

**Community gardening to benefit the
marginally housed and homeless:
*A fresh idea for faith institutions***



**A case study of
St Thomas's Anglican
Church, Toronto, ON**

Suzanne Brooks

A Current Issues Paper

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EXECUTIVE SUMMARY

“Toronto tries to be a city where everyone belongs, feels part of a larger community and has an opportunity to contribute...a food-secure city acknowledges that each of us is affected by the well-being of others.” –Toronto Food Charter

The purpose of this research is to determine the impacts of a community gardening project at St Thomas’s Church, Toronto, which distributes produce to the marginally housed and homeless. Government support services for this segment of the population have been seriously eroded, leaving community groups such as faith-based institutions to fill the resulting service gap. One important challenge is providing access to healthy food. This suggests a potential link between faith-based institutions and community gardening.

My research involved starting up a community garden in co-operation with the St Thomas’s congregation, and distributing the produce to marginally housed and homeless individuals. I monitored the garden’s activities over the course of one growing season, and evaluated its impacts. My results are based on quantitative analysis, such as estimating harvest value and measuring the project’s economic viability, as well as on semi-structured interviews with produce recipients, garden volunteers, and neighbours.

My evaluation reveals overwhelmingly positive impacts of the case study project. Produce recipients benefited from increased access to fresh vegetables, while garden volunteers derived satisfaction from contributing to a meaningful project. Neighbours commented on the environmental and aesthetic improvements to the garden site. In addition, the project was successful economically. Despite this success, my evaluation also reveals potential for improvement. The church should further explore the garden’s potential for skill development among the at-risk population that receives garden produce. Other suggestions for improvement include better matching of crop selection with the needs of produce recipients, better pest control, increased involvement of neighbours outside the Parish community, and improvements to the volunteer structure.

More broadly, my case study suggests that community gardening has an important role to play in the response of faith groups to needs in their communities. Gardens have the potential to provide a source of produce and a means of skill development for at-risk populations. They can also provide development opportunities for volunteers, and can promote overall institutional sustainability. However, the success of garden projects depends on careful crop selection, preferably based on consultation with produce recipients. Additional potential challenges include volunteer fatigue and pest problems.

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1. INTRODUCTION

Providing help to the marginally housed and homeless¹ is a major social planning issue in Toronto. In spite of the large numbers of people struggling to earn an adequate income and maintain their housing, government support services for this population have been decreased over the past twenty years, leaving a major social gap (Toronto, 2003). One group to respond to this gap has been religious-based institutions, which provide services in particular to those unable to gain access to the welfare system (Wallace et al., 2006). In Toronto, the most visible such initiative is *Out of the Cold*, which provides food and accommodation for up to 400 people each night throughout the winter (Dixon Hall, 2007). Although programmes like *Out of the Cold* are not an adequate replacement for government-based social services, they are a reasonable emergency response in a situation where social services are often missing.

The identification of low income as the most important barrier to healthy eating (Power, 2005; Blair et al., 1991) reveals an added challenge for low-income groups: beyond having *enough* to eat, the *type of food* available is an important consideration. In this respect, there may be potential for community gardening to benefit the marginally housed and homeless through the provision of fresh vegetables. Moreover, beyond functioning as a food source, existing community gardens in Toronto have been shown to provide additional health benefits and development opportunities in the communities where they are situated (UGROW, 2006).

Faith institutions possess key attributes that lend themselves to community gardening, such as facilities that often sit on large parcels of land in the downtown area, and considerable volunteer capacity. These attributes, combined with experience in providing social services, suggest that community gardening could be an exciting new tool for faith communities in their role as service providers to homeless and marginally housed populations. The purpose of this Current Issues Paper is to test this suggestion through evaluating a pilot community garden project located at a downtown Toronto church. I will then use the results of this case study to form broader conclusions about the potential for faith-based community gardening projects to address challenges faced by the marginally housed and homeless on a wider basis.

¹“Marginally housed” refers to those without secure long-term housing, who are staying with friends, in hostels, in rooming houses, etc. “Homeless” refers to those living on streets or in public or semi-public spaces. See Gaetz (2004).

2. CONTEXT

In order to determine if faith-based community gardens could benefit the marginally housed and homeless, we must first understand what community gardening is, how it looks in Toronto, how it relates to poverty, and how one might go about evaluating the successes or shortcomings of a particular garden project. Since any research builds on previous work done by other investigators, it is also helpful to look at what previous research in the area of community gardening has shown. This section will provide some context for the current project by summarizing related literature.

What is a community garden?

It is difficult to pinpoint what exactly constitutes community gardening, since there are many activities that people identify under the “community gardening” banner. For example, Holland (2004) defines community gardens very broadly as “open spaces managed and operated by members of the local community for a variety of purposes”, generally located in an urban context. They also generally produce edible crops such as vegetables. Therefore, community gardening is often included under the heading of “urban agriculture”, a recent term that describes the age-old practice of growing food within cities.

Within this broad definition, there are two common types of community gardens. The first are allotment gardens, whereby gardeners rent or are otherwise provided with a portion of a garden to care for and harvest from on an individual basis. The second type are shared gardens, where a group of people jointly care for a garden plot and share its harvest.

In addition to these two common examples, a third specific example discussed by Lackey (1998) is a pantry garden, where needy and unneedy volunteers grow crops of vegetables to stock local food banks, on plots of donated land. This third example relates most closely to the community garden that I am evaluating.

Community gardening and poverty

Low income has been identified as the most important barrier to healthy eating (Power, 2005; Blair et al., 1991). Because of this, healthy eating is a major challenge faced by homeless and marginally housed individuals. Previous research suggests a basis for using community gardening to overcome this barrier.

The Toronto Food Policy Council (TFPC) (1994) argues for use of community and public spaces for food distribution. This concept that has historically been overlooked, due to the conventional view that food distribution belongs within the realm of the private sector. According to this view, the role of the public sector is to ensure that people have sufficient income to purchase food, rather than to become involved in food distribution itself. Instead, the TFPC advocates in favour of community agencies taking over portions of the food distribution system to better meet the needs of at-risk populations, through initiatives such as community gardening.

Community gardens may also contribute to long-term food security. Moron (2006) includes community gardening within a broader definition of “food-based nutrition interventions”, which are aimed at increasing food supply and access in situations where these are not secure. Food-based nutrition interventions are defined by the United Nations Food and Agriculture Organisation as having the purpose of “improving food production and availability, processing and conservation, supply and commercialization, as well as access and food consumption”, especially at the community level (FAO, 1995).

Community gardening in Toronto

Ontario does not have a strong long-term history of community gardening. In a 1994 discussion paper, the TFPC stated that Ontario lagged behind other jurisdictions in terms of non-traditional food distribution, including community gardening. Cosgrove (1998) reports only 97 community gardening projects within the amalgamated City of Toronto at the time of publication. However, Werkele (2002) reports over 100 new projects developing within a ten-year period from 1992-2002, crediting emergent policy such as Toronto’s Food Charter (2001), which encourages community gardening, for this increase. Interestingly, despite the recent proliferation of urban agriculture in Toronto, it is not firmly ensconced as a legitimate land use in the City’s Official Plan (Wekerle, 2002).²

Several examples of community gardens in Toronto relate to urban poverty. A recent report by the Urban Gardening Research Opportunities Workgroup (UGROW) (2006) gives examples of allotment gardens in south-east Toronto that devote some space to growing food for food banks, or donate extra food to community nutrition projects. For example, one of the 32 allotment plots at the Ashbridges Eco-Community Garden,

² See Toronto (2006) Section 3.1.1, which states “new parks and open spaces will be located and designed to...provide appropriate space and layout for recreational needs, including...community gardening...”, but stops short of a separate land designation.

located at Dundas and Coxwell, is devoted to growing produce for the food bank. The Mustard Seed community garden, at Queen and Broadview, donates surplus food to a community kitchen.

Another set of examples are social housing-based community gardening projects, which are effective because a) low-income populations are under socio-economic stresses and stand to benefit the most from such projects, and b) traditional social housing architecture usually contains significant open space available for gardening (Cosgrove, 1998). An example in this category is Toronto's Regent Park social housing community, which began a garden in 1986 and now includes several projects, including a rooftop garden.³

In addition, numerous Toronto organisations such as Foodshare and The Stop, are running innovative community gardening projects with social dimensions. Foodshare focuses on providing access to fresh produce to poorly-served communities, and also offers educational material for garden start-up. The Stop grows produce in an 8000-square foot garden for use in its Community Kitchen and drop-in programmes.

Evaluating community gardens

As suggested by the discussion so far in this paper, community gardens are very diverse. Because of this, a broad range of aspects can be evaluated. Some, such as garden yield, are quantifiable; others, such as the way gardens make people feel, are not. For this reason, both qualitative and quantitative techniques have been used in previous studies to evaluate community garden projects.

Qualitative methods refer to the non-numerical examination and interpretation of observations, for the purpose of discovering underlying meanings and patterns (Babbie, 1992). They attempt to "capture life as it is lived" (Boeree, n.d.) – that is, they deal with reactions, thoughts, and feelings. Since qualitative measures are often fluid, semi-structured and open-ended, they are also better suited for detecting unanticipated results (Spradley, 1980.)

By contrast, quantitative methods use numbers to represent observations for the purpose of describing and explaining phenomena (Babbie, 1992). Since results are seen as more objective (Denzin, 1994), quantitative observations can be more easily defended. Quantitative methods also put research into terms that fit well with society, where

³ The recent demolition of Regent Park make the future of these gardens uncertain, although revitalization plans include provision for community gardens. See Toronto Community Housing (2001).

decisions are often made based on the “bottom line” in light of accepted business practices and tight budgets (Roberts, 2006). However, focussing strictly on quantitative methods ignores the importance of process and human experience.

Previous evaluations of community gardens have used both approaches. For example, the recent UGROW (2006) study of several community gardens in Toronto cited above used mostly qualitative research techniques, such as participant observation, focus groups and in-depth interviews, to investigate the impact of urban gardens on participants and their communities. This work was undertaken to fill gaps in broader community gardening literature relating to the health benefits of gardening, as well as the observations of gardeners themselves about their experiences. A study by Blair et al. (1991) used a mixture of qualitative and quantitative methods to evaluate the dietary, social and economic components of an urban gardening case study in Philadelphia, in order to draw links between community gardening and general nutrition policy. Dietary and social impacts were measured qualitatively, whereas economic impacts were measured quantitatively.

Research question

My research is based on the following questions:

1. What are the impacts of a faith community-based gardening project on a) the marginally housed and homeless served by the community, b) the faith community itself, and c) the wider community?
2. What are the economic impacts of the project?

Based on the results of this evaluation, I will determine whether this project represents a viable model for other faith communities to follow, in order to better serve segments of the urban poor population.

3. THE PROJECT

This research involved a) developing an urban garden devoted to providing produce for marginally housed and homeless people on the property of a faith community in Toronto, and; b) evaluating the impacts of this garden. This section explains details of the project, while the next section outlines my evaluation methods.

Case study location: St Thomas's Anglican Church

The study garden is located at St Thomas's Anglican Church, 383 Huron St. Figure 1 shows the church location. I selected St Thomas's as the study site for several reasons:

- ❑ availability of a plot of land on church property;
- ❑ presence of a very strong social outreach programme including a weekly summer meal drop-in, *Out of the Heat*, which provides a mechanism for produce distribution;
- ❑ proximity to the University of Toronto;
- ❑ personal affiliation with the church, creating an opportunity for partnership.

I initially approached St Thomas's in November 2005 with the idea of developing a pilot community garden. From the start, my idea was to use the garden to provide fresh produce to the marginally housed and homeless individuals who attended the Parish's pre-existing weekly meal drop-in programme. Members of the Parish would have an opportunity to volunteer for construction, planting, weeding and harvesting throughout the garden season. The idea generated considerable energy and support. Following discussion with members of the Outreach Committee, who are responsible for the meal programme, as well as the Parish's Rector, I was encouraged to create a formal project proposal and budget to present to members of Corporation, which is St Thomas's governing body. I was aided tremendously throughout this process by the St Thomas's Property Manager, Mr. Rob Kennedy, who helped create cost projections for the garden project during January and February 2006. A construction plan and budget (included as Appendix A) were formally approved on March 24, 2006. The church agreed to sponsor the cost of building the garden through money in its Outreach fund, which is used for supporting the *Out of the Heat* programme and other social justice endeavours.

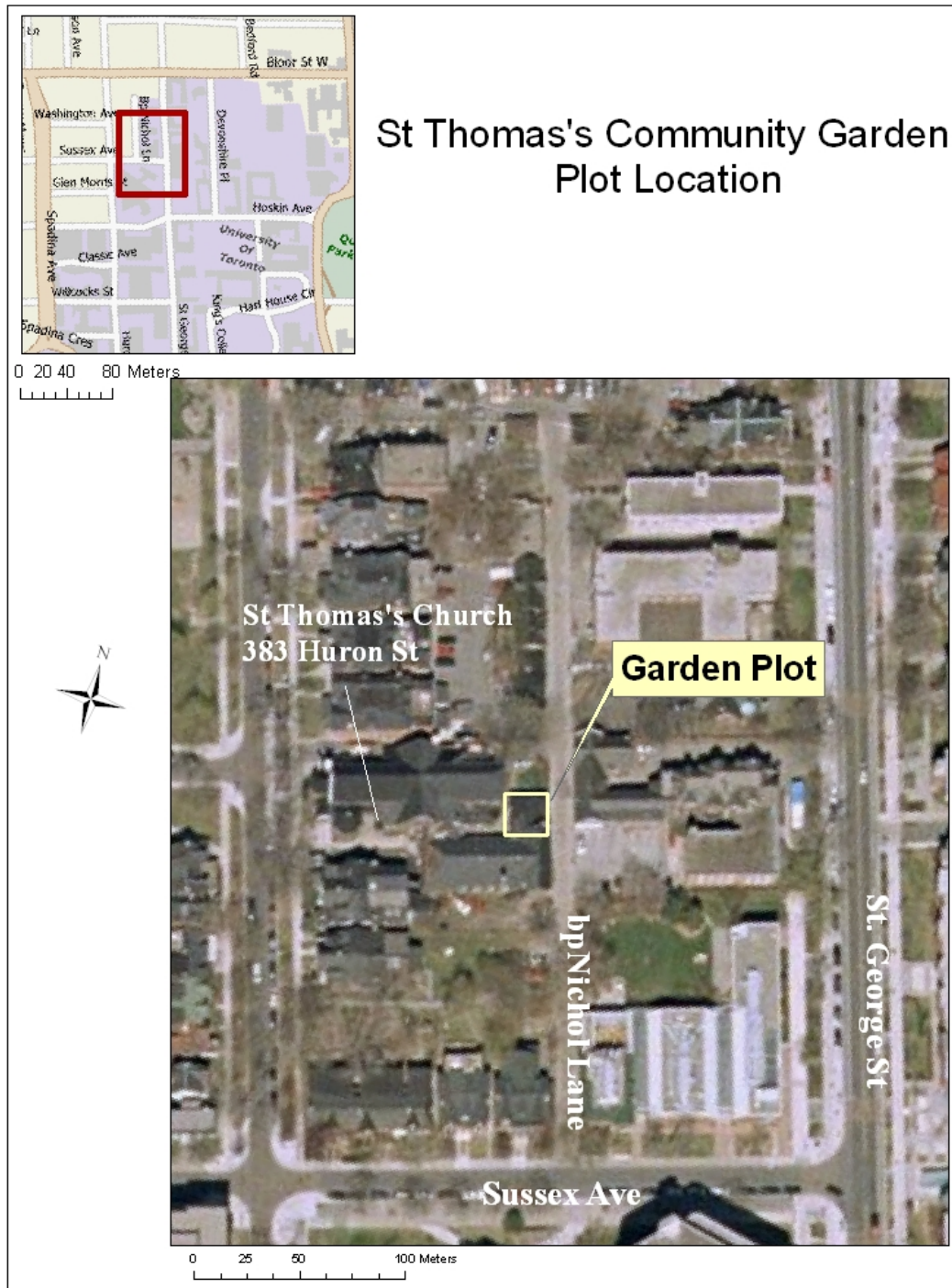


Figure 1 Church location.

Consultation and design process

Several key decisions need to be made when starting up a garden project, such as garden design, crop selection, and volunteer, maintenance and produce distribution schemes. Throughout the spring of 2006, I undertook a considerable consultation process within the Church community to gain input on these and other questions. Appendix B contains a summary of key dates for the entire project, including this consultation process. Planning began with an open design charrette, held on March 19, 2006, to which all members of the Parish were invited through advertisements in the church leaflet. At this charrette, a core group of experienced gardeners emerged from within the Parish community, who expressed interest in further involvement with planning and design. This small group, which became an informal garden committee, participated in a further technical design meeting held on March 23, to discuss in detail questions of garden plot design and plant location. They also provided input throughout the construction and planting process.

Another important group was the Outreach Committee, in charge of the weekly meal programme. I attended several meetings with this group to determine how we could best distribute garden produce to maximum benefit. In addition, I had several individual meetings with the Rector and with Mr. Kennedy, who took a leading role in garden construction.

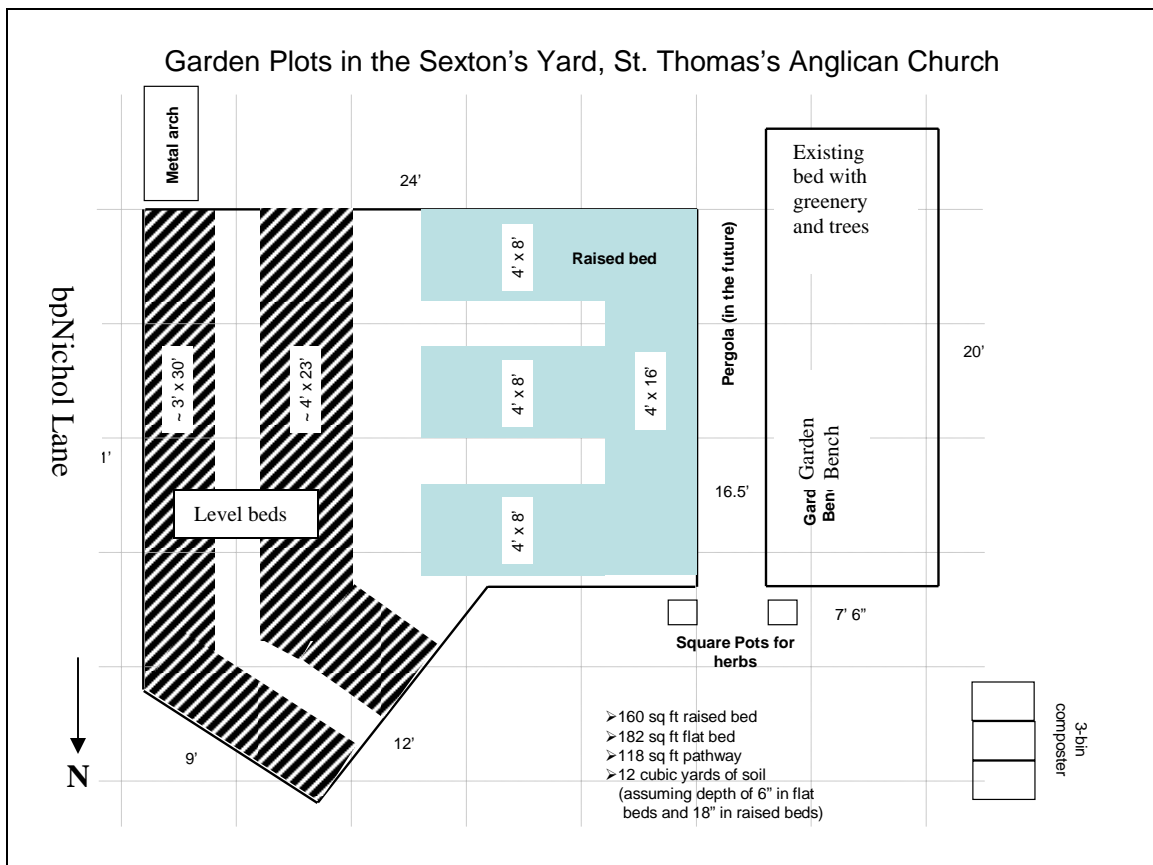
The committee selected our final garden design, shown in Figure 2, to maximize available site resources, including sun exposure and soil conditions. Mr. Kennedy and I dug several test holes to investigate soil quality on the plot, which revealed a combination of soil conditions: while the east side of the plot had a good depth of top-soil and suitable growing conditions for vegetables, the west side was mostly gravel and was not suitable for gardening. Accordingly, we decided to build level beds on the east part of the plot and a raised bed along the west side.

While investigating soil quality, Mr. Kennedy and I also carried out two types of soil tests on the garden plot. We analysed one set of samples for lead content, using a home test kit purchased from Abotex laboratories of Grand Bend, Ontario. It showed no abnormal lead contamination in the soil. We sent another set of samples to AgTest labs in Guelph, Ontario, for nutrient analysis. This test revealed acceptable nutrient levels, including pH, for growing vegetables on the selected site.

Construction and planting

Garden construction took place during April 2006. We purchased a raised bed design kit from Lee Valley of Toronto, consisting of cement patio stones, 2x4 lumber and a series of hardware. Mr. Kennedy organised and supervised a work-day on April 13, attended by approximately 9 volunteers, to clear the site and begin building the garden beds. Raised bed construction proved to be a much larger job than initially expected, and required several additional days' labour by Mr. Kennedy and other volunteers. Section 6 below contains an estimation of volunteer hours contributed to the project.

After construction was complete, we took delivery of 12 yards of premium soil mix, purchased from EarthCo, on April 21. The delivery truck was equipped with a "slinger" that directed a flow of soil off the truck directly into the raised beds, thereby significantly decreasing the required labour effort. Four volunteers helped with spreading the soil and preparing the beds.



Adapted from Schematic by R. Kennedy.

Figure 2. Diagram of garden plot.

Once the soil bed was in place, we installed a water system purchased from Lee Valley and designed by Mr. Kennedy. Based on a central feeder hose and several small spray nozzles located throughout the garden, this system included a timer to avoid the need for manual watering.

Our next step was garden planting, following a pre-determined schedule to achieve maximum crop coverage throughout the season. Appendix C provides a list of crops planted in the garden, with associated planting dates. We developed our planting plan in consultation with one of our parishioners, who works professionally as a gardener, and who donated several seeds and seedlings. We chose plants according to what would grow well given light and soil conditions, as well as what plants were available through donations. As indicated in Appendix C, several plants our garden were heritage varieties native to Southern Ontario.

Volunteer structure

At the beginning of the garden season, on May 30, I organised an Orientation and Education night for parishioners interested in volunteering with the project. This event included a tour of the garden, an introduction to the watering system, and a short information session on various aspects of gardening such as weeding, tools and equipment. I also arranged for the screening of an educational video entitled *Seeds in the City: The Greening of Havana* (Knowledge in Action, 2004), which was followed by a discussion of the importance of urban agriculture and its potential in Toronto.

At the end of this meeting, 11 volunteers signed up to be responsible for a week of weeding over the course of the season. Volunteers were given the combination for the garden shed, in which all tools and equipment were kept, thus avoiding the need for access to the church. I also requested that volunteers record any observations or problems with the garden, such as pest activity or water conditions, in a log book located in the garden shed.

Harvesting

Because harvesting required access to the church building, as well as communication over what was to be harvested and when, we decided to restrict harvesting to a small team of people consisting of myself, Mr. Kennedy, and one other volunteer. A member of this harvesting team checked the garden at least once a week for ripe vegetables. Items were typically picked on a Thursday evening or Friday morning. Harvesters trimmed and

washed the produce, and then deposited it in dedicated plastic containers in the church refrigerator ready for distribution at the Friday evening meal programme. Every item harvested throughout the season was carefully logged, to keep track of garden yields.

Produce Distribution

We distributed produce at the Friday evening drop-in meal programme, *Out of the Heat*, which has run regularly at St Thomas's for approximately five years. The meal programme is structured around a 6:00pm initial line-up for food distribution, which is typically too busy a time to accommodate any other activity, followed by the distribution of "seconds" around 6:30pm. During the "seconds" line, a dedicated table was set up for guests to pick up garden produce. Delaying the distribution of produce also allowed for regular meal programme volunteers to be available for this additional task, thus avoiding the need for additional volunteers.

For sanitary reasons, produce was generally packaged in plastic sandwich-type plastic bags, which constituted one serving. Handfuls of loose items such as beans and peas were placed in bags in the kitchen and handed out at the table. Larger items like lettuce leaves and cabbage quarters were placed in bigger plastic bags. All produce was distributed raw, with the exception of beets, which were boiled in advance of distribution, and leeks which were made into soup. Guests were generally invited to take one serving at a time until everyone who wanted produce was served, or until the produce ran out; in some cases, guests were invited back for seconds.

4. EVALUATING THE PROJECT

Evaluation criteria and indicators

Through investigation of the related literature on community garden evaluations, I developed several qualitative and quantitative criteria to analyse my research question. Table 1 provides a summary of these evaluation areas, and their associated methods.

Table 1: Evaluation criteria, indicators and methods.

Evaluation Area	Indicator	Evaluation method
#1: Impacts on guests of the <i>Out of the Heat</i> Programme	Amount and type of food provided over the course of one season to guests	Systematic log of amount of produce harvested
	Number of guests receiving the produce	Observation (estimate)
	Reactions of guests to the programme	Small number of semi-structured interviews with guests (half a dozen)
#2: Impacts on Parish community	Number of parishioners actively engaged as garden volunteers	Volunteer log
	Reactions of volunteers to the programme	Small number of semi-structured interviews with individuals who are identified as garden volunteers
	Skill development	
#3: Wider Community Impacts	Reactions of neighbours	Small number of semi-structured interviews with community members
	Community awareness and interest	Records of press articles, interviews, discussions with passers-by
#4: Economic Impacts	Monetary value of garden produce	Survey of market value of produce based on prices at local supermarkets
	Economic efficiency/viability of garden	Cost of harvest vs. retail value
	Budgetary effectiveness	Planned vs. actual spending

Qualitative methods (Interviews)

Three groups of people participated in semi-structured interviews: guests of the meal programme, garden volunteers and people living in the neighbourhood around the garden. Table 2 contains a list of interview participants from each group, based on pseudonyms, and Appendix D contains a list of guiding questions used with each interview group.

The unique characteristics of the first group required a slightly different interview process. To gather information from guests of the meal programme, I enlisted the assistance of a regular meal programme volunteer, who was well known by the guests and had a rapport with them. This volunteer circulated over the course of two Friday evenings in

September 2006, while guests were eating their meals or visiting with each other, to ask for feedback on the garden programme. While interview questions were directed to individual guests, several people were present during the interviews. A total of five individuals were interviewed: two women and three men. Their housing conditions range from marginal to adequate, with one interviewee having no cooking facilities.

For the other two groups, I conducted semi-structured interviews with garden volunteers and garden neighbours. These were held during October, November and December 2006. Due to the small sample size, I attempted to interview a cross-section of individuals from each group. For the volunteer group, I selected three men and three women of varying ages, ranging from very high to relatively low levels of involvement with the project. For the group of neighbours, I approached representatives from local businesses in the immediate vicinity of the church. Because the garden is located in an alley, there are limited numbers of residents in the area, but I did interview a university student living beside the garden in an apartment rented out by the church. Although these interviewees consented to having their names revealed, I chose to use pseudonyms throughout my report for consistency, since the identities of the first group, the meal programme guests, need to be protected.

Table 2. List of interview participants.

Interviewee (pseudonym)	Affiliation
<i>Group 1: Meal Guests</i>	
Jack	Marginally housed
Karen	Rents a room, no cooking facilities
Peter	Housed
Don	Marginally housed
Nicole	Housed
<i>Group 2: Garden volunteers</i>	
Bob	Garden construction, planning, harvesting, weeding
Darlene	Construction volunteer
Michael	Construction volunteer
Margaret	Construction and weeding volunteer
Jody	Construction, weeding and harvesting volunteer
Scott	Weeding and harvesting volunteer
<i>Group 3: Neighbours</i>	
Diane	Coach House Press
Daniel	Coach House Press
Stephanie	Resident of bpNichol Lane
Cathy	Huron Playschool Co-operative
James	Campus Co-op Residence Inc.

Because the goal of these interviews was to attain qualitative information, and because of the small sample size, I did not attempt to analyse the interview data in a statistical way. Instead, I analysed the data for thematic observations. I separated the interview transcripts into three groups for separate analysis: those from guests of the meal programme, those from garden volunteers, and those from neighbours. I then printed each group of transcripts, and used a system of colour coding to identify common themes arising from the responses. I also extracted particularly insightful quotations from the interview transcripts for use in this report.

Quantitative methods

Several of the indicators listed in Table 1 above are quantitative. While some are based on simple counts or observations, others require more in-depth analysis. This section outlines the methods I used to measure my quantitative indicators.

Harvest log

Throughout the garden season, I requested that garden volunteers keep a comprehensive log of weeding and harvesting. All produce harvested from the garden was recorded in the garden log book by item and quantity.

I used this record to measure two indicators, the first being the amount and type of food provided to guests of the meal programme over the course of one season. To calculate this, I tallied the total of all produce harvested, and calculated what percentage of the total harvest was accounted for by each type of vegetable.

A challenge arose in standardizing the measurements of different vegetable harvests to provide comparable data. For example, volunteers harvested lettuce throughout the growing season by snipping off individual leaves, whereas carrots, beets and beans were counted as individual items in the log book. I settled on a measure of “serving size”, based on the typical amount of an item we distributed to each meal programme guest. This generally equals what would fit in a small plastic baggie. This is a subjective measurement, but it is the most meaningful for this evaluation, since it shows meal programme volunteers and organisers exactly how much of each type of produce was distributed to guests throughout the season in terms that everyone can relate to.

I also used the harvest log to estimate a second indicator, the economic value of the garden produce. I did this by applying the prices of equivalent produce, collected from a

local supermarket, to the produce harvested from the garden.⁴ Where possible I used the prices of organic goods, however where organics products were unavailable, regular produce prices were substituted. This approach likely underestimates the true value of garden produce, since organic, fresh produce is likely of higher quality and value than its supermarket equivalent. Nevertheless, this analysis provides a good estimate of harvest value, which allows for a comparison of the project's input and output costs.

Budget

As discussed above, Mr. Kennedy and I prepared a detailed budget in early 2006. Over the course of the season we kept careful track of expenses, most of which related to upfront construction costs. I used this financial record to calculate the budgetary effectiveness of the garden project, based on a comparison of planned versus actual expenses.

Another of my indicators, economic viability, refers to the cost of produce harvested versus its retail value. Because so many of the costs in the first year of the project are capital, i.e. one-time expenses, I have separated these from the operating costs of the project. This gives a better sense of how much the garden will cost to maintain on an annual basis. The operating costs are also more appropriate for comparison between costs and expenses, in order to estimate the cost of garden upkeep over the long term.

However, capital costs cannot be ignored. To account for these, I have calculated a simple pay-back period for the project. This refers to the length of time it will take for the project to pay for itself. Simple pay-back is calculated by comparing yearly profit against the initial investment.

Participation log

The final two quantitative indicators, number of guests receiving produce and number of church parishioners engaged as garden volunteers, are based simply on observation. For the first, I attended several Friday evening meal programmes and counted the number of people who lined up to receive produce from the garden table. This number can only be an estimate since the meal programme is very busy and it is hard to get an accurate count.

To measure the number of garden volunteers, I kept record over the course of the season as to who volunteered in various capacities with garden tasks.

⁴ Produce prices were collected from Loblaws, Queen's Quay location, November 2006.

Limitations of the evaluation

There are other potential impacts of the project which are not addressed through this evaluation, most notably environmental. The positive environmental impacts of urban gardens are well documented in the literature (e.g. Toronto, 2001; Irvine et al., 1999), in terms of increasing green space and improving water infiltration and air quality. There are related energy savings, achieved principally through the avoidance of the long-distance transportation of imported produce. Despite the importance of these impacts, attempting to assess them in addition to the impacts listed above is too large an undertaking for the scope of this project. Although I anticipated that some reference to positive environmental impacts might arise through my semi-structured interviews, a more quantitative assessment of these impacts represents an important area for further research.

In addition, several of my listed criteria lend themselves to long-term monitoring. I am basing this evaluation on limited data from only the first year of the project. A multi-year, in-depth analysis of the potential benefits of faith-based community gardens, incorporating additional monitoring, is an important next step.

5. IMPACTS ON GUESTS OF THE *OUT OF THE HEAT* PROGRAMME

Programme participation

At the beginning of the season, a short announcement was made to make meal programme guests aware of the garden, and to invite them to take home produce from the garden table. Guests acknowledged this announcement with enthusiastic applause, and it generated significant interest in the garden project. On that occasion and throughout the garden season, several guests questioned meal programme volunteers about what was being grown and how, and when certain vegetables would become available. Although all guests of the meal programme had access to the garden produce, an estimated 40 guests took vegetables each week out of an average total of 75 guests.

Produce distribution

Between the beginning of June and the end of September 2006, a total of 891 servings of vegetables were distributed to guests of the drop-in meal programme at St Thomas's church. Figure 3 shows a chart of produce distributed, separated by vegetable type.

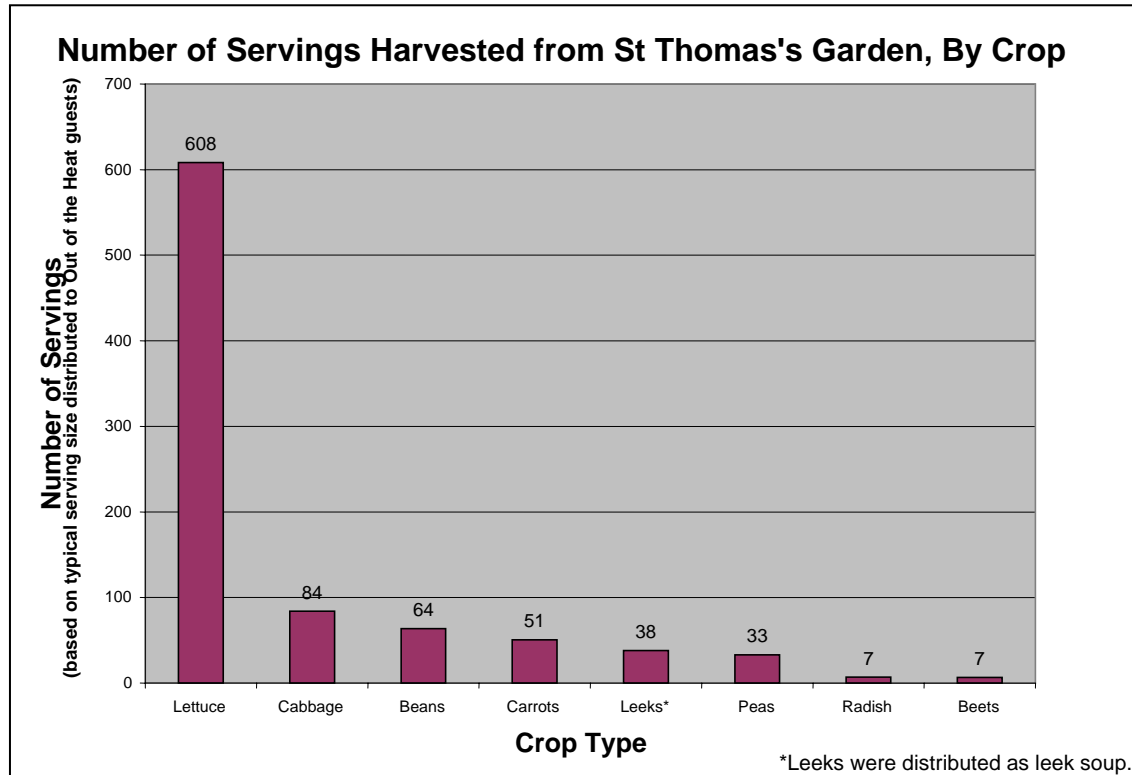


Figure 3. Servings harvested from St Thomas's community garden, by crop.

This chart shows that lettuce was by far the most productive garden crop throughout the season, accounting for 68 per cent of the total harvest. Two planted crops, tomatoes and squash, are not included in this chart because they failed. The tomatoes were planted quite late in the season and did not ripen properly due to the onset of cool weather, while the squash failed to pollinate. In addition, this chart does not include produce lost to rodents over the course of the season, particularly at the beginning of the year when cages and netting were not yet in place. These pest attacks mostly affected lettuce and cabbage.

Guests' reactions (interview results)

Meal programme guests were asked questions about their awareness of the programme, the role of vegetables in their diet, what vegetable types they liked or disliked, their overall impressions of the programme, and any suggestions they had for improvement.

Of the five guests interviewed, four were aware of the garden programme. One of these had actually spent time walking through the garden and mentioned having talked to garden volunteers about the project. Another interviewee, who was aware of the programme, commented that he thought its visibility could be improved. A fifth interviewee had not heard about the garden project.

Dietary observations

All five interviewees commented on the role of vegetables in their diet. Four individuals indicated that they found fresh produce difficult to get. Nicole, who is in her forties and has housing, stated that she was actively “trying to get more fresh vegetables [in her diet]”. Karen, who is also in her forties but has no cooking facilities, said that when she had money she “used to eat tons of fresh vegetables and fruit”. She felt that the population served by the meal programme had very limited access to fresh produce, and that they wanted more. Jack, a male in his fifties with marginal housing, said that most other food programmes do not offer fresh vegetables: “guys here tend to eat like carnivores, they don't care about the veggies”. However, although he thought the garden was a great idea, he himself did not feel that he needed more vegetables. This was echoed by a housed man, Peter, who said that although he felt access to vegetables was limited and that the garden was a good way to improve this, he did not take any home himself.

Crop choice

In terms of the types of produce grown, Jack and Peter both requested more tomatoes, and Jack also asked for more lettuce. While Karen commented that she hated eating raw beans, two others said they enjoyed the raw beans. Don stated that he “ate the beans raw” and they were “so good!”. Nicole said she enjoyed a lot of different vegetables, including carrots, lettuce and cabbage and raw beans.

Appropriateness of food preparation

Three of the five interviewees discussed the topic of food preparation. Karen wanted to eat more produce, but due to her lack of cooking facilities, she found it difficult to take raw produce home with her: “not many people here have good cooking facilities, so could you have prepared stuff?”. She requested that carrots be peeled before distribution, and commented that she did not like eating beans raw. Don said that he did not know how to cook vegetables, but liked to eat them raw. He also added that there is a mixture of people in the group, with some who are able to cook and others who cannot, so there needs to be a mixture of vegetables available. Nicole said she loved to cook and did not want to see any changes to the type of produce distributed.

General impressions

In terms of impressions of the programme, all the interviewees thought it was generally a good idea. Nicole said that she loved that the produce was organic and valued its nutritional aspects: “vegetables from the garden are better for you”. Don, who had walked through the garden, commented that he was very impressed, especially with the watering system, and that the “garden was a great idea”.

However, interviewees also raised several suggestions for improvement. Two talked about potential for expansion, with comments such as “the bigger [the programme] the better”, and “couldn’t you dig up the priest’s lawn and plant more there?”. Two of the interviewees said they thought that some guests of the programme might like to help out with the gardening in future years. Jack mentioned he thought there may be a therapeutic aspect to helping out with the garden.

6. IMPACTS ON THE PARISH COMMUNITY

Volunteer contribution

In total, over the course of the first year of the garden project, an estimated 30 volunteers contributed 344 volunteer hours. However, this total is misleading because it includes a substantial volunteer effort specific to the launch of the project, which will not be necessary in future years. To better understand the volunteer demands of the project, I have split the volunteer hours into two categories, shown in Table 3: 1) tasks relating to seasonal maintenance of the garden, and 2) tasks specific to launching the project, such as design and construction. This separation will also help to properly measure operating versus capital costs, which includes an estimation of the value of volunteer labour (see Section 8 below).

Table 3. Break-down of volunteer hours.

	Task	Number of volunteers*	Number of total volunteer hours
Seasonal garden tasks	Weekly weeding	13	10
	Weekly harvesting	4	36
	Spring work-day	7	35
	Fall Work Day	8	24
<i>Total</i>			<i>105</i>
Start-up tasks (unique to year one of project)	Work day: site clearing and raised bed construction	9	27
	Work day: dirt delivery and spreading	4	16
	Work day: fence painting	4	16
	Additional hours (bed construction, water system, pest control system)	Suzanne Brooks, Rob Kennedy	180
<i>Total</i>			<i>239</i>

*There is some overlap between volunteers in different categories.

Volunteers spent 105 hours on tasks related to seasonal maintenance, consisting of a work day in the spring for bed preparation and planting, a work day in the fall for winter bed preparation, and weekly weeding and harvesting throughout the season. Roughly 15 regular volunteers completed these tasks, with additional volunteers helping at spring and fall work days. The number of 105 hours represents a reasonably accurate estimate of the volunteer commitment that will be required in future years, since very limited infrastructure and maintenance work, outside of what can normally be accomplished within the scope of regular spring and fall work days, is anticipated.

Start-up tasks accounted for an additional 239 hours of volunteer labour. The majority of these hours were contributed by Mr. Kennedy and me, over the course of eight months between March and October 2006. This additional labour largely arose because of the decision to construct raised beds.

Garden volunteers' reactions (interview results)

I interviewed six garden volunteers from the Parish community, with varying degrees and types of involvement in the project (listed in Table 2), to ask them about their experiences.

Involvement history of volunteers

The level of involvement of the six interviewees falls into two broad categories. Three of the six, Bob, Darlene and Margaret, have been actively involved with the Parish community for over ten years; one of these, Margaret, has been involved for over thirty years. These three have an impressive amount of volunteer experience among them within several areas of the Parish, including the church choir, the property committee, the altar guild, and serving as church treasurer or church wardens (lay leaders).

By contrast, the other three interviewees, Michael, Jody and Scott, are fairly new to the Parish community with under three years' involvement, though all three also volunteer with projects outside the garden. Jody became involved with the Parish through her connection as a volunteer with the *Out of the Heat* programme, which she continues. Michael and Scott both sing in the church choir.

Role of garden in community building

Despite the different volunteer histories within the group of interviewees, all six found that volunteering with the garden project helped them meet new people in the Parish. Seasoned volunteers enjoyed the opportunity to work with groups of people they had not worked with in the past. Margaret talked of completing specific projects, such as painting the garden fence, with people she did not know very well before. Bob commented that he was surprised by the way the project “[brought] out skills we didn’t know people had”, such as the gardening expertise of Parish members.

Newer volunteers in particular emphasized the way the garden project helped form personal connections. Michael said that working in the garden was a good way to meet people for someone new to the Parish. Scott, who initially volunteered with the project as a way of becoming more involved, mentioned the importance of community building: “A Parish is its people...working together builds a close sense of community.” Jody also

mentioned the importance of “sense of community” and the “opportunity to meet new people”, and added that the project was good for “bring[ing] people with different interests together”.

Previous association with gardening

All six of the interviewees had previous gardening experience, ranging from small balcony gardens to large rural vegetable plots. Several mentioned a strong association with gardening and the outdoors as a reason for choosing to become involved with the project. Bob and Darlene, a married couple with a garden at their home, both talked about a “nostalgia” for family gardens they remembered from when they were young. Scott talked about gardening as a “spiritual thing”, particularly in an urban setting: “in the concrete and asphalt of a city it’s wonderful to see that people can grow things that are useful.” He also commented that he enjoyed the chance to “get outdoors” through weeding the garden. Jody said she “likes to see things grow”, and because of this it was an easy decision to get involved with the project. She also mentioned not having the space for a large garden at home because of living downtown. Similarly, Michael discussed living in a condominium without outdoor space, which lent further appeal to involvement with the project.

Volunteer skill development

As mentioned above, all six of the volunteers interviewed had previous gardening experience. Although some did not learn gardening skills as such, they mentioned acquiring other new skills as a spin-off of the project. For example, Bob and Jody talked about exposure to new types of plants, particularly the heritage varieties grown in the garden. Bob also mentioned learning a lot through his involvement in the designing and building processes. Michael, who volunteered mostly with the construction aspects of the garden, talked about acquiring new skills in that area. Margaret, who is a seasoned gardener with a large vegetable plot at her home in the suburbs, said that the Parish garden had shown her a new approach to gardening in a downtown setting, where the goal is to grow a lot in a small area. She had also not worked with raised beds before. Darlene also mentioned being unfamiliar with gardening in small spaces, and learning about the use of raised beds. She also that it built confidence for people who were new to certain activities to work alongside others in the Parish with skills to share. Scott, another seasoned gardener, talked about social skill development: as a quiet person, he found the garden project an opportunity to “get out of [his] shell” more than he might otherwise have done.

Reactions to volunteer structure

Darlene commented that there are a lot of activities within the Parish which can make it difficult to find enough volunteers for each one, but that the garden project “satisfies a need and a want in people” and fills a role that no other activity does. She felt that this contributed to its success. Michael said that it was beneficial for volunteers to have a quantified volunteering commitment so they knew what they were signing up for. Scott also commented that he found the one-week volunteer structure convenient, but mentioned that he would prefer weeding along with another person rather than on his own. He also observed that the majority of work needs to be done in the spring, and that the volunteer schedule should reflect that. Bob mentioned that it is important to have a volunteer experience where the “outcome is commensurate with the time put in”. While he felt this was achieved, he indicated that there is room for improvement in plant selection and management of pests to improve the garden’s yield. Bob also commented that it can be “hard with volunteering to have a list of things and match it with skills of people, but the garden did that quite well.” Jody mentioned the need to spread the harvesting tasks around more so that they do not involve such a large time commitment for certain individuals.

Reactions to produce distribution

Three of the six interviewees, Jody, Bob and Michael, were also involved in food distribution on Friday evenings. All three talked about this aspect of volunteering as a very positive experience. Jody, who is particularly involved with the meal programme, said that the garden table “highlighted a difference, a change in what was happening” with the meal programme and “brought an appreciation to the guests” of the effort made in food provision. She reported finding guests very interested in the garden and receptive to new types of food, commenting that “people got into it.” Jody also commented that many of the regular meal programme volunteers, not otherwise involved with the garden project, enjoyed the experience of working at the garden table and volunteered specifically for that task.

Bob and Michael attended occasional Friday meal programme events. Bob, who was responsible for making the original announcement to inform guests about the new garden, remembers the guests clapping after he told them about the programme: they were excited that “we were taking the trouble to do it”. Bob was also impressed by the guests’ interest in food production, organics, and gardening processes. Michael remembers guests being excited, happy, and interested in nutrition. He said the group seemed

interested in making choices about their diet where possible, and were discerning about where their food came from. He found it very exciting to give guests the option of good quality produce: “people used to getting whatever [is available] are suddenly getting ‘top of the line.’”

General impressions of volunteers

All six interviewees had positive comments about their general volunteering experience. They made comments such as “it was an enjoyable experience” (Scott) and that it felt like “time well spent” (Darlene). Michael said it was “good to see the transformation of the space...the progression from beginning to end.” Bob said he liked just “being in the garden”; he found it to be a calming and spiritual experience. Margaret said that she found gardening “very rewarding because it has results: you are aiming at a goal.”

Interviewees also mentioned perceived benefits outside the Parish. Margaret felt the garden gave passers-by something to talk about, which was nice in the city where “it can be hard to be friendly.” Scott mentioned the role of the garden as exposure to agriculture for people living in the city. He felt it was important for city people to understand that “carrots don’t just come from the supermarket.” Jody commented on the role of the garden in “enhancing green space for the community beyond the church.”

Perceived challenges and related suggestions

All the interviewees mentioned pests as the largest challenge to the garden’s success. Bob and Scott mentioned some technical ideas for improving pest control for future years, including new cage designs and increased use of mesh.

In addition, three of the six volunteers raised the issue of the overall philosophy of the garden as a “hand-out” or a “band-aid” programme. Bob, Darlene and Jody all suggested investigating ways of involving guests of the programme with the work of the garden. Darlene envisioned using the garden as a spring-board for life skills development among guests, not only through garden tasks but also other stages such as food preparation. Bob also raised concerns over volunteer burn-out, and suggested that incorporating guests in garden tasks could alleviate this concern. Jody felt incorporating guests into gardening was a good idea, but voiced concern over questions of security, access, and supervision.

Darlene discussed the challenge of making people in the Parish aware of the garden: it’s a “downer that people don’t know about it.” She suggested having coffee hours or other social events held outside during summer months to raise awareness.

Bob raised the issue of communication between co-ordinators and volunteers. He mentioned that communication break-down in certain instances had led to confusion and delays over procuring and planting certain crops, which was partially responsible for the tomato crop failure.

Lastly, four of the volunteers talked about co-ordinating crop choice in future years with the requirements of the meal programme. Jody said that the programme hosts a “mixed group of guests so needs may be different” and we need to pay attention to this when selecting vegetable plantings. She also suggested finding new ways to incorporate produce into the regular meal distribution. Margaret and Darlene also mentioned that they would like to see careful crop selection according to what grew best last year and also what is most useful for the meal programme. In Margaret’s words, there is “no point in planting what won’t mature.” Bob talked about the need to clarify the goals of the garden as they relate to those of the meal programme.

7. WIDER COMMUNITY IMPACTS

The third component of this evaluation deals with the garden project's impacts beyond the Parish community. The garden is located in a semi-public space and can be seen by a variety of people each day. In this section, I have documented a few ways in which the project had wider impacts. I also approached a small number of people who live or work in the immediate vicinity of the garden to ask them their impressions.

Community awareness

Passers-by and tours

The garden attracted substantial interest within the neighbourhood. Several garden volunteers commented on the fact that, while working in the garden, passers-by would stop to chat about the project. Since this was a somewhat unanticipated occurrence, I did not attempt to record or quantify this neighbourhood interest. However, some volunteers did speak directly to this. For example, Margaret commented that the garden “[gave] passers-by something to talk about, like people walking dogs.”

The garden also became a source of pride for members of the Parish, who routinely brought friends over to have a look. Table 4 contains a partial list of groups who toured the garden, to the extent of my knowledge.

Table 4. Visitors to St Thomas's Garden during 2006 season.

Person or Group	Details	Type of event
Parkdale Deanery	Group of priests from seven area Anglican churches	Tour organised by the Parish Rector
Delegates to International AIDS conference	6 Canadian and International visitors to Toronto	Informal tour led by Mr. Kennedy
U of T Graduate students	Half dozen graduate students from geography and planning with research interests in urban agriculture	Question and answer session led by Suzanne Brooks
U of T Cartography Office	Four staff members from Cartography office, U of T	Informal tour led by Suzanne Brooks at request of Cartography Office staff
Nuit Blanche	Tour during Nuit Blanche activities that took place on bpNichol lane	Led by St Thomas's parishioner

Apart from group tours, several parishioners gave individual tours to visitors to St Thomas's church. The following quote from Mr. Kennedy gives some idea of the diversity of visitors:

Among those that I guided through the garden are Bishop Fricker [Anglican Bishop]...[a visitor] from St. Mark & Epiphany [Anglican Church] (Toronto), a man from St. Catherine's who dropped in...because he was in town on the weekend to see the Magic Flute [opera], a professor of planning at U of T...the postman...[and]a couple who became interested in knowing more about the *Out of the Heat* program.

Although it is impossible to count all of the visitors to the garden, these examples suggest that the garden did impact the wider community to at least some degree.

Press coverage

Beyond site visits, another source of community impact is through press coverage. An article entitled "Parish reaps rewards of garden project" (Armstrong, 2006) appeared in the October, 2006 edition of the *Anglican Journal*. As the national newspaper of the Anglican Church of Canada, the *Journal* covers the activities of Anglican parishes across the country and around the world, as well as other social and ethical issues. The newspaper has a circulation of 215,000 and is the largest religious publication in Canada (Sison, 2005). The article about St Thomas's garden was written by Ms. Julia Armstrong, a Toronto author and editor who is also a parishioner at St Thomas's.

"Greening Sacred Spaces" video

The St Thomas's garden was also featured in a video produced by Faith for the Common Good (FCG) which is a multi-faith and multi-cultural organisation that promotes the integration of faith, ecology and spirituality. Through its *Greening Sacred Spaces* programme, FCG offers resources to faith groups wishing to increase their sustainability and energy efficiency. Their recently-produced video highlights sustainable projects undertaken by several Canadian faith communities. One segment is devoted to the St Thomas's community garden. FCG has also expressed interest in co-operating with St Thomas's on disseminating resource materials to other churches interested in starting up their own gardens.

Neighbourhood reactions (interview results)

I approached five people who live or do business in four locations in the immediate vicinity of the garden. Figure 4 shows a location map of these interviewees, whose affiliations are listed in Table 2 above.



Figure 4. Location of neighbourhood interviewees.

Community aesthetics

All the interviewees said that the presence of the garden improved the aesthetics of the area. Stephanie said that having the garden beside her apartment made it feel like “more of a house than before” and made the area look more inviting. Cathy, who works at a preschool in the church basement, mentioned that she enjoyed walking through the garden and that it created a “nicer space.” She also said that young children attending the preschool were aware of the garden and “took care not to step in it”. Diane from Coach House Press observed that the “church yard has never been so intensely used” and that it was “nice to have [the garden] there.” Diane also said it was “great to have a spot of green” amongst the concrete (see Figure 5 below).

James, from Campus Co-op, talked about the garden as part of an “overall revitalization” of the bpNichol lane-way space: “the whole area is transforming” with construction taking place at the Department of Economics, an upcoming re-design of the Campus Co-op buildings, and the new garden. James added that the garden “transform[s] the laneway...from a concrete vehicular parking area to a more altruistic ecosystem.”

The role of green space

I asked neighbourhood interviewees to comment on the role of green space in their community. Stephanie responded that green space was “something people never think about...I never thought about it” but added that creating green space is a “simple thing you can do that goes along way to bringing people together”. She also enjoyed the inter-generational aspect of the garden space: “I saw people of all ages looking at [the garden]”.



Figure 5. Transformation of garden space March 2006 (top left) through August 2006 (bottom right).

Diane said that green space “keeps it human” and that there is a need for more in the bpNichol Lane alley. She said that in her experience “people flock to green space” and that at Coach House, the staff place high value on surrounding trees and vegetation.

Cathy discussed the importance of the garden for environmental improvement, and also emotionally, saying that “to walk into an environment that is green and full of life is much more uplifting”. She also commented that being near the garden felt “healthier than being surrounded by cement...there was life out there” once the vegetables started growing. In addition, Cathy talked about the importance of green space for children, such as those under her care at the preschool, saying that “families with kids search out green spaces because kids don’t go and play in concrete.”

James suggested that green space “increases the sense of community” and “creates environmental opportunities”. For example, he felt that the presence of the garden would improve the atmosphere for the residence’s spring orientation and for students living in the residence. He also mentioned the opportunity to “forge relationships” within the neighbourhood, such as through the interview with me about the garden.

Educational impacts

Interviews revealed two types of community educational impacts that resulted from the garden: those involving the interviewees themselves, and those relating to the children who attend the preschool that operates at St Thomas’s.

Several interviewees said that they had learned things from the project. Stephanie said that though she did not have very much past exposure to gardening, she “liked the idea of gardening” and wanted to someday be “part of a family that makes things” with a “garden out back”. She said that after having watched the garden all summer she might be interested in being involved with a similar project. Daniel from Coach House Press, an avid gardener, was very interested in the technical aspects of the project, especially the sprinkler system and water timers which he used “as a model for [his] system at home”. Cathy, who is interested in home gardening, said she learned a lot from the garden’s raised bed design: “up at that height it’s easier to work, and [there is] also a good soil base...if I ever have land to plant a garden I will utilize some of your strategies”.

Cathy had several comments about the role of the garden for the preschool, which includes children of roughly thirty families. She said she told the parents about the garden project and its goals so that the children could be instructed not to pick things.

“Children living downtown Toronto know about the homeless problem and understand why they couldn’t eat the vegetables since they were for people who needed them”. She said that the parents were “very excited” and that the children often stopped to look at the vegetables on their way by. The children also “asked questions about vegetables...pre-school kids don’t often have gardens or exposure to vegetables growing...[they] know what a vegetable is, but don’t connect it to what’s growing in a garden”.

Security

Cathy brought up the issue of security in her interview, saying that initially she was concerned about theft of vegetables, but that this turned out not to be a problem: “knowing what it was there for, I was concerned that people would take things...but no-one did”. I also asked Stephanie, a single woman living alone beside the garden, if she felt the garden posed a security threat. She responded that she “didn’t feel threatened at all...sometimes it was a bit surprising [having people turn up to work in the garden] but it didn’t bother me”. To the contrary, she commented that as a newcomer to the community living alone, the presence of gardeners made her feel more comfortable.

Perceived drawbacks

In terms of negative impacts, three interviewees mentioned the problem of pests, particularly squirrels. Stephanie talked about the uncontrollable nature of the squirrels running through the garden and getting into garbage around her apartment, but said that she did not find the squirrel problem had increased as a result of the garden. Daniel said that squirrels live in the attic at Coach House and are a real nuisance in the area. He said that they find vegetables to eat in the garden which makes them “fed and happy to live there”. This suggests the garden may contribute to the problem. Cathy talked about squirrels too, but said that she noticed squirrels getting into the garden less towards the end of the season as additional pest control measures (e.g. cages and mesh) were installed.

Suggestions

Daniel had several suggestions for improving the project in future years. He mentioned that he had “brought several friends by to see the garden” but was unable to figure out all the things that were growing, and so suggested improved signage. He offered the services of Coach House Press to help create professional signs. In addition, Daniel suggested the installation of rain barrels for increased water supply: “you have a huge roof resource!” Finally, Daniel brought up the idea of increased community co-operation in the project and suggested that Coach House Press could help by growing small vegetables such as radishes in window boxes and donating them to the meal programme.

8. ECONOMIC IMPACTS

Monetary value of produce

Based on the prices of similar products at a local supermarket, I estimate the total monetary value of garden produce over the 2006 growing season at \$352. Figure 5 shows an estimate of monetary value of each garden crop, as a percentage of the value of the garden as a whole. The chart shows that lettuce made up the majority of the garden value, with carrots and cabbage also making a large contribution. As mentioned in the methods section above, this is probably a low estimate of the value of the garden produce, since freshly-picked produce is likely worth more than supermarket produce.

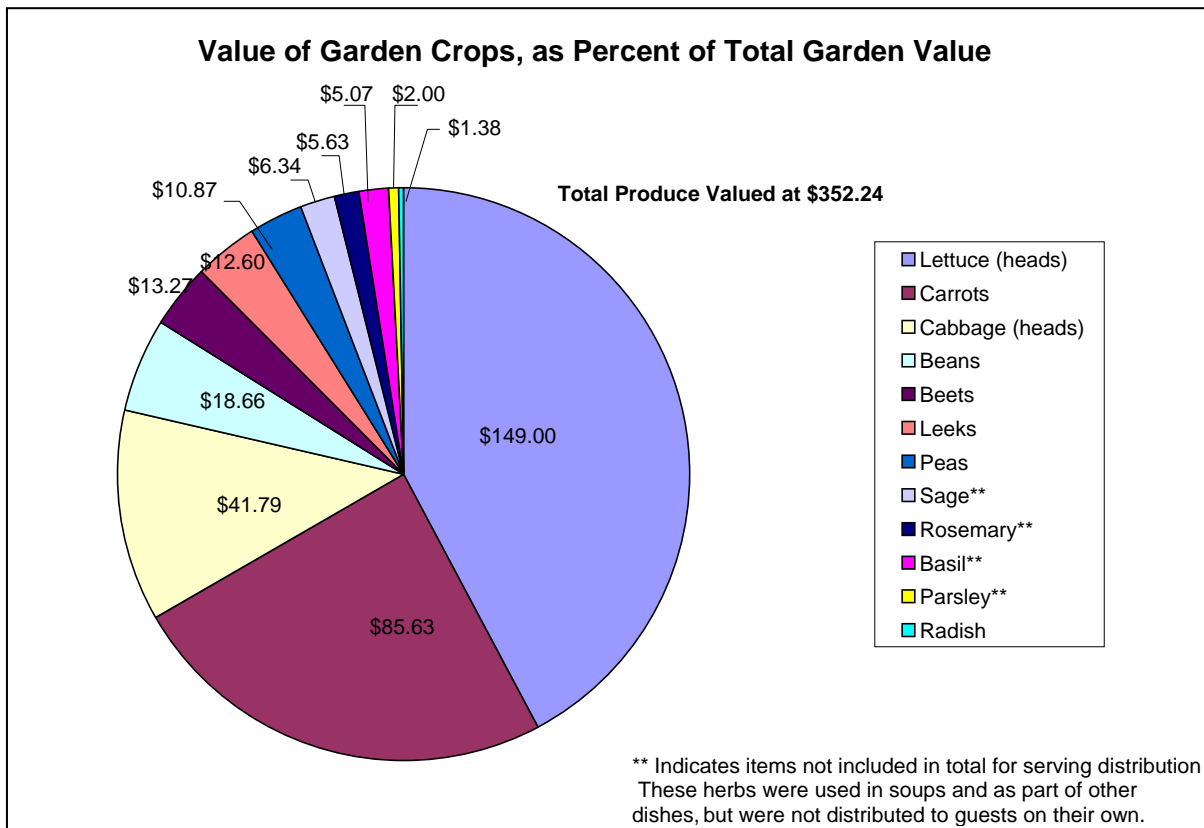


Figure 6. Value of garden produce, by crop.

Economic viability

As discussed in the methods section above, I have separated the expenses associated with the garden into two categories: a) annual operating costs, and b) one-time capital costs.

Operating costs

Table 5 summarizes the annual operating expenses of the garden project, and compares total expenses to income, which is based on the value of garden produce calculated above. This break-down reveals a net profit on an annual basis of \$218.72.

Importantly, this is not profit directly seen by St Thomas's church, but rather profit in the form of an increase in the amount of food available to guests of the *Out of the Heat* programme. Based on this evaluation, it appears cheaper to grow produce in the garden than to purchase it at the store. However, this must be viewed in light of the fact that the Parish may not have chosen to purchase an equivalent value of additional produce in the absence of the garden project. In addition, this analysis is based on several donations. Most importantly, all the labour was carried out by volunteers. As well, all of the seeds, plants and tools were donated. If these material donations were not continued, the profitability of the project would decrease to roughly \$100.

Table 5. Income vs. expenses for 2006.

Income vs. Annual Expense, 2006			
Item	Unit Price x Number Units	In-Kind Donation	Income/Expense
<i>Income</i>			
Value of Produce			\$352.24
			\$352.24
<i>Expense</i>			
Seeds, assorted varieties	\$2.50/packet x 25 packets	\$62.50	0
Tomato plants	\$2.50/plant x 20 plants	\$50.00	0
Rosemary plants	\$3.00/plant x 2 plants	\$6.00	0
<i>Water:</i>			
20 gallons/day x 46 days = 920 gallons	920 gallons x \$0.006/gallon		\$5.52
40 gallons/day x 113 days = 4520 gallons	4520 gallons x \$0.006/gallon		\$27.12
Labour	104.75 hours x \$12/hour	\$1,257.00	\$0.00
Gardening tools annual replacement	1x 3-piece hand tool set Lee Valley	\$17.50	0
	hand pruner Lee Valley	\$37.50	0
Annual Soil Test	Lead Kit 1x\$23.78		\$23.78
	Laboratory fee 1x\$16.05		\$16.05
	Shipping fee for sample 1x\$6.05		\$6.05
			\$78.52
Net Profit (Income Less Expense)			\$273.72

Capital costs and pay-back period

Although incorporating capital costs into the income versus expenses analysis above would result in a skewed picture of the project's economic viability, at the same time the capital costs cannot be ignored. Table 6 summarizes capital expenses associated with the project in 2006, showing a total capital expense of \$2,366. I incorporated these capital expenses into my overall economic analysis by calculating a simple pay-back period. Simple pay-back is calculated by dividing the total investment by the annual net profit:

$$\text{Simple pay-back period} = \$2,366 / \$274 = 8.6 \text{ years}$$

Therefore, assuming a constant rate of return, it will take 8.6 years for the project to cover the costs of construction through its profits.

Table 6. Capital expenses.

One-Time Capital Expenditure 2006			
Expense Category	Item	Donations	Expenses
Garden Bed Construction	50 Basket Weave concrete slabs; 2"x4" pressure treated wood;30' x 6' landscaper's fabric; abs pipe;delivery		\$647.76
	Lee Valley 2 x Raised Bed Kit		\$148.35
	12 yards premium soil mix (Earthco) with slinger delivery		\$603.25
	gloves, craft bags		\$7.90
	remaining corner & straight connectors		\$123.63
	tremclad paint, brass screws, padlock, yard bags, sth 1.25" m, copper strapping		\$61.12
	lawn edging		\$16.63
	brass screws, galv wire		\$8.69
	gravel		\$88.12
	"lawn edging" for pathways	\$16.63	\$0.00
Pest control cages/nets	gravel		\$185
	3x 1/2" netting 12'x29', waxed twine, tongue depressors, indel. Pencils	\$171.24	\$0
	straight connectors and plugs for water hose repair	\$7.71	\$0
Water System Construction	bamboo stakes, tent pegs	\$27.26	\$0
	header hose and connections as per Drip Irrigation Design doc		\$120.06
	Drain Auger		\$11.48
	various water parts, garden markers		\$129.26
	tremclad paint, spray gun, garden hose		\$87.28
	skewers, tape		\$17.37
	timers, spectrum spikes etc.		\$70.78
brass "y" connector, bucket, yard bags		\$38.77	
Hand Tools	secuters, trowels, cultivators	\$173	\$0
Storage Shed		\$470	\$0
Aesthetic Features	trellis	\$357	\$0
Labour	239 hours x \$15/hour	\$3,585	\$0
Total		\$4,807	\$2,366

With respect to these capital expenses, it is important to note that while some are required for any garden project, many were undertaken voluntarily. Required expenses are those that relate directly to good growing conditions for vegetables, such as good quality soil, pest control measures, and some form of watering system. However, expenses related to our decision to build raised beds fall into the optional category, and account for over \$1,000 of the budget listed above. This decision was taken in hopes that a larger initial investment would result in a more accessible, higher-quality, and lower maintenance garden in the long run. Because St Thomas’s had access to the resources required for building a more sophisticated garden, this is the route we opted to take. However, a more “bare-bones” approach to building a garden is certainly possible, and for this reason the budget listed here should not necessarily be considered representative of the cost involved with such a project.

Budgetary effectiveness

The last aspect of my economic analysis is budgetary effectiveness. Table 7 contains the project budget, initially presented to the Corporation of St Thomas’s Church in March 2006, compared to the actual project expenses throughout its first year of operation. This table reveals that the project stayed within budget during its first year. Notably, I have not included the costs of seeds, plants or labour, because we knew up front that these items would be donated. Several other large donations helped us to stay within budget, but it is difficult to say whether the project would have exceeded its budget without these donations, since they allowed spending in areas where we may not otherwise have spent.

Table 7. Planned versus actual costs.

Expense Category	Plan *	Actual
Soil Testing	-	\$46
Garden Bed Construction	\$1,735	\$1,744
Pest control (cages/nets)	-	\$185
Water System Construction	\$230	\$436
Hand Tools **	\$173	\$55
Garden Storage **	-	\$470
Aesthetic Features (trellis)**	\$357	357
Water	-	\$33
	\$2,494	\$3,327
less donations		-\$882
Total	\$2,494	\$2,444
* Approved by Corporation of St Thomas's Church March 24 '06		
** Donation		

9. SUMMARY OF EVALUATION

Broadly speaking, my evaluation of the St Thomas's garden project reveals positive impacts on each of the three groups involved, as well as an overall positive economic impact. This suggests that the St Thomas's garden project should be continued. However, the evaluation also suggests several areas for improvement in the St Thomas's case, which other faith communities could learn from.

In this section, I summarize the results of my evaluation. I follow this with a set of recommendations on how to improve the garden project at St Thomas's (Section 10), and conclude this report in with a discussion of the broader implications of this case study.

Meal programme guests

The garden initiative provided guests of the meal programme with regular weekly access to fresh vegetables over a period of six months. Over half of regular guests took advantage of this opportunity, and in total they received 891 servings of garden vegetables. Volunteers involved with food distribution observed considerable appreciation of the project among guests, as well as an interest in general food issues such as accessibility, growing conditions and choice. The garden acted as a catalyst for such discussions.

Guests said in their interviews that accessing fresh vegetables is a challenge, and that they appreciated the efforts made at St Thomas's to remedy this situation. However, they also raised concerns that the vegetables provided were not appropriate to their living situation. This reflects the diversity of composition of the group: while some have access to food preparation facilities and want unprepared food to take away, others do not have such access and prefer prepared food. In addition, some guests expressed interest in becoming more involved with the programme through helping with garden work. Some also felt the programme should be expanded.

The Parish community

Over the course of the season, 30 volunteers from the St Thomas's Parish community contributed 344 volunteer hours to the garden project. The six volunteers that I interviewed suggest a mixture within the group of long-term, heavily involved volunteers, and those who are newer members of the Parish. Although the six interviewees may not be a representative sample, all had previous gardening experience, suggesting some self-selection among the volunteers.

The volunteers that I interviewed were very enthusiastic about the experience and felt that the garden benefited the Parish. All mentioned the high value placed on community building at St Thomas's, and that the garden contributed to this by providing parishioners an opportunity to meet new people through a non-traditional church activity. Interviewees also said that the presence of visible results, namely garden produce, and the opportunity to contribute to helping other people, made their experience rewarding and meaningful. Those involved with distribution at the Friday meal programme found that the garden table provided a positive means of interaction with guests of the programme as well as other volunteers.

Because most volunteers were experienced gardeners, learning new gardening skills did not emerge as an important aspect of the project. However, several commented that some techniques unique to urban gardening, such as using raised beds and growing plants intensively in a small space, were new to them. A few interviewees also mentioned positive environmental and aesthetic impacts of the project.

In addition to these positive impacts, a few areas for improvement arise from my evaluation of the impacts on the Parish. First, several volunteer interviewees raised concerns about the "hand-out" nature of the programme, and mentioned that they would like to see guests of the meal programme involved in some of the garden work. Also of some concern is the distribution of volunteer hours related to seasonal tasks. For example, 36 hours of harvesting over the course of the season was spread over only three volunteers. Such a situation has the potential to contribute to volunteer fatigue, especially given that most garden volunteers are also active in other aspects of Parish activities. Other concerns raised by some interviewees include the issue of pests, the challenges of communication among such a large group of volunteers and co-ordinators, and the need to better match garden produce with the needs of produce recipients.

The neighbourhood

The exposure of individuals outside the church to the garden project included those who live or work near the space and see it every day, those who participated in formal or informal garden tours, those who learned about the project through coverage in the *Anglican Journal* or the Greening Sacred Spaces video, and casual passers-by.

The St Thomas's garden project served an important community building function. It raised considerable interest in food security and environmental issues, and served as a

starting point for frequent conversations on these and other topics between passers-by and garden volunteers. In this way, the project created an opportunity for members of the Parish to interact with other members of the community, and to forge relationships with them. One interviewee even commented that the process of the interview itself contributed to this process. The neighbours that I interviewed placed importance on the goals of the project, both in terms of its social justice aims and its role in improving green space. Several even expressed interest in helping out with the garden project in various ways in the future.

Neighbours also commented on the aesthetic improvement to the space, and on the resulting increase in their enjoyment of the space. Despite initial concerns over security, neighbours did not perceive a security issue relating to the garden. Conversely, having people around working in the garden made it a more comfortable space for some neighbours. Another important positive impact was the creation of a learning experience for people, especially children, about urban agriculture and food security issues. The only concern raised was the issue of pest control. Pests are a pre-existing problem, but one neighbour suggested that the presence of the garden may be a contributing factor.

Economics

My evaluation suggests that the garden project was also successful economically. The garden yielded produce with an equivalent value of \$352. Comparing this to the annual operating costs of the project shows a net profit of \$274. Notably, this profit is based on several donated items, without which the profit would decrease to roughly \$100. The project has a simple pay-back period of 8.6 years. In addition, a comparison of planned versus actual expenses shows that the project stayed within its budget during its first year.

As mentioned above, this project does not provide profit for the Parish, but instead provides an increase in the amount of food available to meal programme participants. The garden is not a money-making venture. It is better viewed as an effective way of expanding the Parish's outreach activities by providing additional resources to the marginally housed and homeless served by its meal programme.

10. RECOMMENDATIONS FOR IMPROVING THE CASE STUDY PROJECT

The following recommendations arise out of my evaluation of the St Thomas's garden:

- 1. The garden committee should continue the St Thomas's community garden project in future years.**
- 2. The garden committee, in co-operation with the organisers of the *Out of the Heat* programme, should investigate ways to involve interested meal programme guests in gardening tasks on a voluntary basis.** The garden programme represents significant potential to move away from a system of "hand-outs" towards a skills development approach, which should not be wasted.
- 3. The garden committee should ensure that crop selection reflects the needs and tastes of produce recipients.** The diversity of meal programme guests creates a significant challenge in providing produce suitable to everyone: while some have the ability to cook and prepare raw produce at home, others do not. This suggests the need for a range of produce options, both raw and cooked.
- 4. The garden committee should continue and expand efforts to control pests.** Although pests such as squirrels and raccoons have always been a problem in the area, the presence of the garden as a food source may contribute to the problem. Pest control efforts undertaken so far, such as the installation of cages and mesh, have made a positive difference and should be continued and improved.
- 5. The garden committee should investigate the possibility of installing rain barrels to harvest water from the church's roof for the garden or other church needs.** Rain barrels represent an important opportunity to increase the environmental sustainability of the garden project, and to encourage other sustainability measures.
- 6. The garden committee should endeavour to further involve the neighbourhood, outside the Parish community proper, in the garden project.** Several neighbours expressed interest in becoming further involved, for example staff at Coach House Press, who offered to contribute their equipment and expertise to improving the garden's signage. Such opportunities should be further investigated.
- 7. The garden committee should consult with garden volunteers to improve the project's volunteer structure.** Volunteer fatigue is a threat for community groups. It must be avoided by ensuring that work is spread out amongst enough people. In addition, volunteers indicated that a feeling of community was the most positive part of their volunteer experience. This aspect should be maximized, by increasing opportunities for volunteers to undertake garden tasks in groups of two or more.

11. BROADER IMPLICATIONS OF THE CASE STUDY

My evaluation of the St Thomas's case study reveals that it is a viable project with much to offer other faith communities interested in undertaking similar projects to benefit the marginally housed and homeless. However, several important points arise out of this project which must be considered for faith-based community gardens to succeed.

First, any project that aims to provide useful produce to at-risk populations must consider the specific needs and wishes of the group it wishes to serve. This relates specifically to deciding what to plant, and how to prepare and distribute produce. Such decisions should be based at least in part on consultation with the recipient group. In the St Thomas's case, food programme recipients were a very heterogeneous group with varying capacities to prepare or store food. In light of this, choosing what produce to offer may be one of the hardest decisions facing faith-based groups wishing to start up a garden.

Pests will likely emerge as a significant challenge to any downtown garden. Pests not only cause damage and reduce the amount of produce available for distribution; they can also undermine the work of volunteers. The St Thomas's example shows that the type or degree of pest problems is difficult to predict, and that adaptive management techniques are required. Faith-based groups interested in starting up new gardens, especially in urban areas, should budget time and money during the first season to dealing with pest problems.

As well, any new faith-community-based project has the potential to take away time and money from other projects. The St Thomas's example shows that, in particular, a large commitment of volunteer time is needed during the first year of the project to establish the garden. Faith communities should carefully examine whether there is sufficient interest in undertaking the project before proceeding. This includes determining the potential for attracting a new set of volunteers, in order to avoid detracting from other ongoing projects. There may also be a role for the surrounding neighbourhood to play in sharing the volunteer burden. For example, neighbours interviewed in the St Thomas's case expressed interest in becoming more involved with the garden. This is a possibility that other faith communities should further investigate.

Beyond providing food as a short-term measure, faith-based community gardens can also provide an opportunity for at-risk populations to develop skills, and thus move away from reliance on the faith community, towards self-sufficiency. It is not enough for faith-based community gardens to contribute to the traditional "hand-out" model of helping the

urban poor, because they have potential to do more. Although there are safety and security concerns associated with involving at-risk populations in gardening tasks, the St Thomas's example reveals support for such an initiative across several stakeholder groups, including the guests themselves, parishioners, and neighbours. Importantly, care must be taken to ensure that participation in any skills development-related programmes would be on a voluntary basis, without produce recipients feeling any obligation.

There is also an important role for community gardens to play in the broader sustainability of faith communities, both environmentally and socially. In environmental terms, gardens have an important role to play in preserving and enhancing green space. They also have the potential to spark interest in other initiatives, such as composting or rain barrels, which can complement the garden project. Garden organisers should strive to make these links in order to maximize positive impacts of the project.

In social terms, garden projects can contribute to the overall sustainability of faith communities through providing new opportunities for involvement and community building. One of the most important outcomes of the case study project was the contribution of the garden to community building. The garden appealed to a wide range of people of varying ages and backgrounds. In an era where faith communities are often challenged to remain current in the face of changing demographics, especially in downtown areas, injecting new energy into faith communities through fresh initiatives such as this one could be important for long-term institutional viability.

Lastly, although they are a positive step, faith-community based gardening projects will not solve the problem of insufficient nutritious food for the marginally housed and homeless. There is still an important role for government support services to play in this area, as the scope of the problem is beyond what any faith community can address. However, this research suggests that benefits to the marginally housed and homeless, although important, may not be the most important outcome of faith-community based garden projects. Even if such projects did not benefit produce recipients at all, they would still be worthwhile because of their very positive community-building aspects. These, combined with benefits to produce recipients and additional benefits to the wider community, make faith-community based gardening projects a winning proposition for everyone.

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APPENDIX A: PROJECT PROPOSAL AND BUDGET
PREPARED BY ROB KENNEDY, PROPERTY MANAGER, ST THOMAS'S
CHURCH, FEBRUARY 2006

Summary:

	list	with tax
Garden Beds	\$1,509	\$1,735
Water	\$200	\$230
Hand Tools	\$150	\$173
Garden Storage	\$0	\$0
Aesthetic Features	\$310	\$357
		<u>\$2,494</u>

Implementation Details:

Garden Beds	
Recommendation:	<ol style="list-style-type: none"> 1. 160 contiguous sq ft of raised bed. Raised beds are easy to work in and you can control the quality of soil, they require less weeding and make tending and harvesting easier. Plants get a quicker start in raised beds because the soil warms up earlier than it does in ground-level beds. The soil stays lighter and more aerated because it isn't compacted from foot traffic, so root systems grow faster and bigger. A sturdy design using long-lasting material is most desirable. We recommend the Lee Valley raised bed kit. A comparable bed constructed with cedar would be 1/3 more expensive, much more labour-intensive to build and less durable. 2. Two beds at ground level on the east side of the garden comprising 182 sq ft 3. 12 cubic yards of premium soil mix taking advantage of 'slinger' delivery in order to reduce the need to shift the soil manually. 18" depth in raised beds, 6" depth on remaining beds. 4. Landscaper's fabric to prevent weeds growing in the pathways 5. Seeds and nursery plants
Cost:	Raised bed construction - \$675 Premium soil mix - \$420 Slinger delivery - \$150 Landscaper's fabric - \$64 Seeds & nursery plants - \$200
Timing:	April and May

Water	
Recommendation:	<ol style="list-style-type: none"> 1. Drip irrigation for the flat & raised beds. Low water wastage since it applies water slowly, directly to the soil. Typically easy to install, easy to design and fairly inexpensive. Timer for hands-off operation. 2. 50' of garden hose with spray attachment & wand
Cost:	Drip irrigation system - \$140 Hose & attachments - \$60
Timing:	Early May. Some costs during construction of beds in April.

Hand Tools	
Recommendation:	<ol style="list-style-type: none"> 1. A small investment in several good quality tools will make on-going maintenance tasks easier & keep volunteers happy. A good quality rake, hoe, spade, fork, pruning shears, watering can and several trowels are needed. We expect donations will provide us with additional tools as the summer progresses.
Cost:	Various hand tools - \$150
Timing:	May

Garden Storage	
Recommendation:	<ol style="list-style-type: none"> 1. Dedicated storage space for hand tools, water hoses and other equipment needs to be secure yet readily accessible to volunteer gardeners. The existing storage shed is completely utilized already. Our storage needs are quite modest – 5' x 2'
Cost:	Storage Shed - \$200? (a pledge will cover costs)
Timing:	May.

Aesthetic Features	
Recommendation:	<ol style="list-style-type: none"> 1. A metal arch to be used as a trellis for scarlet runner beans and / or other climbing plants. 2. A name for the the garden will be selected (by contest?) to convey the themes of local food justice, community building and environmental sustainability. The sign will reinforce the purpose of the space to passersby. 3. Square pots for herbs; motion sensor light on cottage;
Cost:	Metal Arch - \$60; Garden Sign - \$50 Square pots; motion sensor light; morning glories on north fence; green tremclad paint for fence - \$200
Timing:	May

APPENDIX B: KEY PROJECT DATES

Meeting Date	Meeting Type	Who attended?	Publicity?
Early March 2006 (date unknown)	Outreach Committee (pitching idea)	Regular Outreach committee (approx. 10 parishioners)	
March 19 2006	Open charette	12 interested congregation members including Property Manager and Chair of Outreach	Open meeting advertised for several weeks in church leaflet
March 23 2006	Design meeting	Garden co-ordinator, Property Manager, three parishioners	Interested parties from March 19 meeting
April 13	Garden construction work day	9 parishioners	Advertised in church leaflet
April 21	Soil delivery	4 parishioners	
May 30	Volunteer orientation and education night	Approx. 10 parishioners interested in volunteering as weeders and harvesters, plus 3 visitors	Advertised in church leaflet
June 1	First garden harvest		
July 31	Greening Sacred Spaces video shoot		
October 28	Last harvest and fall clean-up day	8 volunteers	Advertised in church leaflet

APPENDIX C: LIST OF CROPS AND CORRESPONDING PLANTING DATES

Crop	Date(s) Planted	Variety
Lettuce	April 25 May 25 June 13	Jericho
		Kinemontpas*
		Tom Thumb*
		Rouge de midi*
		Deer Tongue*
		Bronze Arrowhead*
		Cimarron*
		Lollo Rossa*
Radish	April 22 May 28	Tri-colour
		Sparkler White Tip
Cabbage	April 25	Mammoth Red Rock*
		Early Jersey Wakefield*
		Savoy
Carrots	May 2	Unknown
Peas	May 9	Sugar Snap
Beets	May 9	Unknown
Assorted herbs	May 9	Unknown
Leeks	May 25	Unknown
Squash	June 13 (failed to pollinate)	Unknown
Beans	June 13	Yellow
		Royal Burgundy*
Tomatoes	June 19 (planted late, did not ripen)	Unknown

*Indicates heritage variety

APPENDIX D: INTERVIEW QUESTIONS

Group A: Guests of Out of the Heat programme

1. Do you know about the urban garden project started by St Thomas's Church this year?
2. Have you noticed a difference in the food you receive at the *Out of the Heat* Programme this year?
 - 2a. If yes: Has this been good or bad?
3. Do you like or dislike fresh vegetables?
4. Do you think fresh vegetables are important for your health?
5. How many vegetables do you usually eat each week?
6. Do you find it easy or hard to access vegetables in your diet?
7. Would you like to see more or fewer fresh vegetables as part of the St Thomas's meal programme?
8. Do you think the garden project is a good idea?
9. Would you be interested in the chance to help out with the garden in the future?

Group B: Garden Volunteers

1. What is your association with St Thomas's Church? How long have you been involved?
2. Prior to the garden project, would you describe yourself as an active volunteer at St Thomas's church? Why?
3. Describe your volunteering with the garden project this year.
4. Has this been a positive or a negative volunteering experience? Why?
5. How much prior experience with gardening did you have? What kind?
6. Do you garden at home? Why or why not?
7. Describe any skills you have developed through your volunteering experience.

8. Have you met new people, or gotten to know people better through this experience?
9. Discuss any improvements that could be made for future years.

Group C: Neighbours

1. What is your interaction with/exposure to the St Thomas's garden? Describe.
2. Discuss any positive impacts of the garden.
3. Discuss any negative impacts of the garden.
4. Before the garden, did you have any exposure to urban agriculture?
5. Have you learned anything through the presence of the garden?
6. Describe the role of green space in your community.
7. Do you have any suggestions for next year?