



Aotearoa New Zealand Community Gardens

Results from the first National Community Gardens Survey

December 2020

Wai Ora Trust Community Garden. Photo credit: Rachel Vogan

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Executive Summary

This document reports the results of the first Aotearoa New Zealand Community Gardens Survey conducted during May and June 2020.

It has been guided by a Steering Group of community gardeners from around the country and analysed by staff at the University of Canterbury. It provides the most detailed insights into the national picture of community gardening gathered to date.

204 community gardens were contacted for comment, eliciting 89 valid responses, a 43% response rate.

60% of the community gardens who responded have been established since 2010.

Almost one quarter cater to more than 600 instances of volunteering per year. Assuming most volunteers work around five hours per week in their community gardens, it is estimated that the monetary value of this contribution could be between \$2.8m and \$5.5m (at the living wage).

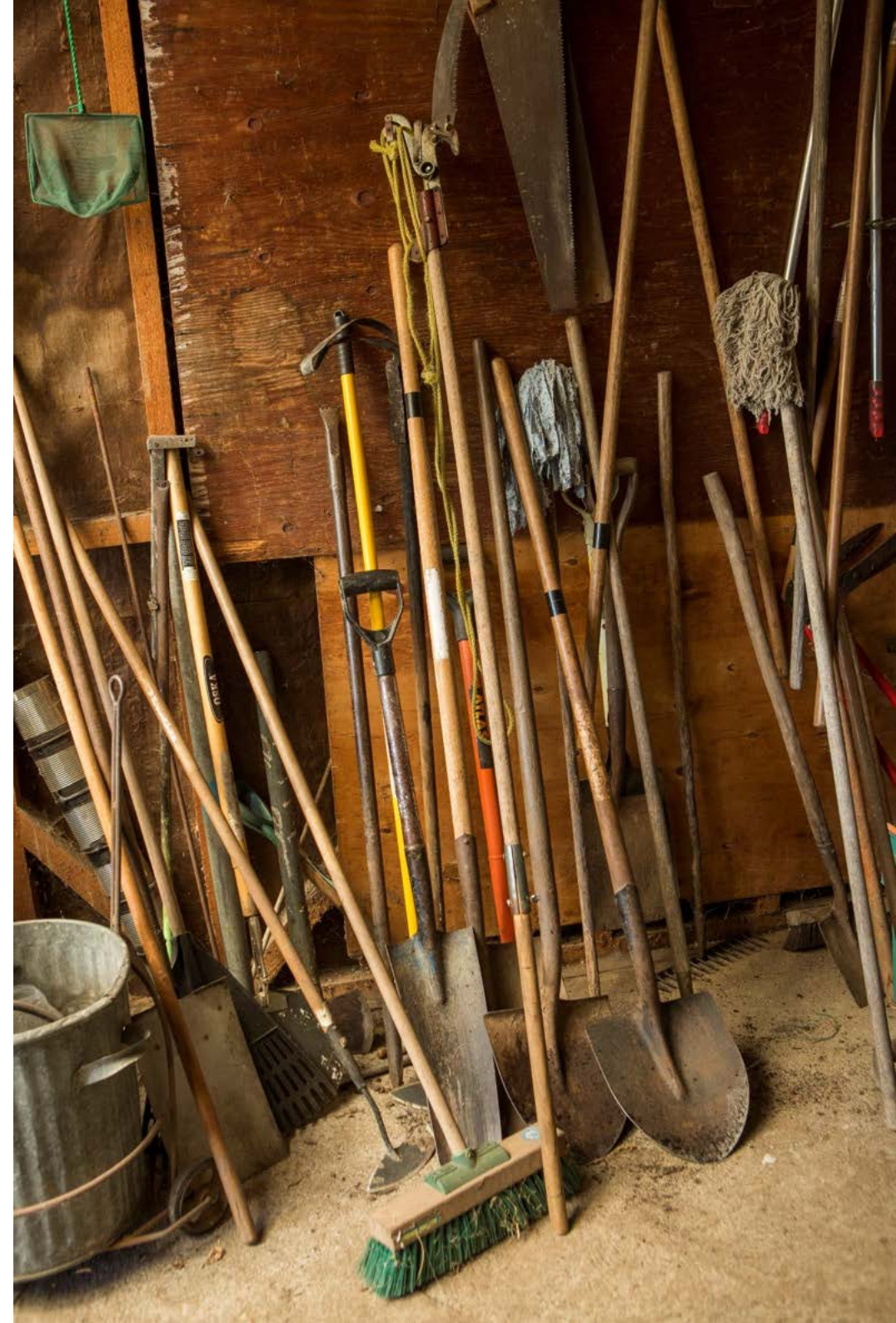
Feedback highlights community gardens' role in providing social cohesion and improved mental health as some of the key outcomes they contribute to. 72% of community gardens see their work as being part of their community's essential infrastructure.

Nevertheless, 48% feel that they are either struggling financially or have barely adequate funding, and around two thirds have no paid staff, whether full- or part-time.

COVID-19 related responses underscore the above points.

73% of community gardens support the notion of a national network to support their work.

To this end we hope this document will both help create a cohesive network and facilitate greater support for community gardens and the like from individuals, local councils and government.



Authors

Matt Morris, Alison Loveridge, Matthew Janssen, Lin Klenner and Olivia Zavrel.

Survey composition

The initial list of community gardens was constructed by Skyla Segal.

Olivia Zavrel expanded the original list, constructed the survey and distributed it.

The Steering Group overseeing this project grew as the project developed. As at October 2020, the Steering Group includes the following people:

Hayley Guglietta (Richmond Community Garden, Christchurch)

Brendan Hoare (BuyPureNZ, Auckland)

Lin Klenner (New Brighton Community Gardens, Christchurch)

Richard Main (Diabetes Foundation Aotearoa, Auckland)

Sol Morgan (Golden Bay Sustainable Living Centre, Takaka)

Matt Morris (University of Canterbury, Christchurch)

Catherine O'Neil (New Brighton Community Gardens, Christchurch)

Tim Packer (Innermost Gardens, Wellington)

Anja Schaar (Taupo Community Gardens Trust, Taupo)

Rachel Vogan (Community Gardens Ambassador, Christchurch)

The Steering Group has read and approved this report for distribution.

This survey project was supported by the University of Canterbury's Sustainability Office, and the UC Partnerships and Community Engagement (PACE) programme. We are very grateful to Dr Alison Loveridge of UC's Sociology Department for assisting with coding the qualitative responses in this survey.

Introduction

Community gardens are common in cities and towns across New Zealand. The National Community Garden Survey aims to establish a clear understanding of the status of community gardening in New Zealand, including density by region, what contributions these gardens are making to their communities, and their financial situation.

Methods

The construction of the survey began with a meeting between several community garden coordinators around New Zealand. Key research questions to be included were decided by this group. The survey was then built in Qualtrics and tested for errors and clarity. The coordinators met to discuss improvements and BuyPure Organic validated it. The survey included a total of 58 questions (including follow-up questions), asking respondents about their community gardens and their opinions on issues related to community gardening in New Zealand.

In order for the survey results to be an accurate representation of community gardens across New Zealand, the first step was to construct an email list of community gardens. The initial email list was found through a simple desktop study. Through this research, a contact list composed of 126 emails was created. Not every community garden that was found had an email readily available online, so gardens which we could contact were emailed to gather more emails and create a more comprehensive list. The resulting master list included 204 contacts.

The Steering Group developed the survey together, having also sought advice from the Australian Community Gardens Association, the American Community Gardens Association and the UK Soil Association. Interestingly, the Steering Group found that there was no standard 'census' type questionnaire for community gardens in these countries.


On 29 May 2020, the survey was sent out to 204 contacts on the Aotearoa Community Gardens master contact list. Eight emails bounced, thus meaning that 196 gardens were sent the survey to complete. To encourage completion of the survey, follow up emails were sent on 1 June and 8 June. The survey closed on 12 June 2020. A total of 112 responses were gathered.

However, responses with 5 or fewer questions answered were removed from the survey as these responses could be duplicate entries. Fifteen were removed because of this. Furthermore, responses with the same name listed in the question "What is your community garden's name?", had their duplicate entries removed, a total of eight were removed due to duplication. After data cleaning, a total of 89 responses were retained.

Several of the open-ended questions were analysed by Dr Alison Loveridge of the School of Language, Social and Political Sciences at the University of Canterbury. However, the questions related to COVID-19 have not been fully analysed yet. An initial analysis is offered here, but a full analysis will be issued as an addendum when resources permit.

This report has been reviewed by the Steering Group, but has not had a technical peer review.

December 2020



“In the 12 months, from March 2019 – March 2020, over **4710** people from groups including home school, meditation, dancing and special needs benefited from our facilities. **480** people attended community dinners and over **620** people were actively involved in gardening personal development. We planted **79** production trees as well as **698** native trees/grasses. Allotment spaces for individual gardeners were increased by **20%** up to **24** plots.

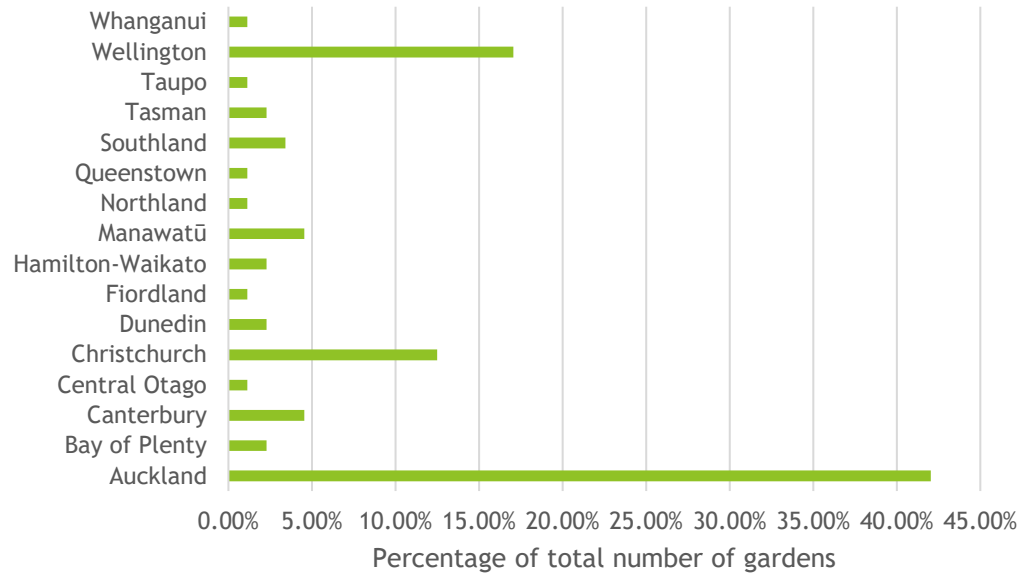
“During the first COVID-19 lockdown we delivered over **100** cooked meals to those in need and a staggering number of locals enjoyed the gardens as a space for safe daily recreation.

“Our community composting operation accepted ~**850** kitchen waste drop offs, amounting to **7,477** Kg of raw material. The composting process sequestered (potentially) **26,822** Kg of CO₂-e in GHGs that would otherwise be released into the atmosphere if it went to landfill.”

- Tim Packer, Innermost Gardens (Wellington)

Innermost Gardens. Photo credit: Tim Packer

Locations of Community Gardens

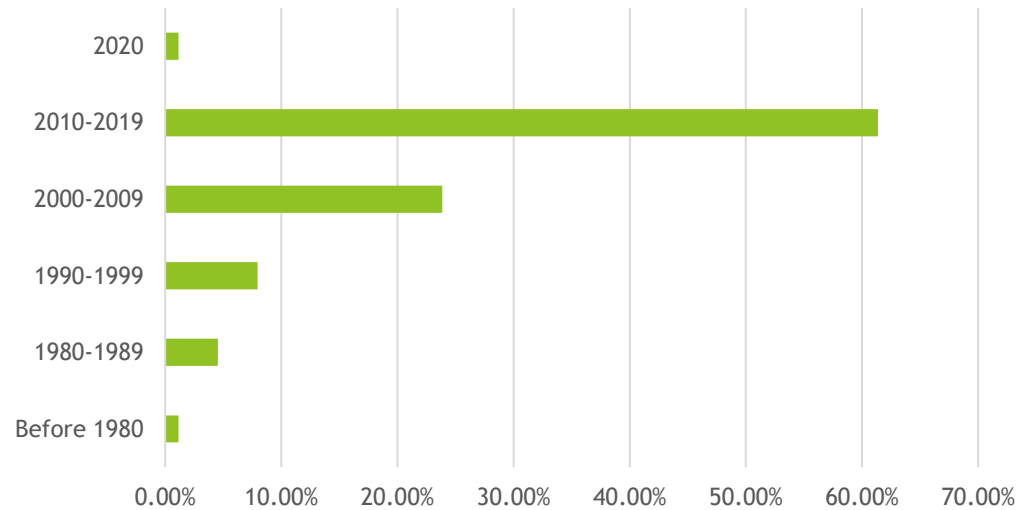


Location and Miscellaneous Attributes

42% of respondents' gardens are in Auckland. There were also 17% in Wellington and 13% in Christchurch. However, only 2% of gardens in this survey responded from Dunedin.

Over half of the gardens were established within the last 11 years, with over 70% established during the last 21 years. While a vast majority have been established recently, over 10% of the gardens were established prior to the year 2000, with one garden established prior to 1980.

Decade of Establishment



"The Golden Bay Community Gardens was established in October 1986 by a group of concerned locals who wanted a place to grow, learn and share about organic growing. Allotments, orchard, woodlot, nut block, mixed shelter and various earth buildings and growing structures were established. Government funding in the form of Access & PEP Schemes allowed significant investment in development of the site and educational programmes. In 1991, Te Wharerangi Trust was formed to administer the project. In the mid-nineties, with limited funding, the focus became a growers' cooperative.

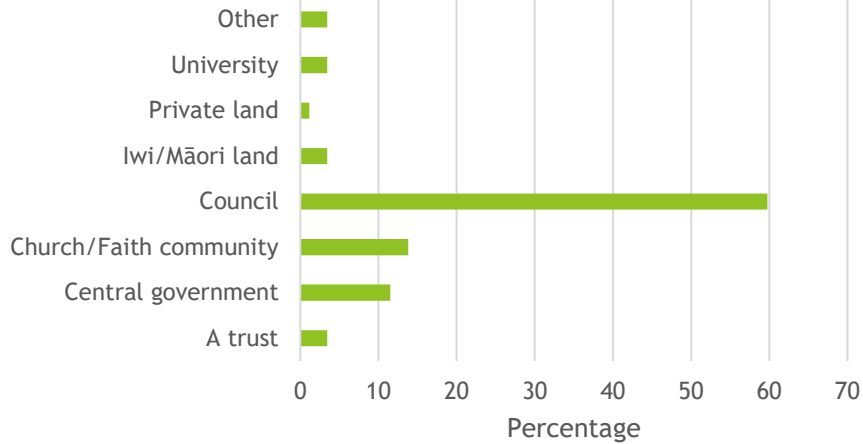
"The 2000s saw a re-focus towards greater employment through various WINZ schemes, along with WWOOFing and organic production for the local market. Since then various courses, events like the annual Harvest Festival (pictured), the seed garden and further infrastructure developments have enhanced the space. Recently the Trust decided on a rebranding to the Golden Bay Sustainable Living Centre to highlight the wider role provided through Sustainable Golden Bay Hui and ten week Sustainable Living Course (www.gbslc.org)."

- Sol Morgan, Golden Bay Sustainable Living Centre



Golden Bay Sustainable Living Trust. Photo credit: Sol Morgan

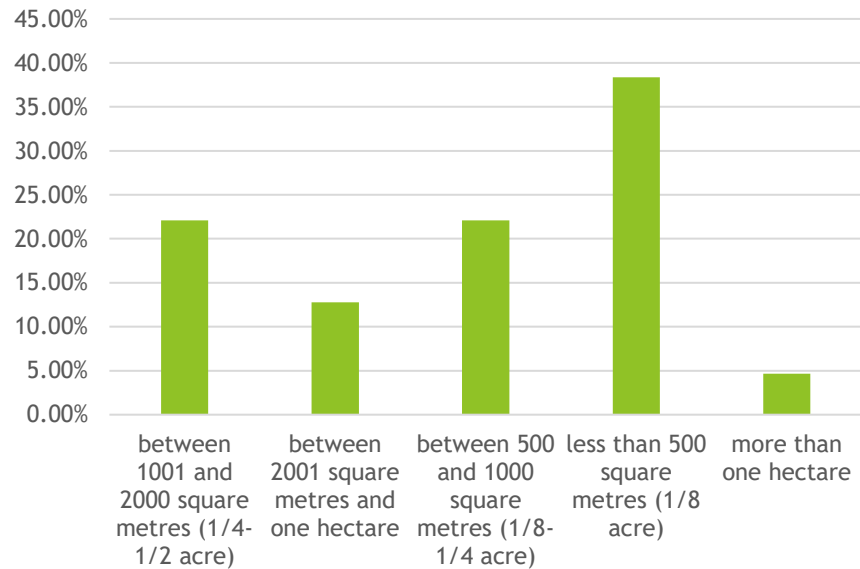
Land Owners of Gardens



A majority of gardens are situated on land owned by councils, with an additional 11.5% on land owned by central government. A total of approximately 70% of this land appears to be owned by governmental organisations. The remaining 30% is spread across various groups including church and faith organisations, universities, iwi and trusts.

39% of these spaces are less than 500 square metres, or 1/8 acre. A further 44% are between 500 and 2000 square metres (between 1/8 to 1/2 acre). Just over 15% are larger than this.

Size of Community Gardens

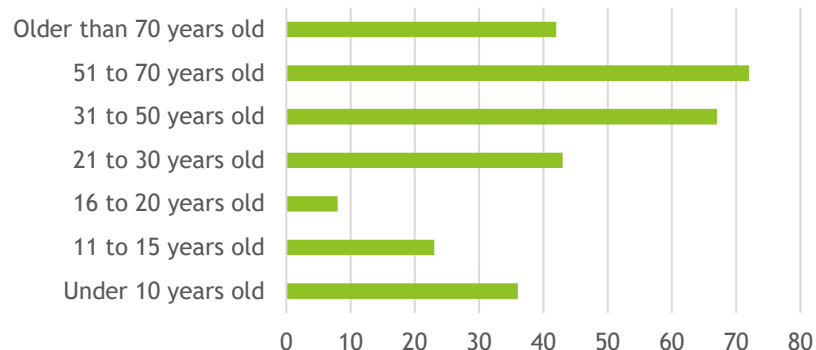




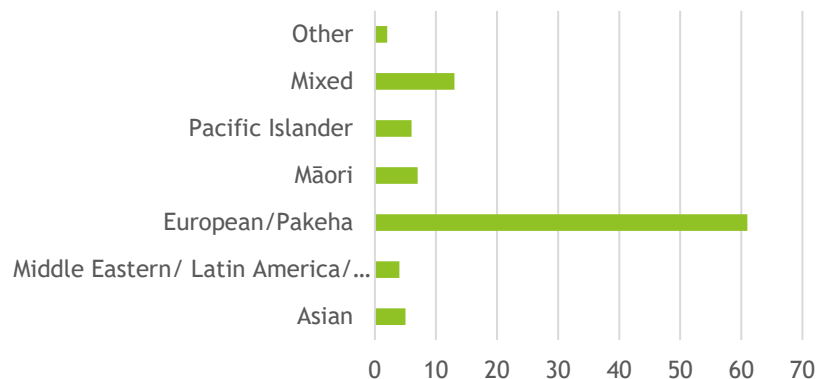
Christchurch Community Gardens Association. Photo credit: Rachel Vogan

**Volunteers
& Staff**

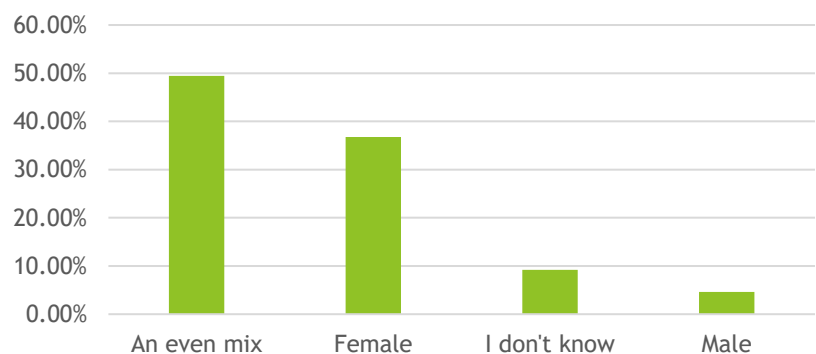
Age of Garden Volunteers



Ethnicity of Volunteers



Majority Gender of Volunteers



Volunteers & Staff

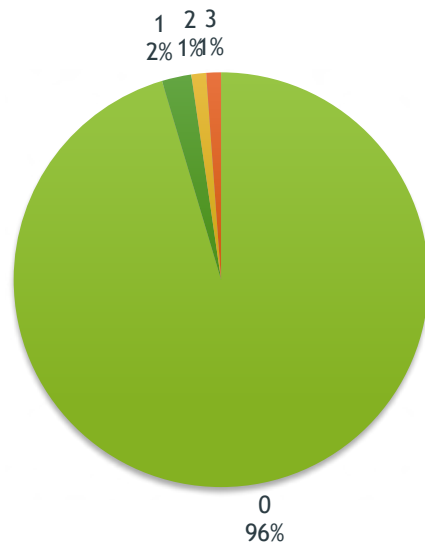
Demographics

We asked the question “What ages are the people who use your community garden?” Volunteers seem more likely to be over 31 years old, with many over 70s also using community gardens. Generally, people of all ages seem to be attending gardens, including a large number of children.

The most common ethnicity represented in community gardens was European/Pakeha, followed by mixed (meaning a mixture of ethnicities attend the gardens).

We also wanted to understand something about the gender of community gardeners. We asked “What is gender is the **majority** of your volunteers?” Volunteers appear to be an even mix of genders. However, where female or male was selected as the majority, women were overwhelmingly selected, at approximately 37%. It is highly likely therefore that women make up the majority of community garden volunteers overall. Non-binary was included as an option, but no participants selected this.

Number of Paid Full-Time Staff and/or Contractors at Garden

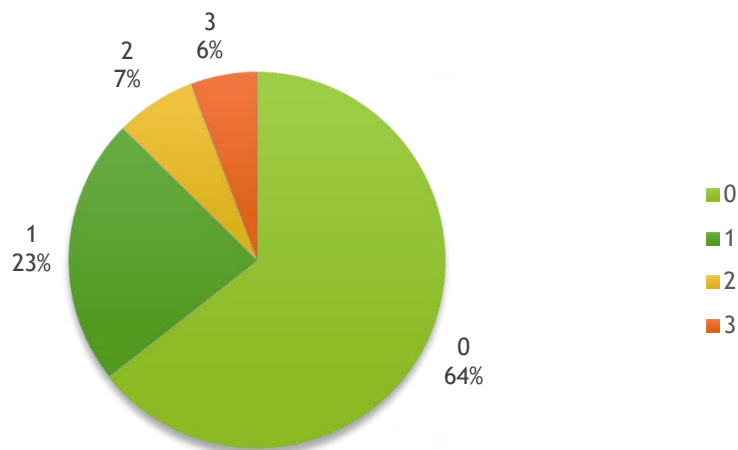


Paid Staff/Workers

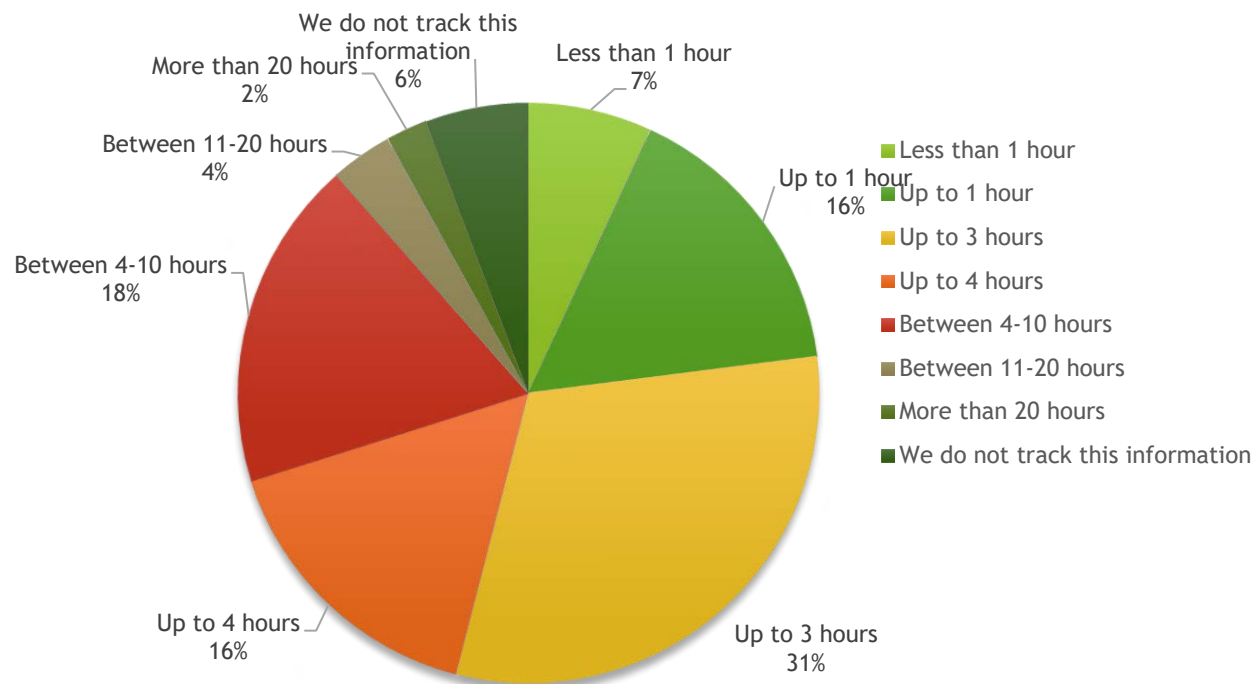
It is clear that the majority (95%) of community gardens do not have paid full-time workers. 2 gardens had one full time worker, and one had two, and one had three. 83 had no full time workers.

Again, a majority (64%) have no paid part-time workers. However, 20 (23%) have one paid part-time worker, 6 have two paid part-time workers and 5 have one paid part-time worker. These responses indicate that while there are very few full-time employees at community gardens, part-time employment in these gardens is not uncommon.

Number of Paid Part-Time Staff and/or Contractors at Garden



Number of Hours Worked by Individual Volunteers per Week



Volunteer Hours

This figure displays the average number of hours worked by each volunteer per week in the gardens. The average across gardens seems to be around 3-5 hours per volunteer – but with considerable variation in this. Some work over 20 hours per week. These numbers indicate that volunteers contribute a significant number of hours to these gardens.

survey responses			
	low	medium	high
0	0	0	0
1-10	51	255	510
11-20	253	345	460
21-30	189	225	270
31-40	62	70	80
41-50	82	90	100
51-100	153	225	300
100+	200	210	220
TOTAL	990	1420	1940
extrapolated for all gardens			
	low	medium	high
0	0.00	0	0
1-10	108	542	1084
11-20	538	733	978
21-30	402	478	574
31-40	132	149	170
41-50	174	191	212
51-100	326	479	639
100+	424	446	467
TOTAL	2103	3017	4123

weekly hours worked: survey responses						
low average			3	high average		
low	medium	high		low	medium	high
0	0	0		0	0	0
153	765	1530		255	1275	2550
759	1035	1380		1265	1725	2300
567	675	810		945	1125	1350
186	210	240		310	350	400
246	270	300		410	450	500
459	675	900		765	1125	1500
600	630	660		1000	1050	1100
2970	4260	5820		4950	7100	9700
Weekly hours worked: extrapolated for all gardens						
0	0	0.00		0.00	0.00	0.00
325	1626	3251.56		541.93	2709.63	5419.26
1613	2200	2932.70		2688.31	3665.88	4887.84
1206	1435	1722.17		2009.20	2391.90	2870.28
395	446	509.18		657.70	742.56	848.64
522	573	636.48		869.86	954.72	1060.80
977	1437	1915.56		1628.23	2394.45	3192.60
1273	1337	1400.26		2121.60	2227.68	2333.76
6310	9052	12368		10517	15087	20613

To dig deeper into this we asked community gardens to estimate how many 'instances of volunteering' occur in their gardens each week. An instance of volunteering means the number of times a person volunteers, and not the number of volunteers (i.e. if the same person attends the garden three times, that is counted as three instances of volunteering, not one).

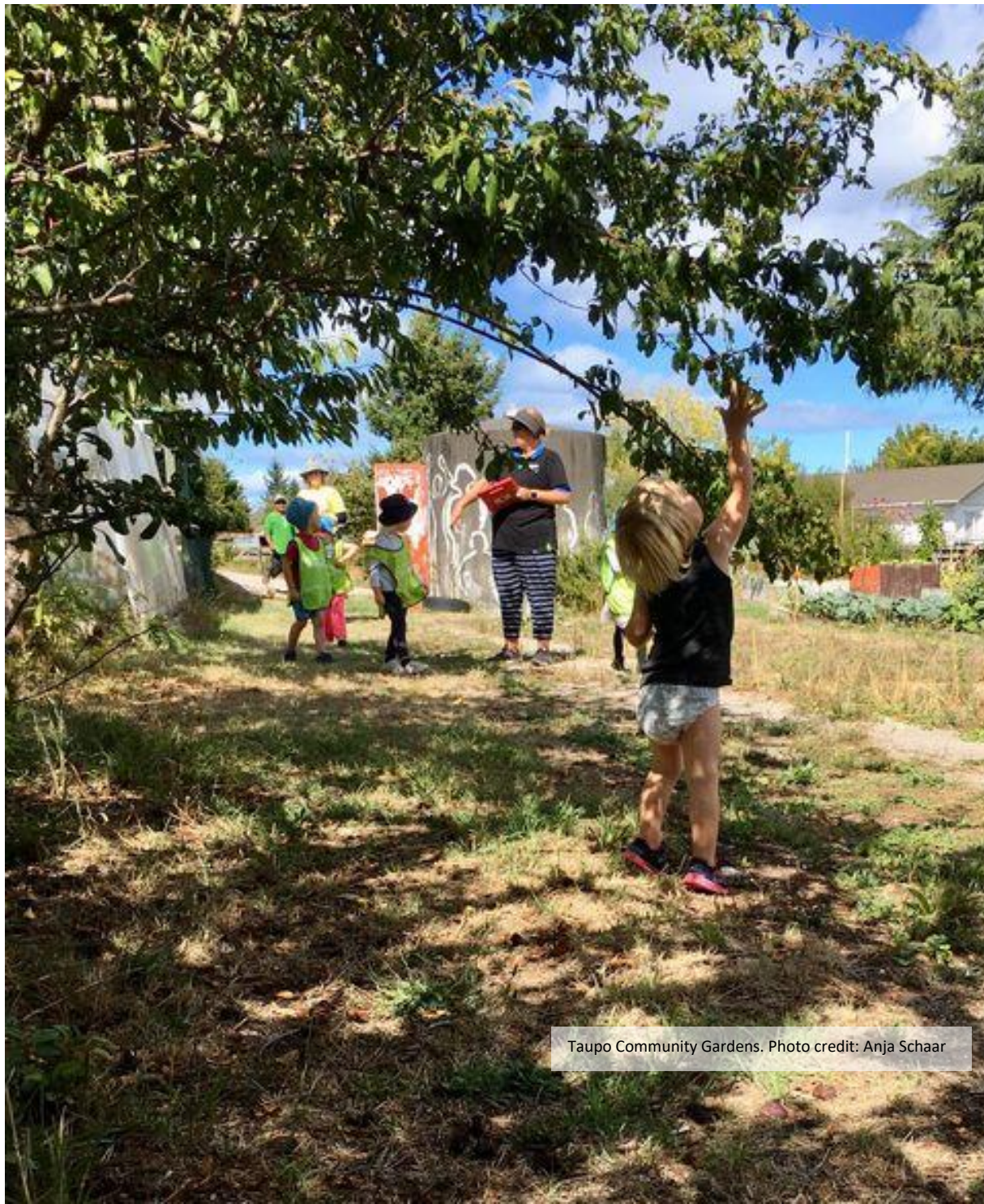
In asking this, we gave people ranges to choose from. 51% of the responses fell in the range of 1 to 10 instances of volunteering per week. A further 23% fell in the 11 to 20 range. From the responses to this, we created low, medium and high estimates for each range, which can be seen in the table to the left.

From the responses gathered, we could also see that it would be safe to assume that mostly volunteers tend to work 3 to 5 hours per week. Many work a lot more than this. However, using 3 and 5 as estimates, we could make some

assumptions about the numbers of hours worked per week.

If we use three hours per week per volunteer as the average, we can assume that between 2970 and 5280 hours are worked in the surveyed gardens each week. If we extrapolate that out for the known 204 community gardens in New Zealand, we can assume that between 6310 and 12368 hours are worked across the country each week in our community gardens.

If we use the higher estimate of five hours per week per volunteer as the average (which is still conservative), we can assume for the surveyed gardens that between 4950 and 9700 hours are worked every week. For all of New Zealand, we can assume that this number is more like between 10517 and 20613 hours per week, as shown in the table on the right.



Taupo Community Gardens. Photo credit: Anja Schaar

“A coordinator started finally in 2018 and we have been able to increase our volunteer base from about 10 people to around 30 which is huge for Taupo. We also have been able to have schools, kindergartens, Kids Greening Taupo and other community groups come in and learn about plants, organic practices, composting and worm farming. We have been able to provide workshops which have seen people come back to get involved in growing produce and making friendships.

“2020 Lockdown did not stop us from getting together via zoom and attending community meetings.

“Again this is an indicator how important it is for our mental and physical health to be out and about coming together with others doing what you love.”

Anja Schaar, Taupo Community Gardens

Monetary value of voluntary labour in community gardens

It is then possible to make assumptions about the monetary value of this labour. Note that this labour includes all volunteer roles, including office work (in addition to gardening time).

To do this, we used the estimates provided above and used both the New Zealand minimum wage and the New Zealand living wage to provide a guide.

Doing this provides us with twelve scenarios, which together should be treated as an indicative quantum.

estimate of \$ value of volunteer labour in all community gardens				
	three hours p/w (per volunteer)		five hours p/w (per volunteer)	
volunteer hours	minimum wage	living wage	minimum wage	living wage
low estimate	\$ 1,431,127.78	\$ 1,673,435.13	\$ 2,385,212.96	\$ 2,789,058.54
medium estimate	\$ 2,053,014.47	\$ 2,400,614.80	\$ 3,421,690.78	\$ 4,001,024.66
high estimate	\$ 2,805,041.53	\$ 3,279,969.20	\$ 4,675,069.22	\$ 5,466,615.34

Using the lower estimate of volunteer hours worked (3 hours) by the lower estimate of numbers of volunteers, multiplied by the minimum wage (\$18.90 p/h), we arrive at a figure of \$1,431,127 as an annual voluntary contribution of time and labour.

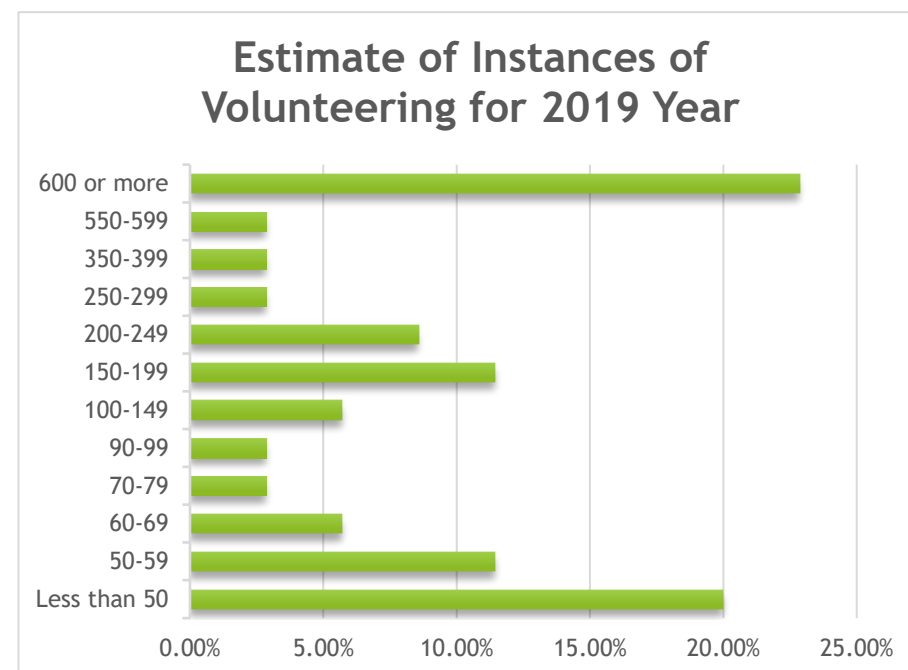
Conversely, using the upper estimate of number of hours worked (5 hours) by the upper estimate of numbers of volunteers, multiplied by the living wage (\$22.10 p/h), we arrive at a figure of \$5,466,615 as an annual voluntary contribution.

We cannot be more precise at this point, as volunteer numbers change on a weekly basis, as do the number of hours worked by each volunteer. However, it is worth stressing that while we have indicated five hours per week per volunteer as an upper proxy for this exercise, actually the average number of hours worked per volunteer per week could be much higher than this. *These numbers are therefore presented as a conservative estimate.*

The full workings for this are in the appendix.

Annual volunteer numbers

We asked community gardeners if they know how many 'instances of volunteering' occurred in their gardens during the 2019 year. 58% of respondents did not know. Of those who did have this record, we asked them to provide their best estimate. This chart displays the percentage of gardens responding with each estimate of **instances of volunteering at community gardens in the 2019 year**, gathered from 35 gardens. Nearly one quarter of gardens had over 600 instances of volunteering during the year, although a further 20% had less than 50 (or not quite one person per week). 38% had between 50 and 199, while 16% had between 200 and 600.





Innermost Gardens. Photo credit: Tim Packer

Financials

Does your garden generate any of its own income?



Financials

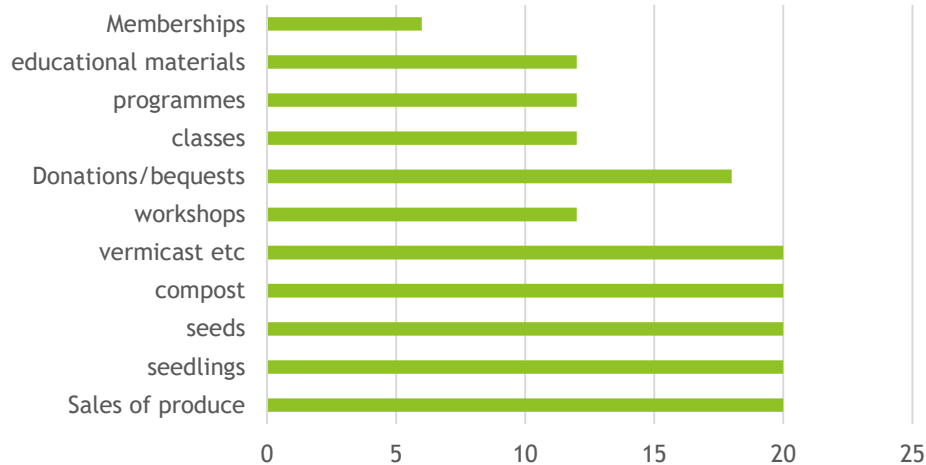
Income streams

We asked whether or not the responders' garden generates any of its own income. We found that 41% generate their own income (in part or in full).

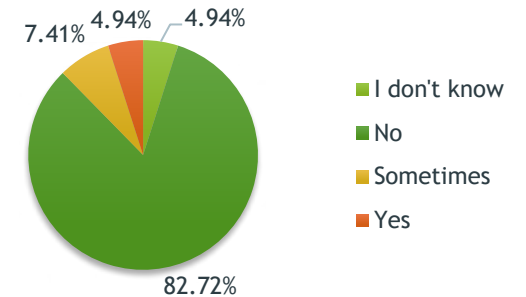
We then asked this 41% to tell us more about how they generated this income (responders could select multiple options). Note that data is presented as actual counts, not percentages). This response reveals a strong, creative and entrepreneurial streak within the community gardening sector, with all methods having at least 6 responses and sales of produce, seeds, seedlings and compost all with 20 responses.

We also asked if community gardens undertake contracts for services. A vast majority (82%) do not engage in contracts for services, though some do and others are unaware.

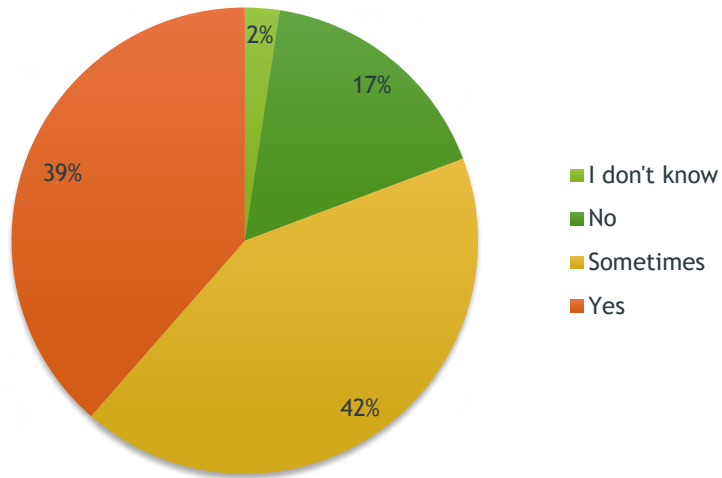
Method of Generating Own Income



Does your community garden engage in contracts for services?



Does the Community Garden Recieve Funding?



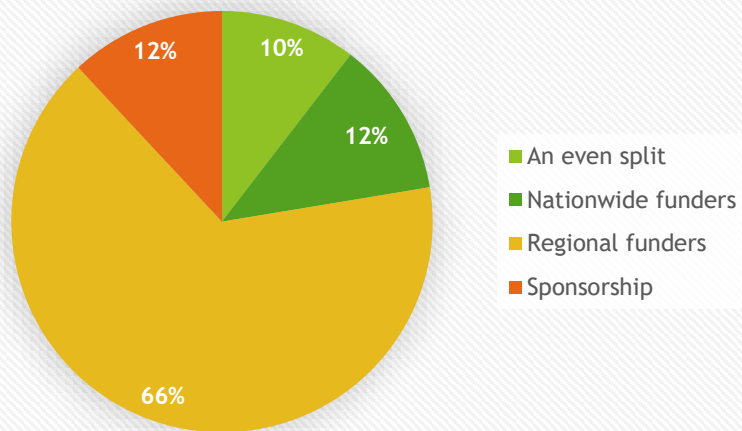
Funding

Most community gardens receive funding grants at least some of the time.

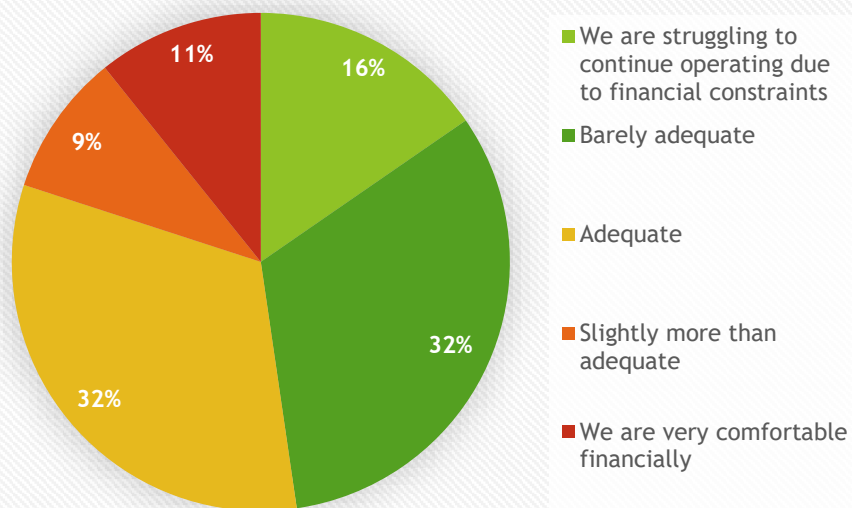
Of those who do, we asked "Where does the funding come from?" A majority of funding to gardens comes from regional funders followed by nationwide funders and sponsorships at 12% each.

Of those who selected nationwide funders, we asked for more detail. The majority of "nationwide funders" are lotteries/pub charities.

Where does the funding come from?



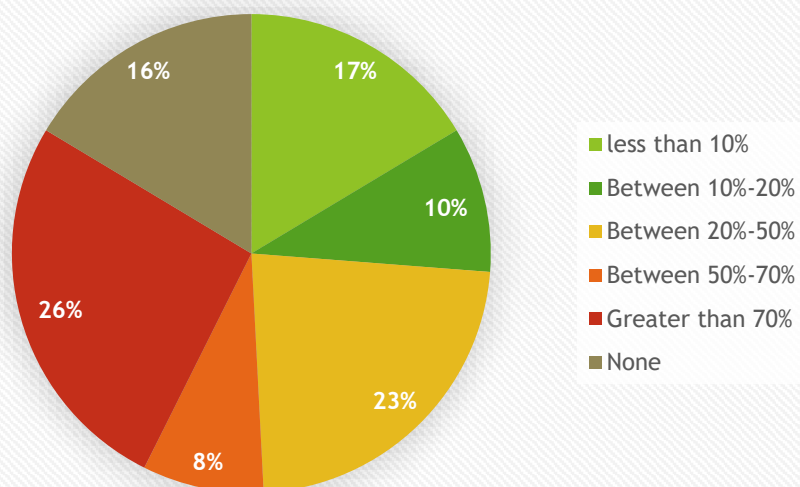
How well funded is your community garden?



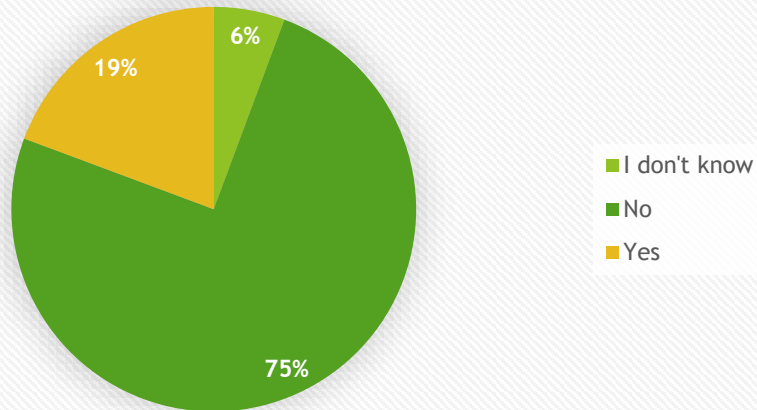
However, 48% of community gardens are either struggling financially, or have barely adequate funding. Only 11% feel that they are financially “comfortable”.

To understand this situation better, we specifically asked “What percentage of your budget is unfunded?” Over 40% of responders state that their garden has over 50% of its budget unfunded. Furthermore, only 17% of gardens state that less than 10% of their budget is unfunded.

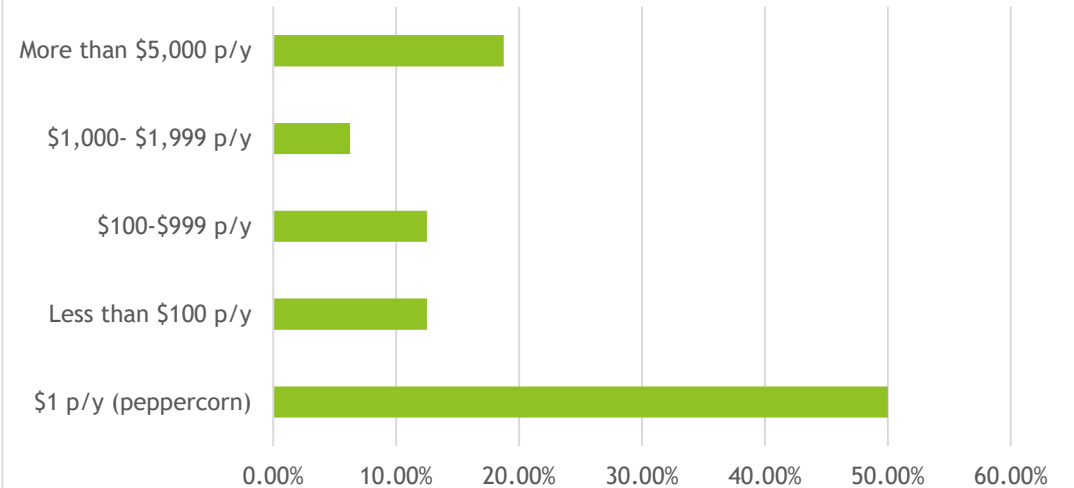
Percentage of Budget Unfunded



Does your community garden pay any kind of rent or rates?



How much rent or rates does your garden pay?



Rent and Rates

We asked community gardens if they have to pay rent or rates. 5% of respondents are unaware if their garden pays rents or rates or not. 19.3% of gardens are paying some kind of rent or rates; 75% of gardens are not paying any rents or rates.

Given that 60% of gardens are on Council land, it seems most councils allow community gardens to operate rates free. Of those who do pay rent or rates, 50% are paying a peppercorn fee of \$1 per year.

On the other hand, of the 19% who are paying rent or rates, 37.5% are paying over \$100 per year in rents or rates, none pay between \$2,000 and \$5,000, and nearly 20% pay more than \$5,000 per year.

Please note that only 16 gardens responded to this question.

Gardening Methods



Waiutuutu Community Garden. Photo credit: University of Canterbury

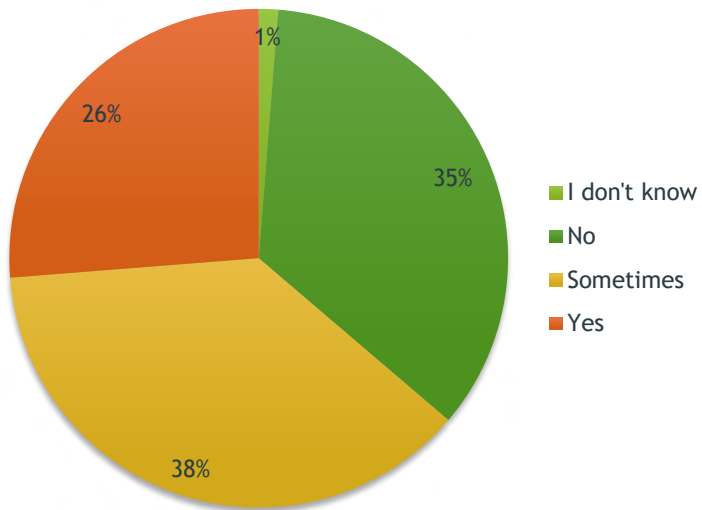
Gardening Methods

Planting and harvesting records

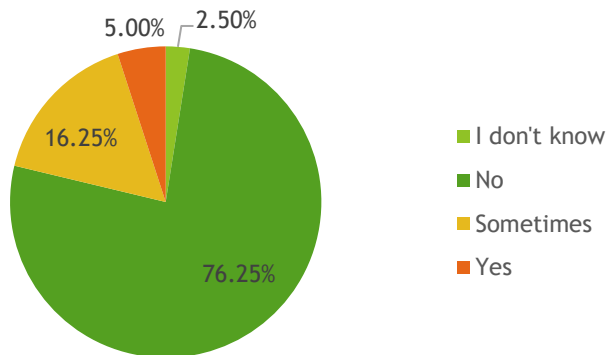
We asked “Do you record what you plant?”. A quarter of gardens do this, which could provide a rich source of data for future analysis. A majority (38%) do some of the time, though 35% do not, and 1.25% do not know if they record what they plant or not.

While many gardens record what they plant, 76% do not record what they harvest. Indeed, only 5% of community gardens routinely do this. Approximately 18% stated that they sometimes record harvest weights.

Do you record what you plant?



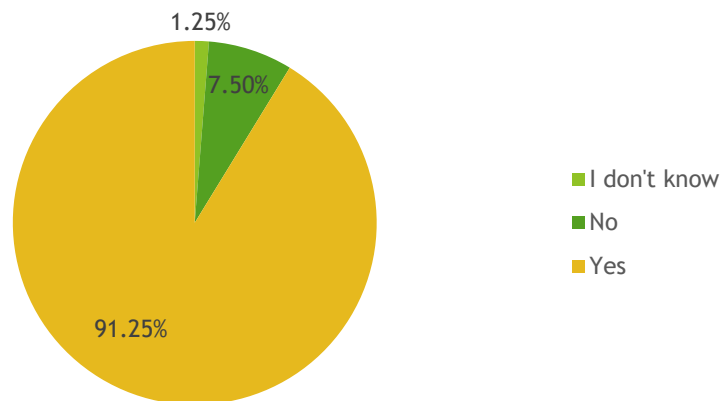
Do you record harvest weights?





Innermost Gardens. Photo credit: Tim Packer

Does your garden use organic practices?



Organic practice

We asked “Does your garden use organic practices?” It is clear that a vast majority do with over 91% responding with yes. Only 7.5% of gardens who responded to this survey do not use organic practices.

To understand what this entailed, we asked those who responded ‘yes’ for more detail. Gardens make their own compost, prepare natural sprays or are spray free, and many save their own seed.

Respondents could select multiple answers (and so numbers here are actuals, rather than percentages). It is clear that a variety are used, with at least 30 responses for each of the five methods above.


Interestingly, 4.3% said that they follow biodynamic practices, while 1% were certified organic by a third party certifier.

Further questions could be asked here to gain greater understanding around practices.

What organic methods does your garden use?



Community Contribution



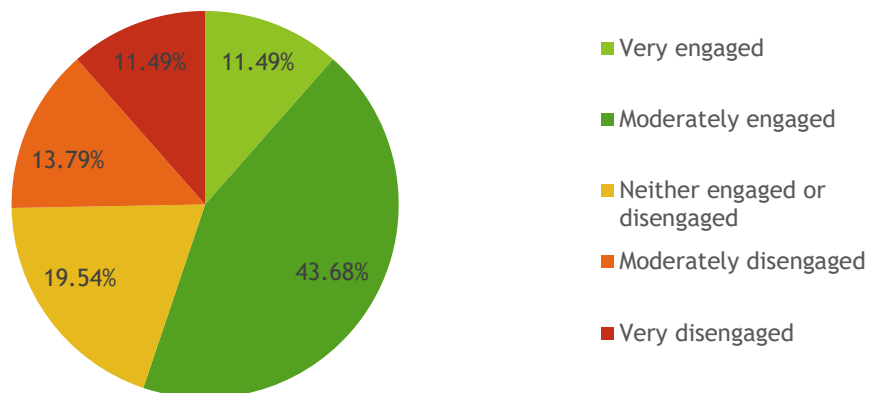
“The Richmond Community Garden was born out of the Residential Red Zone. A handful of local Richmond residents wanted to rejuvenate a piece of Red Zone land to create a beautiful space and provide healthy food for their community.

“Four years on they are now managing 3 acres of land with a community garden, food forest, arts and nature play space for the wider community to enjoy. They offer workshops and events year round and have even attracted international guests such as Jane Goodall for a visit.

“They have plans to create a family friendly trail of food forests, arts in nature and nature play along the whole Richmond part of the river corridor.”

- Hayley Guglietta, Richmond Community Garden

How engaged do you think the community surrounding your garden is?



Community Contribution

Community engagement

Community gardens on the whole feel that the communities around their gardens are moderately engaged.

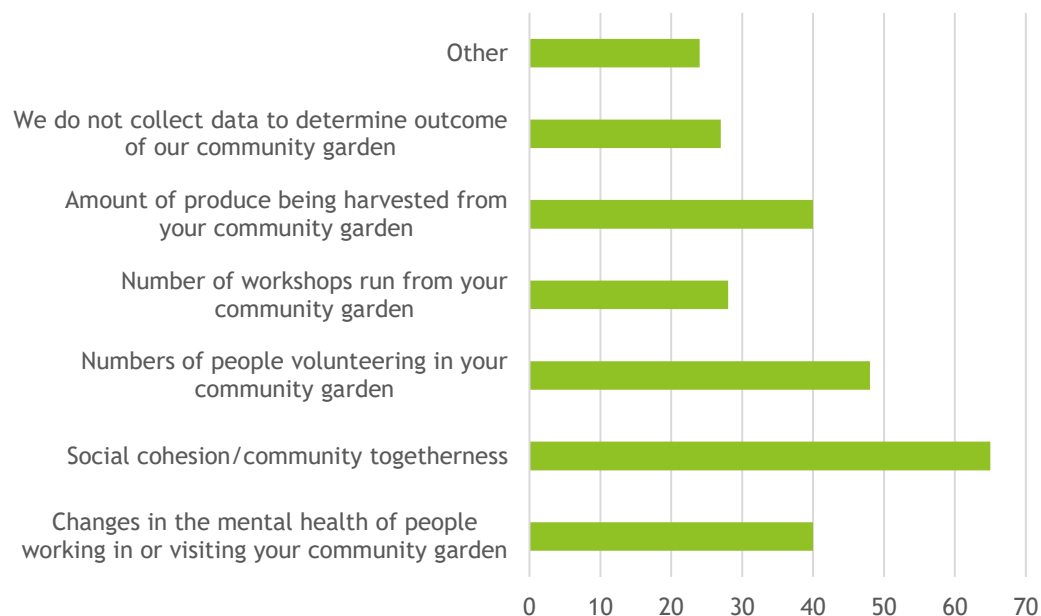
We did not ask further what 'moderate engagement' means in this context, but it could mean that there is a feeling of goodwill towards the gardens, that neighbours and organisations in the community may attend special events or that gardeners simply hear supportive remarks from those around them.

An equal number (just over 11%) of gardens feel that their communities are either very engaged, or very disengaged. On the whole, however, community gardens appear to be succeeding well in engaging with their communities – with well over half reporting this.

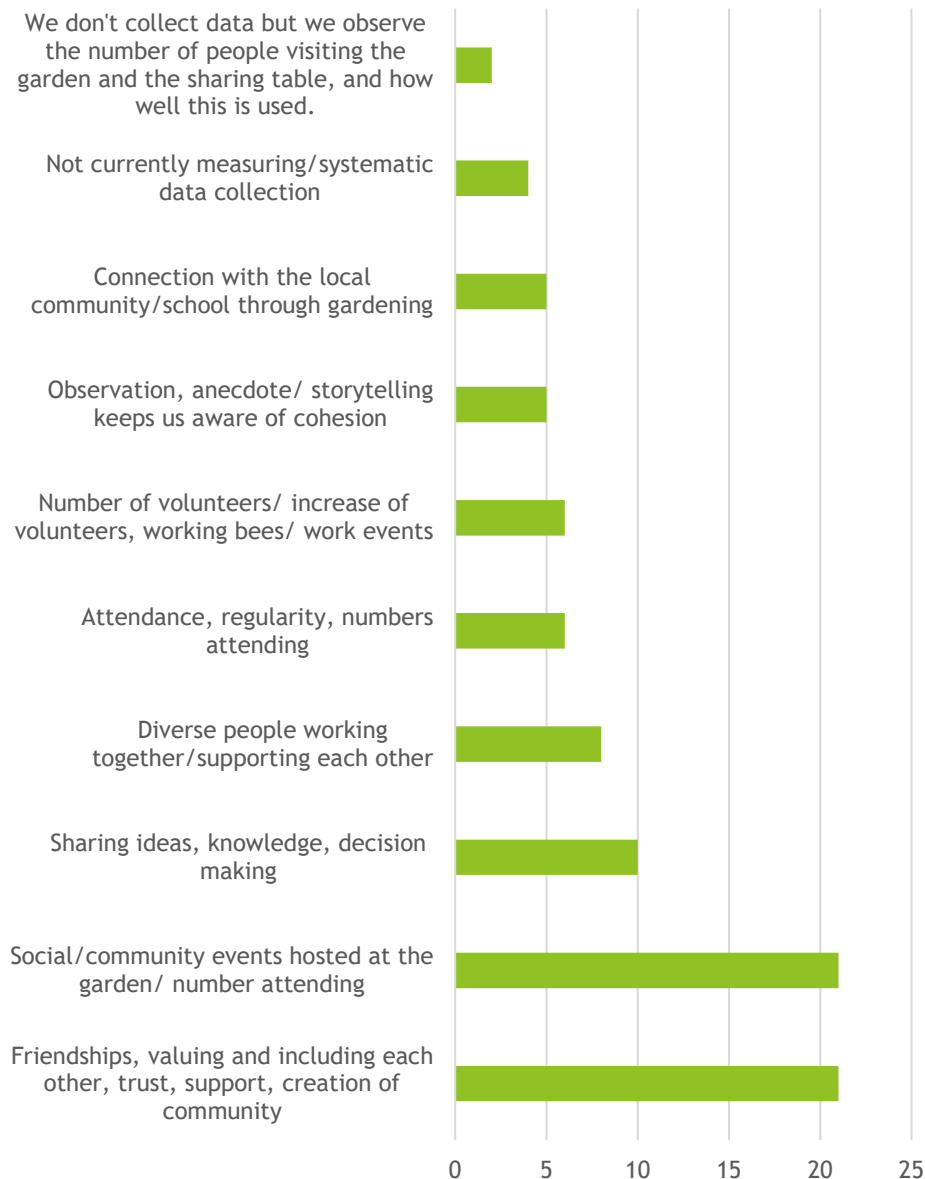
This alone indicates that the goal of promoting social cohesion/community togetherness is being achieved. We asked about the goals community gardens have for their projects, and social cohesion was considered the top goal.

Responders were able to select multiple options. Over 60 gardens selected social cohesion, with all other options being selected by at least 28 gardens, including changes in mental health at 40.

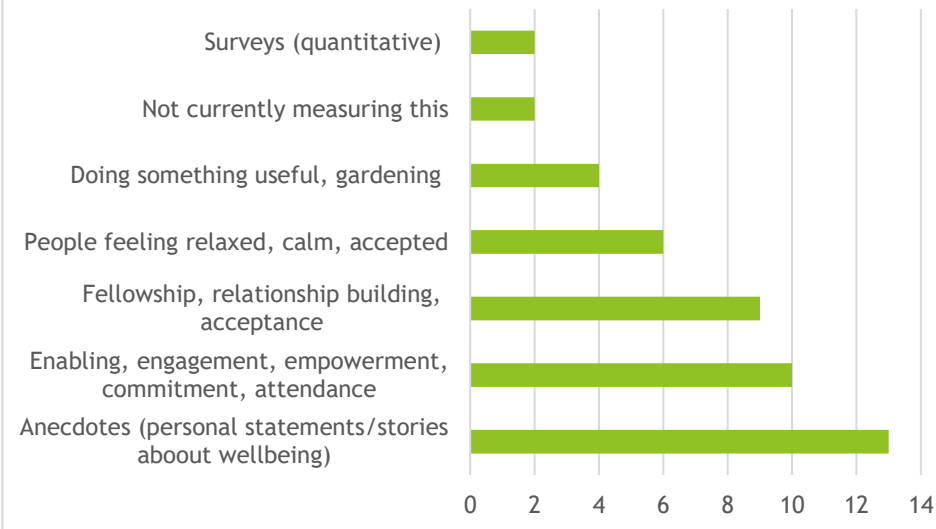
Desired outcomes of community gardens



Please give us an example of how you determine social cohesion/community togetherness



Please give us an example of how you determine changes in mental health



Measuring impacts

It can be very hard to measure impacts, and we wanted to understand how community gardens measure two specific impacts: those on social cohesion and those on positive changes in mental health. This was asked of people who had selected either of those options in the previous question.

By far the majority of methods used are qualitative, and largely anecdotal, although attendance statistics are used as a proxy indicator for both. The observations and anecdotes provided by community gardeners are a powerful testimony of the healing work undertaken in these spaces.

How do you determine changes in mental health?

“[People] are more engaged, calmer, interested in their garden and wanting to come to the gardens” – Anonymous

“Comments from participants who state they feel their mental health is improved.” - Anonymous

“We currently have a mental health facility that have their own beds and visit once a week. The amount of different ethnicities & age groups that use the space either to harvest or to just sit and chat to each other.” – Anonymous

“Surveys (quantitative) and interviews (qualitative) that link into a framework we developed in collaboration with WCC and Victoria University” - Anonymous

“We don't rely on specific metrics, but rather go on anecdotal feedback, such as comments from volunteers who have a history of mental health issues.” - Anonymous

“By regularly chatting to our volunteers and becoming familiar with them and therefore seeing the change in their mental well-being.” - Anonymous

“Noticeably less anxiety and depression voiced by volunteers.” – Anonymous

“Feeling happy and safe.” - Anonymous



Innermost Gardens. Photo credit: Tim Packer

How do you determine social cohesion/ community togetherness?

"Each Wednesday we have a shared lunch at the garden open to everyone gardeners and visitors. Lots of people, even if they don't attend, know that it happens and they can come if the opportunity arises." – Anonymous

"When people from different parts of our community come together and chat and work together. They exchange ideas. They have common ground in which they can talk and laugh about. They also go away with more than they came with." - Anonymous

"People forming friendships and feeling valued and included" - Anonymous

"Volunteers are members of the local community, friendships have been forged that extend beyond the garden. Other activities have been well-supported by garden volunteers, such as clean-up days, etc." - Anonymous

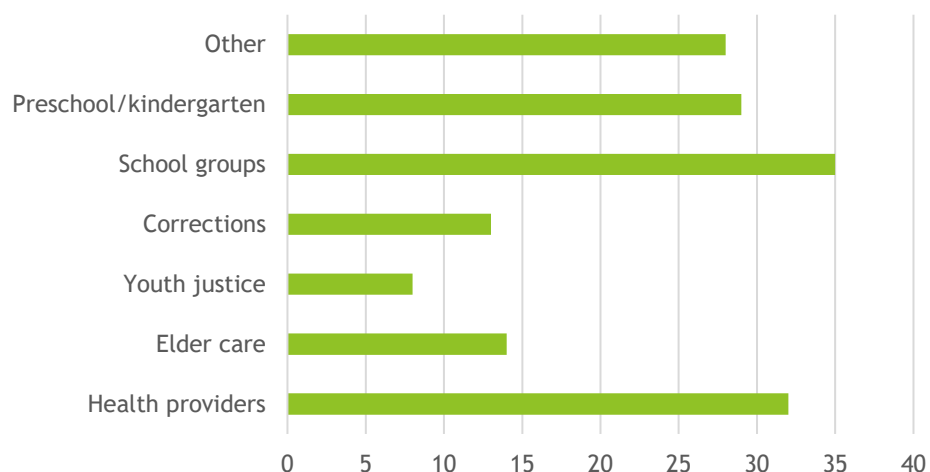
"Watching a shy young Asian man explain to a Pacific island lady why he was picking the pumpkin leaves and how to cook them. In general it is the sharing of information on plants, recipes etc and working together to get tasks completed without regard of race or age." - Anonymous

"Warm, connected happy community events in the space which when you cast your eye over the community as engaged, socialising and diversity represented." – Anonymous



Canterbury Community Gardens Association exhibit at the Ellerslie Flower Show.

What types of agencies use the gardens



This can be further seen by the wide variety of agencies and organisations that make use of community gardens, including schools, health providers (both physical and mental) and preschools.

A large number indicated that they work with 'other' agencies, and there is more work to do here in understanding the full breadth of services community gardens provide.

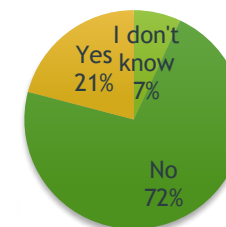
The figure to the left displays the types of agencies which use the gardens. Respondents were able to select multiple options. Overall, it seems clear that school groups along with health providers (mental and physical) are the main agencies utilizing community gardens.

Corrections and youth justice also seem to use community gardens in some instances.

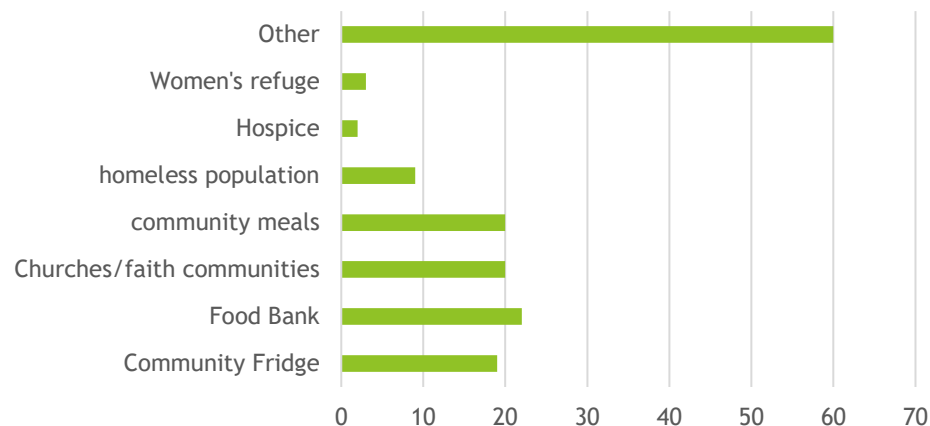
It should be pointed out that this represents a very wide range of people with widely differing needs that make use of gardens. Remembering how few paid people are working in coordination roles in these spaces, the work here is remarkable.

Likewise, 21% of community gardens reported that they work with refugee communities.

Does the Garden work with a Refugee Community?



Where is food from community garden distributed to?



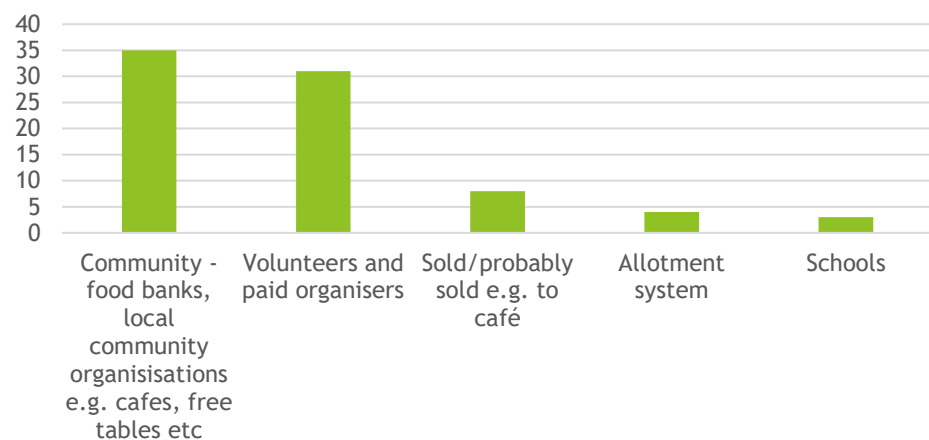
Community gardens also usually grow food, and we asked where this food is distributed. The most common response here was 'other'.

Those who selected 'other' were invited to provide further information. Much of this further information could apparently have been covered in the previous question; food banks, for example, show as the most popular 'other' response, which also shows as the most popular response in the previous question. Community gardens obviously have a significant involvement with food banks.

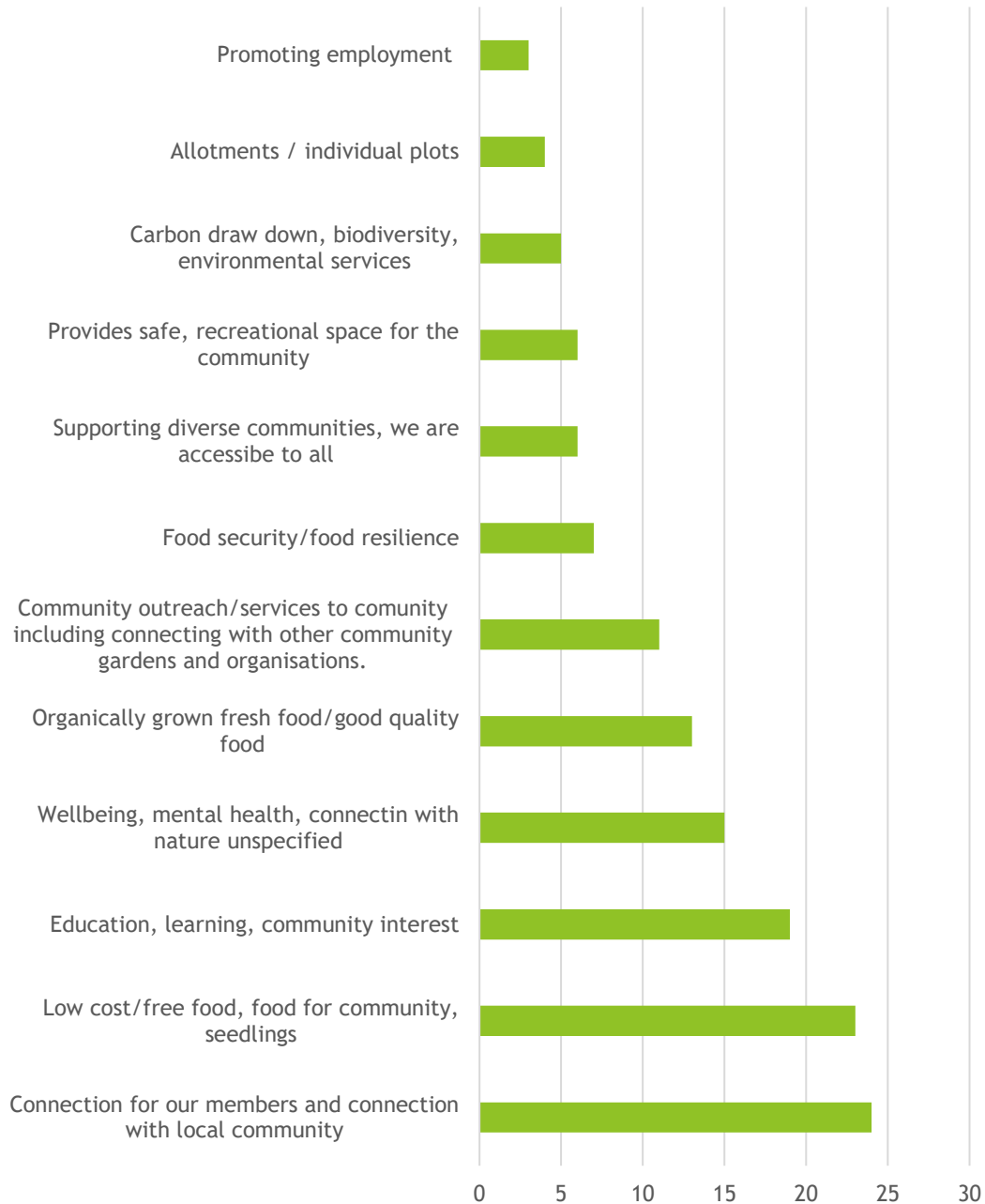
The first part of this question also omitted to provide an option for 'volunteers', and this was picked up as the second most popular response from those who selected 'other'. If this survey is run again, 'volunteers' should be provided as an option in the drop down list.

Sales of produce also show here for a small number of gardens, as does use of produce in schools.

Other - Where is food from your community garden distributed to?



Please explain how and why you see your community garden as being an essential piece of your community's infrastructure?

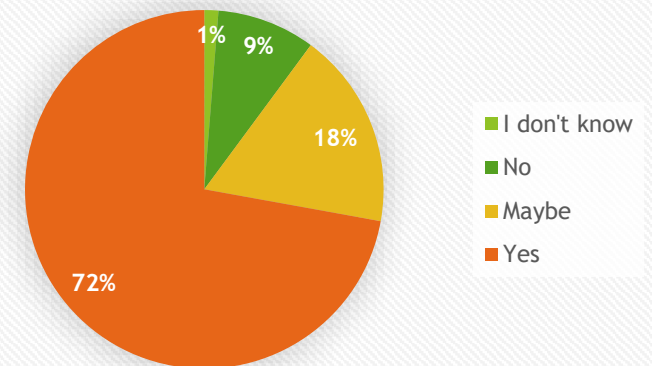


Community gardens as community infrastructure

We asked community gardeners whether they believe their community gardens are an essential part of community infrastructure. A majority of responders do believe this, with 72% (n=57) responding yes. Only 9% responded with no.

Of those who responded yes, we asked for further information in an open-ended question. The results of this were coded and grouped, and can be viewed in the bar chart to the left. The service of providing a connection point for the community is top of the list, followed by the provision of free or low cost food to those who need it.

Do you believe your community garden is an essential part of infrastructure?



Impact of COVID-19

As mentioned earlier, we asked community gardens about their experience of COVID-19. This was asked in two questions. The survey team have not been able to fully analyse these results yet. When this is completed an addendum will be issued summarising the results, but the timing for this is uncertain and relates to resourcing. The preliminary findings below are offered to give a sense of impact. Our thanks to Lin Klenner for this work.

We asked: 'How has COVID-19 affected your community garden?', and 'How has your community garden dealt with the effects of COVID-19?'

29 gardens had to shut down during Alert Levels Three and Four. This resulted in:

Loss of income

- Harvest festival cancelled (usually \$2000 fundraiser)
- no workshops
- no hall hire
- no fundraising and funding opportunity
- no selling of harvest and reduced selling of harvest after lock down as no succession planting

Loss of harvest

- no harvest of produce at time of food insecurity
- theft (loss of produce)
- no succession planting means less produce now

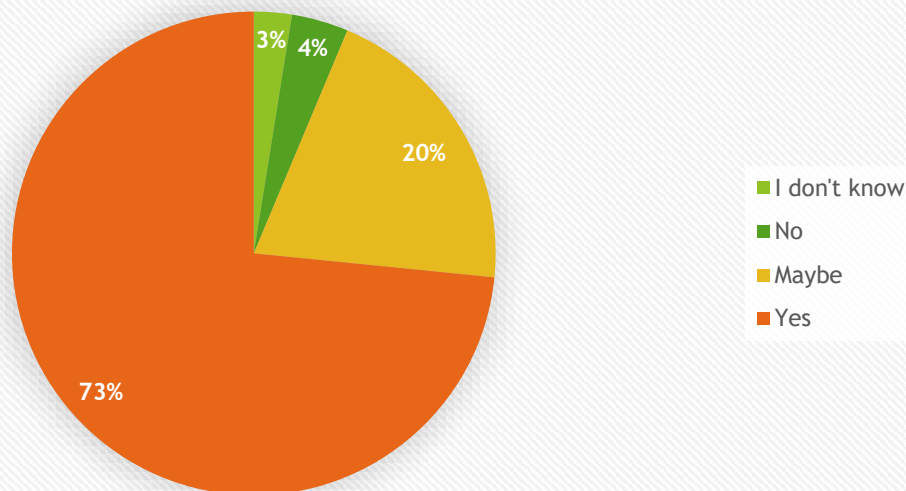
Additionally

- increased interest in food security, and knowledge in how to grow food be self-sufficient
- Mentally vulnerable volunteers regressed, some stopped coming altogether and some suffered from increased anxiety



New Brighton Community Gardens. Photo credit: Lin Klenner.

Do you support the idea of a nationwide association or network of community gardens?



A national organisation?

It is perhaps not surprising that 73% of respondents support the idea of a national association or network of community gardens. Community gardens undertake work that requires them to be able to work with diverse communities, sometimes with high needs, and provide what they in most cases see as essential community services. Nearly half feel they are struggling financially or have barely adequate funding to undertake this work. Perhaps forming a national network is seen as a way of finding additional support for the mahi.

Conclusion

These initial results provide some insight into community gardening in New Zealand. These gardens are common in built up cities such as Auckland, Wellington and Christchurch. There are few paid workers at community gardens, with an overwhelming majority of the work being

carried out by volunteers. Many community gardeners believe their gardens are struggling financially and would benefit from increased funding. Most believe their gardens are essential, and a majority support the idea of a nationwide association or network of community gardens in New Zealand.

Appendix: Workings related to monetary value of community garden labour done by volunteers

weekly volunteers					
instances of volunteering	low	mid	high	%	count
0	0	0	0	4.17	4
1-10	1	5	10	53.13	51
11-20	11	15	20	23.96	23
21-30	21	25	30	9.38	9
31-40	31	35	40	2.08	2
41-50	41	45	50	2.08	2
51-100	51	75	100	3.13	3
100+	100	105	110	2.08	2
extrapolated					
0	0	0	0	4.17	8.51
1-10	1	5	10	53.13	108
11-20	11	15	20	23.96	49
21-30	21	25	30	9.38	19
31-40	31	35	40	2.08	4
41-50	41	45	50	2.08	4
51-100	51	75	100	3.13	6
100+	100	105	110	2.08	4
BASED ON					
204 community gardens					

Table: Estimated weekly number of volunteers, by range.

This table shows the proxy numbers used as low, mid and high for each range asked in the survey. It also gives the percentages of responses in each range and the actual counts in each range. It shows this for the actual responses given through the survey, and then extrapolated out for all identified 204 community gardens. These numbers are used for the calculations given in the tables that follow.

assumed number of volunteers				weekly hours						https://www.govt.nz/browse/work/workers-rights/minimum-wage/						https://www.livingwage.org.nz/about								
survey responses				low average 3			high average 5			minimum wage - low average hours (three hours)		18.9		minimum wage - high average (five hours)			living wage - low averag e (three hours)		22.1		living wage - high averag e (five hours)		22.1	
				lo w	med ium	hi gh	lo w	med ium	high	hours low	hours mid	hours high	hours low	hours mid	hours high	hours low	hours mid	hours high	hours low	hours mid	hours high	hours low	hours mid	hours high
0	0	0	0	0	0	0	0	0	0	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
1- 10	51	255	51 0	15 3	765	153 0	255	127 5	255 0	\$ 2,891.7 0	\$ 14,458. 50	\$ 28,917. 00		\$ 4,819.5 0	\$ 24,097. 50	\$ 48,195. 00	\$ 3,381.3 0	\$ 16,906. 50	\$ 33,813. 00	\$ 5,635.5 0	\$ 28,177. 50	\$ 56,355. 00		
11- 20	25 3	345	46 0	75 9	103 5	138 0	126 5	172 5	230 0	\$ 14,345. 10	\$ 19,561. 50	\$ 26,082. 00		\$ 23,908. 50	\$ 32,602. 50	\$ 43,470. 00	\$ 16,773. 90	\$ 22,873. 50	\$ 30,498. 00	\$ 27,956. 50	\$ 38,122. 50	\$ 50,830. 00		
21- 30	18 9	225	27 0	56 7	675	810	945	112 5	135 0	\$ 10,716. 30	\$ 12,757. 50	\$ 15,309. 00		\$ 17,860. 50	\$ 21,262. 50	\$ 25,515. 00	\$ 12,530. 70	\$ 14,917. 50	\$ 17,901. 00	\$ 20,884. 50	\$ 24,862. 50	\$ 29,835. 00		
31- 40	62	70	80	18 6	210	240	310	350	400	\$ 3,515.4 0	\$ 3,969.0 0	\$ 4,536.0 0		\$ 5,859.0 0	\$ 6,615.0 0	\$ 7,560.0 0	\$ 4,110.6 0	\$ 4,641.0 0	\$ 5,304.0 0	\$ 6,851.0 0	\$ 7,735.0 0	\$ 8,840.0 0		
41- 50	82	90	10 0	24 6	270	300	410	450	500	\$ 4,649.4 0	\$ 5,103.0 0	\$ 5,670.0 0		\$ 7,749.0 0	\$ 8,505.0 0	\$ 9,450.0 0	\$ 5,436.6 0	\$ 5,967.0 0	\$ 6,630.0 0	\$ 9,061.0 0	\$ 9,945.0 0	\$ 11,050. 00		
51- 100	15 3	225	30 0	45 9	675	900	765	112 5	150 0	\$ 8,675.1 0	\$ 12,757. 50	\$ 17,010. 00		\$ 14,458. 50	\$ 21,262. 50	\$ 28,350. 00	\$ 10,143. 90	\$ 14,917. 50	\$ 19,890. 00	\$ 16,906. 50	\$ 24,862. 50	\$ 33,150. 00		
100 +	20 0	210	22 0	60 0	630	660	100 0	105 0	110 0	\$ 11,340. 00	\$ 11,907. 00	\$ 12,474. 00		\$ 18,900. 00	\$ 19,845. 00	\$ 20,790. 00	\$ 13,260. 00	\$ 13,923. 00	\$ 14,586. 00	\$ 22,100. 00	\$ 23,205. 00	\$ 24,310. 00		
TO TAL	99 0	142 0	19 40	29 70	426 0	582 0	495 0	710 0	970 0	\$ 56,133. 00	\$ 80,514. 00	\$ 109,99 8.00		\$ 93,555. 00	\$ 134,19 0.00	\$ 183,33 0.00	\$ 65,637. 00	\$ 94,146. 00	\$ 128,62 2.00	\$ 109,39 5.00	\$ 156,91 0.00	\$ 214,37 0.00		
										\$ 673,59 6.00	\$ 966,16 8.00	\$ 1,319,9 76.00		\$ 1,122,6 60.00	\$ 1,610,2 80.00	\$ 2,199,9 60.00	\$ 787,64 4.00	\$ 1,129,7 52.00	\$ 1,543,4 64.00	\$ 1,312,7 40.00	\$ 1,882,9 20.00	\$ 2,572,4 40.00		

	extrapolated for all gardens										minimu m wage - low averag e hours (three hours)	18.9		mini mum wage - high avera ge (five hours)		living wage - low averag e (three hours)	22.1		living wage - high averag e (five hours)	22.1						
	lo w	med ium	hi gh																							
0	0.00	0	0	0	0	0.00	0.00	0.00	0.00	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
1-10	108	542	1084	325	1626	3251.56	541.93	2709.63	5419.26	\$ 6,145.44	\$ 30,727.20	\$ 61,454.41		\$ 10,242.40	\$ 51,212.01	\$ 102,424.01	\$ 7,185.94	\$ 35,929.69	\$ 71,859.39	\$ 11,976.56	\$ 59,882.82	\$ 119,765.65	\$ 119,765.65	\$ 119,765.65	\$ 119,765.65	
11-20	538	733	978	1613	2200	2932.70	2688.31	3665.88	4887.84	\$ 30,485.46	\$ 41,571.08	\$ 55,428.11		\$ 50,809.10	\$ 69,285.13	\$ 92,380.18	\$ 35,647.02	\$ 48,609.57	\$ 64,812.76	\$ 59,411.70	\$ 81,015.95	\$ 108,021.26	\$ 108,021.26	\$ 108,021.26	\$ 108,021.26	
21-30	402	478	574	1206	1435	1722.17	2009.20	2391.90	2870.28	\$ 22,784.28	\$ 27,124.15	\$ 32,548.98		\$ 37,973.80	\$ 45,206.91	\$ 54,248.29	\$ 26,641.94	\$ 31,716.59	\$ 38,059.91	\$ 44,403.23	\$ 52,860.99	\$ 63,433.19	\$ 63,433.19	\$ 63,433.19	\$ 63,433.19	
31-40	132	149	170	395	446	509.18	657.70	742.56	848.64	\$ 7,458.27	\$ 8,420.63	\$ 9,623.58		\$ 12,430.45	\$ 14,034.38	\$ 16,039.30	\$ 8,721.05	\$ 9,846.35	\$ 11,252.97	\$ 14,535.08	\$ 16,410.58	\$ 18,754.94	\$ 18,754.94	\$ 18,754.94	\$ 18,754.94	
41-50	174	191	212	522	573	636.48	869.86	954.72	1060.80	\$ 9,864.17	\$ 10,826.52	\$ 12,029.47		\$ 16,440.28	\$ 18,044.21	\$ 20,049.12	\$ 11,534.29	\$ 12,659.59	\$ 14,066.21	\$ 19,223.82	\$ 21,099.31	\$ 23,443.68	\$ 23,443.68	\$ 23,443.68	\$ 23,443.68	
51-100	326	479	639	977	1437	1915.56	1628.23	2394.45	3192.60	\$ 18,464.08	\$ 27,153.06	\$ 36,204.08		\$ 30,773.47	\$ 45,255.11	\$ 60,340.14	\$ 21,590.28	\$ 31,750.41	\$ 42,333.88	\$ 35,983.79	\$ 52,917.35	\$ 70,556.46	\$ 70,556.46	\$ 70,556.46	\$ 70,556.46	
100+	424	446	467	1273	1337	1400.26	2121.60	2227.68	2333.76	\$ 24,058.94	\$ 25,261.89	\$ 26,464.84		\$ 40,098.24	\$ 42,103.15	\$ 44,108.06	\$ 28,132.42	\$ 29,539.04	\$ 30,945.66	\$ 46,887.36	\$ 49,231.73	\$ 51,576.10	\$ 51,576.10	\$ 51,576.10	\$ 51,576.10	
TOTAL	2103	3017	4123	6310	9052	12368	10517	15087	20613	\$ 119,260.65	\$ 171,084.54	\$ 233,753.46		\$ 198,767.75	\$ 285,140.90	\$ 389,589.10	\$ 139,452.93	\$ 200,051.23	\$ 273,330.77	\$ 232,421.55	\$ 333,418.72	\$ 455,551.28	\$ 455,551.28	\$ 455,551.28	\$ 455,551.28	
										\$ 1,431,127.78	\$ 2,053,014.47	\$ 2,805,041.53		\$ 2,385,212.96	\$ 3,421,690.78	\$ 4,675,069.22	\$ 1,673,435.13	\$ 2,400,614.80	\$ 3,279,969.20	\$ 2,789,058.54	\$ 4,001,024.66	\$ 5,466,615.34	\$ 5,466,615.34	\$ 5,466,615.34	\$ 5,466,615.34	

Table: estimated monetary value of volunteer labour in community gardens for 2019.

This table gives the assumed numbers of volunteers in each range given by the respondents, and extrapolated for the rest of the country, based on the calculations in the previous table.

It then multiplies the number of volunteers in each range by the number of hours worked. To do this, we assumed both a low number of average hours per volunteer (three hours) and a high number of average hours per volunteer (five hours). We acknowledge that these numbers are both conservative, and the actual average number of hours worked per volunteer could be much higher.

Each of these numbers were then multiplied by the minimum wage and again by the living wage.

This has produced a range of monetary value that could be assigned to community garden volunteer work. That range runs from an absolute minimum of \$1.4m (at minimum wage) to an upper limit of \$5.5m (at living wage).

These numbers are intended to provide a general sense of this labour. Further investigations are needed to validate this. This work needs to:

- Validate the total number of gardens
- Develop a more fine grained understanding of volunteering hours in community gardens.

It is worth considering how this relates to the funding that would be required to pay for a full time coordinator for each of the 204 community gardens, which could be in excess of \$10m.



Wai Ora Trust Community Garden. Photo credit: Rachel Vohan