

# KIDS' EDIBLE GARDENS

## A Fifteen Year Evaluation



Photo courtesy of Lily White

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**GEOGRAPHY 309 REPORT**

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## ONE|EXECUTIVE SUMMARY

### RESEARCH QUESTION

- To provide a comprehensive fifteen year evaluation of the Kids' Edible Gardens programme.

### AIMS AND OBJECTIVES

- What are the key benefits of gardening within schools?
- Has Kids' Edible Gardens achieved its original goals and aims and how has it done so?
- How can the programme seek to grow and further expand and what are some recommendations in order to do this?

### CONTEXT FOR RESEARCH

- Despite its 15-year history, no comprehensive evaluation of the programme has been undertaken.
- Challenges need to be reviewed in order for the programme to grow.

### SUMMARY OF METHOD

- Archives were a main source of information to gain a historical perspective. This was also our only form of quantitative data.
- Ethnography observations were carried out by a visit to both Our Lady of Assumption and Rowley Avenue Schools to observe the programme.
- Surveys with past participants of the programme to allow us to assess the long term effects.
- Semi- structured interviews with key stakeholders (Lily White, Matt Morris and Ami Kennedy) who have all had various roles in the Kids' Edible Gardens programme, to allow us to gain sufficient insight into the programme.

### KEY FINDINGS

- The benefits of school gardening in literature are overwhelmingly parallel to our research findings.
- Kids' Edible Gardens has been significant as a model and through the provision of resources and knowledge in normalising and promoting nation-wide gardening within schools.
- The impacts on past students is harder to track – many do not currently have their own garden but this programme has encouraged positive connotations of edible gardens.
- Kids' Edible Gardens core aims as evidenced through findings are developing children's life skills and self-esteem, developing a sense of self-reliance, promoting reducing, recycling, and reusing; and the transferal of knowledge between home and school. The success of each of these components vary. There are some common themes which emerged which will be important to address in the future in order for the continued viability of this programme.

## LIMITATIONS

- Our sample size was small but was mitigated by conducting face to face or telephone surveys rather than electronic, this elicited a more in depth response.
- Ethics disallowed us the inability to speak to children involved in the program, however we were able to convey this slightly through our ethnographic observations.
- Gaps in the Archival Data meant we could not construct a large data set, however with the majority of dated documents, this made it easier to see the scope and range of data available.
- The literature mainly conducted studies in the US, with cultural and environmental differences. However, we were able to obtain access to the Marlborough Kids Edible Gardens Evaluation based in New Zealand.

## AREAS OF FUTURE RESEARCH

- Avenues of further funding.
- Surveying schools who could potentially be keen to be involved in the future and what they would want delivered from the programme.
- Issues of scalability – how they can further rise to meet the challenge of scaling up.

## TWO | INTRODUCTION

This report aims to provide an in depth fifteen year analysis of the Kids' Edible Gardens (K.E.Gs) programme in Canterbury. This programme over its fifteen years has never had an evaluation undertaken to see whether it has achieved what it set out to. These core aims are both for the individual students involved in the programme as well as for the wider-national school curriculum, the family and community. Individually, the core aims identified are:

- Developing children's life skills and self-esteem by involving them in the planting and growing process
- Developing a sense of self-reliance by providing own food – narrowing the divide between seed to plate
- Reducing, reusing and recycling waste within the school community through composting and worm farms and the transferal of knowledge
- Transferal of knowledge and practices to home gardens by children imparting what they're learn

There are a number of benefits of school gardens as highlighted through many studies. However, throughout these studies are a number of weaknesses and challenges of these programmes. Through our research, these themes have overwhelmingly run concurrently to our findings. This report will point out the positives and successes of Kids' Edible Gardens, the challenges faced over the years and an overview of possible recommendations for the future.

Kid's Edible Gardens started off as part of the Organic Garden City Trust (OGCT) which was established in 1997 by a group of educators, organic growers, organic produce retailers and other likeminded people to promote organic education through gardening. K.E.Gs, which is the primary school education sector of O.G.C.T, was officially launched in 1998. Rod Donald, a member of parliament at the time, was one of the initiators and trustees of the programme. For Rod, K.E.Gs was a pilot programme for gardening in schools to prove how successful such a programme would be to the Ministry of the Environment in order for more funding in the future but also to normalise organic school gardens.

Both K.E.Gs and the O.G.C.T were financed under a charitable status with members of the community and council donating money to better the project. When the O.G.C.T went into decline in the early 2000's due to dysfunctional aspects of the trust it made it hard for associated groups such as K.E.Gs to gain their legitimacy as they relied on this trust for their reputation. The O.G.C.T finally wound up in 2012 and K.E.G.s came under the legal umbrella of Soil & Health Canterbury.

The aim of K.E.Gs was to promote education in organics throughout New Zealand and especially in Canterbury. This was done through a garden facilitator establishing a garden within schools, spending an allotted time with the children each week teaching them, and then gradually transferring ownership over to the school. Beyond setting up an edible garden, it is about establishing a learning space which is enduring beyond the stay of the facilitator.

Kids' Edible Gardens aims to still be available for workshops, talks, assistance and advice on organic gardening but have the school community bearing the overall responsibility for the future of their respective edible gardens. Complementary to the primary school programme K.E.Gs has evolved into providing workshops and seminars to schools without gardens, the public and community youth programmes outside schools.

## THREE | LITERATURE REVIEW

Literature mainly consisted of evaluations of children's gardening programmes, which used mixtures of quantitative and qualitative methods to determine their successes. This literature agreed that children who participated in these programmes were positively influenced in terms of their knowledge and behaviours. The main benefits are categorised into four groups.

### 3.1 NUTRITIONAL KNOWLEDGE

Koch, Waliczek and Zajicek's (2006) study of a summer gardening programme demonstrated that children had significantly increased knowledge about nutrition at all ages, genders and ethnicities that were surveyed. This gardening programme aimed to teach children not only basic gardening and growing techniques, but healthy eating on limited budgets and food safety. Another study (Ratcliffe et al., 2009), measured knowledge using quantitative studies. These surveys showed that students in schools which had exposure to edible gardens, were better able to identify a variety of vegetables compared to the control schools who did not. Blair (2009) stated that experiential garden learning allows for the bridging of the gap between seed and plate, it 're-personalises food'.

### 3.2 EATING HABITS

Ratcliffe et. al (2009) and Morris, Briggs and Zidenberg-Cherr(2002) found that children's preference for fruits and vegetables increased and they were more willing to taste new ones when involved with their school garden. The overall consumption of vegetables increased over a month in this sample set. Although Koch, Waliczek and Zajicek's (2006) study did not find significant differences in vegetable preference, they found that more students were inclined to eat a healthy snack after the programme compared to before. In a New Zealand context, the Marlborough District Council's (2012) evaluation of Marlborough K.E.Gs interviewed 23 parents, many of whom expressed that there had been a positive change in their children's eating habits due to the programme - trying and regularly consuming more fruits and vegetables.

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### 3.3 LIFE SKILLS

Robinson & Zajicek(2005) found that there was a significant improvement in the children’s ability to work with groups, improved self-understanding, communication, and volunteerism. Other life skills such as decision making and leadership skills showed no significant difference in pre and post test scores. It is noted by the authors that life skills are influenced by other external factors such as social life and family values. It concludes that the skills that are gained or enhanced by participating in similar gardening programmes can help youth to become socially responsible, successful and productive citizens later in life. Lekies and Sheavly (2007) found that life skills such as self-confidence and esteem were positive side effects of learning new gardening skills. Blair (2009) states that inquiry-based learning allows for the development of new receptors for information especially for more tactile learners. Principals interviewed in the Marlborough District Council (2013) study, also agreed that K.E.Gs delivers the key competencies of the New Zealand curriculum including self-management, contribution, participation and cooperation.

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### 3.4 ENVIRONMENTAL CONSIDERATION

Children are able to learn about environmental concerns and sustainability through gardens by being exposed to sustainable food systems. Parents and children from the Marlborough Evaluation (2013) expressed that the programme had made them become more environmentally friendly; performing tasks such as recycling, composting, and reusing seeds, both at school and in the home environment.

## FOUR | METHODOLOGY

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### 4.1 QUANTITATIVE

Quantitative data has been used sparsely in previous evaluations (Gibbs et al, 2013) of edible gardening programmes. Due to the nature of our research focus, our quantitative methods were only existent in the form of data obtained from archives.

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### 4.2 QUALITATIVE

Although a mixed method approach is valuable for a comprehensive evaluation (Gibbs et al, 2013), our research mainly consists of qualitative analysis. Qualitative methods are of specific relevance to the study of social relations and the development of intangible skills and knowledge due to the fact of the *pluralisation of life worlds* (Flick, 2009). This method has allowed for a narrative perspective, taking into account that viewpoints and practices are subjective dependent on an individual’s perspective and external influences. These are divided into four main sections: archives, ethnography, interviews with key stakeholders and surveys.

## ARCHIVES

Matt Morris allowed us access to past archives (funding applications, minutes and newsletters). To have a historical perspective on the programme, primary data in this form, has been a critical element. Information was first recorded in October 1997 and ceased in August 2012. We went through the archives, summarising and creating a collective database of information, enabling us to determine both the past and present status of the programme.

## ETHNOGRAPHY

On the 30th of July 2013, the group observed two gardening lessons at schools currently involved in K.E.Gs (Our Lady of Assumption and Rowley Avenue). This allowed us to watch the children's interactions, responses to Lily and the programme as well as gaining insight into the running of the programme and teaching methods used. It was difficult to remain as participant observers, completely unobtrusive and separate, as in this school environment we stood out. Lily, the garden facilitator, acted as intermediary, encouraging the children to share what they had learnt with us.

## INTERVIEWS WITH KEY STAKEHOLDERS

Semi-structured interviews were undertaken with these key stakeholders. While some questions had been prepared (Appendix 9.1), the benefit of this method is that it allows it to unfold in a conversational manner allowing the interviewee to elaborate on issues they believe important (Longhurst, 2010).

### LILY WHITE – GARDEN FACILITATOR 1997- PRESENT

As the only current garden facilitator, who also has been involved in K.E.Gs from the beginning, Lily's insight has been a key part to our research. Throughout the course of our research, we constructed questions that we asked Lily as her role as a garden facilitator and the changes that have been made throughout the fifteen years of the programme.

### MATT- CURRENT CHAIR OF SOIL & HEALTH CANTERBURY AND FORMER MANAGER OF ORGANIC GARDEN CITY TRUST (1999-2002)

Various interviews (with semi-structured interview questions) were held throughout the course of our research. This allowed Matt's contribution as someone who has been involved with sustainable garden for over fifteen years, to provide a valuable insight to how this can be attributed to programmes in schools.

### AMI KENNEDY – FORMER EMPLOYEE OF KIDS' EDIBLE GARDENS (VARIOUS ROLES) 1999-2004

A semi-structured interview took place with Ami on 6 August 2013 to understand the running of the programme from someone who had been involved throughout a number of phases. As someone with a teaching degree, her perspective into the practicality of the programme at a school level was helpful.

## SURVEYS

We developed a survey (Appendix 9.2). These were then presented to five previous participants via face to face or over the phone. This was done in order to elicit a more detailed response to the questions. The snowballing method was used to find participants (Noy, 2008), by using the group's friend base and social media. They were involved in the programme from Years 4-8 (approximately aged 7-12). This enabled us to review the long term effects of the programme.

## FIVE | RESULTS & DISCUSSION

The success of K.E.Gs is shown by the achievement of their aims. These aims are to create healthy and sustainable communities. The following sections are the four initial aims and the achievement of them over the past fifteen years.

### 5.1 PAST

#### DEVELOPING CHILDREN'S LIFE SKILLS AND SELF-ESTEEM BY INVOLVING THEM IN THE PLANTING AND GROWING PROCESS

Children who may not thrive in a structured classroom setting, are given opportunities to be involved in more tactile environments through their involvement in the garden as highlighted in studies. As per their initial goals, this aspect of the gardening has been significant in developing children's life skills and self-esteem.

*"The teachers pushed us more shy kids to get out in the garden...worked as a good tool to draw out us timid ones".*

#### DEVELOPING A SENSE OF SELF-RELIANCE BY PROVIDING OWN FOOD – NARROWING THE DIVIDE BETWEEN SEED TO PLATE

Research (Blair, 2009) summarises that there is a link between children who have significant interactions with nature in shaping their adult perceptions, behaviour and understanding of the complexities of the ecosystem. Out of the past participants interviewed, none of them currently had their own garden. However, they have been left with not only positive connotations of what an edible garden is, they also have a greater understanding of their capacity to be self-reliant through their own experiences and perceptions of how gardening contributes to the curriculum.

*"Most of the students enjoyed it... Each student was responsible for their own part of the garden".*

*"I really enjoyed my time doing stuff in the edible garden and it cemented the learning that you are doing in the class room".*

*“I wouldn’t be opposed to gardening in the future... it’s made gardening sound like a positive thing”.*

*“Kids love it and the health benefits are great. Great that they know a bit more about veges and how they grow”.*

In the Organic City Garden Trust newsletter (Issue 11, 2000), Jesse a garden facilitator, talks about how children gain, through the programme, an understanding about the seeds to vegetables to food process. They understand that the foods eaten at dinner originally come from the garden.

### REDUCING, REUSING AND RECYCLING WASTE WITHIN THE SCHOOL COMMUNITY THROUGH COMPOSTING AND WORM FARMS AND THE TRANSFERAL OF KNOWLEDGE

In K.E.Gs, recycling waste through lunchtime food scraps has always been integrated into the programme. In Figure 1, a student collection of lunch time food scraps is shown, with any of the scraps being used for the schools own compost system. With the students collecting the compost, their participation means they are engaged in the activity and can see the transition of eating and their leftovers to be used in some way to benefit the garden.

**Figure 1:** Addington Primary School students collect lunch food scraps for composting.



(Photo courtesy of Lily White)

While observing students at Our Lady of Assumption, students were explaining how they had collected food scraps and were using them in a composting system called ‘bokashi’ where food scraps break down anaerobically over six weeks. The idea that the food scraps could make the garden thrive more after being implemented in the composting system shows that this aim has been well met. However, because this ethnographic research was carried out with older students (Year 7/8s) it is difficult to know if these processes could be understood by younger students as well.

## TRANSFERAL OF KNOWLEDGE AND PRACTICES TO HOME GARDENS BY CHILDREN IMPARTING WHAT THEY'RE LEARN

When asked what was the most influential in their gardening practices and knowledge, students ranked experiences of edible gardens at home with their parents as the key one.

*“Majority of parents fruit and veges [sic] are from the garden and I have helped in the garden regularly”.*

*“Mum’s garden – growing up we used to have veges [sic] from there. As kids we had our own plastic gardening tools to help her out with.”*

In 2001 K.E.Gs also received an Ericsson Internet Community Action Award in which they were awarded \$10,000 worth of internet development expertise in order to develop a website over a few months. The website was to link organic programmes throughout the country, have additional resources and allow for interactivity between children (O.G.C.T newsletter Issue #19 Feb. 2002). However, due to the cessation of the newsletters in the same year, there is no further mention or current evidence of this. This marks a weakness in the transferal of knowledge and engagement of children.

From our interviews and archived data collection, a number of the following factors demonstrate the success that K.E.Gs has had in promoting a national gardening curriculum and normalising sustainability teaching within schools. The team created teacher *Growing Guides* which have been bought by councils all around New Zealand. Additionally, the K.E.Gs model has been used by a number of successful programmes around the country (including Marlborough K.E.Gs). Ami Kennedy and Lily White had a contract with Massey University, alongside the World Wildlife Fund, to work as advisors about environmental educational sustainability. This eventuated in the ‘Enviro Schools’ programme.

In 1998, Kids’ Edible Gardens was awarded the Green Ribbon award by the Ministry for the Environment for “outstanding leadership and commitment to environmental protection”. The Canterbury branch of the Public Health Association awarded them a certificate “in recognition of an outstanding health promotion initiative in Canterbury. These awards highlight the multi-faceted benefits that K.E.Gs – nutritional and environmental education.

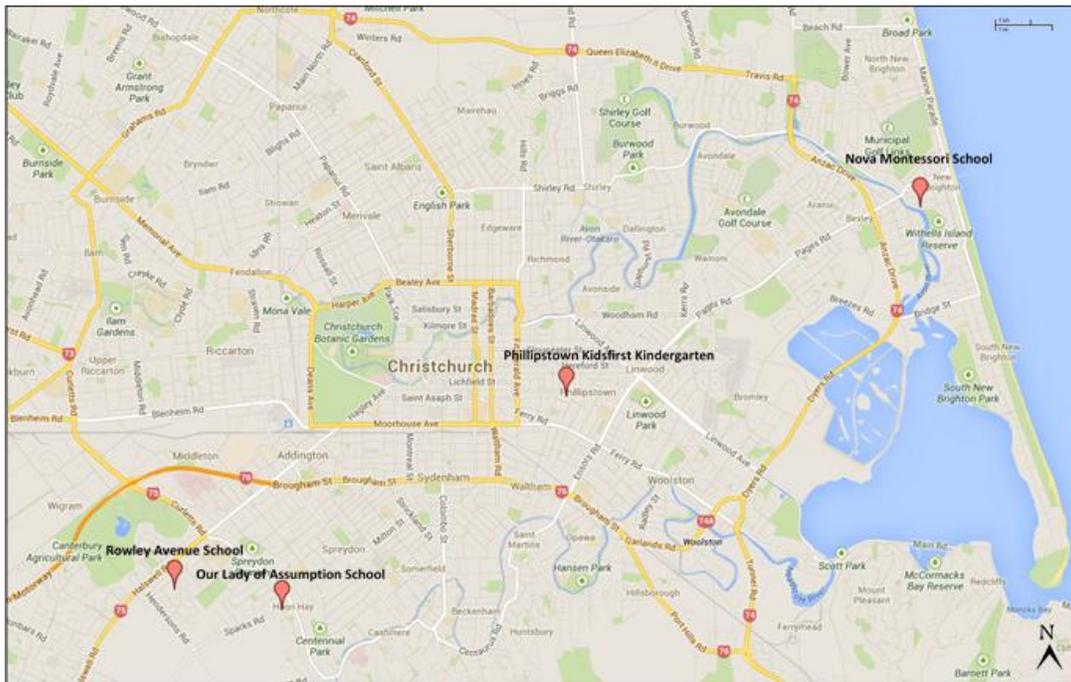
As per the literature review, studies (DeMarco, Relf & McDaniel, 1999; Blair, 2009), highlight the need for schools to coordinate with external facilitators. K.E.Gs fulfils this role in providing a garden facilitator as well as the time and knowledge.

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### 5.2 PRESENT

Currently, there are three schools and a kindergarten involved in Kids’ Edible Gardens (See Figure 2). Our observations at Our Lady of Assumption and Rowley Avenue schools allowed us to see how the students engaged with the garden and Lily, their reaction to the programme, their knowledge of different plants and gardening practices and their enjoyment in participating.

**Figure 2:** Current locations of schools involved in Kids' Edible Gardens.



(Google Maps, 2013)

### OUR LADY OF ASSUMPTION

Our Lady of Assumption is a decile eight school located in the south west of Christchurch. This is the first year they have been involved with Kids' Edible Gardens, initiated by enthusiasm from parents. There are approximately 25 students (Years 7/8) involved, working in groups of five for half an hour in the garden. The students involved are already as 'eco warriors' – this is a separate programme in which the students exemplify leadership skills in environmental awareness and they assist in helping take care of the garden. This demonstrates an already present awareness of many of the key principles such as environmental awareness, as well as developing children's life skills, which K.E.Gs promotes.

Upon observation of one of the lessons in practice, we found that these students were very enthusiastic about the gardening – actively listening and engaging, willing to impart what they had learnt. Out of all the plants in the four garden beds and glasshouse (as in Figure 3), the students could name many of them and were keen to sample the edible produce.

**Figure 3:** Our Lady of Assumption Garden Site.



(Photo courtesy of Sarah Saxon)

The willingness of the children to impart what they had learnt as well as the enthusiasm from parents to initiate such a programme demonstrates the success of this K.E.Gs in promoting the transferability of knowledge between home and school. The observed knowledge that these children have the garden, including to a degree, the complexities of the ecosystem and the presence of composting and worm farms demonstrates a commitment to narrowing the divide between seed and plate as well as sustainable processes.

#### ROWLEY AVENUE

Rowley Avenue Primary is a co-educational, decile one school, located in Hoon Hay, Christchurch. Lily and Kids' Edible Gardens has been involved in Rowley Avenue for ten years. Two groups of about seven students, from both junior and senior classes, take part in the programme. The transition to a new gardening site within the school this year has been made possible by a grant of \$57,000 from the Ministry of Education, to renovate the previous school pool site.

Our observation of the gardening lesson at Rowley Avenue, demonstrated that the students' enthusiasm varied, with some keen to get involved and others not really wanting to be there - "*Can we go back to class now?*" It is the children's choice to be in the garden, however some teachers had forgotten to send children out. Gardening time can also be used as a 'punishment', which Lily says "actually does them good" – this highlights a theme throughout literature that the experiential gardening environment can suit tactile learners who may not be suited to structured classroom settings. Parent support is present at Rowley Avenue – continuing the theme of transferability of the children's knowledge and practices from home to school.

**Figure 4:** Two Rowley Avenue students participate in Kids' for Edible Gardens Programme. The student on the left has been involved in the programme for three years and according to Lily "still thoroughly enjoys it".



(Photo courtesy of Lily White)

#### NOVA MONTESSORI

Nova Montessori is a decile seven, located in New Brighton. They have been involved with Kids' Edible Gardens since the late 1990s, on and off with external garden facilitators assisting at the school outside of the official programme. All children from Nova Montessori participate in the programme, the junior and senior classrooms operate on a two-week rotation system. Lily stated that even though the garden is small (shown in Figure 5), participating in the garden, is enough to feel involved. The holistic gardening approach Kids Edible Gardens takes is parallel to Nova Montessori's curriculum.

**Figure 5:** Lily, garden facilitator, waters the Nova Montessori garden.



(Photo courtesy of Lily White)

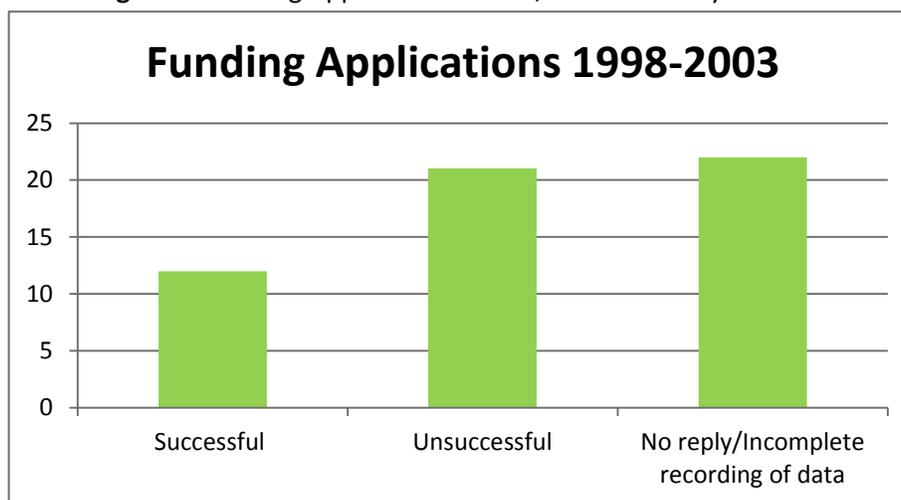
## PHILLIPSTOWN KINDERGARTEN

The kindergarten had previously heard about Lily and Kids' Edible Gardens programme and invited her to begin teaching in term four, 2012. With harvested produce, a soup or something similar is cooked and shared. This exemplifies the transition from vegetables in the garden to food on the plate, allowing for the development of life skills through their active involvement in the process and helps develop knowledge of food self-reliance.

## ARCHIVES

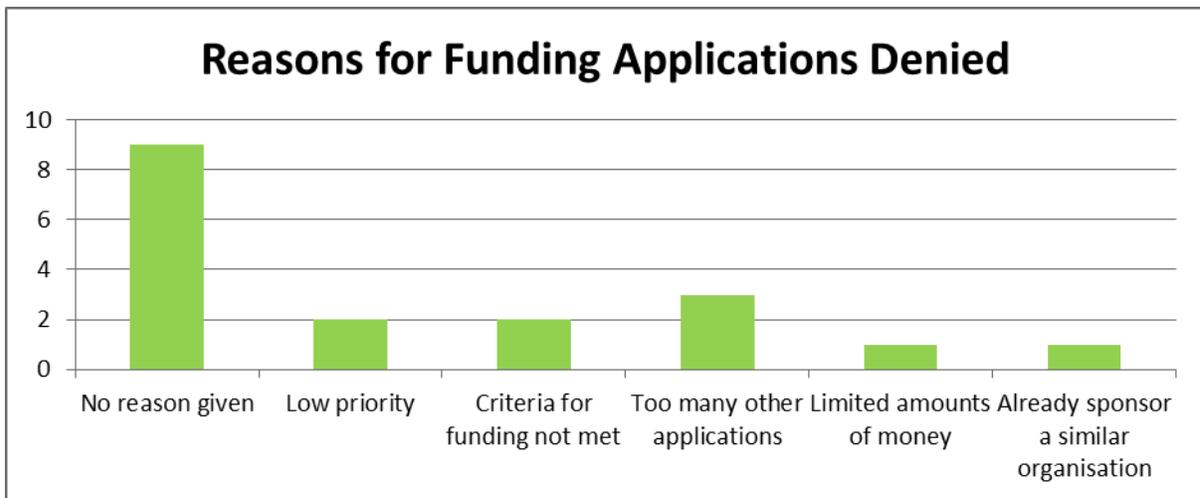
There were 55 funding applications recorded in the archives (this does not reflect the true amount as there were gaps in the archived data). Figure 6 shows that the majority of these either received no reply, the response was not recorded or the application was unsuccessful. Funding is necessary to formulate income which schools could not provide. In 2000, the total cost of providing materials and resources in an individual school was \$2500 per year. Low decile schools especially, needed the extra funding if they wanted to participate in the programme. However, there are a number of sponsors are listed in some newsletter editions, also obtained from the archives.

**Figure 6: Funding Application Results, as obtained by Archives**



Successful applications obtained ranged from the Lion Foundation to the Christchurch City Council, Zero Waste and the Spreydon-Heathcote Community Board. Reasons for unsuccessful funding applications are shown in Figure 7. A substantial amount of the unsuccessful applications did not give reasons for being unsuccessful. Of the reasons given, the most common was that there were too many applications.

**Figure 7:** Reasons for unsuccessful funding, as obtained by Funding Applications in Archives.



### NEWSLETTERS AND MEETING MINUTES

The Organic City Garden Trust printed a newsletter and included a section for Kids Edible Gardens. The first issue began in November 1997, (K.E.Gs first mentioned in March 1998) and the last archived newsletter was Issue #23 (2003). Additionally, the meeting minutes allowed for an insight into the functionality of the model beyond the classroom. A key theme throughout the minutes was the discussion of funding options. Analysing the newsletters, as a public source, then the meeting minutes, K.E.Gs private source, demonstrated the balance between presenting their image to schools and potential funders and the background effort which is required to do so. From these, in addition to the interviews, reoccurring themes and needs for the future emerged. These are as followed:

### 5.3 FUTURE

A key theme which came through interviews as well as archived data, was the need for a collaborative website. As previously stated, there has been funding and initiatives to start one but currently there is not one. As a future prospect, this website could host a range of resources shared between teachers and facilitators - allowing for a degree of support even after the stay of the facilitator. Such a site should allow for interactivity and engagement from the children giving them agency and ownership in shaping the programme – an issue which our interview with Ami highlighted. Such empowerment aids in developing life-skills and self-esteem. It also allows for a greater transferability of knowledge from school to the home and wider community.

A featured suggestion from past students, was the need for continuation of gardening throughout into Years Nine and Ten (Ages 13-15), especially into Home Technology classes, in order for the impacts to be more enduring. Additionally, many past students remember their time in the garden as limited - *“Never seemed like we had enough time in the garden to actually do proper stuff”*. Our interview with Ami highlighted this as well – that an hour a week did not work. A suggested alternative was the

extension programme run at Casebrook School where students can opt in and are encouraged to do so for a year. There are approximately 20 students involved who are involved in the gardens for two hours a week.

One past student who was surveyed, who is now training to become a teacher, highlighted the need for outside support for teachers. A suggestion for the continued growth of the Marlborough K.E.Gs which could also be adopted by original K.E.Gs programme, was the implementation of annual professional development workshops for teachers to up skill them (Marlborough Kids' Edible Garden, n.d).

DeMarco, Relf and McDaniel (1999) demonstrate that throughout gardening programmes, the lack of funding and resources was the prime reason which limited integration of gardening into schools.

Funding remains a key barrier to such implementation – possible agreements with different groups and sectors such as the Ministry of Education need further exploring.

Lily is the only current garden facilitator. K.E.Gs has almost reached its capacity in taking on new schools. This raises an issue of scalability – how can they increase to meet the needs of a greater range of schools? Comparatively, Marlborough Kids Edible Gardens for the past five years has been funded by the Nelson Marlborough District Health Board as well as the District Council (Marlborough District Council, n.d). Christchurch's Kids' Edible Garden, as observed through the funding applications and interviews, lacks a steady flow of funding. Additional to targeting this weakness, an idea raised was the creation of *Growing Guide* equivalent for garden facilitators – this would give them a unified approach and a defined standard of what they are able to offer schools.

## SIX | LIMITATIONS

### SURVEYS

Those surveyed were in their early 20's with many participants flating. Because of the less permanent accommodation tenure, many did not have gardens and were unable to comment on current gardening practices. Our sample set (N=5) was small as finding past participants was hard. Many could not specifically remember if it was a K.E.Gs programme. This was mitigated by conducting face to face or phone questions rather than electronically – this elicited more in depth responses.

### LITERATURE

A theme running concurrently throughout the literature was the lack of quantitative data. Additionally, many of these studies have been conducted in the United States in heavy urban settings. A child's schooling experience and exposure to the environment may differ in New Zealand, altering the implications of the results. Conversely, being able to access the Marlborough Kids' Edible Gardens Evaluation has given us a good comparison with a similar project within New Zealand.

## TIME

Due to the ten week time constraint of this project, there was aspects which could not be addressed. Additional interviews with past employees and teachers would give an even wider scope.

## ETHICS

Due to the University of Canterbury's ethics, there were constraints on our ability to interview the children participating in this programme. To an extent, this was mitigated through our ethnographic observations. However, formal interviews, out of the range of their garden facilitator could have given a greater perspective.

## BIAS

There is a bias to contend with in interviewing past and current employees of K.E.Gs. Being involved, it is harder to portray a balanced opinion and view.

## GAPS IN ARCHIVED DATA

The archived data was not complete. Items were missing and there was a gap in the years the trust had broken down – this makes it harder to construct a longitudinal timeline and data set. However, due to the dating upon the majority of the documents, it was easier to see the range and scope of information we had.

## SEVEN | CONCLUSION

This report has sought to produce a fifteen year evaluation of the Kids' Edible Gardens programme. Research through a range of methods has been undertaken to provide a thorough evaluation of the benefits, weaknesses and potential challenges since Kids' Edible Gardens first began in 1997. The benefits and limitations of implementing school gardening programmes evident in the literature run concurrently with those observed through our research. Kids' Edible Gardens can successfully demonstrate that it has largely fulfilled its aims relating to its programme within schools. Additionally, through providing resources such as the *Growing Guide* and a theoretical model for other programmes, it has promoted the normalising of the organic gardening in schools in other regions in New Zealand. However, in part due to a lack of solid financial funding base, there are a number of functionality issues to address in order for it to continue to be a viable model. The possibilities for future research include a need for a more longitudinal study of past participants, a more in depth analysis of the effects of the school garden curriculum later on in life. Additional to the future challenges, as noted in the report, these recommendations need a more comprehensive cost-benefit analysis before implementation.

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- Ami Kennedy – past Kids' Edible Gardens employee
- Geog309 staff and facilitators especially Greg Breetzke, our group supervisor
- Survey participants
- Our Lady of Assumption and Rowley Avenue schools

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### 9.1 INTERVIEW QUESTIONS

- What was your role (over what years) at K.E.Gs?
- What was the role of the garden facilitator within schools?
- What and who were some of the key instigators in starting up K.E.Gs?
- What have been some of the key challenges for K.E.Gs/schools?
- What are some of the key benefits of K.E.Gs?
- Where do you think you see K.E.Gs in the future?

### 9.2 SURVEY QUESTIONS

1. What school did you attend?
2. How old and in what school year were you when you participated in this programme?
3. How was the programme received?
4. How do you think gardening in now received within schools?
5. Do you have your own edible garden?
  - a. YES.
    - i. What types of plants do you grow?
    - ii. How frequently would you use the produce that you have grown?
    - iii. How has the Kid's Edible Garden programme affected your gardening practice now?
    - iv. If you have kids, are they either at school or at home participating in the gardening?
  - b. NO.
    - i. Why not?
    - ii. How has the Kid's Edible Garden programme affected your gardening practice now?
6. What would you rate as the most influential in your current gardening practices?
  - a. School garden experience
  - b. School classroom
  - c. Family. Which relation(s)? \_\_\_\_\_
  - d. Work
  - e. Friends
  - f. Media
  - g. Other: \_\_\_\_\_
7. Do you have any further advice or suggestions for Kids Edible Gardens?