Impact evaluation of Wellington Fruit & Vege Co-op programmes using a mixed-methods and value-based approach

Danielle Prapavessis[1] & Chris Vogliano[1]
[1]Massey University of New Zealand

Fruit and Vege Co-op Overview

The Fruit and Vege Co-op began as a pilot programme in Cannons Creek in 2014 as a way of providing affordable, healthy produce to people living in an area with no local supermarket. It is a collaboration between Regional Public Health and Wesley Community Action. Today, they organize 11 fruit and vege co-ops across the greater Wellington region that run weekly from Jan- December (excluding Christmas holidays). These co-ops deliver up to 9 tons of fresh, local produce to 1400 households every week.

The produce is delivered, and a team of volunteers pack the orders for pickup or to be delivered to the distribution hubs. Members place an order and pay for the bags one week in advance. There is no commitment to ordering every week. An order costs $12 week ($15 in Kāpiti for a larger order), which includes a bag of mostly local and seasonal fruits and vegetables. The estimated retail value of each order is over $20.

Evaluation need

The Fruit & Vege Co-op presently measures the number of members engaged and the weight of food distributed. However, the co-op offers more than affordable fruit and vegetables. Anecdotally, the co-op builds community, betters health, and increases food security. There is a need to formally evaluate the value and impact of the co-op from the perspective of active members.

Aim of Evaluation

This impact evaluation aimed to capture a deeper understanding of Fruit & Vege Co-op values that drive membership participation in the programme. This report presents findings from a mixed-methods evaluation among a sampling of active members (n=27) from diverse geographic locations (n=5) and sociodemographic backgrounds. Four primary value pillars were utilized to assess membership participation: Financial, Health and Wellbeing, Social Connections, and Environmental. This evaluation included individual value prioritization to assess if differences between geographic locations could be detected.

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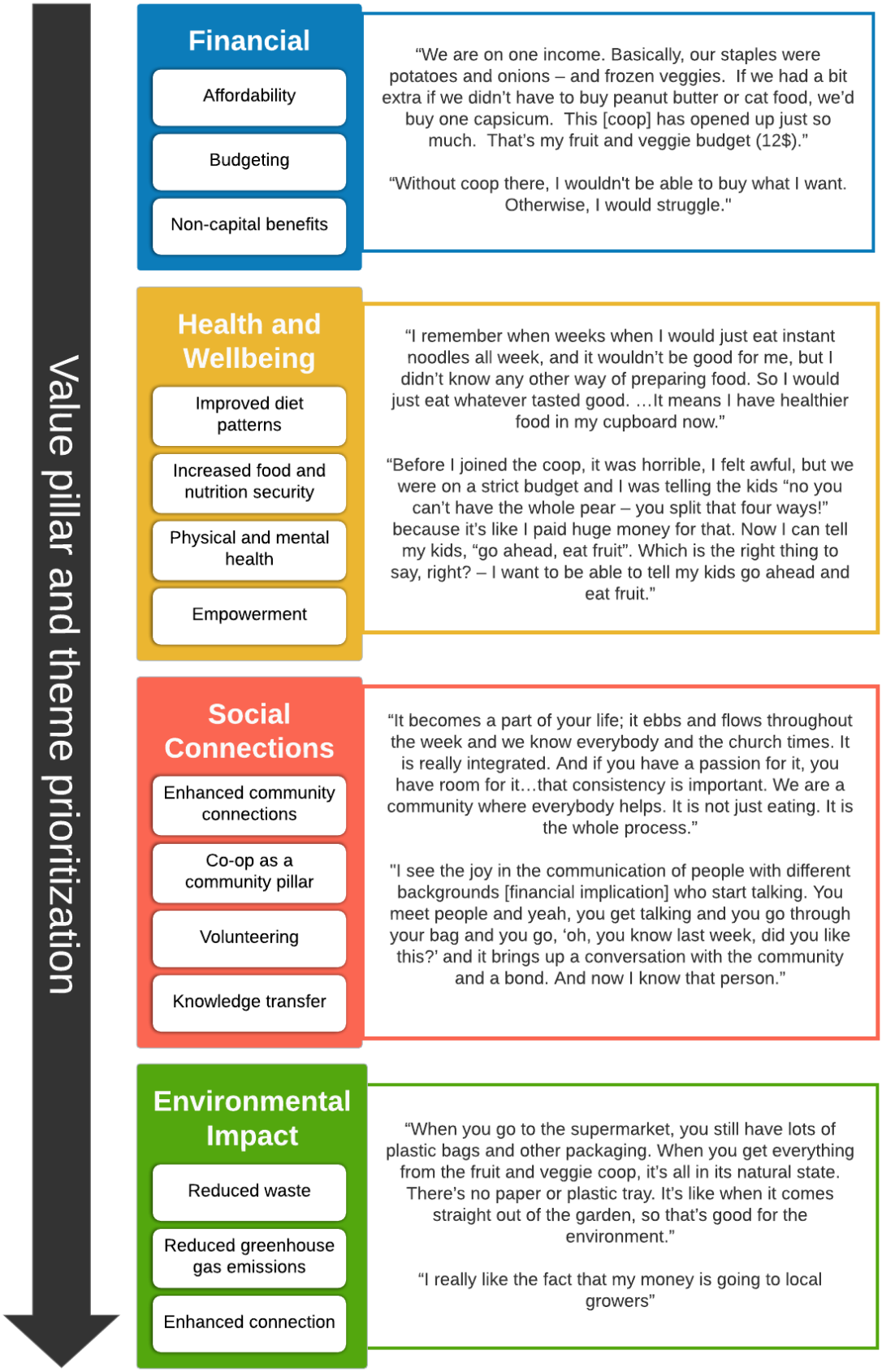
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Executive Summary Infographic



Introduction

Drawing on previous research and with consultation from programme managers, four pillars were chosen to represent broad themes influencing food choice and member participation: social connections, financial, environmental impact, and health and wellbeing.

Pillar	Definition
Social connections	The community built at the coop including relationships, conversations, and recipe exchanges.
Financial	Costs savings for you and/or your family.
Environmental impact	Reduced environmental impact (i.e.: plastic bags, local food, food waste etc.).
Health and wellbeing	Improved physical, mental, and/or spiritual health.

We explored what these pillars mean to the members of the co-op, as well as the individual and community-level priorities influencing participation in the Fruit and Vege Co-op. This membership evaluation followed a community based participatory research methodology (CBPR). CBPR is a research process in which all collaborators contribute expertise, share decision-making, and take ownership of the research.

Methods

Qualitative data

The main data collection involved qualitative Focus Group Discussions (FGDs) and a secondary quantitative assessment ranking the four pillars. Five FGDs were conducted with 4-8 participants for approximately 2-3 hours *(FGD questions found in appendix 2).* Participants were recruited using a snowball sampling technique by each co-op coordinator and were compensated with 2 free weeks of fruit and vege. Qualitative data from the FGDs and the were transcribed and analysed by thematic analysis using Nvivo software. Qualitative data were compared between the different Co-ops using the 4 pillars as an overarching framework.

Quantitative data

Each FGD participant ranked the four pillars based on why they used the fruit and vege co-op (N=27). Rank 1 was the most influential and rank 4 was the least. These values were input into Excel and organised by location and rank frequencies for each pillar. Weighted frequencies were calculated (= frequency (rank 1*4, rank 2*3, rank 3*2, and rank 4*1)) for each pillar and spider plots were created by overall ranking and location.

Results

Quantitative Results

The highest ranked pillar was financial, followed by health, social, and environmental, respectively. As represented in figure 1, the financial pillar was followed by closely by health. The social and environmental pillars both had lower rankings with minimal difference between them. Table 1 presents the overall rankings of each pillar and rankings for each co-op.

Table 1: Pillar ranking by influence on usership (n=27 across 5 co-ops)

	Overall Rank	Cannon's Creek (n=8)	Naenae (n=6)	Titahi Bay (n=5)	Wainuiomata (n=4)	Waiwhetu (n=4)
Financial	1	2	2	1	1	1.5[i]
Health	2	1	1	3	2	1.5[i]
Social	3	3.5[i]	3	4	3	3
Environmental	4	3.5[i]	4	2	4	4

[i] represents a tie, ranking score = average

Figure 1: Co-op pillar value ranking from 5 FGDs (N=27)

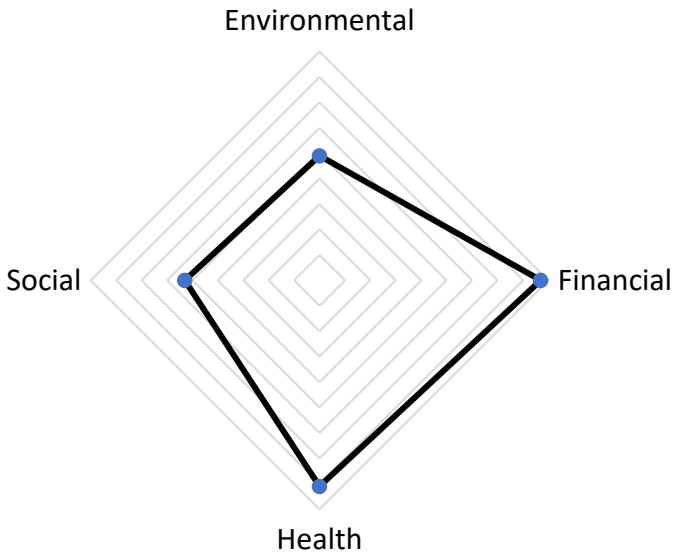
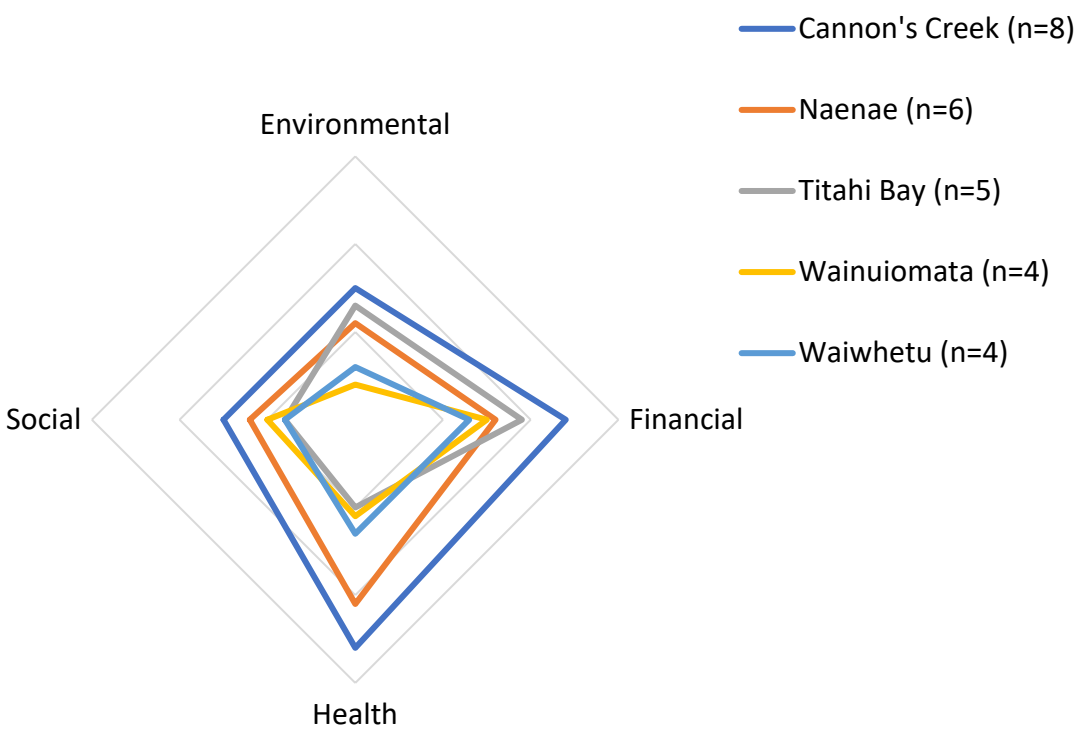


Figure 2 displays the difference in rankings between each coop, with the size of the quadrilateral proportional to the sample (n) in each evaluation location. Individual spider plots for each location are found in Appendix 1.

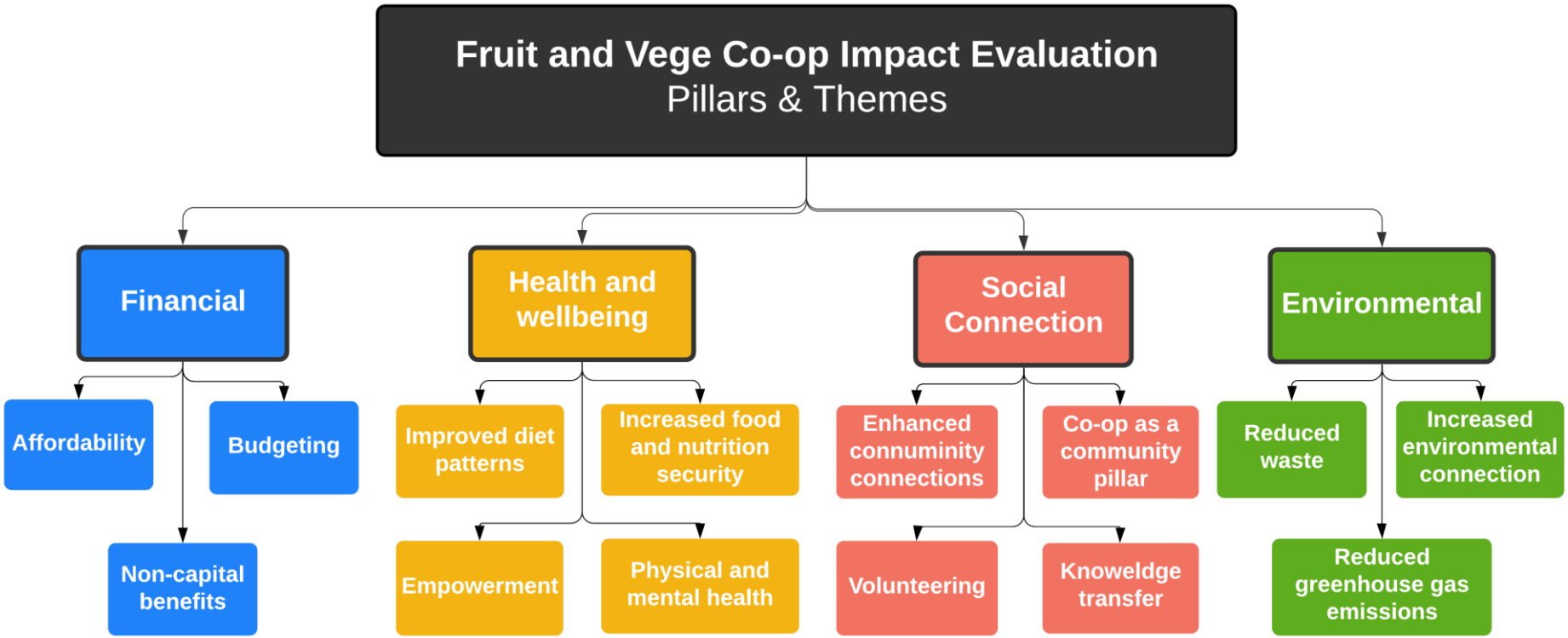
Figure 2: Pillar value ranking by geographic location (N=27)



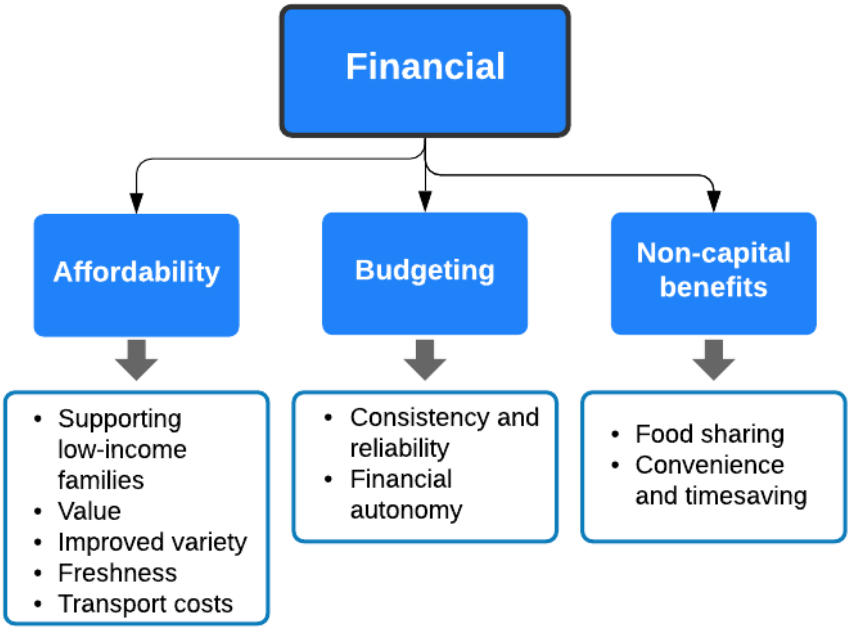
Qualitative Results

Figure 1 features a thematic map of the four value pillars and emerging themes from all five FGDs.

Figure 1: Thematic analysis of membership themes for four value pillars



Financial Pillar - #1



The fruit and vege co-op members experience greater food security with increased access to affordable, high-quality fresh fruit and vegetables. There were three emergent themes of the financial benefit pillar: affordability, budgeting, and non-capital benefits. Each is described below with the associated sub-themes.

Affordability

Affordability emerged as the clearest financial benefit of the co-op. The evaluation determined that the co-op enabled more people to access fruit and vegetables because of the affordability of the produce. Affordability encompassed how the co-op supported low-income families, provided access to high value, improved variety, and fresh fruit and vegetables and reduced transport costs for members. Simply put, "without coop there, I wouldn't be able to buy what I want. Otherwise, I would struggle."

Supporting low-income families

Many of the members of the co-op are low-income, live off the benefit, and support large families. The co-op enables members to overcome financial barriers to buy fruit and vegetables that would have otherwise been unattainable. The following four examples are a select few of the members who shared financial struggles and how the co-op was supporting them and their wider whānau:

> **Case 1**: "I live off 2-minute noodles because I am on the benefit, and I cut the veggies up and make sure that I get my 5+ vegetables and they still take 2 minutes and they are just as easy and I know that I am getting my nutrients and with my 1tsp of peanut butter, I know that I am getting my iron. Based on my blood test results, I am doing well. I have been vegetarian before and been anaemic, but with the PB and making into a satay seems to be working for me. It is easy and cheap."

> **Case 2**: "I'm on the benefit at the moment, and when you go to the supermarket and try to buy fruit and vegetables, it's very expensive. Often, I would find that I was only buying vegetables each week, I couldn't afford to buy fruit. It was just an extra cost that was too expensive for me to afford."
>
> **Case 3**: "We are on one income. Basically, our staples were potatoes and onions – and frozen veggies. If we had a bit extra if we didn't have to buy peanut butter or cat food, we'd buy one capsicum. This [coop] has opened up just so much. That's my fruit and veggie budget (12$)."
>
> **Case 4**: "My daughters who are flatting, fruit and veg are the last of what you will buy if you are on a tight budget. So, they don't buy fruit. So, it is helpful, they appreciate eating the fruit. One is a student who really had no money, and I always pack a bag when I see them. And last night, she had that for tea, and I knew that she was eating well. It is good to know that she is getting something nutritious."

Value

Many of the members of the co-op described the value of fruit and veggies was high. The co-op allowed for more food for less money in comparison to the supermarket:

> "Most of us have mentioned it's way cheaper than the shops. It's also really good value and quality for the money."

Members claimed that they would have not been able to afford the same quantity of products from the supermarket and remarked about several specific instances when they calculated how much their bag would have cost at the supermarket, noting spending half the price.

For some participants, they also get to eat previously unaffordable items, especially the seasonal fruit:

> "I think it is really sad that the seasonal things like the peaches and the nectarines are so expensive! They are so expensive. I remember those when we were kids. You could buy whole boxes for $10! Now… never. The fruit is a treat. You never see a fruit bowl in our house because it is gone. The fruit prices are ridiculous at Countdown."

The fruit was particularly valued by families with kids.

> "My kids, they enjoy the fruit. To me, it is the value of the fruit - it is a real big treat. I have 11 grandchildren. And my two younger sons are in the house so there is never a fruit bowl. It gives us fruit and veg that they would not otherwise be able to buy!"

Another interesting component of the increased value was that members felt like they could trust that the co-op was guaranteeing them a good price, something often difficult to navigate at the supermarket:

> "It is hard to figure out how many you get for each kilo [t the supermarket]. It is hard to figure out how much all of the stuff is going to cost. It is nice when the package is taken care of.

The members appreciated this value for money, especially in the winter seasons when prices rise:

> "But here, we get 12-18 items for $12, even in the winter months. Per kilo, the price is unbeatable. We always get it to our people at the lowest costs."

Improved variety

Members enjoyed how the co-op provided a wide variety of fruit and vegetables. For most, this was underpinned by a lack of affordability:

> "You get access to the variety for the cost that you couldn't do for yourself. If you go to the supermarket, you can't get what you would get from the coop at all."

For others, since they cannot select which items are in the bag, the co-op encourages them to try increased varieties of fruit and veggies.

Freshness

The members also noted that the freshness of the produce was "remarkable." The supermarket veggies don't seem as fresh either. This freshness was appealing and made the members felt like they were receiving the best fruit and veggies, an indulgent treat. They also claimed that the freshness was economical because the items lasted longer and there was less food waste.

Transport costs

For many of the fruit and vege co-ops, having multiple distribution hubs and pick-up locations meant that members did not have to travel very far to collect their bags. This saved them money in fuel, parking, bus fare, etc and time and provided the impetus to incorporate active transport into their week by walking or cycling to pick up their bags.

Budgeting

The other financial benefit was how the co-op empowered people to budget. Budgeting provided members constancy and reliability in their food source and they and accrued savings, giving them more financial autonomy in other areas of life.

Consistency and reliability

Members described that the co-op was consistency and reliable in terms of the price and quality of food. This was particularly useful for families:

> "I have got 3 children and it helps our family budget. For us, it is incredibly useful to know that there will always be fruit and vegetables around and that we can just go to the supermarket to top things up…instead of spending lots of money, we can spend $5 or something like that and it gets us through the week."

They liked that the structure of the co-op is a pre-paid, set-price payment. Often, members paid the fee automatically and it was not a financial decision they had to remember and make each week. It was well integrated into their routine.

> "We don't have to go to the supermarket and think 'I only have $15 and I don't know what I can get?' And then get to the checkout, spend $35 and have to give a lot back."

Several members noted that it was much harder to access cost-effective products over the holiday season when the co-op stopped. They said that during this season, they had additional stress and financial burdens placed on their families and without the co-op, they "had to downsize because the price over Christmas was horrendous."

Financial Autonomy

Members of the co-op had a heightened sense of financial autonomy because since coming to the co-op, they had extra money to spend on more food or other expenses for their family:

> "It allows us to spend money on other things, like meat, because I know that I have a base for our meals. For us, it makes the difference between only having mince and being able to get chicken or something else - we have enough."

Partly, this was because they had a stricter plan and the co-op encouraged them to dictate their meals based on the items in the bag, minimising the spending on other items:

> "I have a really tight budget these days - so I look at my bag and see what's in it and then I go from there. It's a big change from how I used to shop, but now I am not distracted by other things. I don't buy random things. I only buy what I am going to use to make meals."

They coined the term "displacement factor" and that the co-op encourages them to eat their entire bags, displacing the amount they would have spent on other, more expensive food items like meat.

> "It is a displacement factor too. I eat way less meat, so it saves me much more money than the $12."

Non-capital benefits

There were also non-capital benefits that helped those involved in the co-op. These brought financial returns indirectly through food sharing and time-savings.

Food sharing

Many members shared stories of how they traded items from their bags based on preference. Often, this is a way to build new relationships:

> "And then, when we know each other, people in the community will swap. So, I may say 'oh, I don't need my cabbage this week, but I will trade you for it' then I will get one celery and it is perfect!

> "I happened to mention [to someone here] that I really liked tangelos, and she just gave me hers, so I got double that week. That was really nice."

Co-op members said that they gave away items to connect with and support other people in their community that cannot access the co-op, nor healthy food. Among many examples include:

> "I just go around (with my excess produce) to my neighbours and go "do you want some" Spread it out! It's amazing going around"

> "Being able to share our bag with others that helps with swapping things, so it is not just our family, but others that we can connect to. There are a lot of low-level exchanges."

> "I help my neighbours by bringing fruit and veg coop to them since they can't drive, and one can't walk very well."

Convenience & timesaving

The co-op is also convenient for people to use and saves them time. Often, the co-op has been integrated into people's busy schedules and the long window of pick-up is convenient for people to come by:

> "I do it because convenience, being busy, work, kids, it's just easiest to get a good bag. It's cheap, good quality, lots of fruits and vegetables."

Much of this convenience comes from the time people save in planning which fruit and veggies to buy and how much they are going to cost:

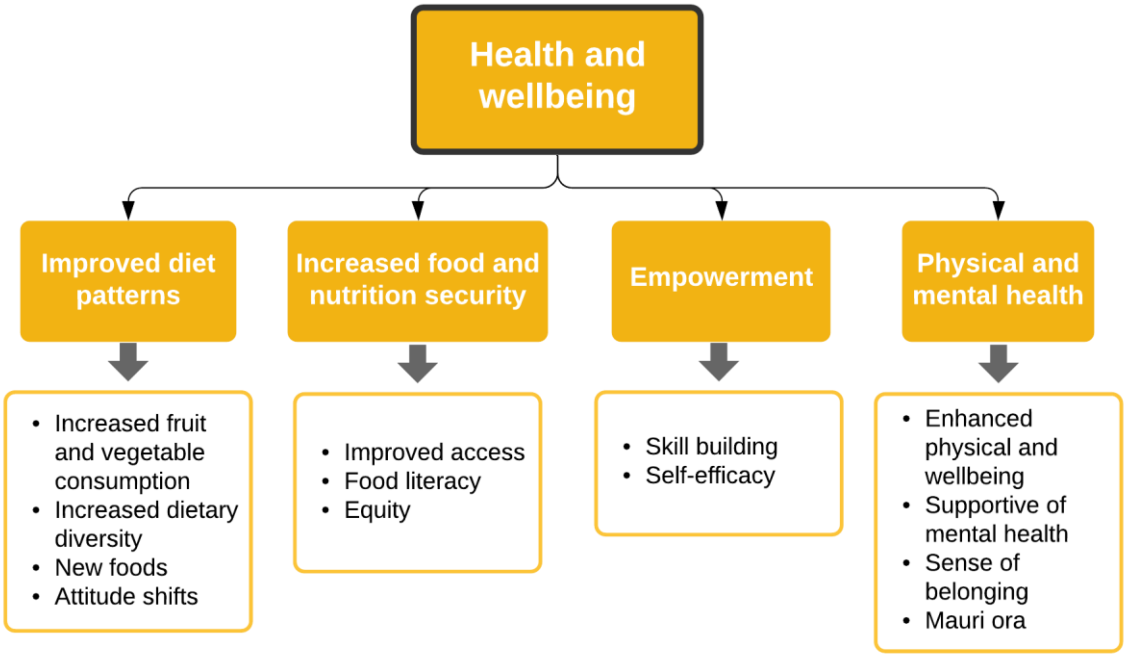
> "I just really appreciate the convenience – I don't have to think… how much should an orange be? I can find seven different prices and there are five different varieties of oranges and I can't cope."

Members agreed that at the end of a busy work week, figuring out the veggies was last priority. The co-op saved time and provided an easy, reliable structure to their meal planning:

> "For me, I am lazy, and I don't want to buy veggies. So, for me, I was working at the time when I first joined the coop, so it was hard to work out doing all the shopping. I used to do the shopping all at the end of the week and it was a scramble. But now, I still go shopping on Friday, but it is just to complement the stuff from the bag. So, I suppose it was mainly for convenience. And someone already picked it, so I didn't have to choose; I didn't have to agonize over any stuff."

Health and Wellbeing Pillar - #2

The Health and wellbeing pillar surfaced as the most influential reason for memberships in two of the five focus groups and was the second most influential reason for participation among the other three groups (after financial). This pillar was summarized into four dominant themes emerged: Improved diet patterns, increased food and nutrition security, empowerment, and physical and mental health.



Improved diet patterns

Subthemes under improved dietary patterns include: increased fruit and vegetable consumption, consumption of a wider diversity of foods, and attitude shifts towards new and novel foods and ways of cooking.

Increased fruit and vegetable consumption

Members largely agreed that their dietary patterns have shifted after joining the co-op to now include more fruits and vegetables, displacing less healthy food items. Some members had drastic shifts in their diet, with one stating "I remember when weeks when I would just eat instant noodles all week, and it wouldn't be good for me, but I didn't know any other way of preparing food. So, I would just eat whatever tasted good. …It means I have healthier food in my cupboard now."

> **Case 1**: "I am learning about eating more veggies and varieties - like making different kinds of yummy salads with apples, or pears, or kiwi fruit. Things that I wouldn't normally add to a salad I add now to make a different taste. The kids might pick out the oranges and the apples, but at least they are trying. It is wonderful!"
>
> **Case 2**: "Fruit and vegetables are the main and meat is the condiment, not the other way around. And that is how we should be eating."

> **Case 3**: "The amount of bread that we buy and eat has reduced. So, that is pretty significant."

> **Case 4:** "I have health issues and have had to go on a diet that didn't include many buns, so I need to eat more fruit and vegetables, and I don't think it would be possible without the coop. Knowing that it is coming every week means that I have to eat it. It motivates you to churn through it. Because I am eating those veggies, I am not eating other stuff."

After joining the co-op, one member stated they now have a "hunger for veggies", which was previously filled with "rubbish like chips and biscuits".

> **Case 5**: "When it came to veggies and fruits, I will go back to what I was saying before, you would never find those in my trolley. Nah. It was filled with meat. Ha! And you know, me as a Maori, I love my meat. I would just put a potato in it, you know? But since the coop, I would put loads of veggies in it and ah. I love it. And that is one thing that I must say, I have a hunger for veggies. You know, you have a hunger for whatever you are craving for? Yeah? Ever since, for myself, there were no veggies in my trolley. Nah, my trolley was filled with rubbish like chips and biscuits. And rubbish eh?"

Many cited costs as being a significant barrier towards fruit and veggie consumption, but through participating in the co-op access to these foods increased.

> **Case 6**: "Often I would find that I was only buying vegetables each week, I couldn't afford to buy fruit. It was just an extra cost that was too expensive for me to afford."

> **Case 7**: "I was getting oranges, so many oranges, which is fantastic – we very rarely buy fruit because it's so expensive."

> **Case 8**: "I certainly remember eating a lot less fruit and veggie before we joined this coop. Mainly because of cost, but also due to not knowing what to do with things."

One parent expressed their gratification with their ability to provide more fruits and vegetables for children.

> **Case 9**: "I am eating more fruit than I normally would be - it also saves me cooking. I can have an apple instead of cooking and you can eat some of the carrots and stuff raw. It is easy. And for the children! When the mokos come over, I have lots of fruit for them! I slice apples if they are hungry and you don't have to cook it!"

Increased dietary diversity

Before joining the co-op, members articulated their diets consisted of a lower variety of fruits and vegetables. The popular consensus within focus groups was that dietary diversity has improved after joining the co-op, with members stating "the fruit and vege co-op gets me quite a nice variety of fruit and vegetables that I get for a whole lot cheaper" and that it "encouraged my children to try more fruit and vegetables." Diet diversity is well-known to be a key indicator for improved health outcomes, which was echoed by members "the more colours, the better for you!" and "eating a wider range of vegetables and fruits is good for your microbiota."

> **Case 1**:" It is a nice change to try all kinds of other different things."

Case 2: “Before, we would eat based on what was cheapest at the supermarket. So, carrots, onions, potatoes. We (now) just eat a wider variety than we used to before (using the coop).”

Case 4: “It’s kind of hard to get your kids to eat things, but you know, you just don’t stick to your routine. Because we’ve already got this food, so we’re going to eat it no matter what. So, it makes your kids eat a wider variety that you might not otherwise.”

Case 5: “So my whānau are at the point where health is a big issue and we are looking at changing lifestyles. That is where my whānau are at. I have 6 children aged 19-39 and I have got, including myself, 3 are on keto, 2 are plant-based, and only 2 eat regular kai and so I am always aware, we eat a lot of vegetables.”

Case 6: “One of our volunteers is really stuck in his ways and hasn't changed his diet since the 80s. But since he has been coming and helping pack, he has broadened what he eats.”

Case 7: “It has been really good for our family to think about our diet and our entire wellbeing. It has made it easier to do the keto and we eat most of the vegetables.”

Members report an increase in fruits and vegetables that they usually wouldn’t have purchased due to lack of familiarity or because the price was out of reach for their household’s budget.

Case 8: “I like the variety because some of the fruits and veggies I get, I wouldn't usually buy myself and I like the seasonal aspect too, how they give you the nectarines and peaches and plums because I wouldn't be buying them myself in the supermarket.”

Case 9: “Oh, that is terrible when they stop it over Christmas! It is terrible; we have not more fruit or veggies! I replace it with junk and everything else. I think ‘why do you need to be closed down for that long?’ And when they are back, I start to eat well again and get on track.”

New foods

The fruit and vege co-op have introduced many members to new items they previously have not had the opportunity to try. It’s also opened minds to new foods members thought they didn’t enjoy, such as one member discovering their love for cauliflower – “recently, because of the co-op, I’ve discovered I love roasted cauliflower now. I roast it and have it in the fridge and snack on it!”

Case 1: “Some foods I have never eaten in my life eh? Like persimmons, yeah. I have never had those before and now I do like them. What else? Mangos? Because those are quite rare, eh? Some fruit that I have never tasted.”

Case 2: “There was some stuff that I have never had in Holland, like the silverbeet and the persimmons and mango? Fresh mango? That came out of cans!”

Case 3: “This is one of the things I love about it, I’ve had veggies that I don’t like – leeks. Not one of my favourites. I now cook with them. They are now in my salads, in my stir-fries– I just chuck it in, the kids just have to deal with it.”

Attitude shifts

Vegetables were once viewed by some as "boring" and "bland" by one member, but now they stated they are having cravings and sometimes even dreaming about vegetables.

> **Case 1**: "In the past, I thought vegetables were boring, and just that bland tasteless stuff on the side that made your plate look pretty but you really didn't enjoy eating them really. So, my attitude towards vegetables and fruit has changed a lot in the last couple of years. I've started to really enjoy my fruits and vegetables - I actually have dreams about them now. I sometimes have cravings for things which I didn't used to have cravings for."

> **Case 2**: "We really are eating a lot less meat. We have to plan to use our meat now which is really great. I'm enjoying the change."

Increased food and nutrition security

Food and nutrition security is defined by all individuals having reliable access to sufficient quantities of affordable, nutritious food to lead a healthy life. Subthemes emerging from this theme include food literacy, capacity building for kids, improved access to fruits and veggies, and equity.

Improved access

Expense was a common deterrent for numerous members and their households towards achieving food and nutrition security. However, the co-op has improved access by providing affordable, nutrient-dense foods to families on a strict budget. One member affirmed that, "I think because the vegetables and fruits are so inexpensive, I think it encourages people who might normally not eat a whole lot of fruit and vegetables normally can actually come to get it for a lot cheaper. They might start actually liking fruit and vegetable because they are not so expensive!"

> **Case 1**: And you're getting fruit! You know, there's fruit there for the kids to eat. You're not looking at it saying, "oh don't eat that" because we know how much it (fruit) is. We have this thing about lemonade apples, and the kids love it. The problem is that lemonade apples are $7 a kilo, and it will be gone in a day or two. I look at them and go "no, just one a day!"

> **Case 2**: "It's like oh – I've got tomatoes! or pineapple! Something I really wanted for a while, but couldn't be able to afford at the supermarket."

> **Case 3**: "Before I joined the coop, it was horrible, I felt awful, but we were on a strict budget and I was telling the kids "no you can't have the whole pear – you split that four ways!" because it's like I paid huge money for that. Now I can tell my kids, "go ahead, eat fruit". Which is the right thing to say, right? – I want to be able to tell my kids to go ahead and eat fruit."

Food literacy

Improving life skills by building confidence in the kitchen helps to improve food literacy and ultimately food and nutrition security.

> **Case 1**: "It is life skills for me. As I see that, I eat a lot of rubbish, but ever since I have been staying at Jodie's when it comes to the beetroot? I had only seen beetroot in a can. It is life skills for me. When Jodie cooks it up and I ask, 'Jodie, what are you doing?' and she goes 'cooking up the beetroot?' and I go 'cooking up the beetroot?'

> Do you know? For me, it is life skills. Especially for someone who hasn't seen it out of a can and cooked? Most of the veggies that she puts in, I say, 'oh! What are you doing?' and then when Jodie can trust me… I will be able to cook! And it has a lot to do with the life skills that I am learning. Especially coming from the other side where there was a lot more rubbish like meat and chips, coming back to the veggies. Choice! She is not my mum, but it is like I am watching my mum teach me life skills. Kia Ora."

> **Case 2**: "Most of the stuff I have learned to improve through the food course - grate everything! It sounds so simple… But we don't have to waste anything because we just grate it! Peel and all. It really helps the food go further as well. We are lucky that our kids eat vegetables, but they often don't notice that it is in the food! They often get their 5+ a day without even realizing it."

> **Case 3**: "I really appreciate the recipes - it inspires us, and it teaches us what to do with it - it is a massive help. All of the recipes are vegetarian, and you can add meat as you need to."

Capacity building for kids

Those with children often found their kids have an increased appreciation for growing, preparing, and eating fruits and veggies.

> **Case 1**: "Gives [children] a better scope on balance and where fruit and veggies become the norm, not this yucky but that's on the side of my plate. The kids now like cucumber in their lunch every week."

> **Case 2**: "I will eat anything and the way I brought up my kids was to also eat anything, but it is a different world now. You can get anything... Like a Domino's pizza for $5. You know, as a parent and a grandparent you are constantly fighting that. I just keep hoping that when he gets to that stage where he makes the call for himself, you know, we all have to eventually make that call for ourselves, that he was brought up in a household with people who eat fruit and veggies that he will make that call for himself."

> **Case 3**: "There are lots of kids that I know are learning how to grow food and cook with veggies – like zucchini muffins to take to school."

Equity

One member described the fruit and vege co-op as being inclusive of all socio-economic status households, saying "I think it's a way of distributing wealth. All sorts of people – no matter their budget – are going to the same pot and it makes it more sustainable and affordable for everybody."

Empowerment

Skill building and self-efficacy were subthemes of the broader theme of empowerment, of which numerous members celebrated their personal growths.

Skill building

Creativity and skill-building were cited by three focus groups regarding the utilization of unique or novel foods that were previously not used before joining the co-ops: "it makes you think about how to use something that you might not have known or bought it." Another added that the co-op is a "huge culinary adventure!"

Case 1: "I know now about cooking that I didn't know then. This is a huge culinary adventure!"

Case 2: "Having been on one of the cooking class, the exciting part is seeing people go, 'oh, I can use this!' That is the challenge with the bags - for some people, it will be introducing them to veggies that they don't use or don't like. So, it will be a challenge for them, but the cooking class is really good. It is really good to get feedback. They really enjoyed it. They take their ideas home and can contribute to their family."

Case 3: "Whenever we get something new, I have to teach him what to do with it, but he learns."

Case 4: "I love being creative and thinking 'what am I going to do with this one?' I love the red capsicums! I put them in my Mac and Cheese."

Self-efficacy

"It makes me feel like a parent," one member said in regard to their ability to provide healthy fruits to their kids. Additionally, the feeling of accomplishment from crafting new recipes and creating foods from scratch is 'therapeutic'. Another added they enjoy the "mystery" of the fruit and vege co-op, exclaiming that it is "like having Christmas every week! It's the little surprises of things you weren't expecting!"

Case 1: "It is empowering knowing you can start something from scratch and prepare a meal for yourself. It's really therapeutic."

Case 2: "The thing that I really like about the fruit and veggie coop is the mystery of it. It's almost a little bit like having Christmas every week! It's the little surprises of things you weren't expecting."

Case 3: "The recipes help thinking ahead about health and wellbeing. Baking is quite a therapeutic thing as well. There's quite a cool thing about I know I have to make dinner, but I've got all this cool stuff – what can I do with it. What's the easiest and most nutritious. It makes me think. At the end of it, if the wife says, hey that's really nice. Then I think – hey I did something cool today. I get to learn new things. I get something in the pack and I have no idea what to do with it. Health conditions mean I can't really work the way I used to, knowing that I can accomplish something makes me feel really good."

Case 4: "For me, it makes me feel like a parent because I actually have healthy food for my kids. I look at the fruit basket and think 'I am winning.' When my kids say 'I am hungry' I know that I have fruit to offer them. If they don't want it, tough luck! The healthy stuff is there! Before the fruit pack, especially 2 or 3 days before payday, but now we always have that balance. So yeah, it makes us feel like we are winning."

Physical and mental health

Physical and mental health presented themselves in numerous capacities from fruit and vege co-op members, with subthemes including enhanced physical health and wellbeing, supportive of mental health, inclusiveness and feeling of belonging, and providing mauri ora.

Enhanced physical health and wellbeing

Physical exercise, getting vitamins, and weight loss were all anecdotal experiences provided by focus group members as examples of enhanced physical health and wellbeing, with one member encapsulating the connection well: "if your food is not fresh, then the exercise you will be doing is not fresh either."

> **Case 1**: "I get good physical exercise in packing the bags."
>
> **Case 2**: "And for me, when you have fresh and juicy fruit, your exercise is going to be fresh and juicy too! Do you know what I mean? You feel it! You know what I mean eh? If your food is not fresh, then the exercise you will be doing is not fresh either."
>
> **Case 3**: "It has impacted the health of my family quite significantly. At the end of last year, I had surgery for cancer, and the specialist didn't have very high expectations about my recovery and I had surgery in January and they said, 'you are in optimal health and fitness' so now I feel great, I am back at the gym! (YAY) I have been at the gym for three weeks with 2 rest days because I am catching up for lost time! But it is just like, I am 50 years of age, nearly 51 and I was staring down the barrel of a gun over Christmas and new year and I feel confident that because of the way that I ate, and I don't drink or smoke or do those things, that I would be fine. But now, I have had confirmation that I am optimal health despite it being something that seemed far away. I have always been a fan of processing food as minimally as possible and the coop allows me to do that."
>
> **Case 4**: "Freshness is a big one. It's fresh. It's not just about to turn, so it's healthier in that aspect. Getting your vitamins that haven't been in the deep freeze or have been sitting there for a while."
>
> **Case 5**: "Weight loss! I have lost 6kg in 6 months since coming here. It has been good for that."

Supportive of mental health

Some members shared their personal struggles with mental health issues, and how the co-op is a more inclusive and inviting space than going to the supermarket. Through their relationships with food, they have improved their mental health and wellbeing. One member cited during the Christmas break closure; they notice a difference in their ability to maintain stability.

> **Case 1**: "Cause, you know, mental health? I am under mental health, and it is good for my bipolar too because I am bipolar… And anxiety, when it comes to the coop because I am different when I go there compared to when I am at the supermarket. But at the supermarket I get anxiety! As I said, talking about, health and that - for me, mental health is wellbeing. I can come to the coop with a big smile! I don't come to the supermarket with a big smile. Never. It is good for my mental health to get my veggies from here."
>
> **Case 2**: "My health, and wellbeing, changes during Christmas when the coop stops because we don't eat many veggies during this period. That's the difference. The balance; it is a bit unpredictable. Do you know what I mean? Like, um, during the year, my balance is over here. But when it stops, during Christmas, I am a bit unbalanced. It is like walking on a bit of ah… That ah… walking on a platform and you are trying to balance yourself. But when it comes back on, my body has to adjust to the veggies again. I say to Jodie 'I can't wait to get the lovely fresh veggies again.' It is like everything in life, but my wellbeing is a bit unstable sometimes. I know we

all have to enjoy Christmas, but the break is quite long for me. Especially when a family is getting used to it, it is like taking a baby from a mother's breast, they have to wean onto a bottle, and it is hard."

Case 3: "So, I found through the fruit and veggie coop, that there are foods out there that don't quite make me loopy, angry, and emotional. And it's through that relationship with food, becomes better health and wellbeing of oneself."

Sense of belonging

For some, the co-op supports mental health through a sense of belonging, by encouraging them to interact with community members.

Case 1:" It gets me out of the house. Being cooped up in a house, it's much better for one's physical, mental, emotional, soul, wellbeing, getting out of the house at least once a week."

Case 2: "I have depression and anxiety and I love staying in my house. So, the coop gets me out of my house and walk. I have to walk to the bus stop and within the bus stops then home again. I would just stay in my home without the coop."

Case 3: "I memorized all of the names. There are about 300-400 people as a piece of belonging. When you call people names, they feel worth."

Mauri Ora

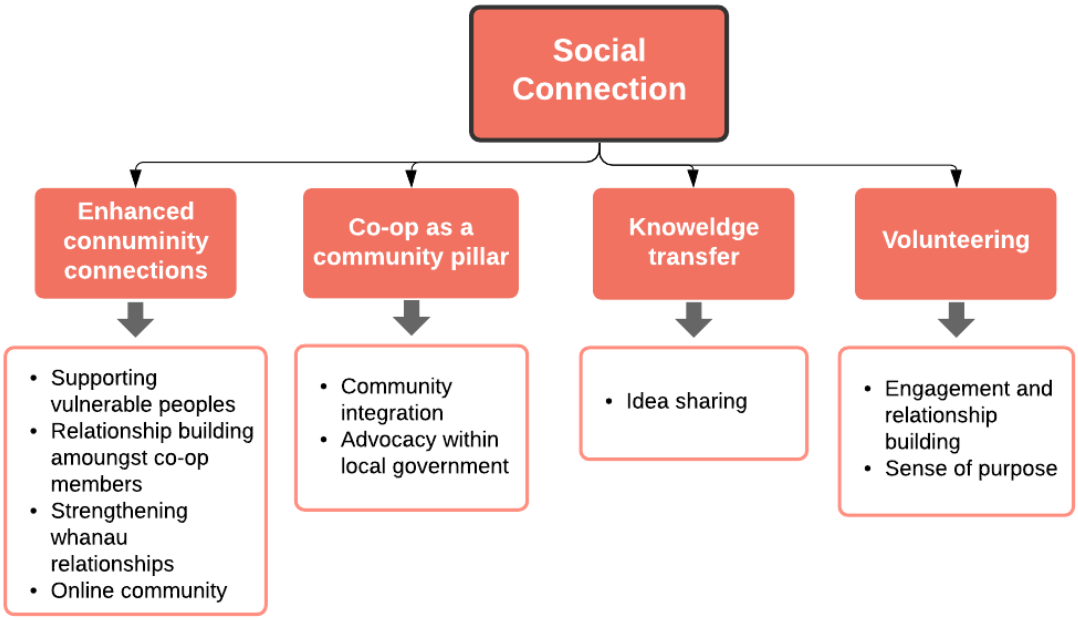
Being involved with the co-op brings mauri ora – or life force – to people that they can't find at the supermarket.

Case 1: "Mauri ora and aroha: I see the happiness in people when they come and get their veggies; I don't see that at a supermarket."

Case 2: "I see the joy that Jodie gets every day when she eats the fruit. Do you know what I mean? You feel it! And I reckon that plays a big part in someone's life. It helps them."

Social Connection Pillar - #3

Social connection describes the social ties between people including socialisation, support, and sense of belonging. The co-op contributed to the fabric of each community: it facilitated enhanced community connections, strengthened relationships both between co-op members and within their whānau, and developed innovative online communities. Each of these emergent themes is described below.



Enhanced community connections

The co-op provided a platform for building connections. This occurs within members, amongst members, and between volunteers: "the coop space is great for connection." Many members joined the co-op looking for a way to engage with their community and found that the co-op provided an authentic way to converse, forming relationships, and making bonds with others.

Often, enhancing community connections supports other services within the communities addressing poverty and there are many non-capital exchanges between organisations. For example, one of the fruit and vege co-ops donates the surplus to the local food bank and receives free access to their hall as a distribution hub:

> "Well, with the surplus fruit and veg from our packing days, I donate it on behalf of the coop to the food banks, the local ones. I also have some contact with some local community people that I know are struggling and people from outside of Stotes Valley who are struggling a little bit, I will take them veggies and fruit. It is just sort of the thing you do. And I always do it under the guise of the Naenae coops donations and yeah - it is really nice. As a result, we get rent-free use of the hall and so we have a really nice, healthy community to survive as a village."

Supporting vulnerable peoples

Many of these enhanced community connections support vulnerable peoples in the community. For example, it provided an outlet for socialisation for people who experience social isolation:

> "So, from a social context, feeling part of a community and a group – it's huge actually! I think for people who maybe live alone, or don't have a car – all sorts of things – that mean that perhaps you have limited chance to interact with your community."

The fruit and vege co-ops strive to build relationships with their members to understand their context, how they are struggling, and ways to offer support beyond food:

> "The relationships in this community, I find a lot of people that are struggling. Even, when they walk in, I can tell that he wants to buy something, and he can't afford it. So, I try to help those people and I try to help them. They are a part of my family too, you know? I know a lot about what is going on with their families and they share their stories and I pray for them. It all contributes to their wellbeing. I don't want to be naive about what is going on. I want to make sure that people are not walking stressed. Whatever the surplus is, I take it to the people who need it. I know exactly who they are. I know the pressure when you can't afford so with the surplus, I give it to them on top of their order."

Relationship building amongst co-op members

The co-op members create a quilt of diversity and the co-op facilitates relationship building between different strata of society. It brings together people of different ages (Case 1) cultures (Case 2), and socioeconomic demographics (Case 3) that reach beyond the co-op itself (Case 4) and create equity in members.

> **Case 1**: "But for us, it is a family thing. Katie, my daughter, when she was one started here and… wait… she was 9 months… and she has grown up here, she has grown up with this extended family and they know how to hang around the older people. We have a lot of older people; I am one of the youngest and so we all know how to hang out. Where else do you meet such a cross-section of people?"

> **Case 2**: "And it brings in different cultures. Cause I see in Taita, we get different cultures coming in. And sometimes, we sit in here and we talk about how to cook stuff from different places."

> **Case 3**: I see the joy in the communication of people with different backgrounds [financial implication] who start talking. You meet people and yeah, you get talking and you go through your bag and you go, 'oh, you know last week, did you like this?' and it brings up a conversation with the community and a bond. And now I know that person."

> **Case 4**: "So, for me, it brings out the conversation and korero - it is a communication thing. When we see people down the street, we stop, and we start up a conversation because we have seen them before. Whereas before, they would just walk past you."

Members described that they leave the co-op every week with a deep sense of belonging and connection to their community.

Strengthening whānau relationships

The members also described how the co-op has strengthened relationships within their own whānau. Often, this is through spending more time in the kitchen preparing healthy meals together:

> "I have 3 more kids living with me now and it is nice because the kids have to help me in the kitchen now and it is really quality time. While they are grating or dicing, I get them to do the

> veg stuff, there is a valuable conversation that happens during that time. There are 7 kids in the house right now, so it is hard to get one on one time. Through preparing the meal together, that happens more."

Many families described that their kids love participating in the co-op and enjoy collecting the bags. They describe it as quality time shared. They even described the co-op itself as their whānau:

> "It is like a family. It is, everyone knows what's up in everyone's lives. Everyone asks, 'how was your week?' It is a big whānau."

Online community

Another more recent social connection is the online community present amongst the co-op members. Some of the fruit and vege co-ops have Facebook groups and communicate with their members online. This creates a platform for connecting members, informing the members about the week's fruit and veggies and sharing recipes.

Co-op as a community pillar

The co-op has emerged as a major pillar of community within the packing and distribution hubs. As one member remarked that the co-op facilitates connection, and this keeps them coming back: "because humans are always looking for connections. It is what keeps us going back to places."

Community integration

The co-op has become integrated within the communities. The members describe how the consistency was integral for the co-op developing into a permanent programme with high uptake:

> "It becomes a part of your life; it ebbs and flows throughout the week and we know everybody and the church times. It is really integrated. And if you have a passion for it, you have room for it…That consistency is important. We are a community where everybody helps. It is not just eating. It is the whole process."

The co-op also runs in parallel to other community development programmes, such as the Real Good Kai cooking programme and the Good Cents budgeting course in Cannon's Creek. Often, there is cross-promotion and participation between members.

Advocacy within local government

In one location the co-op has provided an outlet for socio-political change in the broader community. The co-op coordinator has advocated for healthy eating, support of low-income families, and infrastructure development with local MPs:

> "We invite them to come and spend time with the volunteers and meet the people we pack together, and I put up an island feast! Now, the mayor's office is getting a bag once a month! They received it and are happy. With the bag, I send a form for them to get everyone on board."

Building these relationships enables the co-op coordinator to ask for greater buy-in and support for the co-op itself:

> "[He] is bold and will use the coop as a way to get buy-in. The last election when the candidates wanted to come here and get their one photo packing fruit and veggies with the

> volunteers, he said to them, 'you see how much we need this in our community?' He did a presentation to them on PowerPoint on how much fruit and veggies get sold each week and each year, and this is how much GST it is… so if you are interested in health, and you control GST, this is what we need.' The politicians laughed and laughed! They were caught."

Knowledge transfer

Idea sharing

The social connection occurred through co-op members sharing knowledge, particularly through exchanging recipes. Often, this involved members learning how to use a new ingredient:

> "The first time I got bok choy in the pack, and I have never bought it before because I never knew how to use it. Someone said "look, just chop off the leaves and use the stems like celery. Just eat it raw." You know what, when I tried that, I just discovered this amazing flavour that I've never heard of before. If someone didn't tell me that here, I would have probably not used it."

The participants explained that they love the recipe exchange and the socialisation ensued:

> "I love that. I really love that. This Polish lady gave me a recipe for lettuce soup. So, I went home, and we tried the lettuce soup. My son loved it so much he ate it cold right out of the fridge.

Volunteering

Volunteering to pack and distribute the bags of fruit and veggies was a large part of social connection. Volunteering enhanced relationships and gave people a sense of purpose.

Engagement and relationship building

Many of the volunteers have been a part of the co-op communities for years and have built strong relationships with each other: "it is a real team, the crew up here." Often, this involves conversation over tea, coffee, and biscuits and involves people of diverse age and demographic backgrounds.

Several volunteers described that through volunteering, their relationships have developed into friendships and that they feel like "an extended family." They claim that it is the people that keep them coming back, for years. A large part of this is providing spaces for people to grow and feel a part of something, especially for isolated or vulnerable peoples.

Sense of purpose

Volunteering at the co-op gives people a sense of purpose. They compared it to traditional forms of work as a special way to engage and contribute to their community and help other people:

> "… As opposed to the 8-5 where they do their work and that is it, that is the end of the story, not helping the other person. It is more like a community of its here and we help."

This sense of purpose increased volunteer's wellbeing:

> “Also, my wellbeing when I volunteered. It felt great to support. There was lots of laughter and wellbeing and I left on a high with all sorts of endorphins and yeah - community spirit at its best.”

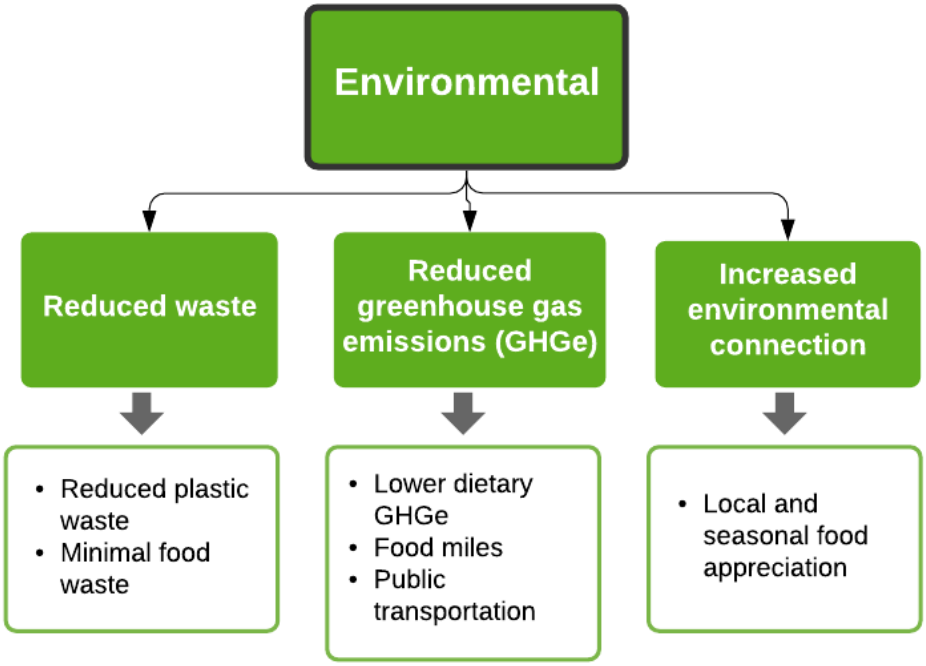
Volunteering is also a highly enjoyable experience, filled with laughter, conversation, and meaning:

> “For me, coming down and packing is like entertainment plus. We have such a laugh! From when you walk in and form when we go.”

Simply put, “being a volunteer is a huge sense of joy.”

Environmental Pillar - #4

The environmental pillar explored member's values associated the environmental considerations while using the fruit and vege co-op. Members felt participation in the co-op overall reduced their environmental footprints through three emergent themes: Reduced waste, reduced greenhouse gas emissions, and increased environmental connection.



Reduced Waste

Reducing waste, both plastic and food, emerged as the leading theme for the environmental pillar. This prominent theme was raised during each of the five focus group discussions.

Reduced Plastic Waste

Plastic waste was discussed as each of the five focus groups as a benefit from using the fruit and vege co-op, as members favoured the reduced amount of plastic wrap with distributed produce.

> **Case 1**: "When you go to the supermarket, you still have lots of plastic bags and other packaging. When you get everything from the fruit and veggie coop, it's all in its natural state. There's no paper or plastic tray. It's like when it comes straight out of the garden, so that's good for the environment."

> **Case 2**: "I saw some crazy packaging of a banana at the supermarket - it had a plastic tape, then it was individually wrapped in glad wrap around a Styrofoam tray. It was ridiculous! So, the co-op helps us delete the rubbish."

Members expressed their enthusiasm for helping the environment by using less plastic through the reusable co-op bag program, stating "we are using reusable bags which is awesome," another adding that "there would have been so many plastic ones used before."

> **Case 1:** "We save 18,000 plastic bags per year."
>
> **Case 2**: "I am really delighted that we have removed the plastic bags. Let's hope that the cotton bags continue to work, and the crate system works."

Minimal Food Waste

Food waste was also recognized as a major environmental detriment, contributing to wasted nutrients as well as a source of greenhouse gas emissions. Members from all five focus groups agreed that produce they receive from the fruit and vege co-op rarely goes to waste, with one member summarising it well "the fruit and veg – you have to eat them! You can't waste them."

> **Case 1**: "We get 2 orders, so that's $24 a week, and as I said, we have 4 sorts of adult-sized children as well as um, 5 children, and preschoolers. And, it is simply a case of nothing is wasted, everything is used."

This subtheme also highlighted the creativity of members when trying to utilise lesser-known or enjoyed fruits or vegetables into dishes such as adding greens to stir-fries.

> **Case 2**: "My entire family, we eat all of the veggies. We never really waste anything. We try to use everything that is in the bag. Even if the kids don't like it, I will use it in something else."
>
> **Case 3**: "My friend who is a volunteer packer here loves lettuce outer leaves – she uses them in her stir-fries. She taught me how to use them, so that reduces our food waste."
>
> **Case 4**: "We learn what to use with the extra bits - like the odd greens to cook up."

Others mentioned their newfound interest in composting fruit and veggie scraps, "composting is cost-effective on your wallet, it's cost-effective on the environment, and it's a new skill!"

Because some co-op produce may have otherwise gone to waste on the farm, one member exclaimed: "the coop eliminates [on the farm] food waste!" Another member highlighted that the produce has less travel time, and therefore "it's fresh so it lasts longer. So that's important."

Some members prevent food waste by sharing what they don't use with others in their community.

> "We don't waste what we get, we share it with other people. I am a nurse at the hospital and all of the extra, I take to work, and we share it up with the staff. So, it is really good for them too. Sometimes when you come, lettuce is an example, I can't get my girls to eat lettuce. So, if we get one in a pack, sometimes we get to exchange with others."

Reduced greenhouse gas emissions (GHGe)

Lower greenhouse gas emissions from a planetary health perspective emerged as a common concern considering climate change and environmental degradation issues. These values emerged within three distinct subthemes: lower dietary GHGe from a more plant-based diet, lower GHGe from reduced food miles (local foods), and increased use of public transportation (i.e.: shared vehicles, busses, or walking) to reach the co-op.

Lower dietary GHGe

Multiple members linked plant-based diets rich in rich in fruits and vegetables as helping to offset the GHGe from other resource-intensive foods such as meat.

> **Case 1**: "If people are eating more fruit and veggies, that's a good thing for the planet. Lots of scientist's thing we should be eating a more plant-based diet, in terms of global warming."
>
> **Case 2**: "The more veg you eat, hopefully, you eat less meat, and we all know meat has a much higher carbon footprint – the environmental cost is lower."
>
> **Case 3**: "Environmental-wise, we are starting to impact that into our family cooking. As an example, 1kg of mince I can turn that into four meals for the family with the help of the fruit and veggies."

Food miles

Values emerged regarding reduced food miles from sourcing mostly local and regionally produced foods, such as oranges, apples, pears, kiwi, and mandarins. The members valued how to co-op increased their access to local produce: "the co-op's close proximity within their community, there is not a lot of transport miles because the food is local, and the pick-ups are close to home."

> **Case 1**: "I was talking to my kids about that – the food miles thing. So, I was like, you know, the fruit and veggies we eat each week (and I wasn't 100% sure of myself), I think they're from local as well."
>
> **Case 2**: "With the green footprint approach too, most of the fruit and vegetables are from New Zealand, so we are reducing the emissions of how far the food has come, except for the bananas, mangoes, and pineapples. All of the oranges, apples, pears, seasonal fruit, kiwi, mandarin, those are all local!"

Public transportation

Public transport was a common theme at three of the focus groups, with one member sharing carpooling to increase access and reduce transportation costs - "I have a neighbour with an electric car. They are very keen on anyone in the neighbourhood to borrow it. We then encourage all the neighbours that come to share the carpool. Just have one car coming instead of four." Others mentioned lower transport costs "due to multiple deliveries being done at once." Two members mentioned that the walkability of the co-op reduces transportation emissions stating, "less pollution because we don't drive" and "plus, I walk to get the [produce], so there's less carbon from that!"

Increased environmental connection

Local and seasonal food appreciation

New Zealand sourced foods were strongly appreciated values from members at each of the focus groups, "I really like the fact that my money is going to local growers" and "we know that it comes from local growers, so it's New Zealand made." There was a sense of community connection towards supporting the local growers and seasonal foods as members of the co-op, summarized by one member "it does make you feel more in touch with the environment."

> **Case 1**: "The produce is sourced locally and is in season from the region."
>
> **Case 2**: "We're supporting the little to medium guys, which is really important. With the whole thing about corporates taking over our food is an issue."

Case 3: “Getting the fruit and vegetables makes me feel closer to the environment because we know the seasons and where the food has come from. We are aware that it is fresher, and it mustn't have come too far- it is much fresher than the shops.”

Case 4: “One other thing, we are really connected to our environment because what is available is determined by the growing seasons here in New Zealand and abroad. If people around the world can't grow as much, we will export more and there will be less for us.”

Discussion

New Zealand, like other developed countries, is experiencing multiple forms of malnutrition – undernutrition, overnutrition, and/or micronutrient deficiencies. Malnutrition is related to diet, stemming from imbalanced in energy consumption and under consuming foods rich in essential nutrients like whole fruits and vegetables. Over time, unbalanced dietary patterns give rise to non-communicable diseases (NCDs) such as cardiovascular disease and Type 2 Diabetes Mellitus. NCDs disproportionately impact lower-income and minority community members and are strongly correlated with socioeconomic inequality. Access to fresh, affordable, and culturally appropriate fruits and vegetables is often the biggest barrier to healthy dietary patterns.

In addition to the 9+ tonnes of fresh, local produce to 1400 households a year, this evaluation suggest that the fruit and vege co-ops are pilars within each respective community. The co-ops provide members with a way to connect to their community members, the environment, improve their whānau's health, and foster a deeper sense of efficacy within their lives.

This evaluation provided a safe space for members to share their voice and subjective experiences with using the fruit and vege co-op in relation to each of the four pillars. The four pillars approach provided a holistic framework to capture the multitude of perceived and actualised benefits members received from participating in fruit and vege co-ops. The ranking of the pillars substantiated these findings and identified priority pillars within and between each examined co-op.

The Four Pillars

The **financial pillar** was the highest effected by the members. The co-op was cost-effective and allowed families to afford health, high-quality fruit and vege. Members stated that the value of the items are incomparable to the supermarket, allowing low-income families to eat well. Public health and community development reports, academics, and government departments consistently rouse the need to implement interventions that make nutritious food more affordable and the co-op provides an operational way to advance food security and members' access to healthy, nutritious food.

The pillar of **health and wellbeing** was the second highest motivation for participating in the fruit and vege co-op. In each focus group, members articulated how participation in the co-op has improved their and their whānau's diet quality and thus health by increasing the quantity and variety of fresh fruits and vegetables consumed each week. Considering that fewer than 1/3 of the New Zealand population consumes the recommended amounts of fruits and vegetables, the fruit and vege co-op is a public health success regarding improving nutrition security among lower-resource communities. (Ministry of Health, 2019).

The co-op provided a platform for building and enhancing **social connections** within each community. It supported a diverse range of peoples in each community, and provided an avenue for increased socialization between members as they shared time, recipes, and space during volunteering and collection. Members of the co-op also strengthened relationships at home as they prepared food with their whānau.

The **environmental pillar**, though last, was still perceived as an important component within each focus group. Members celebrated reduced plastic waste, increased connections to local and regional farmers, and reduction in overall food miles. The COVID-19 pandemic has highlighted the fragility of global food systems, and the fruit and vege co-op has proven to be a successful model that can help strengthen food sovereignty and resilience while supporting local New Zealand farmers.

Recommendations

Increasing Membership

Members who attended the FGDs expressed their gratitude and appreciation for the service and advocated that increasing membership throughout the Greater Wellington region should be a primary goal for the co-op model.

This evaluation illuminated key insights into members' incentives for joining and continuing to use the co-op, garnering insight on how to attract and retain future members. Figure 2 features each focus group's unique pillar prioritization, and while varied, the financial (rank 1) and health (rank 2) pillars were unanimously the top two incentives for member participation.

Financial incentives – particularly in lower resource communities – should be prioritized when designing promotional campaigns and adverts. We suggest that future promotional material should highlight the price savings and value by directly comparing the price of the co-op with the supermarket. The members preferred the pre-pay or automatic payment model, indicating that it helps with their weekly budgeting. Although the savings were a large component of using the co-op, members also felt dignified that they were paying for their produce as opposed to a "hand-out" model (i.e. food banks).

The co-ops' effect on the health and wellbeing of members can also be leveraged. The participants appreciated the recipe cards and capacity building opportunities to use all the food items in the bags. We suggest that these continue and that RPH continues to invest in adjunct cooking workshops for the members. We also recommend that the co-op is promoted amongst health "outlets" as a commonly known place for people on a journey of improving their health, to start. This includes more active referrals from schools, dieticians, and doctors.

The social connections pillar was an ancillary benefit recognised by many of the members and included enhanced community connections, knowledge transfer, and perceiving the co-op as a community centre. Word of mouth marketing is well known to be one of the most effective strategies for product and service promotions (Singh J. et al., 2018). Word of mouth marketing could be leveraged to increase membership through a peer-to-peer referral programme (i.e.: free week of groceries for every 2 new referrals).

The members appreciated the convenient locations and flexibility of pick-up. Future co-ops should identify locations where access to fruit and vege is low and consult with the community to determine convenient times for pick up. Feedback was also provided around maintaining an active program over the holidays, which the co-op has previously been closed.

Last, we also recommend that this evaluation is used in promotional material using FGDs quotations (with consent). There are many relatable, relevant experiences captured in this evaluation that could incentivise others to join.

Conclusion

This evaluation determined that the fruit and vege co-op is economical and improves members' health and wellbeing, social connectedness, and offers a sustainable way to purchase fresh fruit and vege, with members most often using the co-op for financial and health reasons.

The fruit and vege co-op serves as a successful public health promotion public health programme, providing opportunities for lower-resourced communities to access locally produced fresh fruits and vegetables at an affordable price. The co-op found success by building grassroots relationships with key community stakeholders, which ultimately fostered community trust and membership. Findings and member feedback found in this report can help guide future co-ops seeking to build healthier and more resilient communities.

Findings from this research also suggest that the four-pillar approach could be utilized in other community-co-op evaluations and can be upscaled or refined to fit the contexts of each evaluation.

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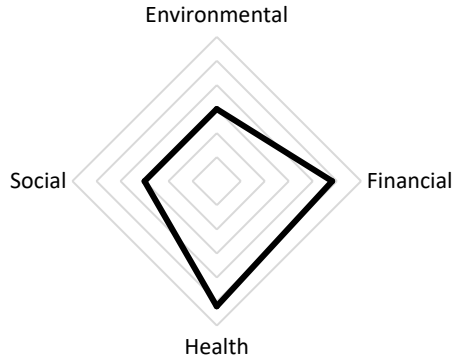
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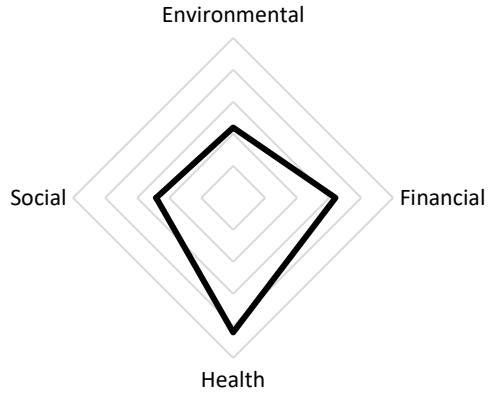
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Appendix 1

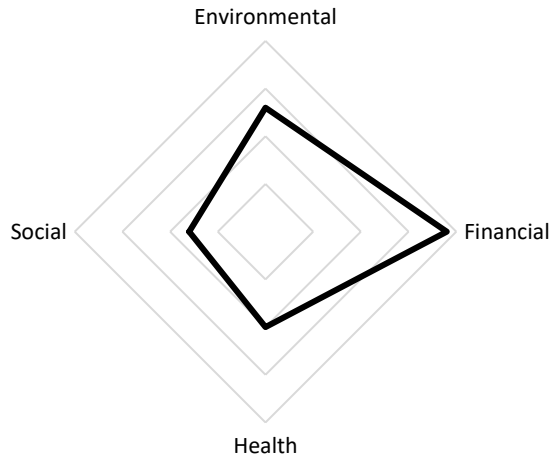
Figure 3a-3e: rankings per location



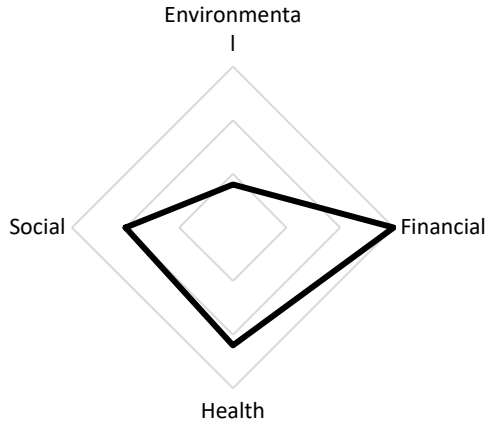
a. Cannon's Creek



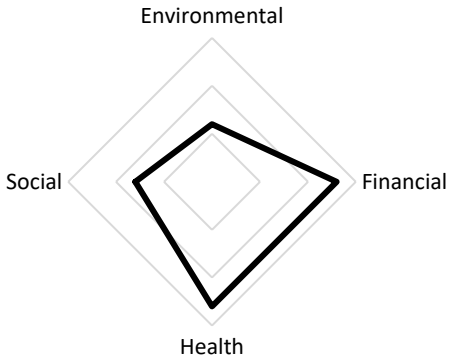
b. Naenae



c. Titahi Bay



d. Wainuiomata



e. Waiwhetu

Appendix 2

Questions and prompts to facilitate focus group discussions

1. Why do you use the coop?
2. Are there any foods that do go to waste from your bag?
3. How does coming to the coop impact your health? The health of your whānau?
4. How does the coop contribute to your community?
5. Does the coop have any financial benefits for you and your family?
6. Do you feel like the coop is environmentally sustainable? Why or why not?