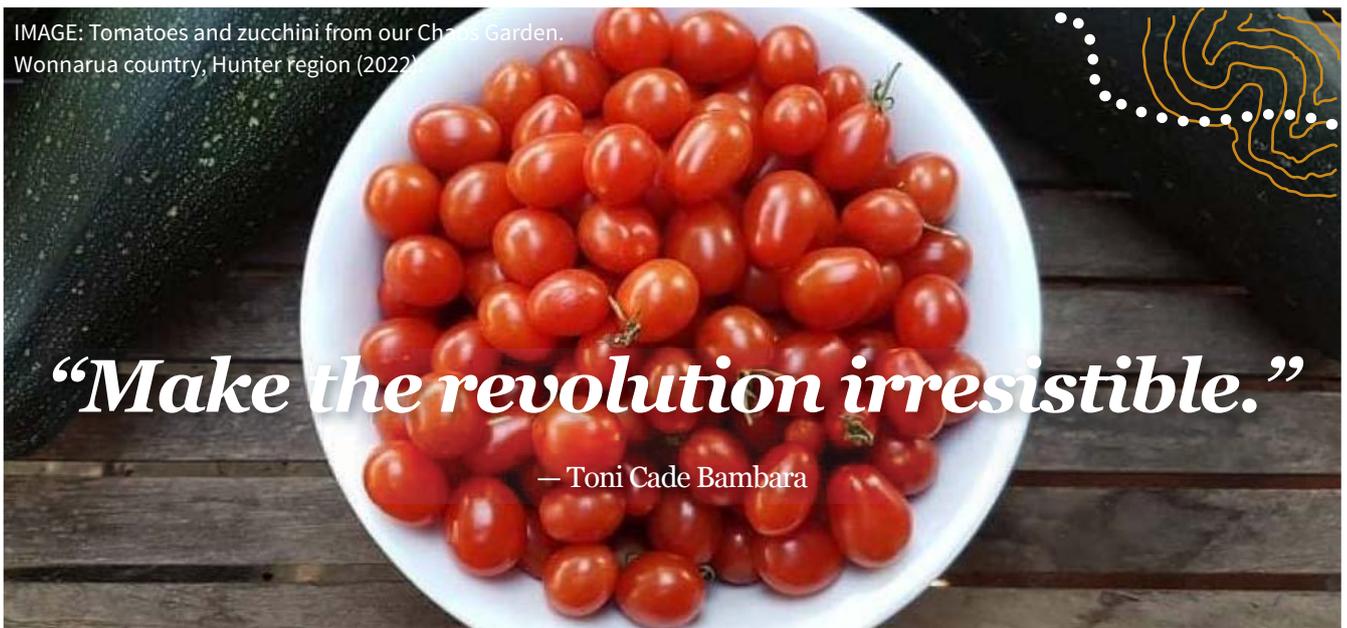
The social aspect of Regenerative Agriculture speaks to the nested, fractal nature of systems. A truly Regenerative Agriculture will exist within regenerative cultures:

“Regenerative Agriculture operates within nested systems of other dominating discourses, which influence its capacity to function regeneratively...Soloviev and Landua (2016, p. 13) remark that, “deeply Regenerative Agriculture can exist only if it is completely interwoven into a thriving regenerative culture” (Gordon et al., 2021).

The idea that Regenerative Agriculture needs to be nested in regenerative cultures to succeed, and that agriculture has a role to play in protecting social wellbeing as well as environmental wellbeing, brings us back to the contested definition of Regenerative Agriculture.

A truly Regenerative Agriculture will need to be a part of a future that we genuinely desire. As we try to create either one of these—a Regenerative Agriculture or a future we desire—it can help us create the other. Everything is connected. Change seems daunting, but ‘many hands make light work’. Amidst the loss and turbulence that comes with transition, it can be joyful work, too. To quote Toni Cade Bambara, we can “make the revolution irresistible”.

IMAGE: Tomatoes and zucchini from our Chaos Garden.
Wonnarua country, Hunter region (2022)



“Make the revolution irresistible.”

— Toni Cade Bambara

SOURCES

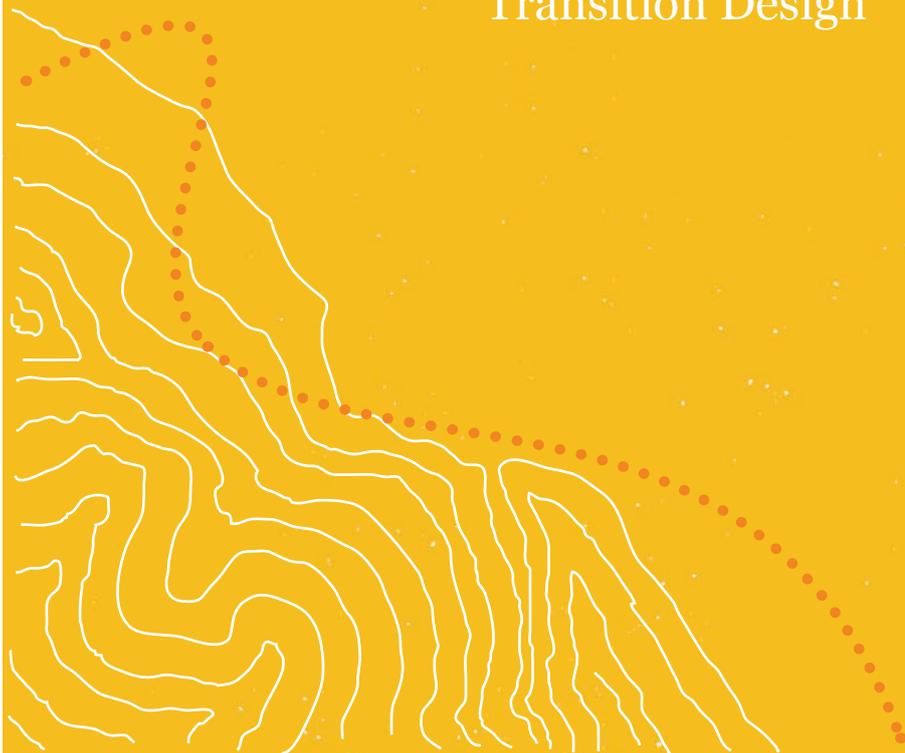
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SECTION 6

In a nutshell

Transition in
seven memes

All points work equally for
Regenerative Agriculture and
Transition Design



1



If your goal is **regeneration**, then:

*Earth care,
people care,
fair share.*

- Three ethics of Permaculture*

SOURCES: Bill Mollison and David Holmgren. Heart icon by Creative Stall, Noun Project.

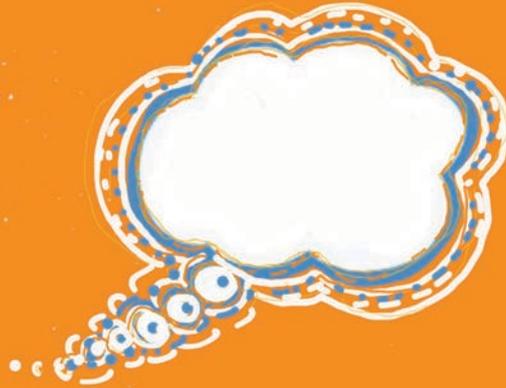
2



Listen, observe, and engage with the world around you.
Create space for the future that wants to emerge.

SOURCES: Otto Scharmer

3



Make the future irresistible

Imagine, visualize, and describe the (even) more beautiful world your heart knows is possible

SOURCES: Charles Eisenstein and Otto Scharmer

4



Grow something.

*Give your energy and creativity to things
that renew you and the world around you.*

Care for country as country

SOURCES: William Bridges, Peter Andrews, Scott Middlebrook;
Suchet-Pearson, S., Wright, S., Lloyd, K., Burarrwanga, L., & Bawaka Country. (2013). Caring as Country: To-
wards an ontology of co-becoming in natural resource management. *Asia pacific viewpoint*, 54(2), 185-197.

5



Start where you are.

Use what you have.

Do what you can.

- Permaculture Principles

SOURCES: Bill Mollison and David Holmgren

6



Experiment.

*Try new perspectives. And iterate, iterate, iterate.
Tell someone what you're learning.*

7



And if you get stuck
Go to the places of hurt
Generously apply
love, care and respect
Build relationships
Make reparations

SOURCES: William Bridges, Tyson Yunkaporta, Melanie Goodchild



“Hope” is the thing with feathers -
That perches in the soul -
And sings the tune without the words -
And never stops - at all -

And sweetest - in the Gale - is heard -
And sore must be the storm -
That could abash the little Bird
That kept so many warm -

I’ve heard it in the chilliest land -
And on the strangest Sea -
Yet - never - in Extremity,
It asked a crumb - of me.

-Emily Dickinson