

# Stage Two Ethics Application: Positioning Paper

Developing an Ethics Approach for the Research ‘Designing  
Transition to Regenerative Agriculture’

**Designing Transition to Regenerative Agriculture** | PhD Research  
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# DEVELOPING AN ETHICS APPROACH FOR THE RESEARCH 'DESIGNING TRANSITION TO REGENERATIVE AGRICULTURE'

## Approval sought

This research centres around a Regenerative Agriculture transition project that is taking a participatory action research approach augmented by design approaches. With informed consent, participants may be engaged in a range of activities - for instance semi-structured interviews, facilitated participatory group sessions and/or working groups. All participant input and activity will be focused on understanding what supports transition to Regenerative Agriculture and how that support might be developed and put in place (interventions).

High-level, in principle approval is sought for ongoing research for the next two-three years, e.g. 2020-2023. Approval is sought to pursue:

- **Semi-structured interviews** – approval is sought for interviews to be conducted on an ongoing basis over the course of this research. A research question guide is included in this document for review. Once approved, the researcher will not come back to for further ethics review regarding semi-structured interviews.
- **Facilitated group sessions** – approval is sought to pursue potential facilitated group sessions, e.g. through events, workshops, and focus groups. An overview of facilitation design principles, structures and agenda is provided in this document, as well as examples of topics and questions that may be discussed during facilitated group sessions. Methods for obtaining contact information, recruitment, making contact and informed consent are named in this document. Preparation materials that accompany facilitated sessions and that will need to be developed include: a written and sometimes verbal invitation with purpose, agenda, location, etc., information about the PhD research, pre-reading, a facilitation run plan and facilitation materials (e.g. templates etc). If the invitation, pre-reading and facilitation materials are co-developed with and approved by the working group assembled by convenors, and the ethics committee has already approved research information materials, will the ethics committee will be satisfied with a review of the draft facilitation run plan(s)? In order to avoid any delays to session schedules, it will be important for the researcher to be clear on what the ethics review committee requires to review prior to any facilitated group sessions, as well as expected timing.
- **Working groups** – working groups will be set up and run according to the approach spelled out in this paper. Data that is gathered about working groups will likely include: semi-structured interviews with individuals (as above); project outputs, e.g. documents, visuals, invitations etc. generated as part of the working group doing its work, sharing results and inviting participation; and evaluation (below). Methods for obtaining contact information, recruitment, making contact and informed consent, etc. are named in this

document. Does the ethics committee require anything else with respect to working groups?

- **Research evaluation** – at the end of this research, participants will be asked to participate in evaluation of the research approach, content/outputs and outcomes. This stage has not yet been designed. Researcher will submit an amendment request once those details are ready for review.

COVID-19 NOTE: All direct contact with participants will be guided by Covid-19 social distancing requirements in place for NSW at the time of intended contact. Much of the work will be conducted by phone or Zoom, including some group work. Any interviews and in-person working groups will abide by social distancing parameters. Workshops will not be held until after groups of the given size are allowed to congregate.

*This paper introduces the field of research and research methodology that are part of my PhD, 'How might transition to regenerative agriculture be increased, by design?'. It includes a discussion of relevant approaches to research and ethics. It offers a set of principles for an ethical approach to this research and lists the practices that will be included. It includes a description of the approach to key ethics and research activities, key research questions and definition of terms.*

## Research overview

The long-term viability of farming and the health of our soils is very close to my heart. In my research I have learned about the potential Regenerative Agriculture holds for the sustainability of agriculture, and so I am undertaking a project to **design for the uptake of Regenerative Agriculture**. Research is centred in the box-gum grassy woodland biome, which runs along the eastern interior of Australia from southern Queensland to northern Victoria, and is primarily focused on grazing and mixed grazing-cropping operations. The objective of the project is to enable more widespread uptake of forms of agriculture that result in regeneration. I am not attached to specific practices, but rather to a broader goal of agricultural sustainability.

By designing for the uptake of Regenerative Agriculture, I seek to *contribute to the field of Transition Design*. Transition Design is an emerging field that applies design approaches to help society transition to more sustainable ways of living. Transition Design has not yet been used in agriculture, and so my research will contribute a case study for this application.

To develop a case study, the transition design project will involve participatory action research to test a few primary modes of working explicitly to support transition, for instance:

- Sharing insights gained through design ethnography, including semi-structured interviews, photos and immersion into context
- Building shared understanding, strategies and commitment to action through facilitated group sessions

- Progressing action through working groups, which may include design consultation, projects and/or networks.

During the project, I may draw upon the following design / design-related practices: design ethnography and design research, systems thinking, systems mapping, visualization, futuring, strategic design, business design, service design, social innovation, co-design, participatory design and facilitation, theory of change, theory of action and transition design.

By working in this way, it is hoped that the project will offer insights, theories and/or interventions to participants and sector stakeholders that show potential to increase the uptake of Regenerative Agriculture, by design. Then, in documenting and reflecting on the project through a case study approach, it is hoped that this research will contribute to Transition Design practice, specific to application for agriculture but perhaps more broadly as well.

The expected beneficiaries of this research are as follows:

- **Transition Design Practitioners** - Case study and methods for practice
- **Researchers** - Agricultural transitions – new knowledge and gaps
- **Farmers, educators, extension, consultants, government, & commercial businesses, etc.** - New insight into the relationships, capabilities, mindsets and interventions needed for transition.

### **Researching Transition Design practice**

Transition Design is an emerging area of research and design practice that was framed by Terry Irwin, Gideon Kossoff and Cameron Tonkinwise in 2014 (Irwin et al 2015) with the explicit goal of forming a design practice dedicated to designing for the transition of human behaviour to sustainable ways of living. An act of Transition Design is an explicit intervention for social change to sustainability.

Transition Design (TD) names many movements and disciplines as inspiration and potential partners, including: Transition Research, Transition Towns, transitioning economies, the Great Transitions network, organisational transition, personal transitions, cosmopolitan localism, Socio-Technical Regime Theory, Post-Normal Science, Social Practice Theory, Human Scale Development, Social Ecology, Social Psychology, Critique of Everyday Life, Living Systems, Complexity theory, and more (Irwin et al 2015).

Transition Research, “[originated] in Northern Europe within the academic fields of Innovation Management and Technology Assessment”, with a focus on technical transitions like sustainable energy (Irwin et al 2015). In this context, the term ‘transition’ refers to the conviction that cumulative human endeavour is endangering our own future and that “whole societies and their infrastructures must transition toward more sustainable states”, and that it is expected that “that these transitions will require systems-level change” (<https://transitiondesignseminarcmu.net>, Loorbach et al 2017).

‘Design’ refers to how the complex human, behavioural, cultural, social as well as technical dimensions of change (etc.) are taken together in context” in design approaches “so that we can better make sense of and act upon *wicked* challenges (Dorst, 2003; Gaziulusoy & Ryan 2017). Whereas the object of product design, for instance, is a product like a toaster or a car, the object of Transition Design may include products but is more likely to include structural and systemic interventions. These could include new businesses, policies, supply chain arrangements, processes, public campaigns, social innovations, etc. – whatever intervention is deemed needed, by design.

Transition Design does not specify a single mode of research or methodology. It does not specify how to construct a practice. To form a TD practice, there are a broad range of disciplines that offer useful theories, methodologies and practices, for instance:

- **Transition Design & closely related disciplines** – e.g. Strategic Design, Systemic Design, Service Design, Systems Thinking, Participatory Methods, Futuring
- **Transition Research**, Transition Management & Governance, Multi-Level Perspective, Strategic Niche Management and social practices Adaptive Management and Social Learning
- **Action Research**, including Participatory Action Research, Community-Based Action Research, Community-Based Research and Critical Design Ethnography
- **Collective Impact** (CI), including Place-Based Initiatives, Place-Based Collective Impact and the history of Community Development
- **Agriculture & Environment** – specifically research into adoption of innovation in agriculture, as well as the contribution of agriculture to climate change

In order to research how to construct a TD practice, I have specifically chosen participatory action research – in order to research practice through practice. This research is based on the hypothesis that supporting action and momentum among Regenerative Agriculture stakeholders using participatory action research augmented by design approaches – with an explicit focus on understanding what is needed to enable transition - can lead to the uptake of Regenerative Agriculture. I will test design approaches like design ethnography, strategic design, business design, service design, and social innovation to understand what is most useful to participants in their context. This approach will allow me to reflect on how different forms of design can be employed in order to construct a Transition Design practice that will promote genuine change. This process of doing design in order to reflect on practice is known as practice-based design research, which is the lens through which I will examine the case study.

Taking a participatory action research approach augmented by design in service of Transition Design involves:

- Advocacy in favour of (social) change to sustainability

- Systems thinking that may promote change from all places change can be initiated within the system, whether bottom-up, top-down, at connections or through other ‘leverage points’
- Participatory, co-operative, inclusive, empowering, strengths-based and fundamentally democratic approaches, including research conducted in collaboration with participants; decision-making and direction inclusive of participants; and being participant-led
- Allowing for flexible, dynamic and emergent situations
- Enabling co-learning through cycles of iterations
- Generating insights, theories and interventions
- Constructivist, pragmatic, feminist and interpretivist philosophical traditions
- Bricolage of methods from a range of design practices and traditions, including whatever is sought or discovered during the research

(Adapted from Löfman et al 2004).

### **Ethics considerations of participatory action research**

To inform an ethical approach to this research, I have looked beyond Participatory Action Research (PAR) to other forms of Action Research (AR), which is broadly inclusive of AR, Participatory Research (PR), PAR, Community-Based Participatory Research (CBPR), community-based research and Critical Design Ethnography. Although in this case participatory action research for Regenerative Agriculture will enable practice-based design research into Transition Design, note that not all approaches to practice-based design research are action research; additionally, not all methods used for Transition Design are practice-based design research OR action research.

Brydon-Miller explains the fundamentals of action research as follows:

*“The core values of action research have been defined as ‘a respect for people and for the knowledge and experience they bring to the research process, a belief in the ability of democratic processes to achieve positive social change, and a commitment to action’ (Brydon-Miller, Greenwood, & Maguire, 2003, p. 15). Reflecting a similar understanding of the basic ethical stance of action research, Reason and Bradbury (2001) described it as ‘a participatory, democratic process concerned with developing practical knowing in the pursuit of worthwhile human purposes’ (p. 1). And Greenwood and Levin (1998) noted that action research ‘promotes broad participation in the research process and supports action leading to a more just or satisfying situation for the stakeholders’ (p. 4) and suggested that it ‘aims to increase the ability of the involved community or organization members to control their own destinies more effectively and to keep their capacity to do so (p. 6)’” (2009).*

Action research is dependent on the “development of...trusting relationships” as well as agency, e.g. “an ability for people to ‘trust in their own powers of action and decision’ (Hilsen, 2006, p. 28)”, which is accomplished through “the acknowledgement of human interdependency, the cogenesis of knowledge, and the development of fairer power relations” and embodies

“feminist virtues [of] trustworthiness, the willingness to take responsibility, and caring and compassion” (Brydon-Miller 2009).

Brydon-Miller asserts that “action research is defined by its unapologetic ethical and political engagement and its commitment to working with community partners to achieve positive social change”, it is a deliberately “values-embued practice” (2009). For the purpose of shaping an approach to ethics, it is still worth repeating (at risk of having stones thrown at me) that values are not neutral, “positive” is a subjective assessment and ‘community’ is not singular. In order to side-step assumptions of benevolence, it may more straightforward to say that **in action research the researcher directly engages with stakeholders to work on ethical, moral and political questions of common good.**

In this context, a covenantal approach to ethics is more appropriate than a contractual approach. Whilst ‘contractual’ ethics processes require “objectivity, distance, and value neutrality” and are appropriate for instance with medical trials, action research is successful when it does the opposite (Brydon-Miller 2009). Brydon-Miller (2009) sets out how “the relationships among the research participants and the deep and sustained commitment to working together to address important problems” are a “powerful form of moral engagement” – a covenant between researcher and participants, if you will. The covenantal approach brings with it a form of moral rigorosity: conducting action research is “an ethical demand to take responsibility for the social consequences of the research and make it explicit both in our practice and our communications about that practice’ (quoting Hilsen 2006)”, it also “demands that researchers develop a new set of skills focused on effective communication, consensus building, mediation, and negotiation” (Brydon-Miller 2009). The relationships and commitments are “vital mechanisms that strengthen our ability to understand and address important social issues in ethically defensible ways” (Brydon-Miller 2009).

### Working together with participants to create change

Unlike traditional forms of sociological research that seek to observe but not change and even unlike design (despite its making, interventionist nature and although some acknowledge that design is never politically neutral), Transition Design holds a social change agenda. In taking a participatory action research approach, interventions in service of sustainability are co-developed with participants; thus, the Transition Designer becomes a collaborator and change agent:

*“The question of how to engage groups in collaborative work is central to participatory research, in which the researcher advocates an empowerment agenda while seeking to understand and build relationships with the community under study. In this type of work – what some refer to as participatory action research – the ethnographer’s goal is to empower groups and individuals, thereby facilitating social change. In contrast to traditional ethnographic research in which the researcher seeks primarily to understand (not change) the conditions of the community being studied, participatory action research assumes a critical stance, in which the researcher becomes a*

*change agent who is collaboratively developing structures intended to critique and support the transformation of the communities being studied” (Barab et al 2004).*

The action research approach is to walk side-by-side, to work shoulder-to-shoulder: “in more radical forms of [participatory action research (PAR)] it is expected that the researcher engages with the community to mutually [identify] a [locally specified] problematic, uncover its sources, and then negotiate contextualized solutions”, through this “[prioritizing] local knowledge developed in a relational setting” (Blake 2007). Brydon-Miller (2009) quotes Kirsch (1999), drawing parallels between feminist research and action research: “Researchers must begin to collaborate with participants in the development of research questions, the design of research studies, and the interpretation of data if they want to ensure that feminist research contributes toward enhancing—and not interfering with—the lives of others”.

There is an explicit goal of empowering, building capacity, being led by participants, ‘community’, and sharing “the responsibility for practical action...with participants” (Löfman et al 2004). The underpinning philosophy is one of “doing research with and for people rather than on people” (Löfman et al 2004). From the design side of things, approaches like co-design and co-production involve ‘making together’ and go further to stress ‘doing with *not* for’ to ensure empowerment, local agency, locally useful actions and capacity building. Even with approaches like co-design, however, there are unavoidably moments of ‘doing for’, and practitioners (such as at my work at The Australian Centre for Social Innovation) are very careful with the ‘doing for’ aspects because they still hold the potential to reinforce power-over.

In some research, where there is a history of exploitation, disadvantage and distrust, it may be important for “ongoing review of the research process [to be] explicitly placed under the control of community-based oversight committees” and also to develop a “culturally grounded” approach to research, ethics, decision-making, and dissemination of results (Brydon-Miller 2009). The motto of disability rights movement applies here as well: ‘nothing about us without us’.

This relationship-based “change agent” and “collaborator” approach to “doing research with and for people rather than on people” differs dramatically from scientific tradition and notions of researcher subjectivity.

## **Forming an ethical approach for this research**

### **IDENTIFYING A SUITABLE ETHICS APPROACH**

To establish a set of principles and practices that will guide the participatory action research approach I seek to take, we can look to action research (AR) in its many forms. It is important to keep clear that these approaches are “not [themselves] research methods” rather “[approaches] to research in practice” (Gelling & Munn-Giddings, 2011).

Although both Action Research and Transition Design hold an ethical purpose (social change and sustainability, respectively), the approaches used are not “inherently ethical” (Wilson et al 2018). The ‘end’ does not justify any and all ‘means’, as we have seen in the hot debate surrounding sustainable energy. If we succeed in creating social change, losses will occur for some stakeholders. Understanding the potential positive and negative impacts of social change is critical in navigating participatory action research. The researcher also has to keep in mind that morality is subjective and that benevolence is neither inherently moral nor empowering. Brydon-Miller (2009) in quoting Newkirk, reminds us, “Ultimately, those of us in the university must question the automatic belief in our own benevolence, the automatic equation between our own academic success and ethical behavior, for the stakes are high” (Newkirk, 1996, p. 14)”.

Barab et al, in discussing critical design ethnography (a form of participatory action research), hold three focal points, or criteria, that the designer must consider – trust, interventions and sustainability:

*“Building trust is a necessary component of any relationship...We view trust as evolving based on many factors, including adopting a participatory posture, developing multi-tiered relationships, and having an evolving as opposed to an imposed agenda...*

*The second focal point is the designed intervention, capturing the assumption that critical design ethnography involves building a socially responsive design with the goal of supporting change. In our case, the intervention evolved over time as a dialectic between building a critique and designing online spaces; the design itself is continually being remade as specific structures are adapted to local contexts...*

*The third focal point involves sustainability and addresses the necessary commitment of the design ethnographer to support sustainable change. The goal is that the plan and the implementation are innovative but sustainable” (Barab et al 2004).*

The criteria of trust, interventions and sustainability offered by Barab et al (2004) set the frame for an ethical approach to action research. From here, Gelling and Munn-Giddings (2011) propose and define seven requirements “as the basis for evaluating the ethics of a research project”, which I have tweaked and then layered on perspectives from Löfman et al (2004), Brydon-Miller (2009) and Wilson et al (2018).

- **Value and favourable risk-benefit ratio** – In action research, value is defined by participants/community. Value to participants has to be balanced with a favourable risk-benefit ratio. As in other research, the researcher seeks to minimize possible risks and maximise possible benefits. However, this approach involves far more uncertainty than other methods, which means that risks cannot always be foreseen. Direction and details emerge through cycles, or iterations of the research. Issues of challenging the status quo, navigating sensitive political, social and reputational dynamics, and potential to impact those not directly involved can incur risks. In situations that involve social, political and reputational risk, all steps should be taken to protect participants without “[underestimating...] participants’ ability to resist power and [...overestimating...] the

researcher's own ability to protect participants" – particularly in ways that falsely empower the researcher and disempower participants (Löfman et al 2004). Meanwhile, the researcher should be sensitive to the possibility that "changes make large emotional, physical and social demands on all involved", and so "all changes should take place slowly" (Löfman et al 2004).

- **Scientific validity** – In the case of participatory action research, scientific validity is developed by a thorough approach to planning, undertaking and reporting the research. This includes choosing the most appropriate research design and methods (qualitative and quantitative); agreement from the participants/community to the methods, and rigorous implementation of the chosen methods.
- **Fair participant selection** – opt-in, self-selection that manages a balance among voices and power; participant selection that does not exclude key voices; setting clear consent guidelines for co-researchers vs participants and short-term vs longer-term involvement
- **Independent review** – for the purpose of ensuring public accountability and minimizing potential for conflicts of interest. Because the approach works in cycles, ethics review may involve a series of reviews. This could mean "a single evolving application" rather "than four, five or even six single applications", "negotiation" and "greater communication between action researchers and the REC community" (Gelling & Munn-Giddings 2011). The goal is to strike the balance between not expecting too-speedy decisions while not creating an unnatural slow-down for the project.
- **Informed consent** – it can be challenging in this approach for participants to know to *whom* (e.g. researcher, practitioner, colleague or friend?) and to *what* they are consenting. Future direction and potential consequences are both unknowns. Brydon-Miller, quoting the Belmont Report (Sales & Folkman, 2000) highlights the underlying principle of informed consent: people should have the "opportunity to choose what shall or shall not happen to them" (2009). Meanwhile, "free choice about participation is based on accurate Information" (Löfman et al 2004) – which in this case means transparency about what participants can expect from a flexible, iterative process and the possibility for a range of future directions.
  - "Reflecting the system of contractual ethics, 'informed consent includes a clear statement of the purposes, procedures, risks, and benefits of the research project, as well as the obligations and commitments of both the participants and the researchers. The resulting explicit agreement is in most cases documented through the use of a written consent form, which should be clear, fair, and not exploitative' (Fischman, 2000, p. 35). This description suggests a straightforward and transparent agreement between the researcher and the research subject" (Brydon-Miller 2009).
  - Where participants enrol as collaborators, co-designers and co-producers, etc., consent is sought *after* they are provided information as to what the role involves.

The researcher is mindful of the ambiguity of moving between ‘insider’ and ‘outsider’ roles (for both researcher and participant) such as between researcher, participant, colleague, professional, friend, neighbour and community member roles, etc., and seeks to mediate the power dynamics that can come with this, while avoiding patronizing participants and supporting participants to navigate ethical issues (Löfman et al 2004; Wilson et al 2018). As relevant, collaborators (et al) are supported to have the capability to work in that role, e.g. with training, materials, coaching and other forms of support (Wilson et al 2018).

- Consent is requested for ongoing contribution as well as at key points; freedom to withdraw is re-iterated as well. Brydon-Miller, quoting Boser (2006), defines an iterative consent process: “Noting that action research is a cyclical process involving ongoing negotiation and dialogue among all participants, she observed that ‘participants cannot give informed consent to research activities in advance, because the full scope of the process of the research is not determined in advance by one individual’ (p. 12). She suggested that a more effective means of ensuring that such research is ethical is to develop **iterative processes of reconfirming consent that are embedded within the context of the research itself**” (2009). In an emergent context, the ethical approach to consent is negotiated between researcher, participants and ethics committee as well.
- **Protection of identity, data ownership and dissemination – Respect for enrolled participants** - Action research is centred around a respect for participant perspectives and a co-production of knowledge and ways forward, but researchers ultimately retain responsibility for all aspects of the research. To accomplish this, the researcher holds to principles of beneficence and ‘do no harm’ (Löfman et al 2004). These principles must be managed carefully when it comes to protection of identity, data ownership and dissemination of knowledge in collaborative contexts.
  - From a starting point of maintaining confidentiality and potentially anonymity, the researcher supports participants to understand risks, and is led by participants in how they would like their identity protected in ambiguous situations. Where collaboration and participatory action is elected by participants, the ‘responsibility to protect’ is considered together with collective agreements and shared responsibility. With the input of participants, researchers identify when the project and the participants are served by disclosure among participants (e.g. during collaboration) or when confidentiality and even anonymity are necessary (2011). For instance, they may be ok with sharing perspectives in collaboration but may elect for confidentiality beyond the group of collaborators and in dissemination of data. Where individuals are easily identifiable (e.g. during share-back or in publications), the preferred way to protect their identity has to be agreed with those particular participants.

- Choices are made in how the research is conducted and how findings are used to ensure participants are not exploited. Researchers must make a continual “examination of the potential for risk and asymmetrical patterns of power”, being “mindful of the potential barriers to participation” and seeking “alternative forms of gathering and disseminating input” (Brydon-Miller 2009 quoting Boser 2006).
- Participants determine what they choose to share with the researcher, collaborators and audiences. Participants retain ownership of their ‘practice’, intellectual property and data and are given the opportunity to review and approve what is published. Participants should not come away with a sense of “betrayal” in how they, their community or their situation are characterized or in the knowledge that is shared (Brydon-Miller 2009 quoting Newkirk 1996). Respect extends to participants and non-participants: the approach should be constructed and the findings should be presented in ways that are productive, strengths-based, and non-stigmatising, with regard to dignity and reputation, and without compromising the findings and the potential to promote change (Wilson et al 2018). Researchers should look for opportunities to use “collaborative strategies for gathering, organizing, and presenting the results of their community-based research. This attention to participation in all phases of the research process provides opportunities for community partners to develop their own interpretations of the materials they create and maximizes the usefulness of this information to the participants in the research process and other members of their community” (Brydon-Miller 2009). Dissemination is a key part of ensuring “real contributions are made to the overall welfare of the community” and/or ‘the common good’ (Brydon-Miller 2009). Researchers should try to avoid academic language that distances the work from the participants. Researchers should set up dissemination plans that make sure the knowledge gained is made “available and accessible to members of those communities” and disseminated through methods, channels and mediums that benefit the “common good” (rather than only ending up in academic publications) (Brydon-Miller 2009).

## **SPECIFIC CONSIDERATIONS FOR THIS RESEARCH**

### VALUE & FAVOURABLE RISK-BENEFIT RATIO

#### **Value of this research to participants**

‘Value’ of PAR/AR research refers to “whether a proposed research project truly has potential to affect change” (Gelling & Munn-Giddings, 2011). Gelling and Munn-Giddings indicate “that the impetus for the research usually comes from those who will be involved in the research after they

have identified a problem and also identified that AR will provide the best solution to the problem”; that we “...should place greater emphasis on the locally identified need than the scientific literature. If the community driving the research believes it has value for them then this should be considered more important than reference to the scientific literature” (2011).

Although I did initiate the conversation with participants, from the start this research has been driven by participant input. When ‘ecosystem governance’ research did not feel like a tenable way forward to participants, they encouraged me to pursue more tangible, immediate ways to reach sustainability. This is how I ended up looking at Regenerative Agriculture – participants suggested that support to ‘transition’ was a major need for Regenerative Agriculture.

As I explored further, the response to the topic, ‘how do we design for transition to a regenerative agriculture?’ and the ‘change agent’ approach was astonishingly positive. The intensity of positive response to my research topic and approach opened doors. This is how I tested for value to participants in the early stages.

That being said, value can be somewhat independently evaluated on the quality of insights, usability of theories, practicality and sustainability of interventions developed as well as by the *potential* for real change to occur.

### **Methodological choices: Constructing a Transition Design practice relevant to the context**

Value is not just about the social good issue in concern, value is also derived from the appropriateness of methodological choices. As Gelling and Munn-Giddings indicate, “methodological choices should be driven by the research problem or question and not by the researcher’s methodological experience”; there must be “a fit between the question and the method adopted to answer the question” (2011). Participants have validated the need for ‘transition’, but *how* we go about doing that is my research question. The Transition Design Framework together with the toolkit I bring from my own related professional experience only represent hypotheses for the methodology and practices that might be needed to conduct a Transition Design project. At each stage and on an ongoing basis, I will have to assess the appropriateness of my methodological choices.

Each cycle of the project often signals deeper understanding of context, a honing of interventions, as well as a searching for and selection of appropriate methodologies. When a significant change in any of these necessitates a significant change in the project, e.g. a radical insight that leads to a reframe of problem, opportunity, or intervention or a switch in methodologies, that big change is referred to as a ‘pivot’. This art of ‘sussing out’ the best methodology for the situation is common to design practice; practitioners have to ‘bricolage’ a suitable practice from the literature, their own professional experience and anything promising that they might seek out or discover during the process (Yee 2010). Where participants are unfamiliar with a methodology that the practitioner believes is right, the practitioner will have to navigate between selling the approach, helping participants to engage with unfamiliar practices, and meeting participants where they are at. If it

just doesn't work, the practitioner has to throw it out and figure out an approach that will work – and still satisfy the overarching project goal.

## SCIENTIFIC VALIDITY

### **Philosophical Orientation – Ontology, epistemology and axiology**

Creswell and Poth provide orientation to the philosophical assumptions typical of qualitative research, which are relevant to the proposed participatory action research approach (p. 20).

The ontological stance in qualitative research typically holds that “reality is multiple as seen through many views” (Creswell and Poth, p. 20). Meanwhile, Social Constructivist theory asserts that “human development is socially situated and knowledge is constructed through interaction with others” (Wikipedia). The idea that reality may be different depending on our perspective and the idea that our understanding of reality and knowledge is formed through interactions with others is very important in the proposed research, in particular to Transition Design.

For this research project to be successful in supporting transition to regenerative agriculture, the researcher will have to respect the reality that others see and still also believe that this reality can be shaped by others. To give an example, it is important to respect that some people do not believe in climate change – that a LOT of *farmers* do not believe in climate change.

Epistemology, according to Creswell and Poth, is concerned with “What counts as knowledge? How are knowledge claims justified? What is the relationship between the researcher and that being researched?” (p. 20). Epistemology comes into play in a number of ways in my research:

- Taking a Social Constructivist stance toward the question of ‘what counts as knowledge?’, when engaging participants (such as farmers who are sceptical of ‘airy-fairy’ farming methods), it will be important to share knowledge in a way that they respect and understand, for instance through soil data and property financial performance
- In seeking to build knowledge of what interventions are successful in a situation, a Pragmatist approach looks for what works
- In data collection, it is important to capture the words of participants and confirm intention through review in order to avoid issues of representation
- In analysis, it will be important to endeavour to reflect meaning in the way participants would have intended. This may be referred to as an ‘Interpretivist’ approach.
- Researcher bias will be acknowledged up-front to participants. The role of values (axiology) and researcher bias is discussed further in the section below.

### **The role of values**

The role of values in research, axiology, is critical to this research. Designers are not a neutral party. Our values, beliefs and worldviews are embedded into every artefact, intervention and written output. In the words of Zabolotney, “there is no such thing as benign design. Even design relegated to the superficial and simply ‘aesthetic’ works on a political level” (2017, p. 26). And from Vaughan, “design is political, even when it isn’t engaged in formal politics” (2017 p. 1-2). In this case, the research is explicitly activism. To this end, I will need to consistently acknowledge the goal of change to research to participants.

### **Research validity: Transferability of research, not repeatability**

My research necessarily holds dual objectives: 1) work toward increasing the uptake of Regenerative Agriculture in order to 2) construct a Transition Design practice. It is the intent of this research to draw out insight that is transferable to other Transition Design initiatives and/or to Transition Design theory more broadly, not to set up a repeatable experiment. In order to do this, it is also the intent to work toward insights, theories and interventions which proponents of Regenerative Agriculture find helpful toward increasing the uptake of Regenerative Agriculture.

For these dual objectives, qualitative rigour will be judged by internal validity, external validity, reliability, objectivity (LeCompte and Goetz, 1982). Disciplined project documentation and identification and discussion of themes will avoid claims that the research findings can be transferred, generalized or applied any further than is realistic and practicable. Validity will be assessed by the trustworthiness of the study, the quality of the understanding gained, and the usefulness of the insight – also described as the credibility, transferability, dependability and confirmability of the research (Wolcott 1994, Lincoln & Guba 1985). Validity will also be assessed by participant feedback and input, e.g. through ‘testing’ and ‘validation’ with participants. This process will also be helpful in locating the value of the research to participants.

## FAIR PARTICIPANT SELECTION

### **Participant recruitment**

Participant consent will be obtained per UTS standard ethical requirements, and all participation will be voluntary and opt-in (non-mandatory). Recruitment approaches may include:

- Contacts provided via supervisors
- Snowball sampling
- Outreach to the Regenerative Agriculture Facebook Group, of which I am a member
- Cold calling, e.g. through info online

Participant consent will be obtained per UTS standard ethical requirements, and all participation will be voluntary and opt-in (non-mandatory).

## **Sufficiency of sample size**

This research is informed by qualitative approaches from sociological traditions, which provides guidance as to sample size for different forms of qualitative research (Bryman 2016). For this research to be considered valid, I need to base any action on a thorough investigation into transition needs (e.g. via semi-structured interviews) and then to validate this with participants and potentially with stakeholders more broadly. Validation may be conducted through semi-structured interviews, facilitated group sessions, surveys, or other forms of design-based engagement.

To sufficiently research Transition Design practice, I will need to work toward developing and testing interventions that support transition to Regenerative Agriculture. For the project activity to be sufficient to show potential to support transition to Regenerative Agriculture *and* to study Transition Design practice, I will need thick data from semi-structured interviews as well as from a mix of up to 3 facilitated group sessions and/or working groups.

When looking for themes and patterns among a research cohort, typically qualitative research requires 8-15 participants from each cohort in order to obtain sufficient data (e.g. pattern finding) for the given topics.

For semi-structured interviews, I am aiming for 15-25 participants in order to be sure of themes. I may find that there are a number of sub-cohorts with very different needs within the overall cohort of farmers interested in transition. If this is the case, I will seek 8-15 participants per sub-cohort that I focus on. In my research, I have scope/capacity for 2-5 sub-cohorts.

Sufficiency of facilitated group session size will be decided between the researcher and the convenors. Some sessions are best with 5-15 people, whereas others may include 25-40 people. Even larger sessions are possible but not likely – and would require an army of facilitators, scribes, hosts and caterers, etc.

From a working group perspective, sufficiency of sample size depends on the activity being pursued. Discovery should follow qualitative testing protocols similar to those discussed for semi-structured interviews. In phases of testing, the sample size can be quite small (e.g. 1-3 participants testing an idea) so that evidence can be built regarding how promising and effective an idea might be. Sufficiency of sample size increases the more an initiative or project matures and needs to be validated for implementation, influencing and scaling. Working group size will be determined by working groups.

Summary of sample sizes:

- Semi-structured interviews: minimum of 8 maximum of 45 participants
- Mix of facilitated groups and working groups: no more than 3 total.
- Facilitated groups: 5-40 people per facilitated session (up to 3).
- Working groups: 5-10 people per working group (up to 3).

- Participants in testing interventions: as needed. As ideas for interventions grow in maturity, up to 40 participants may be engaged in testing per intervention if using qualitative testing approaches. More may be involved if a survey is chosen, for instance, for testing at a more mature phase. Limitation will likely be the scope of the research rather than norms for intervention testing.

## PROTECTION OF IDENTITY, DATA OWNERSHIP AND KNOWLEDGE DISSEMINATION

### Categories of data

A number of categories of data will be gathered to inform a rich description of the case (the Transition Design project) These may include:

- **Design research project materials** – communication, process and design artefacts developed with, for and by participants (e.g. prototypes, mindmaps, heuristics, etc.)
- **Situational data** – news articles and social media; publicly available statistical data
- **Evaluative data** – information provided through the project evaluation processes, such as interviews, surveys and group reflection documentation
- **Literature** – Academic and practitioner literature

### Privacy, confidentiality and handling of data

- Data, electronic/digital recordings and transcripts of recordings will be stored on a password-encrypted computer hard-drive and password-encrypted online data-storage facility (e.g. Dropbox) with access only available to the researcher and supervisors. Handwritten notes will be stored in a secure location with access available only to the researcher. Participant data will be de-identified in written materials, e.g. via code and/or pseudonym. The list of original contacts and the code or pseudonym associated with participant details will be retained in a separate file that will not be published or shared beyond myself and my supervisors.
- In published data, participants will be identified by a pseudonym and/or type of group that they belong to. Effort will be taken to eliminate information that could be linked back to individuals. Participants will be invited to review and comment on how their information has been represented before publication or sharing more broadly.
- Some participants, particularly the ‘gurus’ in the field who are well-published and well known to be vocal, may be asked for permission to be identified. In this instance, I will obtain explicit written permission for what will be shared, including exact wording and photos.

## Data analysis

As the data will be qualitative, research will be analysed thematically based on sociological traditions (Gray 2004, Saldaña 2009, Guest et al 2012, Miles & Huberman 2012, Bryman 2016, Braun et al 2018). The process is as follows:

- Individual transcripts, generative tools and workshop materials will be documented, and then analysed for key quotes and codes that emerge.
- Codes will be tracked and iterated systematically across all of the interviews, and tools such as a file-based codebook, Mendeley and (potentially) nVivo will be used.
- Themes will be determined inductively, based on an interpretivist approach and an iterative process.
- Participants will be invited to validate the themes and quotes as appropriate.
- Project data will be analysed, documented and communicated through methods used in professional practice.

One of the outputs of this analysis process, in the tradition of ethnography, is the development of ‘*thick descriptions*’ of the case. A thick description is a rich picture of the case and “a coherent analytic account”, “in terms that the setting’s members know and recognize” (Crabtree et al 2012). Crabtree et al, who are concerned with ‘practical sociology’ for developing computer systems as compared with the philosophic, sociological and anthropologic ethnography traditions, trace the origin of the term:

*“This notion has frequently been invoked by ethnographers following Clifford Geertz’s assertion that “ethnography is thick description” (Geertz 1973). The term was not coined by Geertz, however, but by the philosopher Gilbert Ryle (1968), who wasn’t remotely interested in ethnography but with a “curious feature” of what is involved in “doing something” (Crabtree et al 2012).*

Barab et al describe the process of getting to a thick description that is validated by participants:

*“...we work with local participants to identify needs, social commitments, and possible interventions, engaging in a participatory design process that involves shared voice and commitment. A core challenge is not to let our preexisting perspectives or social commitments become funnels through which all data are interpreted. As such, formative concepts/ theories and designs are constantly tested against the empirical evidence and with the multiple voices of our collaborators. As interpretations are built, we debrief with participants to determine the extent to which our characterizations resonate with their views (Lather 1986; Lincoln and Guba 1986)” (2004).*

## Developing a case study based on the Transition Design project

In order to research Transition Design, I require a methodology that will enable me, the *designer-practitioner-researcher*, to seek feedback and reflect on *doing* the practice in a way that is practical and productive – this is known as practice-based design research (Vaughan 2017, p. 9; Frayling 1993). An ideal methodology for this research:

1. Enables reflection on practice along the journey in order to contribute to practice
2. Sets a clean structure for the research *into* practice
3. Is not so cumbersome or complicated that it makes the project unwieldy

Creswell and Poth define a ‘case’ as “the bounded system...to be studied”, and a Transition Design project does meet the criteria for a bounded system. It falls into the category of ‘instrumental case’, which has “a research question, a puzzlement, a need for general understanding” for which “we may get insight into the question by studying a particular case” (Creswell and Poth citing Stake, 1995, p. 98). By undertaking a transition design project and progressing it as far as practicable within the bounds of PhD research, it is feasible to gain insight that contributes to Transition Design.

A Transition Design project as a case study aligns with the concept of treating a design practitioner’s work as a case. In Vaughan’s *‘Practice-based design research’*, Blythe and Stamm raise the idea of taking a case study approach, with the ‘case’ “[referring] to an individual practitioner’s comprehensive research into his practice: each practitioner as such represents a singular case study” (2017, p. 56). It is not possible for me develop a contribution to Transition Design through ‘comprehensive research into [my] practice’ as it stands because I am new to Transition Design. Comprehensive research into my practice through a Transition Design project such as the one I am proposing, is practicable.

A case study also should make the practice accessible to anyone who reads it, and therefore meet the academic goal of enabling productive dialogue and research into a practice. Design projects can be opaque to people from the outside, and one goal of a case study is to make the subject of research comprehensible, to “[pare] down...the case's parts to be studied and the research issues...to what can be comprehended...Counterintuitive though it may be, the author has some responsibility for the validity of the readers' interpretations" (Stake 2005).

### **Analysis of the case**

It is proposed that the project documentation and reflection data will be structured with in three layers:

1. Project Description – A detailed, step-by-step description of the case will be captured through project and process artefacts.
2. Explanation – Documentation of my explanation of the practice, including design options, choices, impacts, feedback and learning for each step. Themes will be drawn from this.

3. Exploration –In a summative discussion at the end I will provide the final *case assertions* - my interpretations of the implication for Transition Design, including framework, methods, tools and theory.

### Thesis documentation

The thesis will be comprised of the following outputs of the research process:

- Project documentation – step-by-step, project and process artefacts will be documented;
- Case study – a highly visual written narrative of the research, including reflections at each step, rationale for key decisions, learnings, participant feedback, relevant literature and theorising.
- Exhibition (tentative) – visual artefacts will be presented in an exhibition to coincide with the delivery of the case study

### SUMMARY OF PRACTICES

The following table lists the practices that will be used to ensure that the research approach remains ethical over the course of the research. *Table adapted from Löfman et al 2004. Original table titled 'Ethical issues, decisions and actions in nursing practice of RA patients'.*

<b>Ethical issues</b>	<b>Practices over the course of the research</b>
<i>Independent review</i>	
<b>Iterative ethics application and review</b>	Per the advice of the HREC, application and review will proceed in stages.
	Overall approval, inclusive of project intent, design and potential research activities, is sought as a starting point
	Subsequent approval will be sought as detail can be obtained for key activities like workshops, intervention working groups or any new developments in the direction of the research
<i>Value &amp; favourable risk-benefit ratio</i>	
<b>Value of this research to participants</b>	Value is assessed by the participants and the potential for it to lead to change toward a common that is desired by participants (and researcher)
<b>Methodological choices</b>	As value is also derived from the appropriateness of methodological choices, at each stage and on an ongoing basis, the researcher will assess the appropriateness of methodological choices and test with participants as needed
<b>Benefits and mitigations</b>	The project is constructed on the basis of participant agency and in a way that the approach, results and outputs are judged as relevant and empowering by participants.
	Capacity is built with participants and among 'the community' (as relevant and if applicable)
	Decisions are led by participants; Where relevant, participants are provided opportunity to be a part of decision-making
	Actions are led by participants as well as by the researcher; participants take responsibility for outcomes (as well)

	<p>Insights, interventions and change processes are developed and evolved over time through a dialectic with participants and the broader context</p> <p>Interventions have practical value and lead to change that can be sustained, which implies that expectations must be managed appropriately and must fit the nature and scale of the intervention that is put in place</p>
<b>Risk mitigation</b>	<p>The researcher identifies risks and puts in place risk mitigation strategies</p> <p>Risks are made known to participants as part of the consent process</p> <p>Participation, support, endorsement and/or an authorizing environment is sought from leaders</p>
<b>Managing roles and power dynamics</b>	<p>The researcher forms working relationships with participants; research can move forward because participants trust the researcher. The researcher gains credibility and cooperation among participants as an ‘insider’</p> <p>Researcher mindful of researcher sources of power and problematic situations are anticipated</p> <p>In the event of a disagreement or confrontation between participants and researcher, researcher seeks to maintain an equal relationship between the participants and researcher while understanding and negotiating the issue. If this is not satisfactory, the participants can reach out to the researcher’s supervisor or other agreed neutral third party for mediation.</p> <p>As needed, participant-led/community-led advisory or governance groups for the research and/or sub-initiatives is set up to ensure participants are empowered and have ownership and control</p>
<i>Scientific validity</i>	
<b>Philosophical orientation</b>	The researcher is clear about the philosophical orientation - constructivist, pragmatist, interpretivist and values-based
<b>The role of values</b>	Researcher acknowledges the advocacy-based approach up-front
<b>Research validity</b>	The goal of the research is for transferability, not repeatability. Validity and transferability of the research (including interventions that are developed and materials that are disseminated) is judged by participants; it is part of their post-research assessment of value
<i>Fair participant selection</i>	
<b>Participant recruitment</b>	<p>Recruitment methods:</p> <ul style="list-style-type: none"> <li>• Contacts provided via supervisors</li> <li>• Snowball sampling</li> <li>• Outreach to the Regenerative Agriculture Facebook Group and other groups of which I am a member</li> <li>• Cold calling, e.g. through info online</li> <li>• Social media</li> <li>• Participants, groups and organisations reach out through their contacts and marketing databases (e.g. to invite people to workshops or events)</li> </ul>
<b>Sufficiency of sample size</b>	<ul style="list-style-type: none"> <li>• Determined based on activity (e.g. semi-structured interviews vs generative workshops etc.) as well as phase of work (e.g. discovery vs idea development and testing etc.)</li> <li>• Guided by sociological traditions of qualitative research as well as participant perspectives</li> <li>• Eventually will need to be sufficient to help gauge potential for impact, even if interventions are in early stages at the close of the research</li> </ul>
<i>Informed consent</i>	
<b>Voluntary consent</b>	Researcher stresses that participation is opt-in, voluntary
<b>Information required for consent to be ‘informed consent’</b>	<p>Information about the research is provided at the initial point of contact</p> <p>The researcher acknowledges the intention to work as collaborator and change agent up-front.</p>

	<p>The researcher provides an overview of the methods and process, but acknowledges that the future direction is unknown and change may occur.</p> <p>Positive aspects and benefits of the process are explained as well as the risks.</p> <p>Points where consent will be discussed again during the process will be identified up front</p> <p>Potential future dissemination of information is acknowledged up front - Written and verbal</p> <p>Individuals are invited to participate in specified ways</p> <p>This information is provided written and verbally. Research with individual participants does not proceed without discussion and acknowledgement of their consent</p>
<b>Ongoing consent negotiation</b>	<p>Consent is requested for recordings (audio or typed), photos and videos</p> <p>Where relevant, participants sign up to a longer-term exploration process, with the understanding that they can negotiate how much time they spend at any point</p> <p>Participants may be asked for their consent to one-off activities, such as a workshop or workshop series</p> <p>Participants may elect to participate in ongoing working groups dedicated to a specific sub-project. Participants who are part of ongoing processes are asked for feedback on a regular basis</p>
<b>Opt-out</b>	<p>Participants can withdraw at any time and can request withdrawal of their contributions at any time. This is written into the initial consent form and ongoing consent processes, and is verbally stressed at each stage</p>
<b>Providing consent</b>	<p>The researcher provides a consent form up after providing information about the research)</p> <p>Written consent is preferred but consent is considered tacit/implied if information about the research has been provided, consent has been discussed and participation continues.</p> <p>Researcher acts and proceeds on the participant's terms</p> <p>Materials (e.g. de-identified quotes) are not published without written consent. Verbal or email is ok.</p>
<b>Consent of 'late joiners'</b>	<p>This process is consistent no matter what stage a participant joins (e.g. from the beginning or midway, etc.)</p>
<i>Project activities – categories of data</i>	
<b>Semi-structured interviews</b>	<ul style="list-style-type: none"> <li>• Focused on understanding how to support transition to regenerative agriculture</li> <li>• Based on sociological traditions of qualitative research</li> <li>• Consent will be requested prior to the interview in writing and verbally at the start</li> <li>• Interviews are treated as confidential and information will only be shared in de-identified ways unless otherwise agreed in writing.</li> <li>• Documentation for publication will be provided prior to publication for review and consent</li> <li>• Refer to <b>interview guide detail</b> (p 26)</li> </ul>
<b>Workshops, events and focus groups, etc</b>	<ul style="list-style-type: none"> <li>• Focused on understanding how to support transition to regenerative agriculture, identifying interventions, establishing what is needed for interventions to be successful and progressing plans</li> <li>• Designed based on participatory traditions of facilitating group work</li> <li>• There may be two different types of facilitated group sessions: informal and formal. Informal or big group events (e.g. conference</li> </ul>

	<p>sessions) and intensive group discussions (e.g. focus groups or workshops) will follow slightly different processes:</p> <ul style="list-style-type: none"> <li>○ <b>Informal group discussions held at events (e.g. industry events, conference sessions)</b> – The researcher will work with event convenors to identify a relevant session to facilitate. Participation will be on an opt-in basis; the session will be open to anyone who is invited to or attending the event. Information about the project and the use of the data will be mentioned in event material as relevant for recruitment purposes, provided at that start of the session in writing and described verbally at the start. Use of data that is shared during the session will be requested verbally and in writing via a sign-in sheet and consent form. Given the open and loose nature of these types of events, informal sessions will not be held to expectations of confidentiality. Participation in the session will be considered tacit consent. Documentation for publication will NOT be provided prior to publication for review and consent unless specifically requested. Data will be disseminated in de-identified ways unless otherwise agreed in writing.</li> <li>○ <b>Formal, intensive group discussions (e.g. workshops and focus groups)</b> – The facilitator will work with industry stakeholders and/or organisations to identify and convene a conversation. Recruitment will be specific to the exact cohort (e.g. farmers seeking to transition, etc.), organisation or applicable set of industry stakeholders (e.g. extension officers or Regenerative Agriculture leadership, etc.). Recruitment will be conducted by any of the means relevant that are mentioned in the recruitment section. Information about the project and the use of the data will be provided before the session in writing as part of the invitation and verbally as well at the start of the session. Use of data that is shared during the session will be requested verbally and in writing via a sign-in sheet and consent form. Formal sessions will be set up as confidential amongst enrolled participants, which participants will be asked to agree to as part of consent form. Participation in the session will be considered tacit consent. Documentation for publication will be provided prior to publication for review and consent. Data will be disseminated in de-identified ways unless otherwise agreed in writing.</li> </ul> <ul style="list-style-type: none"> <li>● Refer to <b>group session design guide detail</b> for more info (p 28)</li> </ul>
<b>Working groups</b>	<ul style="list-style-type: none"> <li>● Focused on developing practical interventions to support transition to regenerative agriculture</li> <li>● Designed based on action-research and design practices</li> <li>● Working groups will most likely be comprised of participants already enrolled in the project. New participants will be provided information about the project and opportunity for informed consent.</li> <li>● Working group plans and methods will be agreed among working group members.</li> </ul>

	<ul style="list-style-type: none"> <li>• The need for confidentiality will be determined by working groups. Confidentiality may be held among working group members, or it may be to the group's advantage to work openly.</li> <li>• Participation will be considered tacit consent.</li> <li>• Documentation for publication will be provided prior to publication for review and consent.</li> <li>• Data will be disseminated in de-identified ways unless otherwise agreed in writing</li> <li>• Refer to <b>intervention hypotheses detail</b> (p 31)</li> </ul>
<b>Project evaluation</b>	<ul style="list-style-type: none"> <li>• Participants may be asked to complete an evaluation of the project process, content/outputs and outcomes.</li> <li>• Methods may include survey and 'most significant change'</li> </ul>
<i>Respect for enrolled participants, protection of identity, data ownership and dissemination</i>	
<b>Handling of data</b>	Data will be stored on a password-encrypted computer hard-drive and a password-encrypted online data storage facility (e.g. Dropbox)
	Handwritten notes will be stored in a secure location
	The list of original contacts and the code or pseudonym associated with participant details will be retained in a separate file that will not be published or shared beyond myself and my supervisors
	In shared or published data, data will be de-identified and participant contributions (e.g. quotes) will be identified by a pseudonym and/or type of group that they belong to. Effort will be taken to eliminate information that could be linked back to individuals.
<b>Privacy and confidentiality</b>	By activity: <ul style="list-style-type: none"> <li>• Interviews are treated as confidential and information will only be shared in de-identified ways unless otherwise agreed in writing.</li> <li>• Informal or big group events like conferences will not be held to expectations of confidentiality. Information will only be shared in de-identified ways unless otherwise agreed in writing.</li> <li>• Intensive, group-based discussions will be set up as confidential amongst enrolled participants and information will only be shared in de-identified ways unless otherwise agreed in writing.</li> <li>• The need for confidentiality will be determined by working groups. Confidentiality may be held among working group members, or it may be to the group's advantage to work openly.</li> </ul>
	How data from easily identifiable individuals is handled will be agreed with that individual
	Participants are invited to review and provide feedback on findings once the information is de-identified and summarised for the whole of research (even at stages)
	Participants are asked for their input and comments on the findings confidentially, individually or in a group setting - as appropriate
	If it is appropriate for participants to be identified, explicit permission will be obtained in writing including what will be shared, including exact wording and photos.
<b>Data analysis</b>	Qualitative data will be analysed thematically based on sociological traditions
	The overarching PhD research is into Transition Design practice. To research Transition Design, a case study approach will be applied to the project to increase transition to Regenerative Agriculture.
	Project documentation will be developed based on relevant practice traditions, which are inclusive of the agreed ethics approach

	Case study analysis will be supported by three layers of documentation and reflection: 1) project description 2) explanation of practice 3) exploration of the and final case assertions
	Thesis documentation will be comprised of: 1) Project documentation - outputs and materials in service of the Regenerative Agriculture Transition Design project, and 2) case study documentation of the PhD research into Transition Design practice. Tentatively there may be an exhibition as well.
<b>Dissemination of data</b>	The plan for data dissemination will be informed by and, as appropriate, validated by participants. In some cases, data dissemination may be accomplished together with participants. Data could include: <ul style="list-style-type: none"> <li>• Project documentation, e.g. Scoping Phase report, etc.</li> <li>• Public reports</li> <li>• Blogs, social media and news</li> <li>• Journal articles and other peer-reviewed destinations</li> <li>• Final PhD thesis</li> <li>• Book</li> <li>• Others to be determined</li> </ul>
	Participants can share any materials that have obtained consent and are intended for public audiences via the channels available to them, e.g. social media, organizational marketing lists, contact databases, etc. In the process of sharing materials, if participants elect to identify themselves as a participant, that is their choice.
	Participants can request their data for re-use on an individual or organisational basis. A dedicated process for obtaining this consent to re-use material will need to be developed at that time and approved by the ethics committee. However, the following guides may serve as a starting point: To re-use others' contributions, 1) other participants must be contacted confidentially by the researcher to request permission to discuss and agree a consent process 2) participants seeking re-use must obtain mutual agreement from all participants through a dedicated consent process (led confidentially by the researcher) in which specific re-use context is explicitly specified and understood. Non-identification of participants must be maintained as agreed to by participants. Participants re-using material are then responsible for ethical use of the materials as agreed per the consent agreement.

## PROJECT ACTIVITY DETAIL

### SEMI-STRUCTURED INTERVIEWS

#### Overview

- Interviews will be focused on understanding how to support transition to regenerative agriculture
- They will be based on sociological traditions of qualitative research
- Consent will be requested prior to the interview in writing and verbally at the start
- Interviews are treated as confidential and information will only be shared in de-identified ways unless otherwise agreed in writing.
- Documentation for publication will be provided to participants prior to publication for review and consent

**Participants:** farmers and other stakeholders in the food production system -

- Farmers who have already transitioned to regenerative methods or mixed methods
- Farmers who have attempted to/are attempting to transition
- Farmers who are interested in transition
- Agriculture extension workers, consultants, trainers and educators, etc. who are working to support transition
- Commercial organisations, research and technology development organisations, entrepreneurs and innovators – including food/materials processors, retailers, distributors, marketers, banking, insurance and financing, etc.
- Other industry stakeholders that are deemed appropriate by participants (e.g. recruited via snowball methods)

### **Recruitment methods:**

- Contacts provided via supervisors
- Snowball sampling
- Outreach to the Regenerative Agriculture Facebook Group and other groups of which I am a member
- Cold calling, e.g. through info online
- Social media
- Participants, groups and organisations reach out through their contacts and marketing databases (e.g. to invite people to workshops or events)

### **Research methods:**

- Semi-structured interviews
- Generative tools (qualitative)
- System mapping (system in focus, stakeholders, dynamics, barriers and opportunities, etc.)

### **Interview set-up and format**

- Participants to be invited by email, phone-call or in-person introduction
- Participants to be supplied with an information sheet and consent for (for signature)
- Semi-structured interview
- 1-1.5 hours will be requested
- Interview will be commenced with initial rapport building, an overview of the project, an overview of the interview purpose, format and topics, a reiteration of how the participant's data will be used, and a discussion of any questions that the participant may have

### **Semi-structured Interview discussion guide**

#### Context

- To help me have some context, can you please tell me a little bit about your history in working with agriculture and your role / property now?
- What are your hopes and goals for this now?
- Can you tell me a bit about your approach and ideas when it comes to land management? (e.g. method or philosophy) Why is this important to you? What influenced you?
- Why are you interested in regenerative agriculture?

#### Systems analysis

Looking at this systems map... It highlights the following ways to support the uptake of Regenerative Agriculture:

- Developing a shared framing of Regenerative Agriculture
- Strategies to support farmers to develop a transition strategy and skills
  - Mentoring, support groups and consultants

- Programs/training dedicated to transition
- Education and extension
- Focused, sector-wide capacity-building
- Purpose-built training centres, hubs and demonstration sites
- Connection to land & learning from Aboriginal ways of knowing [NOTE: this research is not targeting Aboriginal and Torres Strait Islander peoples, rather testing interest in this direction for further research. If there is interest in this direction, an amendment to this ethics application will be proposed.]
- Supply chain – e.g. ecological inputs and dedicated machinery for regenerative farmers
- Processing, distribution, marketing and retail
- Policy mechanisms, incentives, governance, advocacy and lobbying
- Finance, investment, banking and insurance
- Technology, data & science
- Media, consumer awareness, consumer demand and point of sale

- 
- Where are barriers to transition? What's holding the system in place? How might we shift the barriers? What are specific actions we could take?
  - How might we create the conditions for regenerative agriculture? Be specific – what are changes we could put in place today?
  - Are there needs for transition support? Where are the biggest needs for transition support? Can you be specific about your ideas and how they might work?
  - What are the opportunities to create a system that works for regenerative agriculture? Can you be specific about your ideas and how they might work?
  - How might you (re)draw this map to work for Regenerative Agriculture?

#### Supporting farmers to transition

- Could you describe what your journey to transition your property has been like? Step-by-step, what have you done?... any training or skill building? ...on your property? ...in your management plans? What have you learned along the way?
- Were there barriers to transitioning? E.g.
  - Social
  - Financial
  - Practice
- How did you get through the barriers? Key insights or learnings?
- What's your next challenge?
- Would anything have been useful along the way? Or would anything be useful in the future? Why?
- What's positive about transitioning to regenerative agriculture?
- What's challenging?
- When you think of the idea of 'transition support for farmers', what comes to mind? What would have been most useful to you? Why?
- What ideas do you have to help farmers transition?
- Can you describe how this idea would work? What would success look like? What might get in the way of it working? What would need to be in place for it to succeed?

#### Landholders working together for the adoption of new methods

- Are people working together to develop or spread regenerative methods in your community? What is happening? Why? Is it working well? Why / why not? What could make it better?
- What role do landholders play in this collaboration compared to other stakeholders (extension, government, industry) etc.? Do you see landholders collaborating at all? In what ways?
- [Prompts] It is expected that respondents could mention knowledge sharing, operational collaboration and collaborative business models. If these are not mentioned, ask: Have you seen examples of collaborative business models? Do you and any of your neighbours have common property? Share in a business? Joint investments or support? Do you participate in any cooperatives?
- In the ideas you've shared today, do you see any potential for landholders to work together to support the adoption of regenerative agriculture? How might that work? Why?

### Relevance of using participatory systems design and transition design methods

- Are you interested in participating a workshop to identify how to support the transition to regenerative agriculture? If so / If not, why? Who would you suggest I approach?
- Are you interested in participating a working group (**name potential working groups; see section on intervention hypotheses**) to identify how to support the transition to regenerative agriculture? If so / If not, why? Who would you suggest I approach?

### Interview close

Finish with:

- A summary of key points
- Overview of how I will use their information, including next steps and milestones for my research
- If applicable, agree any next actions -- e.g. agree another time to meet, introductions to be made, or approximate timing of availability of draft transcripts/publication for review
- Ensure participant has my contact details
- Thank them for their time and generosity of what they have shared

## FACILITATED GROUP SESSIONS

### **Overview**

- Focused on understanding how to support transition to regenerative agriculture, identifying interventions, establishing what is needed for interventions to be successful and progressing plans
- Designed based on participatory traditions of facilitating group work
- Consent will be discussed in the invitation and requested in writing at the entry to the workshop, event, focus group, etc. via a sign-in and consent form
- There may be two different types of facilitated group sessions: informal and formal. Informal or big group events (e.g. conference sessions) and intensive group discussions (e.g. focus groups or workshops) will follow slightly different processes:
  - **Informal group discussions held at events (e.g. industry events, conference sessions)** – The facilitator will work with event convenors to identify a relevant session to facilitate. Participation will be on an opt-in basis; participants will be recruited broadly, e.g. the session will be open to anyone who is invited to or attending the event. Information about the project and the use of the data will be mentioned in marketing material (e.g. for conferences) as relevant for recruitment purposes, provided at that start of the session in writing and described verbally at the start as well. Use of data that is shared during the session will be requested verbally and in writing via a sign-in sheet and consent form. Given the open and loose nature of these types of events, informal sessions will not be held to expectations of confidentiality, and information that is shared will be analysed on those groups. Participation in the session will be considered tacit consent. Documentation for publication will NOT be provided prior to publication for review and consent unless specifically requested. Data will be disseminated in de-identified ways unless otherwise agreed in writing.
  - **Formal, intensive group discussions (e.g. workshops and focus groups)** – The facilitator will work with industry stakeholders and/or organisations to identify and convene a conversation. Recruitment will be specific to the exact cohort (e.g. farmers seeking to transition), organisation or applicable set of industry stakeholders (e.g. extension officers or Regenerative Agriculture leadership, etc.). Information about the project and the use of the data will be provided before the session in writing as part of the invitation and verbally as well at the start of the session. Use of data that is shared during the session will be

requested verbally and in writing via a sign-in sheet and consent form. Formal sessions will be set up as confidential amongst enrolled participants, which participants will be asked to agree to as part of consent form. Participation in the session will be considered tacit consent. Documentation for publication will be provided prior to publication for review and consent. Data will be disseminated in de-identified ways unless otherwise agreed in writing.

## Potential topics for facilitated group sessions

Based on the direction of the research so far, facilitated sessions may seek to answer the following questions in support of understanding specifically how to increase the uptake of Regenerative Agriculture:

- What is needed to support farmers to transition?
- What are the systemic, social, financial and on-farm (etc.) barriers to Regenerative Agriculture?
- What ecosystem and specific support, businesses, organisations, financing, financial mechanisms, policies, science, technology, data, etc. would enable farmers to transition?
- What programs, training, learning or support packages etc. might be useful?
- What businesses and organisations might be needed?
- How might we address social pressure and what is considered to be success in farming at a broader scale? How might we create social pressure *for* Regenerative Agriculture?
- How might we take a strategic extension approach to building broad-scale capacity and transitioning entire sectors, biomes, bioregional areas, etc.?
- How might we bring together Regenerative Agriculture and carbon incentives?
- How might we build consumer demand and promote demand-side mechanisms, like bionutrient pricing and provenance?
- How might we create opportunities for connection to land and learning from Aboriginal ways of knowing – at scale? [NOTE: this research is not targeting Aboriginal and Torres Strait Islander peoples, rather testing interest in this direction for further research. If there is interest in this direction, an amendment to this ethics application will be proposed.]
- What policies, incentives, governance and other policy mechanisms might support Regenerative Agriculture?
- What is a shared framing, vision and set of messages for Regenerative Agriculture that we can develop together and all support?
- What stakeholders stand to oppose or resist this? What can we anticipate in order to be prepared? Should we engage them? Why? How might we engage them? What will we do? What risks do we see? How might we mitigate these risks?
- For all of the above: How might we design this? How might we test this? How do we get it ‘up and running’? How might we address barriers? How might we enable success? What would be need to be in place for these to work? What risks do we see? How might we mitigate these risks? How might we advocate for and embed these? How might we engage others in this work? Who might we engage in this work? How might we engage and share this more broadly and publicly? What’s our plan? Who will do what, when, how? Etc

I will not hold conversations on all of these topics – these are just the range of topics that may be covered. For my PhD research I only need a small handful of activities for research sufficiency. This could be workshops or working groups dedicated to specific interventions.

Types of conversations that might be needed – the following list identifies *types* of conversations that people often need to have in order to work together and move forward as a group. Any of the topics above may be the subject of the conversation, but the type of conversation that is needed depends on where the group is at that moment in time. Some of these can combined in a single conversation:

- **Relationship building** - support a group to become ready for courageous conversations
- **Shared ground/Courageous conversations** - sensitive topics, or where there is past history. Find central points we can agree on so it is possible to move forward together and work through the things we don't agree on. Forming commitments to one another, and to the need that is shared.

- **'Where are we now?' conversations** - getting immersed in what we know in order to identify barriers, challenges and opportunities
- **'Where do we want to be?' conversations** - Vision, shared hopes and scenario conversations (etc.) to get clear about what we want to happen
- **'How are we going to get there?' conversations** - To work out all the components needed to make a vision (or transition) happen
- **'So what's the plan?' conversations** - Detailed planning and individual commitments to action, timing and deliverables

## Facilitation principles/ethic

The principles of participatory action (see section on action research) have shaped my approach to facilitation. “The core values of action research have been defined as ‘a respect for people and for the knowledge and experience they bring to the research process, a belief in the ability of democratic processes to achieve positive social change, and a commitment to action’ (Brydon-Miller, Greenwood, & Maguire, 2003, p. 15); action research is dependent on the “development of...trusting relationships” as well as agency, e.g. “an ability for people to ‘trust in their own powers of action and decision’ (Hilsen, 2006, p. 28)”, and it embodies “feminist virtues [of] trustworthiness, the willingness to take responsibility, and caring and compassion” (Brydon-Miller 2009).

In working with a group to design and facilitate a session, I use the following mindsets and practices in order to deliver on the principles of participatory action:

- Meet a group where they are at
- Ensure participants feel safe to participate
- Facilitate the right conversation for that moment – which can mean ditching the agenda
- Strike the needed balance between relationships, process and results
- Work toward clarity where clarity is needed
- Believe that the gold is with people
- Keep in mind that no change occurs except through individuals
- Remember that it takes a lot of conversation to create change
- Build capability and capacity
- Empower the group and individuals to work together, make their own decisions, and take actions
- Draw upon a range of toolkits to support what the conversation needs
- Know my capabilities and limits - and when I am not the right facilitator

## Process to set up a facilitated group session

- **Framing Intent** - what conversation do we believe is needed? What outcomes are we hoping to achieve? What is our role in this? What's in it for participants?
- **Convening the conversation** - who should attend? What do they need in order to be interested, informed and prepared to participate? How will we communicate with them? Who are the participants and what are the dynamics between them?
- **Designing the conversation** - set out an agenda and develop activities and materials together (e.g. in a small working group)
- **Facilitate** - together - on the day, following the mindsets and practices listed above
- **Follow up** - provide any outputs and/or communications

## Typical structure and agenda of a session

- **Welcome and agenda** - Set out the structure and conditions for working together, e.g. acknowledgement of country, the agenda, objectives, process, ground rules and terms of consent
- **Context** - Acknowledge past progress, e.g. definition of challenges, opportunities and outcomes (even if pre-reading was provided). Discuss as needed

- **Instructions/Guidance** - Prepare participants for the conversations and activities they will engage in with materials, instructions and group leaders etc as needed. Repeat for each conversation or activity.
- **Facilitation** - Between facilitators, co-facilitators, table ‘hosts’ and note-takers – actively facilitate the conversation to support people to address the questions
- **Session capture** - Capture session notes, e.g. via mind-maps, post-it notes, butchers paper, white boarding, sketches, photos, videos, etc. Ensure there is consent for any photos and video captured
- **Process the discussion together** – As a group, debrief each conversation, activity or step in the process. Note what was discussed and learned. Identify key takeaways and insights
- **Recap** – After each conversation or activity, and at the end of the session, name what has been discussed, created and committed to during the session
- **Closure** - Do not leave without clarity on what happens next. Who will do what, by when?

## WORKING GROUPS

### Overview of working groups

- Focused on developing practical interventions to support transition to regenerative agriculture
- Designed based on action research and design practices
- Working groups will most likely be comprised of participants already enrolled in the project. New participants will be provided information about the project and opportunity for informed consent.
- Working group plans and methods will be agreed among working group members.
- The need for confidentiality will be determined by working groups. Confidentiality may be held among working group members, or it may be to the group’s advantage to work openly.
- Participation will be considered tacit consent.
- Documentation for publication will be provided prior to publication for review and consent.
- Data will be disseminated in de-identified ways unless otherwise agreed in writing

### Working group topics

Working groups will be focused on developing practical interventions to support transition to regenerative agriculture. Working groups may be convened around any of the topics discussed in interviews or group sessions. Some of the working groups that seem possible at this moment in time include:

1. **Building transition insight:** Through ethnographic design research in combination with industry expertise, work together to go deeper into the farmer’s experience to understand what is needed to enable and support farmers to transition, at scale
2. **Creating the industry ecosystem:** Envisioning and developing the industry ‘ecosystem’ needed for regen ag to become mainstream, including education and learning, policy mechanisms, finance and financial mechanisms, commercial supply chains, marketing and distribution, data and technology, consumer demand and community, etc. May need to be specific to a bioregion.
3. **Create transition strategies:** Creating a vision, shared frame, strategy and key messaging to support to transition to regen ag at scale
4. **Develop and test transition support programs or businesses:** Supporting a working group to research, design, test and iterate their program or business idea to systemically and strategically increase the uptake of regen ag at scale

### Designing and facilitating a working group

Working groups will be facilitated using the same participatory action-based principles, mindsets and practices as facilitated group sessions, but with a greater emphasis on co-design, co-production and

participant-led initiatives. This means the role of researcher will be slightly different as well. It may include facilitator as well as convenor and/or project lead.

## **Form**

New working groups may be formed as part of this research or the researcher may be invited to join existing working groups. Working groups will likely take the following forms:

- **Consulting support** – participants may engage the researcher as a design consultant. Researcher then works to support the participant-led initiative, business, project, etc.
- **Project-based** – a project-based working group is a group collaborating on a single objective or to develop a single intervention. A working group may convene around the co-discovery of insights and/or co-design and testing of an intervention. Working groups may continue into implementation but that may be beyond the scope of this PhD.
- **Network-based** – a network-based working group is more loosely related and affiliative. A network may not collaborate on any singular objective or intervention. A network-based working group may convene around a topic, whether for the purposes of discovery or guiding the development and testing of interventions. Typically, a network shares knowledge around a topic, like a community of practice, but is also action focused – participants just might not all work on the same projects. Network members may direct the learning toward their own work, projects, organisations and interventions etc., or they may form sub-groups within the network to take action.
- **Combo** – working groups may move between consulting, project, network forms over time

## **Design disciplines drawn upon**

Working groups and facilitated sessions, depending on the focus, may draw upon the following design / design-related practices: design ethnography and design research, systems thinking, systems mapping, visualization, futuring, strategic design, business design, service design, social innovation, co-design, participatory design and facilitation, theory of change, theory of action and transition design.

## Definition of Terms

### Action research

In action research the researcher directly engages with stakeholders to work on ethical, moral and political questions of common good. Action research is a values-based approach to research rather than a research method. “The core values of action research have been defined as ‘a respect for people and for the knowledge and experience they bring to the research process, a belief in the ability of democratic processes to achieve positive social change, and a commitment to action’ (Brydon-Miller, Greenwood, & Maguire, 2003, p. 15); action research is dependent on the “development of...trusting relationships” as well as agency, e.g. “an ability for people to ‘trust in their own powers of action and decision’ (Hilsen, 2006, p. 28)”, and it embodies “feminist virtues [of] trustworthiness, the willingness to take responsibility, and caring and compassion” (Brydon-Miller 2009). Action research is inclusive of a range of approaches including participatory action research, participatory research, community based action research, community based research and critical design ethnography, and more.

Brydon-Miller, M. (2009). Covenantal Ethics and Action Research: Exploring a Common Foundation for Social Research. Editors: Donna Mertens and Pauline Ginsberg. In *The Handbook of Social Research Ethics*. Chapter 16. <https://doi.org/10.4135/9781483348971.n16>

### Ecosystem services

The functions of nature that provide a benefit to humans. Humans can also alter the capacity and capability of ecosystems to perform these functions. Stakeholders gain different forms of value from ecosystem services.

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- Bryan, B. A., C. M. Raymond, N. D. Crossman, and D. H. Macdonald. 2010. Targeting the management of ecosystem services based on social values: where, what, and how? *Landscape and Urban Planning* 97:111–122. <http://dx.doi.org/10.1016/j.landurbplan.2010.05.002>

### Generative tools

Typically tangible artefacts with visual or written prompts to support the interview process. They are used to better facilitate the interview process, support trust-building and ensure the data that is captured during interviews appropriately reflects the participant's perspective.

Sanders, E. B.-N., & Stappers, P. J. 2012. *Convivial design toolbox: Generative research for the front end of design*. Amsterdam: BIS.

### Participatory methods (used in design)

Taking a broad view of participatory methods, this term describes an approach to engaging people in contributing to decisions that affect their lives. Participatory methods are typically group-, workshop- and dialogue-based, with the intent to be inclusive and to ideally engage all types of stakeholders who may be impacted. The level of participation can vary depending on what is appropriate. Participation can range from a consultative approach to a co-design approach. In a co-design approach, as many aspects of the solution and the process to get to that

solution are developed together and efforts are led by those who are impacted the most. Participatory methods relevant to this research so far include: Participatory Rural Analysis (PRA), design thinking, human-centred design, co-design, co-production, visioning, futuring, backcasting, scenario modelling.

- Chambers, R. 1994. The Origins and Practice of Participatory Rural Appraisal. *World Development*, 22(7): 953–969. [https://doi.org/10.1016/0305-750X\(94\)90141-4](https://doi.org/10.1016/0305-750X(94)90141-4)
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- Sondejker S, Geurts J, RotmansTukker A. 2006. Imagining sustainability: the added value of transition scenarios in transition management. *Foresight* 8:15–30
- Marc Pallot, Brigitte Trousse, Bernard Senach, Dominique Scapin. Living Lab Research Landscape: From User Centred Design and User Experience towards User Cocreation. First European Summer School "Living Labs", Aug 2010, Paris, France. 2010. <inria-00612632>
- Brown, Tim. "Design Thinking." *Harvard Business Review* 86, no. 6 (June 2008): 84–92.

### **Systems Design**

An emerging field that links human-centred design, service design and systems thinking in order to change undesirable systems behaviours.

Norman, D. A., & Stappers, P. J. (2015). DesignX: Complex Sociotechnical Systems. *She Ji: The Journal of Design, Economics, and Innovation*, 1(2), 83–106. <https://doi.org/10.1016/j.sheji.2016.01.002>

### **Transition design**

An emerging field that links human-centred design, systems thinking and transition governance in order to systematically design and enable societal transitions.

Irwin, T., Kossoff, G., & Tonkinwise, C. (2015). Transition Design Provocation, *Design Philosophy Papers*, 13:1, 311

### **Transition research**

Transition research is the study of how society transitions to sustainability.

Loorbach, D., Frantzeskaki, N., and Avelino, F. (2017) Sustainability Transitions Research: Transforming Science and Practice for Societal Change, *Annual Review of Environment and Resources*

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