REACHING RURAL
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Interior Architecture as a medium to promote wellbeing through sensory design
dedicated to
dad and uncle judd
who inspired it but will not read it
thank you for showing me the essence of a true farmer
ABSTRACT

Agriculture is one of New Zealand’s largest industries, yet little is being done about the diminishing mental wellbeing of the country’s rural communities. Farming is a time-consuming, strenuous occupation that is predominantly influenced by factors farmers can’t control. With new research and technology findings, changes in regulations, market influences and the trading market is further exhausting New Zealand’s farming population.

Reaching Rural explores how the discipline of Interior Architecture can positively promote the wellbeing of farmers in rural New Zealand, using Sensory Design as a method to enhance moments of experience. This research identifies applications of Wellbeing Architecture and Sensory Design, which are then applied to a demographic that works off the land and is constantly exposed to a variety of unique sensorial qualities.

Understanding the issue of isolation within rural communities lead to the solution of designing ‘The Shed’.

The Shed aims to facilitate community engagement, acting as a venue to host a variety of different events, with the ambition to bring farmers together, aspiring to promote wellbeing. The Shed is a pop-up style venue that will be placed on host farms targeting different rural communities, ensuring isolated farmers are reached.

By bridging the gap between the built environment and wellbeing in the farming community, Reaching Rural brings awareness to the impact Interior Architecture can have on our mental wellbeing.
I am privileged to say I have grown up within New Zealand’s dairy sector on a family run farm in rural Waikato. I have watched and continue to watch, the pride, passion and resilience that farmers have for the work they do. Farmers live a lifestyle not just about earning a living but providing for others, before caring for themselves. A farmer’s devotion to their land, animals and community is admirable.

However, farmers are continuously being faced with more and more unpredictable circumstances, in an already high demanding lifestyle and the toll is increasing within the community. In recent years, mental wellbeing among New Zealand’s farming population has taken a fall and New Zealand’s rural farmers are struggling more than ever.

I wish to use this research portfolio to give back to the farming community of New Zealand, through the discipline of Interior Architecture.
ACKNOWLEDGMENTS

The challenges that the last five years have bought could not have been overcome without the support system I am so grateful to have.

To my supervisor, Lucy. Thank you for your guidance over the last year and for supporting my research endeavours.

To the interior cohort, thank you for making the last five years some of the best, I aspire to design like you all and can’t wait to see what is to come.

To my flatmates, without fail you all manage to turn a bad day into a good one, I am forever thankful to call you my Wellington family.

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Chapter one introduces the problem this research portfolio wishes to address. It states the research question, aims and objectives and how the structure of the portfolio is designed to assist the research.

^fig 1.0 calves grazing
Each year in New Zealand over twenty farmers (male and female) take their own live, (Goffin 5), and a survey done by DairyNZ in 2020 states that, “62% of [dairy] farmers said that they or someone on their farm had experienced mental health issues over the last year.”

The demanding lifestyle of being a farmer allows little to no down time. In recent years the uncertainty and uncontrollable circumstances of drastic weather conditions, financial pressure, regulation changes, negative media portrayal and employee availability has further exhausted farmers. Resulting in poor mental wellbeing among a majority of New Zealand’s farming population.

Being aware of the struggles within the farming community, I believe that the built environment has the ability to generate positive change among farmers. I wish to use this research to bridge the gap between the built environment and wellbeing in the farming community, to bring awareness to the impact interior architecture can have on our mental wellbeing.

There were two key design techniques that stood out when deciding upon this topic: wellbeing architecture and sensory design. Wellbeing architecture is the consideration of how design can impact users, physically, mentally, and emotionally. Sensory design is a design technique that considers the stimulation of all human senses through unique design applications. Different sensory inputs can control how our body perceives a space and the emotions we feel within it. Therefore, these techniques can both positively and negatively influence a user’s experience within architecture. Many studies of wellbeing architecture and sensory design have been conducted; however, this research aims to investigate these design techniques, specific to the farming demographic.

This portfolio will conduct research into wellbeing architecture and sensory design, in order to apply the techniques to interior architecture with the intent to improve the wellbeing of farmers in New Zealand. This leads to the question...

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How does Sensory Design, when applied to Interior Architecture, elevate and improve the wellbeing of Farmers in Rural New Zealand?
With the absence of an architectural response to mental wellbeing struggles of farmers, the aim of this research proposal, Reaching Rural, will be to bring heightened awareness to the impact that the spaces we occupy can have on our wellbeing. The desired outcome of this research is to identify sensorial elements that can promote wellbeing, specific to the rural farming community and can be applied to interior architecture.

The objectives for this thesis are:

- Develop a comprehensive understanding of the theoretical framework of wellbeing architecture and sensory design through literature and precedent studies.
- Understand the rural farming community, the stresses they face daily and their interaction with the built environment.
- Produce an outcome that will positively promote the wellbeing of farmers in rural New Zealand.

**SCOPE AND LIMITATIONS**

Reaching Rural is about creating an interior environment that positively impacts the wellbeing of farmers using the techniques of wellbeing architecture and sensory design. Due to the large quantity of research around the two theories, the literature reviews were limited to findings from key authors and the precedents analysed are only a sample of the work done within the discipline. It was also found that there was a lack of information surrounding rural farmers in New Zealand, this led to an online survey being conducted. However, the survey only represents a percentage of the overall farming population.

The scope of the program relies on the rural community operating and maintaining the design outcome. Areas of the design and technical accuracy have not been discussed due to the realistic constraints of the program and the design proposal focuses primarily on the application of design techniques that achieve the aims and objectives of the portfolio. However, where possible, technical decisions have been made.
Theory:
Utilising interior architecture as a median to promote the wellbeing of farmers in rural New Zealand, my research began with exploring the theories of wellbeing architecture and sensory design, through literature reviews to understand application techniques of each theory.

Next followed research into New Zealand's resilient rural community through reading literature and conducting an online survey to gather information about the demographic’s history, culture, struggles and interaction with the built environment. This survey showed important insight into where farmers thought change would be most beneficial to their wellbeing.

Establishing an understanding of this unique community was important to ensure that moving forward, design techniques could be applied specific to the demographic.

Precedent:
Precedent studies were sectioned into three parts: wellbeing architecture, sensory design and rural New Zealand. The wellbeing architecture and sensory design precedents discuss and analyse how the design techniques have been applied and whether they are effective. The precedents around rural New Zealand help to establish the current built environment that farmers occupy daily and its lack of user comfort.

Program:
An initial site analysis established the range of rural densities around different parts of New Zealand and highlighted the problem of designing for isolation. This initiated the design program for the thesis with a strong focus on how this project was going to approach isolation, to ensure that the design outcome could benefit all farmers.

Design:
Once the program was finalised a series of form, function and materiality experimentations were conducted following the initial research of wellbeing architecture and sensory design techniques. Constant critical reflection provided the development and final design of THE SHED.
This section outlines and identifies techniques of wellbeing architecture from well-known theorist Gary W. Evans and Janette Mitchell McCoy, and from a collaborative literature. An integrative health framework for wellbeing in the built environment, Sensory design literature from Juhani Pallasmaa, Joy Malhar and Frank Vodvarka is also discussed, to form an understanding of the theory.

The research explores how different design elements can influence users physically, mentally and emotionally. These frameworks are fundamental to this project. Both techniques allow the designer to generate interior architecture that can positively influence how individuals experience a space.

"Architecture is really about wellbeing." Zaha Hadid.
Wellbeing architecture is the consideration of how design impacts users physically, mentally, and emotionally. Architects and designers navigate this relationship between people and the built environment. They can design to create an experience.

Light, thermal comfort, air quality, and acoustics are the most common factors that can influence wellbeing within an interior. However, the key texts in this literature review have been chosen as they are more specific to how individuals interact within an interior environment. Outlined below are the two key wellbeing architecture frameworks that this thesis will follow: Five Architectural Dimensions and Seven Domains of Integrative Health.

Five Architectural Dimensions: Gary W. Evans and Janette Mitchell McCoy state that there is minimal research done on how human health is affected by the built environment, however, “people spend more than 90% of their lives within buildings,” (Evans and McCoy 85). When Buildings don’t work: The role of Architecture in Human Health, explores five architectural dimensions that affect human stress levels, which then affects wellbeing. Outlined are the five architectural dimensions of stimulation, coherence, affordance, control and restoration. Each section generalises how interiors can be designed to reduce stress levels; however, it is important to consider the demographic for this thesis. The occupation of farming requires people to be outdoors more than other occupations do, therefore their experience of an interior space may differ.

Stimulation refers to the amount of information the occupant receives within the built environment. “Levels of stimulation are influenced by properties of interior settings such as intensity, complexity, and novelty and stimulus characteristics,” (Evans and McCoy 86). Lack of stimulation will lose engagement of the occupants whereas, overstimulation will cause confusion. Occupants need moderate stimulation, where there is enough complexity and mystery to create opportunities that will challenge users, resulting in a meaningful experience. Changes in sounds, smells, colours, layouts and circulation systems engage occupants, (Evans and McCoy, 86).

Coherence establishes if there is clarity within the built environment; ability for occupants to understand form. This article recognises that stress can be elevated in an interior space that is unpredictable; it’s hard to navigate around the interior and/or there is a lack of visual cues to inform the occupants. Coherence is defined by how the occupant orients around the room. Layout, signage and organisation influence the coherence of an interior.

Control refers to the ability of the user to alter the physical space within an interior. “Physical constraints, flexibility, responsiveness, privacy, spatial syntax, defensible space, and certain symbolic elements are key design concepts salient to control,” (Evans and McCoy 88). Allowing users to have a level of control over the space, will ensure occupants do not feel confined to the physical constraints of the interior. A space that allows for occupants to create an environment within the space that is comfortable for them creates a sense of identity and can have a positive impact on user health. For the outcome of this project, it will be important to give farmers flexibility of the interior space.

The fifth architectural dimension Evans and McCoy believe that is linked to stress is restorative. “Restorative qualities define the potential of design elements to function therapeutically, reducing cognitive fatigue and other sources of stress,” (Evans and McCoy 91). Restorative elements are designs that reduce stress by designing for relaxation, fascination, and connection to nature. They are specifically designed with the purpose to reduce stress and improve wellbeing.
Practicing wellbeing architecture is creating buildings that are designed to promote the wellbeing of the occupants using the space. Different buildings have different purposes and are occupied by individuals with different social and cultural values. Understanding these needs and designing for them, can facilitate and enhance wellbeing. Personal experiences influence how we perceive a space.

Therefore, in order to design for New Zealand's rural 'agricultural' farmers, it is important to understand the community.

The Five Architectural Dimensions stated prior outline design techniques that can be applied to the form and layout of an interior space. Whereas the Seven Domains of Integrative Health takes a different approach and outline how interior architecture can support integrative health.

Seven Domains of Integrative Health: "Integrative health is defined as healing-oriented medicine that takes into account the whole person, including all aspects of lifestyle, and includes seven core areas, or domains: sleep; resiliency; environment; movement; relationships; spirituality; nutrition," (Engineer et al. 1). This section reflects on the key finding from An Integrative health framework for wellbeing in built environment; establishing the seven domains and how interior architecture can implement techniques to support human health, promoting wellbeing.

The first domain of integrative health is sleep. Getting an adequate amount of sleep is essential to maintaining wellbeing whereas inadequate sleep hinders wellbeing resulting in affected mood, performance, productivity and ability to socialise. The built environment can influence quality of sleep through light and thermal comfort. Exposure to natural light influences circadian rhythm which in turn impacts sleep. This can be done by connecting design to nature. An overall connection to nature can also reduce stress as stated in the environment domain. Simple design elements such as consideration to the orientation of a building to optimize exposure to light, thermal comfort and views of nature can reduce stress.

The domain of resiliency refers to the ability to recover from stressful events. Interiors can be designed to reduce stress aiding in individuals’ resilience. Natural sounds, diffused light, encouraged movement, readable spatial layouts, optimal thermal comfort, and biophilia are design elements that can be applied to interiors, reducing occupants stress. (Engineer et al. 5).

Movement can be encouraged through design by differing spatial layouts that require occupants to move from one area to another. Studies show that physical activity if proven to promote health and wellbeing.

Relationships with one another give us a sense of belonging and allows us to trust in each other. Interior architecture can create spaces that allow individuals to unconsciously engage, through gathering areas and furniture arrangements that can be configured to the size of the gathering. The integrative health domain of spirituality refers to an individual's personal values and beliefs that create meaning and purpose to them. "Spaces designed to include elements of nature and places of peaceful, quiet contemplation, as well as spaces to slow down, be in the moment and disengage from day-to-day stresses and distractions, will all support and foster spiritual health," (Engineer et al. 8). Nutrition is the seventh domain of integrated health and references its importance to maintain wellbeing.
Our Senses:
Human senses are the body’s mechanisms to interpret the world around us. The five senses are sight, taste, touch, hearing, and smell. However, recently many argue that there are seven senses our body uses.

“Every touching experience of architecture is multisensory; qualities of matter, space and scale are measured equally by the eye, ear, nose, skin, tongue, skeleton, and muscle. Architecture involves seven realms of sensory experience which interact and infuse with each other,” (Pallasmaa, An Architecture 42).

SENSORY DESIGN

Our Senses: The body’s mechanisms to interpret the world around us.

“Architecture is the art of reconciliation between ourselves and the world, and this meditation takes place through the senses,” Juhani Pallasmaa.

^fig 2.3 ranges of the senses by Malnar and Vodvarka
VESTIBULAR: architecture is designed around the human body; our bodies interact with the built environment. The layout of the built environment unconsciously tells our body how to interact with it. Vestibular is the sense of where our body is in space.

PROPRIOCEPTION: this sense is the body’s awareness of its body parts; the body’s sense to interpret the built environment in terms of itself. “Understanding architectural scale implies the unconscious measuring of an object or a building with one’s body and protecting one’s bodily scheme on the space in question. We feel pressure and protection when the body discovers its resonance in space.” (Pallasmaa, An Architecture 48).

SIGHT: sight refers to the ability of the eyes to detect a retinal image. It is our key sense to interpret separation and distance.

image, separation, distance, layout

bodily awareness

movement, balance, purpose, use

^fig 2.4 flowers
>fig 2.5 maize paddock
>fig 2.6 diary cow shed yard
TOUCH: the tactile response of human skin contact with an object translates to the texture, weight, density and temperature of matter. We receive different information for the different tactility of materials.

TASTE: the taste sense can not be directly linked to architecture. But it can be amplified by other senses.

SMELL: smell is the strongest sense of memory. "A particular smell may make us secretly re-enter a space that has been completed erased from the retinal memory: the nostrils project a forgotten image, and we are enticed to enter a vivid daydream," (Pallasmaa, An Architecture 44).

HEARING: Detecting sounds make us aware of our present state. "... sound incorporates; vision is directional, whereas sound is omnidirectional... sound creates an experience of interiority. I regard an object, but sound approaches me; the eyes reach, but the ear receives," (Pallasmaa, The Eye 53).
Sensory design is designing with the consideration of stimulating human senses. Recently, “the architecture of our time is turning into the retinal art of the eye,” (Pallasmaa, An Architecture 41). Pallasmaa explains in An Architecture of the Seven Senses that we are losing sensual qualities within new architecture; we are losing the human connection between our bodies and the built environment. Vision has become a prominent sense in art history, however, there are seven senses that the human body uses to observe the world around us. Sensory design can enhance occupant’s experiences of a given space. Designers can influence the atmosphere and emotions they wish occupants to experience within an interior by using a sensory design process. Joy Malnar and Frank Vodvarka state that there are three different stages to a sensory design response. “First, an immediate physical response to stimulus; second, a response conditioned by prior knowledge of its sources; and third, a response to stimulus as it has been identified in one’s memory with a particular time and place,” (21).

When we first approach a space, we have an involuntary reaction to what we experience, (Malnar and Vodvarka 21). Sight allows us to interpret depth of space, layout and separation, we establish a retinal image of the space. Our proprioception sense unconsciously observes the space, informing us of the scale of the built environment in relation to our body. Pallasmaa explained that an architectural experience is not just a series of images, it is how we encounter the space, “it is approached, confronted, related to one’s body, moved about, initialized as a condition for others, etc. . .” (An Architecture 46). Our body unconsciously observes the spaces we are in, the way our body experiences an interior space is dependent on how our bodily measurements correlate with the space: our body is our tool to perceive the world around us. The human body is not made for architecture, architecture is made for the human body.

The second response refers to our senses recognising familiar settings and our understanding of the built environment, (Malnar and Vodvarka 21). Familiar sounds, odors and materials can reassure us. Whereas an unfamiliar setting, can either excite us or create confusion. For example, timber brings us unconscious warmth and belonging, whereas a concrete structure can be overpowering and cold. Our bodies understand what different qualities mean when observed: Farmers may interpret sensorial qualities differently as they are constantly surrounded by different natural elements. What may excite some people might seem normal to others. Therefore, it is important for this thesis that infrastructure occupied by farmers is analysed to identify sensorial qualities they are exposed too.

The third sensory response is influenced by the experience of the occupant. Pallasmaa expresses that everyone perceives a space differently dependent on their memories. Different sensory experiences provide different memories, “the interior becomes the repository for memories of daily embodies sensory experiences,” (Pallasmaa, An Architecture 41 ). Occupants social and cultural values must be understood as factors that can influence how they perceive the space. The third process suggest that designers must understand the occupants they are designing for, to ensure that the sensorial elements are specific to the demographic. When creating a space, we want occupants to feel safe and secure, the use of an unfamiliar sound might influence the opposite sensory response, (Malnar and Vodvarka 21).

“Sensory design is the orchestration of spatial stimuli in built environments, arranged to cumulatively lift the quality of experience for the occupants they serve,” (Lehman 46).
“I'm connected to the land with all my terminals, I come from there and I'll go back there one day, and I'll be a happy man,” Doug Avery.

Interior Architecture focuses on designing for the user. Different users require different things. Therefore, to design for the rural community of New Zealand, their demographic must be understood. This section aims to identify the history behind the farming industry, the culture of farming and how farmers feel about the problem at hand through a participator survey.

"fig 3.0 abandoned milking shed"
Farmer [fahr-mur]
Noun
1. A person who farms; person who operates a farm or cultivates land.
2. Slang: Disparaging or Offensive. an unsophisticated or ignorant person, especially one from a rural area.
3. Archaic: A person who undertakes some service, as the care of children or poor people, at a fixed price.
4. Archaic: A person who undertakes the collection of taxes, duties etc., paying a fixed sum for the privilege of retaining them.

(dictionary para1)
“The history of this country - since the beginning of human habitation - lies deeply rooted in the good earth which has conditioned what we have been and what we have become,” (McLauchlan 12).

To be able to design specifically for the farming population of New Zealand, the rapid and continuous development of agriculture is important to understand. New Zealand’s farming history is reflective of the country’s colonisation and the development of modern technology.

Before Europeans arrived in New Zealand, Māori were trying to grow crops they had brought into the country from Polynesia. The crops struggled to flourish in the climate and soil type, so instead of gardening, they became hunters and gatherers. To make hunting easier, they began deforestation. When Europeans settled began arriving in the 1800’s, it is said that half of the bush land was already destroyed. The European settlers found that their crops and animals were suited to the land and climate of New Zealand. Deforestation continued, bush land was turned into farms and farmers modified their way of farming. (McLauchlan 17-18).

Around 1840, sheep were brought into New Zealand from Australia, where capital was being made for merino wool. "The first post-European New Zealand farming on a larger scale was wool growing, an export-orientated enterprise that brought this country its first taste of affluence... Wool started to earn New Zealand a strong living in the world, the first one-extractive, renewable farm product to do so on any scale,” (McLauchlan). As more animals were brought into the country, it was found that the South Island terrain was better suited to sheep and the North Island was more suited to cows.

The new technology of refrigeration allowed New Zealanders to sell meat products overseas, with the first export made to Britain in 1882. As demand grew, so did animal numbers. Butter and cheese factories were built allowing exports other than wool and meat.

During the First World War, scientists came into New Zealand to increase production in our agriculture sector. Britain believed that food from New Zealand was essential during the war. “However, the increased production did not weight the struggles faced by farmers worldwide during the Great Depression - prices plummeted in 1920’s. The combination of low process and high land debt meant many returned soldiers who took over these farms failed, leaving land to go back to scrub,” (Wood para4).

Development of more land became easier in the late 1950s when the introduction of aerial topdressing allowed for more of the countrywide hills to be used as pastoral land. More land suitable for sheep and beef influenced the fast increase of stock numbers.

Farmers were then forced to modify their way of farming when there was a ‘collapse of commodity prices’ in 1967. Although there was a collapse in prices the New Zealand Government was still enforcing farmers to increase production. In the 1970’s the government introduced subsidied, debt write-offs and tax incentives to aid farmers with the collapse of pricing and to further increase production. "As a result, farmers became less responsive to market signals reducing productivity.” (Wood para6). However, in 1984 all government support was removed from New Zealand farmers. The follow on effect resulted in stock numbers decreasing and financial hardship began to play on the rural communities wellbeing. Nonetheless, hope was found for farmers when markets in Asia and Europe started opening.

Regulation changes began in 1991 when the Resource Management Act 1991 was passed by government. The act promoted ‘sustainable management of natural resources.’ From 1995 to the early 2000s dairy and sheep stock numbers continued to increase. Further development of irrigation increased production on pastoral land and new information on crops, fertilisers and chemicals assisted farmers to increase production. Over recent years, farmers have had to adapt to new regulations, market influences and the trading market. As our climate is changing, emphasis on the environmental impact of farming has caused negative connections with the occupation. As new regulations are put in place for more sustainable farming practices, farmers simply have no choice but to again modify and develop their farming systems to meet regulation and be more efficient. The new emissions pricing that has recently been announced has yet again put added pressure onto the farming community. Environmental schemes have been put in place for farmers to implement by the government with no financial support.

New Zealand’s farming history is a reflection of new research and technology findings. Agriculture has developed with the society and farmers have had to adjust on the way. Farmers have no control over regulation changes, market influence and the trading market. However, they must adjust their way of farming dependant on these factors. When refrigeration was invented and demand increased, farmers adapted.

During the First World War when production needed to increase, farmers adapted. During the Great Depression when prices plummeted, farmers adapted. When commodity prices collapsed, farmers adapted. When the government took away financial support, farmers adapted. When regulations changed, farmers adapted, and more recently during the COVID pandemic, farmers adapted. New Zealand’s farmers show a culture of resilience. They are constantly faced with challenges that they must overcome to continue feeding not only New Zealand, but the world.
House: A farmer’s house is one of the most important buildings on the farm; it is their home and business office. It is generally located near the rest of the farm buildings. A popular feature of most farmhouses is a verandah. A place to hang wet weather gear and remove gumboots before entering the house. It is also common to have more than one house on the farm: for permanent staff and their families. Men’s/shearers quarters can be located on bigger farms that employ a large number of staff or hire seasonal help, such as shearers. The quarters run along a verandah with a line of rooms along on side.

Farming infrastructure is designed for functionality with little to no consideration of user comfort. Past and present buildings have been designed solely to fulfill their function, even though farmers spend a large majority of their time working within them. Farmers are required to work in an environment that has been designed for them to operate, not for them to benefit from. Although farming infrastructure does not directly affect farmers health, there is potential for it to benefit it.

Buildings located on each farm represent the farm type. For example, dairy farms will have a milking shed and sheep farms will have a shearing shed.

Just as methods of farming have changed, so have the buildings structures and construction materials. Originally buildings use to be made out of timber, stone, concrete, brick and cood, which is a mixture of mud and straw. However, when galvanized corrugated iron began being imported into New Zealand, it become a popular building material for exterior walls and roofing.

Shearing Sheds/Woolsheds: A shearing shed is comprised of an angled area for holding sheep, the shearing board, the wool room and a storage room. The area for holding sheep is sheltered, to ensure that the animals don’t get wet before they are sheared. The shearing board provides a platform for each shearer, with an individual catching pen and porthole to a counting out pen. The wool room, although generally not a room but a designated area of the shed, is where the wool is sorted. The storage room is where the wool is stored once it has been pressed and baled. (Peden 2)

Milking sheds: Cows were originally milked by hand and the only structure needed was a shelter that covered the cow and the milker. With new innovations and increasing herd sizes, this method quickly developed. Recent milking sheds are built with a concrete holding yard and either a herringbone or rotary milking shed. The concrete creates a solid surface that can be washed easily after each milking. Galvanized steel pipes make up the milking area and create different pens and alley ways. Within the shed will be a vat room and an engine room that holds the motor.

INFRASTRUCTURE

Farming infrastructure is designed for functionality with little to no consideration of user comfort. Past and present buildings have been designed solely to fulfill their function, even though farmers spend a large majority of their time working within them. Farmers are required to work in an environment that has been designed for them to operate, not for them to benefit from. Although farming infrastructure does not directly affect farmers health, there is potential for it to benefit it.

Buildings located on each farm represent the farm type. For example, dairy farms will have a milking shed and sheep farms will have a shearing shed.

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INFRASTRUCTURE
THE CULTURE OF FARMING

It is evident that farmers have a different way of life to many that work nine to five jobs. For people on the outside, it may look like rural farmers live in the most scenic places, away from the big city life, amongst animals, within the beauty of nature. Although many farmers would agree, it’s what’s beneath the surface that’s taking a toll on New Zealand’s farming population. The side of the occupation you don’t see unless you are living it. This section briefly discusses the culture of farming in New Zealand; the long hours, stigma around mental wellbeing, family pressures, constant learnings and the overall passion behind a farmers never give up attitude.

Farmers are continually working. They are caring for their families, stock and land before they care for themselves. Farmers can’t control the midnight hours that their stock start calving or whether it rains at the right time for crops to be planted and weeds to be sprayed. The occupation of farming is reliant on many uncontrollable factors that directly affects a farmer’s season and the hours they work. So how are farmers meant to care for their mental wellbeing when it is affected by factors that they can not control?

The isolation of living rurally and burn-out of working long hours is causing the mental wellbeing of New Zealand’s farming population to decline. Although more resources are becoming available to help farmers, there is still an unspoken stigma around mental wellbeing and asking for help in the rural community. Asking for help can be seen as a sign of weakness or failure. There is a classic stereotype around farmers. That they are strong, have no fear, and have an easy way of life. But this stereotype of not being able to show true emotions and hardship is putting a strain on farmers. Many feel as if they don’t have the right to seek help because they are idolised as strong, independent and fearless characters in our society.

Many also don’t feel they can seek help because generally the farm they work on has been passed down from generations before them. The pressure of wanting to continue a family legacy and not fail the people that worked to preserve and set up the land for them to live off, is a large burden that many farmers are faced with. But as climate pressures change and new technologies are found, it is impossible to compare the challenges faced by today’s generation and the generations that have passed.

Farmers are continually learning about new research, technologies and farming methods. A true farmer is always learning and trying new things to improve their way of farming and the success of their farm, in order to continue feeding the world. But it is also the quick problem solving from years of experience that is an important part of being a farmer, they must be quick to respond to problems they are faced with. Farmers are innovative thinkers and creative problem solvers.

But at the end of the day farmers will say it is the passion they have for what they do that gets them through the day. The satisfaction of providing food for New Zealanders and people around the world. It is the passion for the lifestyle that keeps farmers fighting. They get to provide for their families, care for their stock and preserve the land they work on. Farmers work so that the world can eat. So how can interior architecture reflect a farmer’s passions for their lifestyle while having a positive impact on their wellbeing?

The paragraph below is a direct quote written by Sir John Kirwan in the foreword of Doug Avery’s book, The Resilient Farmer. Doug Avery is a household name for the farming community. The book showcases Doug’s story of how he overcame severe depression after his farm in the Marlborough Sounds faced eight years of constant drought. His story resonates with many farmers, using emotional resilience to overcome what looked like an impossible situation to get the farm running again. Doug learnt to farm with the factors that he could control.

“If you look at farmers, traditionally, they tend to be introverts - they have to be, to handle the isolation. They are strong people. Stoic. Their self-belief centers on being able to cope with everything the land throws at them. So mental health, for them, is pretty complex. The idea of showing vulnerability is probably several times more traumatic than it is for someone like me [Sir John Kirwan]. They look to their family background - maybe they’re the third or fourth generation on that piece of land - and they think, ‘my parents and grandparents built this farm, cleared it with their own hands; am I going to lose it?’ They don’t realise that, often, their parents and grandparents actually did suffer, but they hid it.’”

The quote from Sir John Kirwan addresses the culture of farming, the isolation and suffering. The external pressures that come with being a farmer. For Doug Avery it was the same, but he persevered by learning about new technologies and farming with what he had. Doug is a true example of someone with a never give up attitude.

A quote from Doug Avery in interview with Tough Talk, “You either win or you learn, you only fail if you don’t learn.’”
Background and objectives: As there is little to no research on the current state of farmers' wellbeing and how they interact with the built environment, it was decided that an anonymous participatory survey would be conducted for the purpose of this research. Engaging participants of the rural farming community in New Zealand allowed questions to be asked around how farmers interact with the built environment, where they spend most of their time and the daily struggles they face. Human research allowed a greater understanding of the farming community in order to establish ways interior architecture can positively promote wellbeing.

Methodology: As the survey asked participants about the sensitive topic of the struggles they face being a farmer, it was decided that the survey would be anonymous. As previously stated in The Culture of Farming, farmers rarely open up about their struggles. Therefore, by reassuring participants that the survey is anonymous ensured farmers completed the survey honestly. Using the online platform Qualtrics ensured that the data was anonymous when received and at no stage of the survey were participants asked from their name, email address or any form of information that could be traced.

Multi-choice and written answer questions were decided through a process of elimination to choose the most relevant and pertinent questions that would generate the required information. Questions were articulated allowing the participants to only share what they feel comfortable sharing, at no point were participants obliged to participate in the survey, that decision was of the participant.

The survey was advertised through social media posts, where administrators of farming organisations and community farming pages were contacted to post the survey. An image and statement were provided as seen in figure 3.7. The post outlined the aim of the research project, the purpose of the data collection, a statement ensuring that the survey is anonymous, a statement ensuring that the survey had been approved by the Victoria University of Wellington Human Ethics Committee, and the link to the Qualtrics survey. A more in-depth overview was given when participants entered the survey link, before the survey started.

The results were analysed to find the average range of data, to create an optimal example of New Zealand's farming population.

Support Masters student with research into farmers wellbeing. I am a Masters student in interior Architecture at Te Herenga Waka—Victoria University of Wellington, and I am researching ways that the spaces we occupy can positively promote the wellbeing of farmers.

All farmers are invited to participate in an anonymous survey as representatives of the farming population of New Zealand. Take part and contribute to research on how interior architecture can positively promote the wellbeing of farmers.

Click the link to take part in the survey: https://www.qualtrics.com/leform/SVzR0LcM7ZgZPYNJphg

If you have any questions, feel free to email: lucy.tupa@vuw.ac.nz
why do you chose farming as a lifestyle?
1. gives purpose
2. seeing the animals
3. being a key food producer
4. providing jobs
5. the community

what do you struggle with most working on the farm? what factors do you believe contribute to poor wellbeing?
1. isolation
2. feed shortages
3. animal welfare
4. negative media portrayal
5. drastic weather conditions
6. financial pressure
7. regulation changes
8. availability
9. feed shortages
10. isolation

Results:
The Struggles: The question 'what do you struggle with most working on the farm? What factors do you believe contribute to poor wellbeing?' was asked as a multi-chose question. Out of the overall 113 responses, 26% answered regulation changes, 17% answered negative media portrayal, 16% answered drastic weather conditions and 15% answered financial pressure. A follow-on question asked how the struggles they face affect them, again the multi-chose question allowed for multiple answers to be chosen by each participant. The most common answers were stress, lack of sleep, burn out and no time off.

The Culture: Although many farmers are constantly faced with hardship, the survey asked why they chose farming as a lifestyle. 72% of participants chose gives them purpose, 64% chose caring for animals and 37% said being a key food producer. 56% of farmers said they spend most of their time working outside whereas 34% said they are within farming infrastructure and the remaining 9% said they are at home or in an office. Only 78% of participants said they take breaks while working and out of most that do, state they return home for their break. 78% of participants also stated that they wish to get more time away from the farm. Only 60% of farmers said that are actively doing something to benefit their wellbeing and only 30% stated they are a part of support/community groups.

Infrastructure: A series of questions were orchestrated around the infrastructure that farmers use. Farmers were asked to list the different structures on their farms. The results reflected the different types of farmers the participants stated they were. 56% of participants said their infrastructure is well maintained, 34% need few improvements and 10% need many improvements.

Change: The participants were asked where they would like to see change in interior architecture to benefit wellbeing. 50% stated in public/community centers and 35% said private on farm improvements.

Limitations: Due to the nature of this survey, it is important to consider the limitations of the results.
1. The results only represent a sample size of the wider population.
2. The online survey limited the amount of people reached, as not everyone has online access.
3. Although the survey was posted on farming pages to target the correct demographic, it can’t be guaranteed that everyone who participated in the survey is a farmer.

Discussion: This anonymous survey was conducted to better understand the farming population in New Zealand for the purpose of designing interior architecture, specific to the demographic. Interior Architecture is the study of how design can affect the way people experience, interact with, and move through an interior. The survey reiterates that farmers are continuously struggling with factors they cannot control. Regulation changes, negative media portrayal and drastic weather conditions are the most common struggles reflected by the participants. Although these problems cannot be controlled, there is possibility to control the follow-on effects of stress and burnout through the use of interior architecture. It also reiterates why farmers continue in the occupation; it gives them purpose, they get to care for animals, and they are key food producers.

An important find from the survey showed that only 34% of farmers spend most of their time within farming infrastructure, meaning the majority spend their time outdoors. This can influence how farmers perceive a space as they work day to day around different natural tactile and textured elements. The memories that could be provoked through the use of different sensorial qualities will differ for farmers.

Although farming takes a toll on many farmers, only 60% of farmers said they are actively doing something to benefit their wellbeing. One speculation could be a direct result from their lack of time and constant burnout. When designing, it will be important to consider how sensory design can promote wellbeing in an environment that farmers are willing to occupy.

One key question I wanted to ask to provide insight of how this research could facilitate realistic concepts for the rural community was, where they wanted to see change. However, the survey presented no obvious answer to whether public or private improvements were preferred. The answer to this question could also be subjective to the personality of the farmer, whether they are sociable or not.

Overall, the survey reiterated that the most common problems around farming cannot be controlled, but what can be controlled is how wellbeing can be maintained because of these issues.
Measuring wellbeing can be subjective to a person’s own beliefs of what wellbeing is. However, frameworks have been created to outline the foundations required to maintain and measure an individual’s wellbeing. A notable New Zealand framework that is further discussed in this section is Te Whare Tapa Whā. A holistic conceptual framework designed around Māori values. Also discussed in this section is Abraham Maslow’s famous Hierarchy of Needs. A theory that outlines what basic wellbeing needs motivate human behavior. The purpose of this discussion is to understand how wellbeing is measured and if interior architecture could contribute to these aspects of life.

Te Whare Tapa Whā is a Māori framework for measuring the four cornerstones of health/wellbeing. It was developed by Sir Mason Durie in 1984. The framework echoes the four walls of a wharenui. If one wall becomes rundown, the wharenui or person becomes unbalanced. When all walls are aligned, we thrive. The four walls are Taha wairua (spiritual), Taha hinengaro (mental and emotional), Taha tinana (physical) and Taha whanau (family and social). Whenua (land and roots) lays the foundation of the four walls.

Taha wairua can be interpreted differently depending on your beliefs. For many it is connecting to faith or religion and for others it could be an internal connection. “Taha hinengaro is your mind, heart, conscience, thoughts and feelings. It’s about how you feel, as well as how you communicate and think,” (Te Whare (1)). Taha tinana (physical) and Taha whanau (family and social) are about caring for the physical health of your body, ensuring you are doing all to care and nurture it. Taha whanau refers to relationships with family, the community, colleagues and friends. It’s about feeling a sense of belonging and identity. All four of these walls are balanced on the foundation of Whenua. “Whenua is the place where you stand. It is your connection to land – a source of life, nourishment and wellbeing for everyone... you can also think about whenua as your place of belonging – that means the spaces where you feel comfortable, safe and able to be yourself,” (Te Whare (2)).

Having a safe, warm and comfortable interior space could support all four walls of the wharenui. A space for spiritual practice, physical activity, hosting family and friends, and a space to reflect. The design phase of this thesis should consider how to facilitate these areas of a farmer’s life.

The theory of Maslow’s Hierarchy of Needs was constructed by Abraham Maslow in 1943. Maslow stated that there are five categories of needs that determine human behavioral motivation. The five needs are placed in a pyramid formation with the most basic needs at the base. The pyramid hierarchy suggests that we are driven to fulfill the base needs before moving up the pyramid. At the base of the pyramid is physiological needs; basic human needs that support homestasis. “Physiological needs are needs that must be met in order to survive,” (Holzhnecht). Maslow suggests that humans are motivated to fulfill these needs before moving up the pyramid. Next is the need for safety, for oneself to feel protected and secure in areas such as personal, employment, health and property. Love and belonging needs are next, referring to social interacting, both giving and receiving. Next is the need for esteem. “A desire for stable, firmly based, high and respectful evaluation of the self, comes to prominence,” (Healy 313). Last is the need for self-actualisation, the highest fulfilment and the ability to do everything that you are capable of. (Healy 313).

The theories of Te Whare Tapa Whā and Maslow’s Hierarchy of Needs are designed to be adapted to individuals from all orientations of life. These frameworks create a base for human wellbeing. Sir Mason Durie outlines in Te Whare Tapa Whā that for people to thrive and live a healthy life, all four cornerstones must be fulfilled and balanced. Whereas Maslow’s Hierarchy of Needs outlines what human needs must be met to fulfill the basic needs of wellbeing before moving to the desire of being the best we can be.

As this thesis aims to positively promote the wellbeing of farmers in rural New Zealand. Moving forward, it will be important to consider these theories as they provide a framework of what aspects of life influence wellbeing. It also must be understood that demographics with different cultural and social values may measure wellbeing differently. For example, the caring for land and animals may influence a farmer’s wellbeing but will unlikely influence the wellbeing of someone who works an office job. Overall, these frameworks show the aspects of life that affect human wellbeing.
Chapter four analyses seven key cases studies categorised into wellbeing architecture, sensory design and rural New Zealand. The case studies have been critically analysed reflecting the key findings in chapters two and three, to understand how design techniques have been applied and whether they are effective. The overall aim of this chapter is to understand how designers have applied these techniques to different projects in different cultural settings, in order to use similar frameworks in the design phase of this research.
Martu and Nibali Aboriginal people make up the majority of Newman City's population, this center is designed to cater for the aboriginal people of the area. PAMS Healthcare Hub is the primary health center in Newman and is designed to embody the country and promote wellness of the indigenous community.

Users enter the central courtyard that is enclosed by two main structures. The courtyard acts as a point of connection and brings nature into the space. The curved walls and ceiling direct users, creating gentle transitions between each space. Smooth rammed earth makes up the majority of the buildings, making the structure feel a part of the land; "rammed earth creates a human and intuitive connection to its place. The material is country." (Rammed Earth Health Hub Para 12).

The design encapsulates the culture of the indigenous community, and the tactile qualities create a sensorial experience that is familiar to the occupants. The space promotes wellbeing through its consideration of materials, coherence of the layout and understanding of the aboriginal people of Newman. PAMS Healthcare Hub frames the importance of understanding the demographic you are design for. By using forms and materiality that the aboriginal community is familiar with, the designer is controlling as much as they can to ensure optimal comfort within the space. Similar to the aim of this thesis, PAMS Healthcare Hub has connected people, country and culture.
Located within the city, Shuran Wellness Space is designed for users to escape the stresses of the city. The space is divided into two: Shuran Wellness time cave and Shuran Skincare time metamorphosis.

The cave theme is represented through cave-like curved walls, and a natural, quiet, tranquil atmosphere. The curved walls create a smooth transition between the two spaces. The different spaces are identified by using different materials making it easy for the user to understand. Minimal connection to the outside ensures that people are truly immersing themselves into the space, using their imagination without the distraction of the outside world.

Connecting nature, body and the mind, Shuran Wellness Space has created an area that users can escape from reality, following the wellbeing domain of restoration. The design promotes wellbeing through its use of natural materials and biophilic design. The clarity and simplicity of the layout also makes it easy to navigate around the space, showing stimulation, coherence and affordance. Wellbeing architecture encourages occupants to be mindful and relax, Shuran Wellness Space has achieved this.
Comvita is a pioneer producer of Manuka Honey in New Zealand. The company brands itself with the aim to make people feel better and live well with the consumption of Mānuka honey, ‘their medicine.’ The honey can only be produced with careful care of the environment. The Comvita Wellness Lab intends to showcase the production of honey through their multi-sensory retail space in central Auckland.

The interior informs users of the nature of bees and their incredible ability to produce honey. The rigid timber bench laying on the stone pillars, drooping plants and the mesh like beehive hanging from above, captures uses. The tactility of the materials is enhanced with, “custom designed scents of Manuka tree, propolis and Mānuka honey,” (Comvita Wellness Lab para 2). The sensorial elements complement each other to enhance the experience. Within the lab is a 180-degree theatre where honey tasting takes place. Certain sounds are played within the theatre to heighten the flavour of the honey.

Comvita Wellness Labs tribute to bees is captured with great attention to detail. To represent the story of the brand, the designers have utilised tactile qualities that enhance each aspect of the warm, natural environment that bees inhabit. This precedent has been chosen for this thesis as it is a New Zealand example of how designers can use sensorial elements to portray different environments within an interior, showing the importance of all senses not just sight.
Arumjigi Culture Keepers Foundation started in 2001. The non-profit private foundation was founded to protect the culture and tradition in Korea, for it to be passed on to future generations. The building holds spaces for cultural exhibitions, large gatherings and office spaces.

Mimicking a traditional Korean house, the courtyard acts as the open space that each building is placed around. Different exterior materials have been used to divide the functions of each interior space and within the interior different flooring materials have been used to separate each floor plane. This makes it easy for the users to differentiate each space, facilitating the wellbeing dimensions of stimulation, coherence and affordance.

Arumjigi Culture Keepers Foundation showcases the effectiveness of how different materials, and their tactile qualities can make users feel and see clarity within the meditative space. It reinforces Juhani Pallasmaa’s theory that design must consider all senses.
HAZELWOOD SCHOOL
Building Type: Educational, Primary and Secondary School
Architect: Alan Dunlop Architect Limited
Location: Surrey, United Kingdom
Year Built: 2007

The students attending Hazelwood School will never truly be able to live independent lives. Hazelwood school caters for kids with dual sensory impairment (blind and deaf) from ages 2 to 18. Alan Dunlop Architects have designed this school to support the children’s needs. As their sensory inputs are limited, emphasis on other sensorial elements throughout the design have been made. For example, textures have been applied to the wall so that students can touch the walls and move around the school.

Alan Dunlop Architects stated that the design of the school had been a success, “the children and young people respond well to their new environments and appear to be thriving.” (Hazelwood para2). It was important for the architects to consider that with the impairment of some senses, the importance to engage others heightens. The senses they can interpret become the way these students perceive a space.

This precedent shows how the built environment is experienced by a variety of different people that interact with spaces differently. Although this thesis does not solely focus on designing for sensory impairment, it is important to understand that certain senses can be heightened for different individuals.
An example of a typical dairy cow shed in New Zealand; this precedent displays a structure occupied by farmers daily. Although surrounded by nature and animals, the milking shed feels sterile. The strong steel and concrete structure appear dull and heavy. A cow shed is occupied for hours morning and night, seven days a week, yet there is little consideration of user comfort. The shed has simply been designed for functionality.

This precedent shows that user comfort has not been considered in the built environment of rural New Zealand. Although it is important that things are functional, there is no consideration to who will be operating the cow shed. This thesis proposes to look into how rural New Zealand can cater more for the wellbeing of its community.
This building complex that now stands as New Zealand’s National Museum of Sheep and Shearing, was originally built to fit the purpose of shearing sheds. The complex is made of three different buildings. Two are old wool sheds (Glendonald and Roselea), that have been transported off their original farm properties and the third, is the newly built Stewart Weston Gallery. The buildings are set up to display how the shearing process operates and they showcase the history and importance of sheep in New Zealand.

The old wool sheds are made of rimu, matai and totara. When inside the old sheds you can see the age and craft of shearing through the worn timber. It tells a story of the shearing done within the shed. Although the site was not visited, you can tell that there is an aroma within the space that would trigger memories for the farmers that walked through the building.

The overall aim of this thesis is to promote wellbeing of farmers and create an interior that showcases the culture and passion of farming. The Wool Shed has been shown as a precedent for this research because the building successfully reflects the culture of shearing in New Zealand.
The previous four chapters conclude the base theory and stakeholder research for this thesis. This chapter acts as a brainstorm, reflecting on the past chapters, to identify what the rural community could benefit from in order to establish a program that aims to positively promote wellbeing.

The brainstorm highlights the issue of isolation in the rural community and discusses how this thesis can target the problem homeostatic, by creating an interior space accessible to all farmers, that they are willing to use.

 fig 5.0 old milking shed
Based off the survey results and researching rural New Zealand, it has become evident that with farming being such a time-consuming occupation, there is little time for farmers to socialise and interact with their community. The seven domains of integrative health state that it is important for individuals to have relationships with one another and interior architecture can do that by facilitating spaces for these conversations to happen.

Te Whare Tapa Whā states that having relationships with family, the community, colleagues and friends is an important cornerstone for measuring wellbeing. It is one of the four walls that stands on the foundations of Whenua. Whenua meaning to connect to your land, a place where you feel comfortable and can be yourself. For farmers, whenua is important, they have a strong sense of belonging to the land they live and work off. Land that provides for them and their wider community.

Similar to Te Whare Tapa Whā, Maslow’s hierarchy of needs also states that the need for love and belonging is required before individuals can feel a sense of accomplishment and have high self-esteem.

Therefore the aim for the next phase of this research is to identify ways interior architecture can facilitate community engagement, to reduce isolation and encourage relationships, in order to promote wellbeing. The space is to be designed for farmers to feel safe and gather together to share their ideas and concerns, with emphasis on reflecting whenua.
The farming community come from all over New Zealand, and in terms of location, some farmers are more isolated than others. Therefore, to further understand the isolation of farmers, a series of mapping key farming regions around New Zealand was conducted. The different regions have been chosen because of farm type and farm density.

As this research aims to facilitate relationships and community engagement, the density and remoteness of different farms around New Zealand is important to consider.

Each map has a five kilometre radius and outlines each farms boundary. The maps clearly show that some farmers are more isolated from one another. For example, those shown in the map of Otago, are more isolated than those in the Taranaki, where farm density is much higher. Based off the survey results, 35% of farmers wanted to see change on their own farm. This along with the mapping of farm densities lead to the original concept of designing on-farm pods.

A pod that can be placed on farm and farmers can gather to share their ideas and concerns, or a quiet place where farmers can relax and reflect. The pods would come in a range of different sizes, with the intention that they can either be placed on farm for private use, or farmers could get a larger size and ideally the pod would be shared with a community that have easy access to the site.

For example, in the mapped area of Otago, as it is so isolated a smaller on-farm pod would be more practical. Whereas in the other three sites, larger pods could be utilised so that people from different farms can come together at one point.

However, after critical reflection, these questions were established . . .

Why would farmers make time to use this space, if they are already short on time?

Why would they just not use their house?

The idea of designing on farm pods for the farming community does not seem practical and does not highlight the aim of community engagement. Moving forward, it is important to consider the purpose of the space being created, and the reason why farmers may take time to use this space.
How do I reach isolated farmers?
How will they use this space?
What will this space provide for farmers?
Why would they use this space?

What do farmers want?
What do farmers need?

How can 'this space' promote wellbeing?

To design a space to facilitate community engagement, it was discussed that there must be an attraction or purpose for farmers to make time to use the space.

A brainstorm was conducted to initiate ideas around what the farming community need. After careful analysis a final program was chosen.

> fig 5.2 brainstorm of possible programs
With the aim to promote farmers wellbeing through facilitating community engagement, the chosen program for this research project is to design a 'pop-up shed'. This shed will act as a venue to facilitate a variety of different events that will bring like-minded people together in the rural community.

The pop-up will be placed on host farms and will travel from farm to farm, targeting different farmers in different rural communities. The travelling venue will ensure that isolated farmers are reached.
This chapter looks into what shipping container architecture is, how it can be transported around, and analyses three different cases studies that show different ways containers have been repurposed to create new functioning architecture.

The pop-shed must be transportable and easy to set up. This generated the idea of refurbishing shipping containers.
The program of designing a ‘pop-up shed’ has led to container architecture.

‘Container Architecture’ is a term derived from the repurposing of shipping containers. Shipping containers are durable, secure, can handle extreme weather conditions and can be easily repurposed and transported.

Designing within the constraints of a shipping container will mean that the structure can be moved from location to location and will ideally make it easier to reach the rural community that is more isolated. Shipping containers are also a key part to farming in New Zealand. Containers are how we export goods such as wool, meat and milk products overseas.

Although shipping containers are not made in New Zealand, we have a surplus of containers coming in. Meaning, that we receive more imports than we dispatch exports. These are bought by companies around New Zealand that repair any damages and then either repurpose them or sell them. They come in different sizes, with the most common being ten-foot and twenty-foot.

The containers can be transported using two different types of trucks. Either a swing lift truck or a HIAB truck. The swing lift truck simply uses a swing lift that loads and unloads the container on the driver’s side of the truck. The loading system cannot rotate the container, so it is important which direction the container is loaded on depending on the site it is being relocated to. Instead of a loading system, there is a crane attached to the HIAB truck. This truck allows more flexibility with placing the container on site. The crane allows the container to be rotated at ninety degrees and it can be lifted over three meter high obstacles, meaning that it could easily be lifted over a farm fence.
Based in Westouter, Belgium, TOOP Architectuur decided they needed two new studios in different locations. The aim was to design two low-cost shipping container offices that could be moved around and acted appropriate in their given surroundings, within one concept design. Cowes is one of the two shipping containers part of the Diptych Project.

Cowes is seen placed in rural countryside, designed with the intent to mask into the environment. The large sliding doors and window frame the view from the interior. Whereas the mirror exterior immerses the studio into the environment. A warm red plywood lines the walls, desks and shelving. Everything has been designed with negative joints to allow for easy deconstruction and repurposing of each element.

The mirror exterior has been effective in this precedent with the way it situates itself into the site. The opening areas are large enough for the user to understand how to operate the structure, without getting confused by the reflection. The architects have successfully utilised their ability to create a transporting office that will echo the environment that it is placed in.
The Cool Cool Seaside pavilion was designed to provide shelter for basketball courts as a part of the revitalisation project for the neighborhood. The square is surrounded by shops and is a block from the docks of Kaohsiung City. The pavilion is made up of three shipping containers, “The three shipping containers, a reference to the site’s past as a colonial Japanese railyard, were disassembled and reduced to their steel skeletons before being reinforced, repainted and reconstructed.” (Astbury para7). The containers are elevated off the ground with steel beams and the sides are folded down to become shelter. The site is reflected within the design, with the use of blue steel beams in the window frames that mimic the neighbouring properties and the colour of the water. Underneath the containers lies pinewood flooring and seating, creating an urban interior environment.

This precedent shows how a design can be extruded from the constraints of a shipping container, while ensuring it can still be transported.
In the center of Copenhagen, the Urban Rigger project by Bjarke Ingels’ firm, aims to provide low-cost student housing that is docked in the harbour on a floating base. BIG is constructed using nine shipping containers, assembled to create two floors, totaling fifteen studio residences.

The containers are overlapping to create a central exterior hub with three flat roofs exposed. One holds the solar panels, another a terrace area and the last has planted grass. This precedent shows the possibilities of shipping containers and how they can be utilised on a larger scale. Although this scale of architecture is not intended for this project, it shows the possibility of layouts using repurposed shipping containers.
fig 6.5 exploded shipping container
Although the program of this research aims to design an architecture that can be placed around different sites, this chapter analyses a dairy farm in Rural New Zealand. The purpose is to further understand the environment that farmers are exposed to daily, before initiating the design phase of the research.

The site analysis establishes a contextual map of the community and the farm, showcasing what is located around the farm and on the farm. A material analysis has been completed to recognise the colours, textures and densities of the different materials that farmers are exposed to.
Fig 7.1 satellite of the Whitikahu region
COMMUNITY

The proposed site for this research is a dairy farm location in Whitikahu. Whitikahu is a small settlement location in the heart of the Waikato region. It lies only twenty minutes out of Hamilton and fifteen minutes from Morrinsville.

Whitikahu school and Whitikahu hall are a two-minute drive away from the site. The school that stands today was built in 1912, followed by the Whitikahu Community Hall in 1938. Nearby is the Gulf Station, the closest store to the farm.

The map only shows a small portion of what surrounds the farm, but it highlights how each farm is linked to one another, making it evident how important community engagement is.
The site shows a variety of infrastructure on farm, from new to old. The farm is composed of two separate farms. When the owner of the property wished to expand, they purchased the neighbouring property and combined both properties. This is evident with the layout of the infrastructure on the farm, there are two different clusters of buildings. All of which are being utilised by the farmer, even if the infrastructure was not originally designed for the purpose it is currently fulfilling. For example, the old milking shed is now being used as a workshop. As discussed earlier, farmers are continuously adapting to what they have and are always finding innovative ways to utilise what they already have on farm.
Using the host site, I have selected three possible placement options for the pop-up shed. The locations have all been placed in view of Law Road and off the main farm pathway. Placing the pop-up shed near the road will hopefully make people that are passing by intrigued to find out what the structure is, while placing it off driveways allows for easy site access.

The three options are located around different parts of the farm. Option one is close to the existing farming infrastructure, option two merges into the tree line and option three is placed in an exposed part of the farm. Only three options have been outlined, but the farm presents a range of different location options for the pop-up shed to be placed.
MATERIAL ANALYSIS

To further understand the environment that farmers occupy, materials were gathered and photographed around the farm. The materials show a range from natural to processed, old to new, colorful to dull and soft to hard. The textures and rigidity of each material is unique, and the materials observed are different to what an individual working a nine to five job would see on a daily basis. The materials not only reflect the work that farmers do but farmers work with these materials.

Theories of sensory design disclose that familiar materials can make views feel comfortable and prompt memories. Therefore, these materials can be considered a representation of the materials that farmers are exposed too and can feel comfortable around, reflecting the culture of farming.
COLOUR ANALYSIS

^fig 7.6 milking shed interior
^fig 7.7 calf shed
^fig 7.8 old milking shed
^fig 7.9 milking shed exterior

^fig 7.10 view of herd home
^fig 7.11 view of tree line
^fig 7.12 open paddock
^fig 7.13 farm house
This section introduces the first design phase of Reaching Rural, concept design.

Following an outline of the narrative, the design iterations are separated into three areas: function, form, and material. This allowed for quick concept explorations for the beginning of the creative process.
NARRATIVE

Below outlines the intended sensory responses that the design narrative aims to achieve using Joy Mahar and Frank Vodvarka stages of sensory design response.

Response 1: What will users first see and how will their body observe the space?
The aim of the exterior is to excite users and create fascination. When users first enter the space, the design and form will encourage them to question what they are about to walk into, creating an essence of curiosity. Aiming to make users alert as they walk through the space. The occupant’s proprioception sense will be alerted to the unusual layout of the entrance.

Response 2: Is the space familiar or unfamiliar? Will users feel comfortable, excited or confused?
Once users walk into the main area, they will be able to see and feel materials that are familiar to them. The purpose of the main space is for users to feel comfortable and be able to relax and reflect. Materials will be chosen that reflect the culture of working off the land.

Response 3: How will the space spark positive memories?
The space will spark memories by the use of familiar materials, forms, sounds and atmosphere.

>fig 8.1 abstract narrative diagram
FUNCTION

As discussed prior, the objective of the pop-up shed is to facilitate community engagement, in order to promote wellbeing and target isolation. The shed will be advertised as a venue that farmers can opt to have on their farm. The venue will be a place to host functions such as workshops, meetings, quiz nights, or simply a gathering spot for the community. It will be designed to have an open entertainment area that can be rearranged with different furniture to fit the function of what the host farm wishes to do.

Allowing the farmers freedom of how to arrange furniture and what events occur in the space promotes the fifth architectural dimension of control. Aiming to give the user a level of flexibility and have a sense of identity to the space. The diagram to the right displays the functions in terms of furniture. It shows arrangements for a private meeting, workshop, quiz night/bbq and the reflection room.

Leading off the open space will be a room for reflection. This room will be permanent, with the idea that each farmer using the space will enter the room for a few minutes and fill out a form of reflection. The purpose is to pause and reflect on farming in a positive manner. For farmers to understand that their resilience is valued. The room will support wellbeing through the architectural dimension of restoration; a place to relax, reflect and connect to whenua.

The pop-up shed will be designed to hold approximately 50 people.

>fig B.2 functions diagram
Fig. 8.3 Possible container configurations
fig 8.4 possible container configuration plans
Experiment: one
Focus: thresholds

Focusing on entry and exit.
The containers will be used as thresholds, one to enter and one to exit. Both containers will display different sensory experiences. The containers will be used as exhibition spaces that farmers will have to walk through in order to reach the open function space at the back.

• step one: place containers in correct position
• step two: open all four doors
• step three: arrange furniture for the entertainment area

>fig 8.5 experiment one axonometric
>fig 8.6 experiment one flow plan
Experiment: two
Focus: journey

This design focuses on the journey of reaching the destination. Container one will be a sensory exhibition type container. Container two will act as the reflection space, it will have a large window that will act to ‘frame the view’, supporting the narrative whenua. Each view will be different dependant on the host farm, aiming to reflect on what is already there. Container three, fully opens up and acts as the entertainment space.

step one: allow the host farmer to choose the view that they want to frame
step two: place the container in the correct space
step three: open doors
step four: arrange furniture for the entertainment area

>fig 8.7 experiment two axonometric
>fig 8.8 experiment two flow plan
The aim of this design is to mimic a classic barn structure and create an ‘indoor’ sensorial environment. The sides of the containers will fold out to become flooring. Partition shading will be attached to the side of both containers and users will be able to pull them out creating shade and completing the barn like structure.

step one: place containers in correct position
step two: lowers container walls (to become floors)
step three: pull out shading as desired

>fig 8.9 experiment three axonometric
>fig 8.10 experiment three flow plan
MATERIAL

Based off the on-site material analysis, a series of explorations have been completed based on materials that are familiar to the farming population of New Zealand.

>fig 8.11 material exploration
using familiar materials in unfamiliar ways

>fig 8.12 mood board
This section incorporates the function, form and material concepts in the previous chapter and develops them into functioning forms. Throughout the theory research it became evident that designing for the sense of sight neglects how our bodies interpret the space around us. Wellbeing architecture and sensory design techniques both highlight that architecture should be designed with consideration to the whole human body.

Within this section is two developed models of the shed that unconsciously begin to favor the sense of sight. After reflection I began to design moments of experience. Determining how the body should interpret the space and the desired experience.
Model one is constructed with three, twenty-foot shipping containers. Materials that represent the land have been used so farmers feel a sense of belonging and can understand where the materials have come from. Connecting users to the foundations of whenua.

The first encounter users will have with the space is the steel pipe door handle. The cold metal will connect with the user’s hand and send them a chilling rush, preparing them to enter the site. The first container acts as an entrance threshold. Thatching panels line one side of the wall, a material that farmers will be able to recognise but is not familiar in many interior settings. The opposite wall is constructed of rammed earth pillars that become further apart as you walk down the entrance, with the purpose to filter through sound from the function area allowing users to see what they are about to walk into.

Supporting the architectural dimensions of stimulation, coherence and affordance.

The structure provides a platform for the function space, a simple open area where the host can arrange furniture depending on what activities are to be held in the venue. The end container holds the reflection room and curved biophilic walls highlight the exit.

>fig 9.1 model one perspective elevation render
ELEVATION + FLOOR PLAN
workshop layout example

>fig 9.2 model one proposed elevation
>fig 9.3 model one proposed plan

*measurements in mm
fig 9.4 entrance container door
fig 9.5 entrance pathway
fig 9.6 rammed-earth wall of middle container
Model two utilises the hydraulic container walls of three shipping containers that are lowered to create flooring for the entertainment area of the shed. The exterior of the shipping containers remain untouched so that farmers entering the site can understand the structure. Two canopies are designed to be placed over the gaps between the containers to provide extra shelter from weather. The canopies are collapsible and fit within the containers for transport.

Container one acts as an exhibition entrance that farmers must walk through. The use of different timbers and thatching panels, creates a warm atmosphere with materials that are familiar to farmers. The frosted glass panels filter light into the space but also give a preview of what the user is about to walk into. The softness of the curved woolen wall and ceiling panel directs users, and the dirt floor is designed to spark fascination with the crunch and rattling of the dirt after every step.

Soft wool also lines a large, curved wall near the exit that directs users into the reflection room. To highlight that the area is different from the rest, users must step up into the elevated room, supporting coherence and affordance.
fig 9.8 collapsing canopy to fit in container
fig 9.9 model two proposed elevation
fig 9.10 model two proposed plan

elevation + floor plan
quiz night layout example

*measurements in mm
fig 9.11 entrance pathway
fig 9.12 reflection room doorway
fig 9.13 reflection room window view
The forms presented in models one and two are functioning and provide the desired areas of the program. However, it became evident, that without reasoning, I began designing to favor the sense of sight. The models showcase textured and tactile materials that farmers are familiar with, but they do not consider how the human body will interpret walking through the space. The designs don’t acknowledge the theory of sensory design and the power that considering all senses can have on creating moments of experience.

The next phase of design development looks at creating moments of experience, in the entrance space and the reflection room.
MOMENTS OF EXPERIENCE: ENTRANCE

The entrance iterations begin to acknowledge how the body will move around and interact with the container, through the use of different scales and layouts. The entrance is the area that will set the atmosphere of the whole space; therefore, it is important to consider all sensory inputs to optimise the experience.

^fig 9.14 entrance moment experiment one
>fig 9.15 entrance moment experiment two
>fig 9.16 entrance moment experiment three
fig 9.17 entrance container flow plan iterations
fig 9.18 entrance container axonometric iterations
MOMENTS OF EXPERIENCE:  
REFLECTION ROOM

The reflection room iterations use a ten-foot shipping container and consider different ways to frame the view of nature, highlighting whenua. They consider how different materials can echo different atmospheres.
Chapter Ten presents the design outcome of Reaching Rural, The Shed.

This section shows a series of drawings and perspective renders, highlighting the consideration of wellbeing architecture and sensory design techniques of The Shed. Aiming to promote mental wellbeing through Interior Architecture.
HOST ON YOUR FARM

1. Sign up and request to be host farm (bring the pop-up to your community)
2. ‘The Shed’ will be delivered to your farm
3. Set up ‘The Shed’
4. Host quiz nights, BBQs, workshops or seminars at your leisure
5. Pack up and ‘The Shed’ will be relocated to the next host farm

DESCRIPTION

Benefitting wellbeing through community engagement, ‘The Shed’ is a pop-up style venue that you can request to be placed on your farm to bring farmers in your community together.

Be the host of a variety of different events.

The pop-up will be placed on host farms and will travel from farm to farm, bringing different farmers in different host communities.
THE SHED

OPERATING INSTRUCTIONS
1. Choose a view you wish to highlight through the reflection room, you will need 152m² to place the containers (19m x 8m).
2. Place the shipping containers accordingly.
3. Using the hydraulic panel on the exterior of each container, lower the walls (so they become flooring).
4. Locate the deconstructed canopy in container two and complete assembly (INSTRUCTIONS ON SHEET TWO).
5. Use four people to slide the canopy over the containers (ensuring they are facing the correct way).
6. Peg the canopy into the ground.
7. Arrange furniture according to the function you are hosting (all furniture is placed in container two).
8. Enjoy "THE SHED".

CANOPY ASSEMBLY INSTRUCTIONS
step one.
For easy assembly, locate and separate all parts according to the labels indicated above.
step two.
Connect the parts together in the following order:
step three.
Zip on the four clear canopy covers.
step four.
Extend legs to full height (until you hear a click).
step five.
Repeat above instructions for canopy two.
Once both canopies are assembled, return to sheet one.

Fig 10.2 proposed operating instructions
Fig 10.3 proposed canopy assembly
fig 10.4 pitched canopy points
>fig 10.5 proposed floor plan (quiz night)
>fig 10.6 elevation one
>fig 10.7 section cut A through the entrance container
The exterior of the shipping containers remains as the corrugated corten steel wall panels, with a light grey finishing (the cargo door has been exchanged for an identical wall panel). Supporting the architectural dimension of coherence, no changes have been made to the facade of the container so that occupants understand the form and there is clarity around what the structure is.

The mirrored door is designed to reflect the farmer's image and make users question the simple design element as they approach it. Similar to the exterior mirroring on the Cowes office. A cooling sensation will rush through the farmer's body when they touch the galvanized steel pipe door handle, "the door handle is the handshake of the building," Juhani Pallasmaa. Creating a threshold from the airy open exterior into the tightly fitting interior entrance.

^fig 10.8 floor plan showing perspective point
>fig 10.9 entrance container door
As the user takes their first step up into the container, they will hear a familiar crunch and shuffling of the loose woodchip flooring. The proprioception sense will recognise that the space is tight and narrow forcing a singular experience through the container, aiming to take users out of their comfort zone, but not so much that they feel isolated. The strip of glass along the curved wall is designed to limit the feeling of isolation by allowing users to look into the function space, showcasing what will be at the other end once they walk through the space, again supporting coherence.

The entrance supports whenua, a farmer’s connection to the land. The brown, dirt like plaster wall directs users into the maze panels. Wool, thatching and jute, line the three panels; materials that reflect the practice of farming but are not commonly used as interior wall applications. The different textures and densities of the panels are designed for stimulation and restoration. From above lighting shines on the materials, intensifying the textures and creating a warm atmosphere within the container. Similar to Pams Healthcare Hub and the Comvita Wellness Lab, materials used in the design of The Shed represent the culture and practice of farming.
Once users reach the end of the panels, a rammed earth tube is seen within curved steel walls. The steel acts as a separation point between the panels and the tube. The tube is designed to create a moment of pause. Once the farmer has stepped into the tube the rammed earth will immerse them into the ‘land’ as they take a moment to look up into the skylight, from there they will continue out of the tube and around the corner where they will have reached the end on the entrance maze.

Overall, creating a journey through the entrance container is a way to enhance the transition from the outside world into The Shed. Materials have been chosen that reflect sensorial qualities from the land and the tight spaces are designed for the human body to question the space it is in, creating a threshold into the open function space.
The function space is an open, hall-like area, designed to hold functions for the farming community. The open containers create a free-flowing area, covered by two canopies. The points of both canopies are designed to come together and resemble the typical pitched roofs of farming infrastructure.

Two green walls line the middle containers, while a dark timber lines the flooring, creating a soft, calming atmosphere. This space is designed for farmers to feel comfortable and engage with the community.

Depending on the function, different furniture can be placed accordingly. The farmers have the control of placing the furniture in any configuration they wish.

^fig 10.15 floor plan showing perspective point
>fig 10.16 green walls of middle container
Proposed Elevation Two

*measurements in mm

fig 10.17 elevation two
The reflection room acts as a place for restoration. The weathered steel door frame and step, transitions users into the space. Supporting the architectural dimensions of affordance, using different materials to highlight that this space is separate from the rest.

The exterior walls are lined with wool and the four interior walls are lined with white plaster. The materials have a contrast in density, but both display the same texture and stillness. Giving the room a cool, quiet, tranquil atmosphere.

Mimicking the door frame, the windowsill uses weathered steel but it also acts as a desk. A space for farmers to sit and reflection out the window, filling out the ‘reflection farm.’ The window is large and frames the view of the farm. Highlighting that each farm has its own beauty, that farming is important, and whenua.

^fig 10.18 container three showing perspective points
^fig 10.19 entrance into the reflection room
>fig 10.20 perspective through door frame
>fig 10.21 reflection room window sill/desk

1

3

2
fig 10.22 perspective look back at the entrance container
Te Whare Tapa Whā and Maslow’s Hierarchy of Needs conclude that having relationships with one another is an essential foundation for maintaining wellbeing. Understanding that Interior Architecture can support wellbeing through facilitating community engagement led to the idea of The Shed.

The design phase of this research reiterated the importance of scale, layout and materiality. The importance of trialing different iterations and ultimately the importance for designers to understand how they want the human body to feel within a place before they begin designing. The final outcome reflected the framework of Wellbeing Architecture by ensuring ease of navigation, clarity and whenua. Different sensorial qualities were used to enhance experiences to produce a comfortable environment for farmers. Although this thesis has identified sensorial qualities through research of New Zealand’s rural communities, it must be stated that the user of the space might not perceive the space as intended.

Overall, I believe that Reaching Rural achieves the aims and objectives of the project. A comprehensive understanding of Wellbeing Architecture and Sensory Design has been developed through analysing literature and precedent studies. The research provides an overview of Rural New Zealand, highlighting the struggles faced by the farming community and the design outcome demonstrates how sensory design can be applied to Interior Architecture, to elevate and improve the wellbeing of Farmers in Rural New Zealand.

Reaching Rural can be used as a foundation for further research into how Interior Architecture can be used to promote wellbeing of specific demographics. As well as further research into how the built environment should be designed to consider the stimulation of all seven sensory inputs of the human body.

In conclusion, I hope Reaching Rural reiterates to designers the importance of the relationship we navigate between the built environment and the human body. That sight should not be our favored sense, but we should consider all sensory inputs: spatial layout and materiality can positively influence mental wellbeing. To the farming community. I hope this thesis shines light on the struggles and hardships endured by farmers, but also the passion and culture behind farming. Your work is valued and appreciated. I hope Reaching Rural provides an insight to how the built environment can impact the mental wellbeing of New Zealand’s resilient rural communities.
I am privileged that farming will forever be a large part of my life. Growing up in a family full of farmers you quickly learn that lending a helping hand can go a long way. Reaching Rural has been my way to lend a hand, using my discipline to give back to my family and the farming community.

To Dad and Uncle Judd, I hope this thesis embodies the immense pride and passion you both showed for farming and your willingness to help the people around you. I will always admire the patience, perseverance and devotion you showed for your craft.
Manaaki whenua, manaaki tangata, heare whakamua.

Care for the land, care for the people, go forward.
REFERENCES


FIGURES

Note: All figures not listed have been produced by the author

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Corner's Office of New Zealand

Figure 2.1  Five Architectural Dimension
Gary W. Evan and Janette Mitchell McCoy
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Joy Monice Malnar and Frank Vodvarka
Sensory Design, pg 56.

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Te Ara – the Encyclopedia of New Zealand

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https://www.footrotflats.com/the-characters

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Kieran E Scott
https://good-design.org/projects/comvita-wellness-lab/

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Jonas Bjerve-Poulsen
https://www.kinfok.com/arumjigi-culture-keepers-foundation/

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Alan Dunlop Architects Limited
https://architizer.com/idea/186090/

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The Wool Shed - New Zealand's museum of Sheep and Shearing
https://www.thewoolshednz.com/roselea-board

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https://www.dboneen.com/2020/02/05/shipping-container-toop-architectuur/

Figure 6.3  Cool Cool Seaside
Yo Hoan Lee Photography
https://www.archdaily.com/908828/cool-cool-seaside-atelier-lets/5c1a0e9408a5e5d8/90003f8-cool-cool-seaside-atelier-lets-photo/?next_project=no

Figure 6.4  Urban Rigger
Laurent de Camaret/Frederik Lynge
https://www.archdaily.com/796551/urban-rigger-big/571a0ebd08ce4a8a002ed-urban-rigger-big-photo/?next_project=no

Figure 7.1  Satellite of the Whitikahau Region
Google Maps
https://www.google.com/maps/place/Whitikahau/@-37.62036,175.31793,13078m/data=!3m2!1e3!4b1!4m5!3m4!1s0x6d6d14085:0x500ef61433a35068!8m2!3d-37.6045721!4d175.3501994
APPENDIX

Survey Questions

Key: * = Obligatory

1. What type of farmer are you?*
   (written answer)

2. How many hours do you spend working on the farm?*
   (written answer)

3. What time does your workday start and finish?*
   (written answer)

4. Where do you spend most of your time working on the farm?*
   a. At home/office
   b. Outdoor
   c. Within farming infrastructure

5.a. Do you take breaks on the farm?*
   Yes/No
b. If yes, where?*
   (written answer)

6.a. Do you wish to get more time away from the farm?*
   Yes/No
b. If yes, where would you like to go?*
   (written answer)

7. Why do you choose farming as a lifestyle?*
   (you may choose multiple answers)
   - Gives you purpose
   - Caring for animals
   - Being a key food producer
   - Providing jobs
   - The community
   Other . . . (written answer)

8.a. What do you struggle with most working on the farm?*
   What factors do you believe contribute to poor wellbeing?*
   (you may choose multiple answers)
   - Drastic weather conditions
   - Financial pressure
   - Regulation changes
   - Negative media portrayal
   - Employment availability
   - Animal welfare
   - Isolation
   Other . . . (written answer)

b. Do you suffer from any of the following because of the struggles you face?*
   (you may choose multiple answers)
   - Lack of sleep
   - Suffering relationships
   - Stress
   - Depression
   - Isolation
   - Burnout
   - No exercise
   - Poor nutrition
   - No time off
   Other . . . (written answer)

9.a. Are you actively doing anything to benefit your wellbeing?*
   Yes/No
b. If so, what activities are most beneficial?*
   (written answer)

10.a. Are you part of any support/community groups?*
   Yes/No
b. If no, what community/support groups would you like to see available to you?*
   (written answer)

11. What types of farming infrastructure do you have on your farm?*
   (eg: house milking shed, calf shed, work shop, machinery shed etc)
   (written answer)

12. How would you describe the condition of infrastructure on your farm?*
   a. Well maintained
   b. Needs few improvements
   c. Needs many improvements

13.a. Where would you like to see changes in interior architecture for rural farmers, that could benefit wellbeing?*
   a. Personal, on farm improvements
   b. Community centres (areas to gather with local farmers - in your nearest town)
   c. Other . . . (written answer)

b. Interior Architecture is the study of how design can affect the way people experience, interact with, and move through an interior.

Do you think interior architecture can benefit the wellbeing of rural farmers in New Zealand?*
   Yes/No
REACHING RURAL

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