

STARTING COMMUNITY NON- PROFITS FOOD SYSTEMS

FINAL MASTERS PROJECT FOR VIRGINIA TECH OMALS PROGRAM

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Introduction

a. Background and Setting

The setting for this project is a swath of open land at a religious congregation in Sterling, Virginia. This particular congregation, Reston Bible Church, sits on a large patch of land which includes swaths that are flat and receive unobstructed sunlight. It would be tempting to state that the genesis of the project is a result of much deliberation and thought. The truth of the matter, however, is that the genesis of the project is the result of an off-the-cuff remark that I made to a fellow congregant to the effect of “Gee, you have so much open space here as well as a food pantry. We should think about starting a vegetable garden!”

As it turned out, the particular person to whom I made this off-the-cuff remark took it upon himself to speak to one of the elders of the Congregation. Now this is a large congregation and, having dealt with bureaucracies in the past, I just assumed the whole idea would, with no pun intended, “wilt on the vine.” To my great surprise, however, within weeks I found myself meeting with the elders of the congregation and being told to prepare a plan for implementation of a garden. In the discussion which follows, I will endeavor to provide the reader with the benefit of my experience in setting up the garden with the hope that others can set up similar gardens at other institutions.

b. Statement and significance of the Problem

It is by now well known that there are large swaths of the population, especially in underserved urban and suburban areas, that do not have access to affordable fresh produce, either because of limited availability or unaffordable prices. Beyond limited access, there is also an educational component to the problem, as less affluent communities often gravitate

towards a diet that is higher in fat, salt, and processed carbohydrates. This leads to the ironic result that such underserved communities often struggle with more obesity, even among children. There is also a convenience issue, as less healthy processed foods are inexpensive, easily accessible and require no preparation. It is a simple calculus for a single parent working two jobs—pick up a box of food that is inexpensive, ready to eat and liked by your children, or spend the time shopping for and preparing fresh food which is more expensive and not necessarily as attractive to your children. Who of us can say that we wouldn't make the same choices if we lived under such day-to-day stress?

Sadly, the current pandemic has only exacerbated the problem because it has resulted in an increase in food prices at grocery stores. Beyond that, the shutting down or reduction in in-person school attendance has meant that underserved children have not had access to more nutritious school lunches. Much higher COVID-19 death rates have been reported in underserved communities, partly because of the higher occurrence of underlying conditions such as Type 2 diabetes resulting from obesity. Although the pandemic will pass, it will nonetheless be a long time before life returns to as it was.

Thus, the lack of readily available and affordable fresh produce in underserved communities is a problem of both short term and long-term significance to the health and well-being of the community.

c. Purpose and Objectives of the Project

Sometimes, the solution to a problem is right in front of our noses. In particular, there are a plethora of institutions, such as religious congregations, schools and other public sites, that sit on plots amenable to cultivation. Most of that land is simply supporting a lawn. In

addition, religious and local governmental institutions (such as schools, libraries, and community centers) typically try to promote community well-being and education as part of their mission. With no pun intended, it therefore seems to be a “match made in heaven” to combine available arable land with a willing and able group of volunteers to raise fresh produce for provision to those in need. This proposed case study looks at the establishment of such a garden for providing fresh produce to a food pantry at a religious institution.

As the literature review reveals, this endeavor certainly does not represent the first such effort. The goal therefore is not to reinvent the wheel but to discuss lessons learned. In an ideal world, for example, one would envision a combination of (1) willing volunteers collectively possessing the right set of skills and having the time required to adequately tend to the garden; (2) an institution that not only provides the land, but also gives the volunteers sufficient operational freedom to tend to daily issue; (3) a place for distributing food appropriate for the demographic groups it serves; and (4) a community outreach function involving both hands on demonstrations as well as publications. It will come as no surprise that when the ideals confront the real world, often something must give. This report will discuss some of those issues.

The purpose of this case study, therefore, is to take one particular large garden established at a religious institution to provide food to that institution’s weekly food bank, based on three years of operation, and take what we have learned based on our successes and our mistakes to provide guidance to other institutions (whether religious or secular) to facilitate their own establishment of gardens for providing fresh, local and healthy food to those in need. With the benefit of entering our fourth year of operation, the case study will also address the

expansion of our mission beyond food to include an educational outreach aspect. Two forms of outreach are envisioned: (1) publication of a newsletter to the congregation to increase the level of interest and volunteerism and (2) the institution of on-site workshops to educate interested members of both the congregation and the public regarding as to how to establish a food garden.

Research Questions

- 1.) How does one identify institution sites suitable for the establishment of vegetable gardens for supplying food to those in need?
- 2.) How does one get buy in from the institution so identified?
- 3.) How is initial funding to be provided?
- 4.) How are groups of volunteers for planting, maintaining, and harvesting the garden assembled?
- 5.) How do you keep the group of volunteers committed to the garden over the course of a long growing season?
- 6.) How do you expand the impact of the garden to include not only the provision of food but also an educational and community function?

d. Literature Review

The fact that there is a great need for the establishment of gardens in association with food pantries is beyond dispute. As reported by Bacon et al. (2017), U.S. food banks in 2014 served one in seven Americans (46 million people total). While the nutrition assistance programs have contributed to hunger alleviation, government food distribution programs largely exclude nutritionally important foods, such as fruits and vegetables because they focus

on the distribution of surplus commodities such as dairy and wheat. Bacon et al., id. Not surprisingly, the COVID-19 pandemic has greatly exacerbated the problem, as reported last year in the New York Times.

<https://www.nytimes.com/2020/04/08/business/economy/coronavirus-food-banks.html?searchResultPosition=21>.

As reflected in the research questions, and by barebones logic, the very first requirement regarding the establishment of an institutional vegetable garden for providing produce to those in need is to identify a candidate institution. In this regard, the first part of the equation is the most obvious—identify an institution that has land including a plot suitable for gardening. This is self-evident and does not require a literary review. That said, for those interested in such an endeavor in a more urban area where institutions such as churches are less likely to sit on ample land to establish a garden, one might consider off-site locales such as community spaces which could provide a suitable garden site. As the literature reports, however, having a permanent site as opposed to a temporary site can make a world of difference in terms of perceptions of participants and a better ability to develop the garden as desired Chapman (2017). For purposes of this project, it is presumed that one has the requisite knowledge for identifying spaces suitable for garden establishment and therefore a detailed discussion of these criteria is not provided. Arable soil, sufficient sunlight and a source of water are of course the very minimum requirements. To the extent one needs such information, reference is made to Joy (2014).

Identification of a suitable site is a matter of leg work and logistics in that it requires only going to a potential site and examining whether it meets the minimal criteria. This is a

largely mechanical exercise. By contrast, approaching the relevant decision-making corpus of the entity and securing its buy-in calls into play a different set of skills, involving identification of key players and strategies as to how to engage those players and, ultimately, generate excitement and commitment. The idea of establishing a garden at a religious institution is not a new one (Raskin (2017)). “It is not unusual to find unused land around religious institutions, and their mandate could line up with your garden’s mission. In addition, they often have built-in communities that may need access to healthy, fresh food or may already work with food and nutrition programs in their areas” Joy (2014). A church setting has the advantage of being the natural meeting place in many communities. This combined with the fact that in these churches often have land for gardening and faith community members with gardening and farming expertise suggests that a church setting may be ideal for an intervention such as this.

From my own life experience as an attorney responsible for bringing clients into a firm, I would say that the “secret” to the sauce in terms of getting buy-in comes down to one key ingredient—enthusiasm. Excitement is contagious. If you engage the appropriate decision makers with enthusiasm, they are much likely to become enthusiastic about it themselves. I cannot overemphasize how frequently I saw perfectly capable lawyers fail miserably in persuading a client to engage them because they were mechanical and flat in their approach to seeking the work. So, unless you are one who possesses strong acting skills, it will not work unless you are genuine and believe in what you’re selling. Personally, I am completely incapable of generating an Oscar-winning performance, which is why I’m not giving up my day job to go to Hollywood.

The literature recognizes the need for leadership with passion and motivation. Chapman (2017) reported that “The importance of passion and vision of leaders was identified at multiple levels, from the food pantry director to project coordinators to partners of the program. Both pantry directors identified a personal connection with their communities, fostering a desire to meet their community’s needs.” Indeed, “traits of enthusiasm and compassion for clients proved to be critical to the success of programs, as well as client reception to programs.” Chapman (2017) observed such traits with food pantry directors, quoting one as stating that “when you like what you’re doing, and you care and feel like you’re making a difference...it just shows” and another stating that “my volunteers will be as enthusiastic about a program as I am. I mean, simply put, if I come in on fire about something, they’re going to be on fire.”

Motivations may be different for adults than they are for youth. As reported by De Marco et al. (2016) regarding one church garden, a primary motivating factor for the adult participants, but none of the youth, was “their great enjoyment of the fellowship they experienced by being out in the field planting and harvesting together.” Similarly Sine (2015) reported, “[t]he act of gardening can teach us something about ourselves, about our interdependence with the world of nature, about the relationships between work and creativity, and about how we might begin to discern those spiritual facts that elude us in other aspects of life. Gardening can also be an expression of community and conversation – another way to say that God is with us on the earth, a way to picture God’s presence with us – through the gifts of nature and gardening together.” By contrast, the community and spirituality side

does not seem to be of equal significance to youth participants who cited their pleasure with being taught to garden as the primary motivation (De Marco et al., 2016).

The literature makes clear that there is no one-size-fits-all approach regarding the securing of initial funding to establish a garden. The largest expenses come during the initial building phase for soil, lumber, and infrastructure. The literature suggests events and social media, member funding, cash and in-kind donations, and sponsorships (DeMarco et al., 2016). Crowdfunding is also an option (Raskin, 2017).

Assembling a crew to manage the garden is also going to greatly depend on the individual circumstances. As pointed out in Joy (2014), houses of worship “have built-in communities that ... may already work with food and nutrition programs in their areas.” Indeed, churches “are a great source of volunteers; you shouldn’t have to do much arm-twisting to get them engaged in the garden.” Sine (2015) recommends starting with a small group of committed individuals while, at the same time, working hard to involve the entire congregation in some way; “look for ways to make the process educational, and to make connections to your faith tradition; enlist people, especially young people from the community outside the congregation; start small and do realistic planning, especially when it comes to people’s crops in the beginning; keep a garden log and update the congregation throughout the process; expect surprises and have fun.”

Several “tricks” to engaging volunteers include safety, good communication, organization, meaningful work and appreciation and celebration (Joy (2014)). As pointed out in Sine (2015), “[o]nce the basic garden plan has been moved through the appropriate church organizational process, it is usually fairly easy to recruit additional help, money and in-kind

donations.” For example, “churches have recruited their youth groups and retirees as volunteers or asked for donations like soil and building materials from businesses owned by church members. Some create earth keeping groups to take responsibility for the garden.” Sine (2015) likewise points that one may even like to designate a special area as a children’s’ garden where children can choose what grows and when it is harvested.

The literature also recognizes the high importance of providing an education function. As set forth above, learning was one of the primary motivations for the participation of youth volunteers. DeMarco et al. (2016), for example reported the establishment of study workshops conducted weekly at the garden on the campus of the church led by the research director. The workshops were an average of two hours long and included hands-on gardening education and nutrition education. Participants made decisions regarding the planting, harvesting and distribution of garden produce in the presence of research partners. Furness et al. (2018) suggests actively seeking out and inviting pantry clients to participate in crop selection, harvest and general planning of the gardens opens avenues for participation amongst clients who may have interest and available time but feel disconnected from the garden programs. Furness et al. (2018) further suggests considering the ethicality, cost, availability, and cultural appropriateness of the produce. Chapman (2017) suggests distributing both seeds and transplants to participants to encourage them to establish their own gardens.

As for ensuring the requisite expertise, Sine (2015) suggests approaching your local Master Gardener’s association who are usually more than willing to provide expert advice if not labor and skills. In addition to Master Gardeners associations, Chapman (2017) recommends developing partnerships with both various local businesses and the local 4-H club.

e. Theoretical Framework

In general, there seems to be an overall awareness on the part of participants that there is a serious problem relating to food poverty that needs to be addressed. This problem relates not just to the availability of food but extends to the availability of healthy, nutritious food. In the context of my congregation, I have tried to listen to those involved with this endeavor and have observed a universal desire to make a meaningful difference in the lives of other people. The participants are all people who seem to derive meaning and comfort from their participation in this endeavor.

Therefore, the basic theoretical framework is that we have a serious problem, we have the physical resources to address this problem and we have participants willing to use those resources to work on that problem. I know that this is far from the first case study to report on the establishment of a garden at a non-profit institution for provision of food to a food pantry. Indeed, I have had the benefit of volunteering at other non-profits myself and have had the opportunity to observe first-hand the variations that arise in the overall mission as well as the day-to-day approach. This case study, which is now entering its fourth year of operation, therefore seeks to derive lessons from both the garden which is the primary subject of the current case study as well as gardens observed at other institutions with the hope of providing valuable lessons to those who follow. Issues that I have observed firsthand are (1) lack of sufficient agricultural expertise; (2) exercise of too much control and regulation; and (3) insensitivity to cultural preferences. I will discuss each of these in turn later in the paper.

In addition to the establishment and maintenance of the garden itself, the theoretical framework envisioned seeks to go one step further to providing an educational function to both

members of the congregation as well as to interested members of the public. The purpose of such outreach is two-fold: (1) to educate members of the congregation and interested public and (2) provide an outlet for members of the congregational community to show love and compassion to those in need. The outreach further envisions providing free vegetable plants to those interested in a program that would further include a discussion regarding how to care for those plants. Such outreach would empower those in need to grow their own food and increase their self-respect and dignity. It never ceases to amaze me, having raised vegetables for decades, how even the most basic steps involved with the cultivation of vegetables, are not by any means intuitive to a novice.

In summary, therefore, I would describe the theoretical framework as involving the tying together of all the aspects related to the goal of providing fresh and healthy produce to a population in need including both the immediate objective of putting food in someone's bag as well as the longer-term objectives of creating and maintaining a system that provides the food and enables others to learn about and grow their own food.

f. Summary and Significance of the Problem

To sum up, we are dealing with a problem likely as old as mankind itself—the lack of available healthy food to a particular population of people. In the past, such shortages were often out of a society's control due to factors such as drought, catastrophic weather events, disease, political instability etc. For the most part, this is not the root cause for the lack of availability of healthy fresh produce to a large segment of the U.S. population. Rather, the problem is man-made, stemming from issues related to poverty, ignorance, and lack of political will. The current pandemic has only amplified the inequalities in food distribution and

availability. The significance of the problem is evident from the inequality of health outcomes for those who do and those who do not have access to healthy food. Those without such access suffer from higher rates of obesity and the medical problems ensuing therefrom.

The genesis of this endeavor stemmed from the rather unremarkable observation by the author (and admittedly by others as well) that there are a myriad of non-profit institutions serving large swaths of the population that sit on acres of land that would be suitable for cultivation. So, the solution is right under of our noses. By cultivating food on the land surrounding non-profit institutions that are widely interspersed among the population, numerous problems are addressed including (1) increasing the availability of food; (2) developing a greater sense of community; (3) teaching vegetable cultivation to those lacking the requisite skills; and (4) getting many otherwise sedentary people off their sofas and outdoors digging in the soil.

Project Overview

a. Targeted Population

The target population of this project is two-fold. The first target is the members of a non-profit institution who will provide support for the gardening project. One could divide this population into two categories; (1) members of the institution itself including both members whose effort is peripheral and a core group of members who get their hands dirty and work in the garden; and (2) those receiving assistance including both those who form the clientele of the food pantry as well as those expressing an interest in coming out to the garden and learning about gardening. For the former group, it may simply be a matter of supporting the effort or providing in-kind or cash donations regarding the peripheral group whereas the core group

includes a spectrum from those involved in the day-to-day operation of the garden versus those who will periodically volunteer.

b. Program Methodology

Creswell (2018) defines case study research as a methodology “in which the investigator explores a real-life, contemporary bounded *system* (a case) or multiple bounded systems (cases) over time, through detailed, in-depth data collection involving ***multiple sources of information*** (e.g., observations, interviews, audiovisual material, and documents and reports), and reports a ***case description*** and ***case themes***.”

Here, the “real real-life, contemporary bounded system (a case)” is the garden at a church that we established to provide fresh produce to the church’s food pantry. The timeframe involved at this stage of the game is three plus years, i.e., we are just beginning our fourth growing season. The data collection involves several components. On the cost side, we have (1) one-time startup costs such as the raised beds, the soil, the fence, tools, supports and the irrigation system and (2) recurring costs such as seeds, plants, soil amendments, pesticides, and fertilizers. These are all factors that are easily quantified. On the benefit side, we have the tangibles and the intangibles. The tangibles are the pounds of produce we harvest. The intangibles are the sense of community, the new relationships formed, and the sense of accomplishment you feel when you can help a struggling community of people, and the educational guidance we are able to provide.

The sources of information are both quantitative and qualitative. On the quantitative side, I have already referred to the initial and maintenance expenses on the cost side and the pounds of produce yielded on the benefit side. This is documentary evidence. On the

qualitative side, we have the methodologies by which we (1) approached the church leadership to get buy-in to the garden; (2) assembled our initial group of volunteers, (3) organized the volunteers to carry out the necessary tasks; and (4) maintained a level of interest. We also have had to establish methodologies for integrating our efforts in the garden with the larger church congregation, with a view to getting greater involvement. Additionally, we have had to engage the leadership of the congregation's food pantry to assess its needs based on preferences of its clientele, which is largely Latino. Finally, we are looking at an educational aspect for both adults and children. The methodology here is not such much documentary but related more to informal discussions with the whole community of participants including the church leadership, the garden volunteers, the food pantry leadership, the food pantry clients, and the adult and youth members who benefit from educational endeavors. Regrettably, in view of the pandemic, we were not able to fulfill the educational mandate in 2020 and the hope is that as progress in addressing the pandemic continues through 2021, we will be able to ramp up this aspect of the endeavor.

In addition to informal discussions, we assembled a collection of data and photographs of the garden over the course of the years. Also, firsthand observations by myself regarding protocols for best dealing with both the church leadership, the volunteers, the food pantry, and the overall congregation form a further aspect of the data collection. These of course are more of a qualitative nature.

c. Data Collection

As noted in the Creswell (2018), "*research design* means the plan for conducting the study." Such design has three components namely, preliminary considerations that we think

through prior to beginning a study, the steps we engage in during the conduct of the study, and the elements that flow through phases of the process of research.

Regarding preliminary considerations, the text suggests making preliminary decisions about what will be emphasized. My own assessment is that the literature is of limited value regarding the establishment of maintenance of gardens at religious institutions because each institution is unique regarding its decision-making processes and its culture. Accordingly, common sense and emotional intelligence will go a lot further than reading details about how non-profits are structured, etc. That is not to say that the literature is not important. For example, even in the garden I am currently directing, we do rely heavily on the literature for help regarding the technical aspects of planting and maintaining the garden. However, the mechanics of growing are not central to the goal here, which is instead to provide a case study that will inspire others to start gardens in their own communities for helping those in need. This also informs the way to write the report as one that is less technical and data-driven and more in the form of a story that inspires.

Part two of the design relates to the steps we engage in to carry out the research. As set forth in Creswell (2018), “the backbone of qualitative research is extensive collection of data, typically from multiple sources of information [and collecting the] data using these sources based on open-ended questions without much structure and by observing and collecting documents (and artifacts) without an agenda of what we hope to find.” Here, this will primarily involve interviewing and observing participants in the church leadership, the garden team, the food pantry workers, and the food pantry clients. As discussed previously, we also will look to some “hard” data on harvest numbers and costs.

Part three of the design relates to the elements that flow through phases of the process of research. I view part of this as relating to my own experience, including the successes and failures in raising the food and the interactions I have with all the participants. I also understand that ethical issues will arise. This means getting consent from participants to the extent that I want to rely on making video and/or audio recordings, using their names, using the name of the institution, etc. I am also aware that I will have to be very sensitive to the extent that I seek input from food bank clients, who for obvious reasons may want their identities maintained in confidence.

Finally, I want to be aware of the design considerations useful for engaging readers discussed by Creswell (2018), including (1) study a unique sample; (2) assume an unconventional perspective; (3) collect atypical forms of data; (4) present findings in an unusual way and (5) focus on a timely topic. Given the COVID-19 pandemic, it will not take a lot of imagination to meet a lot of these criteria, as the times and the circumstances of this study are unusual.

Date Collection

a. Startup

The initiation of the project took place in the late Fall of 2017 and the Winter of 2018. At that point, it was nothing more than a simple conversation with a member of the congregation where I made the off the-cuff comment that that the congregation sat on a large swath of land and had a food pantry, so it seemed reasonable to consider starting a garden to provide produce to that pantry. The next thing I knew, we were setting up a face-to-face meeting with one of the elders of the congregation to discuss the concept. He asked us to

prepare a proposal regarding the layout of the garden and the costs. We also took a tour of the property to assess where to locate the garden. We identified a flat spot with all day sunlight. The soil was the typical compacted, heavy and rocky clay found in northern Virginia and we immediately concurred that it would make the most sense to provide raised beds. I also had a conversation with the head of the food pantry to ascertain what crops would make the most sense to grow. She advised me that they do not receive many donations of peppers or tomatoes because they are expensive and not typically provided by donating suppliers. Crops such as onions, carrots and potatoes were of less interest, as donors were providing 50 lb. bags of these vegetables. We also discussed the fact that many of the food pantry patrons are Latino and therefore decided to try to grow crops that would be appealing to that demographic.

The initial Proposal is attached as Appendix A. The Proposal provides (1) an Introduction; (2) a Statement of Goals; (3) a General Plan; (4) a Conclusion and (5) an Appendix with a proposed budget.

In the Statement of Goals, we reiterate many of the ideals identified in the literature. At its core is the notion that the mission goes well beyond simply handing out food to a person in need. Instead, referring to Biblical principles, we seek to establish a sense of community and giving that will provide faith and hope to both the providers and the receivers of the food. The goals also go beyond one plot of land and one food pantry and instead seek to look forward to using the endeavor as a pilot program to provide inspiration and guidance to other non-profits. This includes a teaching function, both “intra-community”, i.e., teaching the gardeners and the

food pantry patrons about cultivation and “extra-community”, i.e., teaching other institutions about how to set up their own programs.

In the general plan, we lay out the basic requirements for the garden: (1) soil; (2) water; (3) sunlight; (4) seeds/plants, (5) labor and (6) tools. Additional requirements include fertilizer, pesticides, and barriers to animals and composting equipment. For each of these, discuss various options. For example, given the realities of the hard, compacted rocky clay soil of the churchyard, we recommended bypassing this problem by constructing raised beds to be filled with suitable soil from a commercial supplier. Likewise, we discussed options for watering starting with watering manually by hose but ultimately proposing use of drip tubing. We sought to take somewhat of a “baby steps” approach to not overwhelm the decision makers. For example, rather than proposing a large permanent fence around the perimeter of the garden (which can add a lot of cost), we proposed instead to simply provide a temporary fence around every raised bed using wooden stakes and some netting. The discussions further included how to obtain seeds, plants, tools, and fertilizers. Thus, the general approach was to provide a sliding scale of options of varying complexity and cost to put everything on the table on the one hand, but not risk scaring away the decision makers on the other hand.

We sent the proposal to the church leadership and had our first face-to-face meeting to discuss the proposal on Monday, December 18, 2017. Prior to that meeting, we received an inquiry from the church regarding how many pounds of tomatoes and peppers we could expect to harvest from our raised beds. This seemed to be a big benchmark in the decision-making process due to the higher costs of these crops as compared to others and because the donations received from commercial donors typically did not include these crops. As I was a

volunteer at the Capital Area Foodbank Demonstration Garden at that point in time, I inquired with the garden coordinator as to our harvest of these crops (455 lbs. of peppers and 170 lbs. of tomatoes) from just a couple of 8 ft. x 3 ft. raised beds for each. This seemed to make the desired impression. I was also able to obtain harvest data from another congregation where I had volunteered. The initial meeting went very well, as evidenced by the communication we received from the church the following day:

After some homework, we are delighted to accept your proposal for the garden. Thanks to the generosity of many over the last couple of years we will allocate \$5,000. If the initial cost exceeds the \$5k, plus your generous offer of 1k Robert, then please come back and speak with me.

The best way to handle the funds is for you to provide me original receipts and then I would reimburse you. Electronic copies for receipts work fine.

While we are grateful for your frugality, if slightly higher costs allow this to begin with a more professional appearance and better functionality for you and the other volunteers that will join you, we want to provide the funds to do that.

To review, your desire is to start with 10 raised beds. We would like you to begin with the beds at a height that serves for better growth and planting options should you desire that. We would rather pay for the additional cedar boards and soil to accommodate this. Additionally, please plan on a perimeter fence that is durable, attractive and has a gate. This will require some thought and some examples in pictures for a final design approval. We know raccoons live in the area as well as skunks and of course the fox. Our property does not have any groundhogs that I am aware of. Based on what you plan to grow do we need to factor in keeping these additional critters out as well as the deer.

We can talk in the next year about the when, what and medium to communicate so you can attract other like-minded saints in this effort. Once the fence design is finalized, we probably can arrange to get a tractor with an auger to help sink the posts when the time comes.

Please hold onto this news until I can inform the Elders Thursday evening. Afterwards you can begin your personal recruiting and planning full steam ahead.

Grateful for your expertise and enthusiasm in wanting to use a Community Garden to bless many in the ways your proposal outlines.

I confess that I was very pleasantly surprised to see how little time and effort it took to get this approved. I thought it would take months of back and forth and slews of questions to be answered. I suspect this was “beginner’s luck,” and that more red tape and time will be required for other institutions.

The initial proposal having been accepted, we then set about the task of implementing the plan. First and foremost, we needed to begin the process of designing the layout of the garden including the configuration of the beds and the specifics of where to obtain materials and how to construct them. We also needed to start the process of designing a fence for the garden. My only contribution in this regard was to recommend either the raised bed kits or the acquisition of lumber in combination with connectors. To this end, I priced out some raised bed kits available from garden supply houses and provided the details and costs to the church leadership. It quickly dawned on me, however, that my home gardening experience dealing primarily with 8 x 4 ft. and 4 x 4 ft. beds was not going to cut it for an endeavor of this magnitude where we envisioned providing about 800 square feet of raised bed growing area.

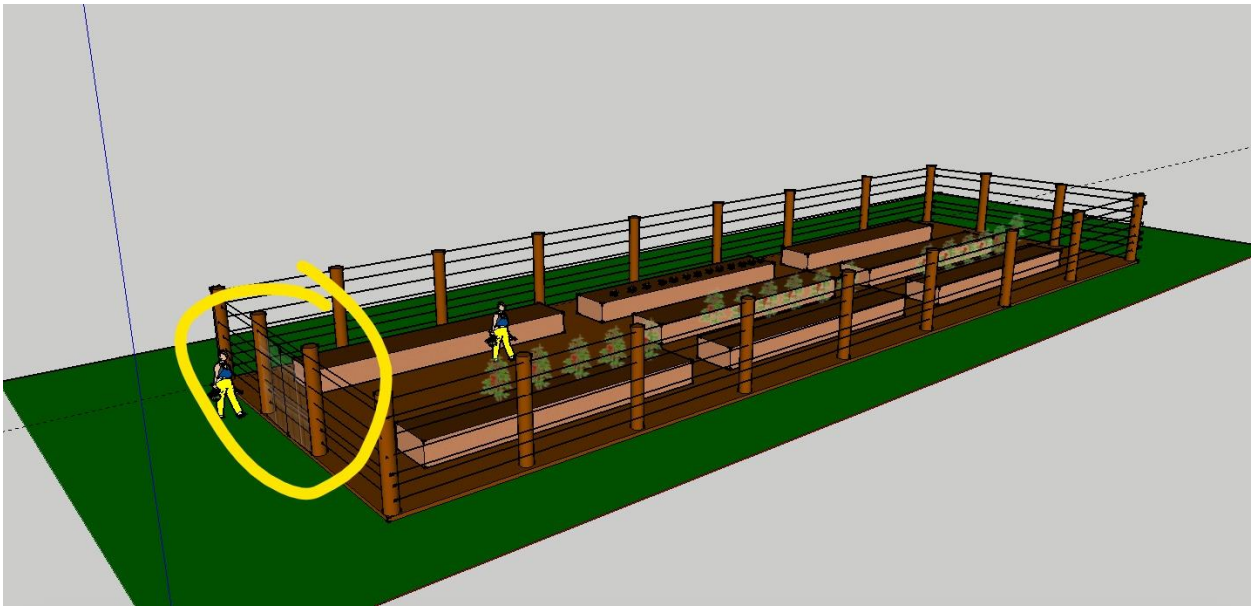
Now that we've decided on raised beds of two-foot depth, we're going to have to order the lumber. We agreed it was unlikely we'd find a 24" and 2" dimension, so we're likely looking at 12" x 2' boards of 8' length. Each bed will require a total of twelve 8' boards and four 4' boards. Recall that Bruce decided on cedar. **I'm assuming either/both of you will be dealing with the lumber issue but let me know if you need my help.** I can order connectors once I know exactly what lumber you are ordering.

Fortunately for me, my colleague in the project found a member of the congregation who ran his own farm in Loudoun County Virginia. He proposed his own design of eight 24 x 4

ft. beds. He and others arranged for the acquisition of the lumber and the necessary equipment for the project. They also provided the labor to build the beds. The team carried out the installation of the beds with an efficiency that I could have never rivaled.

There were two key takeaways for me from this experience. First, it is essential to recognize where your skill set lies and where you really need help. Sometimes you don't know what you don't know. Second, the benefits of being tied into a large organization such as an established church quickly manifested themselves as it was easy to find someone with the requisite skill set. Similarly, we found members of the congregation with the requisite skill set to design the fence and start its construction. Appendices B and C set forth some of the initial proposals regarding the building of the fence. I should note that we ultimately concluded that we could do the material acquisition and the initial setting of the posts, but we ultimately engaged an outside provider for the building of the fence itself. This is another good lesson regarding carrying out a project for a non-profit with limited resources. In particular, it is not a binary choice of doing it completely by yourself or contracting the whole thing out. It is often possible to find a middle ground and only pay for the outside expertise where you really need it.

The below images show the project taking shape:



Ultimately, the garden included eight 24 x 8 raised beds. As discussed later, we added more bed capacity in the ensuing years.

The next task was to lay out the plan for the garden itself. By the time we had completed the installation of the beds and filled them with soil, it was already the first week in May. This meant it was already too late to plant early spring crops such as peas and spinach. Instead, we necessarily launched into the project with the tender warm weather crops. We also were guided by the head of the food pantry regarding preferences. Appendix D sets forth the initial proposal. There was a big emphasis on tomatoes, beans, hot and mild peppers, cucumbers, and lettuce. This was in keeping with the preferences of the Latino food pantry clientele. To this end, I also included tomatillos in the plan. This is not something that I had any experience growing but, again, we had to consider our mostly Latino clientele. We also thought it would raise the level of interest in the garden to further include a “fun” bed with plants such as peanuts with the idea that this could provide good basis for educating smaller children about gardening.

After submission of the proposal to the church leadership, I received constructive feedback. We dropped the peanuts due to allergy concerns and added eggplant and squash. I added beets to replace the herbs just because I thought it would be a lot easier and would yield more poundage. I also thought it might be fun to grow Malabar spinach in the "fun bed." It's not a true spinach but is similar in taste and texture and thrives in heat (unlike regular spinach). Also, I replaced the pumpkins with patty pan squash which I'm curious to grow and try after talking with the church's grounds administrator.

There were several sources of plants and seeds. One was just by personal donation and the other was due to the generosity of the Capital Area Food Bank in Washington, D.C., which had a demonstration garden where I volunteered. We also had members of the congregation donate plants. This turned out not to be a significant issue. Similarly, fertilizer and pesticides were provided primarily by one of the garden volunteers.

As referenced earlier, we had to also find a source of water. The solution here was rather low-tech. The church simply ran a very long hose over the expanse between a water outlet behind one of the buildings and the garden. This was not the most ideal solution as the spigot was a good distance from the garden and had to be removed whenever lawn mowing was necessary. Further, as we had to both turn the water on and off whenever we needed to use it in the garden, we were unable to employ drip irrigation. It was also very difficult to turn the water off, as it was not a typical spigot but a very stubborn metal plate that required a great deal of elbow grease to be turned. It also released a lot of water while being turned off, so we were in for a good soaking every time we watered. This does illustrate, with no pun intended, how you have to “go with the flow” to some extent when you are launching a project such as this, as its short time solutions are often not ideal. Bringing a sense of humor to the table helps a great deal. We ultimately did get an underground water feed with two spigots which could be controlled at the garden site itself. The lesson here, however, is that for the initial operation you may have to exercise a certain amount of forbearance with the understanding that it will take some time get the system into an optimal operational state.

At this point, we have everything we could possibly need to launch the project except for one key element—volunteers. Consistent with the literature discussion reported above,

specifically regarding institutions such as religious congregations, I can confirm that this part of the project took care of itself. Indeed, one particularly enthusiastic gardener took it upon herself to start loading the large pile of topsoil into the beds. The next thing I knew, she was connecting with other members of the congregation and almost instantly we had volunteer team representing every skill level. Attached as Appendix F is a transcript of an interview with this one volunteer regarding this process and including her own recounting of how we were able to successfully launch this garden.

My biggest takeaway from this aspect of the project, which I would recommend strongly to others, is to identify a key person or persons in the institution who are already well plugged in. This served two purposes. First, as discussed immediately above, it provided an instant pool of enthusiastic volunteers. Second, having someone with a long history with the institution makes a huge difference in terms of communicating with the decision makers of that institution regarding issues as they arise. I did not have a long history with this church, and I cannot overstate how valuable it was to the effort to have someone like this to help. Of course, in my case, the person presented herself to me. If I were to initiate this project at another place, I would seek such a person out.

b. 2018 Season

With the beds constructed and filled, we focused on both a water source and fencing. The following email excerpts will give the reader an idea of how the process unfolded:

May 16, 2018,
3:30 PM

So, to get this moving before Autumn frost:

1. Please confirm that the water supply is indeed in the children's building and its exact location.
2. Once the location of the water source in the children's building has been identified, please advise whether there is additional information required to proceed with the implementation of the plan for the water supply.
3. I am going to start planting in the next few days as I really want to get all of the plants/seeds in by the end of the month and I don't see how we could possibly have an operational underground water supply in the next couple of weeks. While it's not plan A, we can at least temporarily run a hose from the children's building to the beds. The good news is that mother nature is providing a lot of water right now, and young plants/new seeds require less water than larger plants. I will ensure that watering is done during dry spells.
4. We need to get the fence installed ASAP. Deer have been roaming about the beds in the mornings and I don't want our transplants to be their breakfast. I can set up some makeshift posts with stapled netting around the tomato and pepper beds pending the installation of the fence but it is definitely only a short-term solution.
5. If any of you believe there is need for real time discussion, let's pick a time to all caucus together.

May 17, 2018,
9:24 AM

The only water source at the youth building that can be dedicated to garden water is the hose spigot behind the building. On Monday I will run enough regular hose to reach the garden. This should work until a permanent solution is installed.

May 17, 2018,
10:01 AM

I just carried out a soil test on the soil that we are using in our beds.

pH = 6.5-7.0, which is slightly acid/neutral (right where we want it);

Phosphorus is about 50 mg/L which is medium to high (again a good place)

Nitrogen is under 10 mg/L, which is very low, indicating that supplementation is needed.

Potassium is about 400-500 mg/L, which is a good level.

Overall, not bad, though the low N is indicative of a lower amount of organic matter than ideal, but it's not a catastrophe and we can easily supplement.

I'll be finalizing a plan for what will be going into each bed and passing it along to all. We obviously had to pan the early spring crops such as peas, arugula, spinach and broccoli. I still think we can plant some buttercrunch and other bold-resistant lettuces.

Let me know if you have any questions.

May 17, 2018,
10:12 AM

Guys,

Regarding the fence, the contractor will get started tomorrow depending on the weather. If it rains, they'll be back next week.

By June 11, 2018, I was able to report as follows:

I am happy to report that all eight beds of the garden are now completely planted. Our next three immediate tasks are (1) caging the tomatoes; (2) building the pole bean tepees and (3) applying landscape fabric and mulch to the ground space between the beds.

Once these tasks are complete, our focus will be on routine maintenance and, with the Lord's blessings, lots of harvesting.

I am also happy to report that we do seem to now have a critical mass of volunteers to help in the garden on a week-to-week basis.

Rob

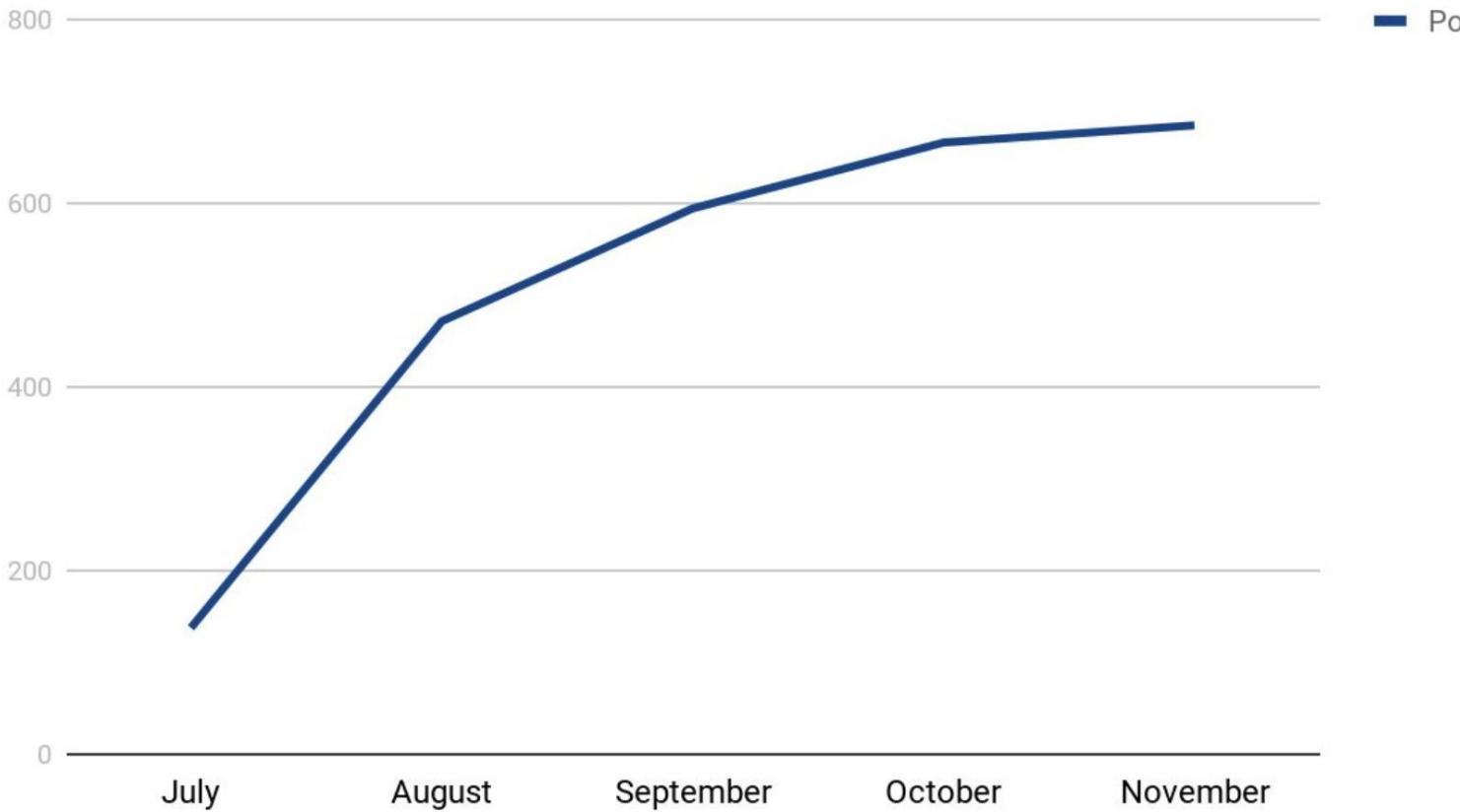
We set up a protocol whereby we harvested early morning on Wednesdays, as the foodbank was open at 11:00 a.m. on Wednesdays. Normally we brought the food into the

pantry in bags, weighed it in and then transferred it to crates which were placed on tables in the pantry so that the clients could help themselves.

Results

The results from the first year are set forth below:

Figure 1
RBC Community Garden Production 2018



The contents of the harvest, in lbs., were as follows:

Table 1

Tomatoes	Beans	Corn	Cucumbers	Eggplant	Peppers	Radishes	Spinach	Tomatillos	Squash	Spinach
262.8	19.4	18.4	35.1	49.7	47.5	8.6	29.4	53.6	101.5	7.5

The above data reflect the fact that we were not able to start planting until May. The pantry clients on the whole seemed to be happy with the produce, with the possible exception of the eggplant. The director of the food pantry informed us that the clients, who are primarily Latino, did not like eggplant. Interestingly, there was also a preference from zucchini over the yellow squash by the clients.

After completion of the 2018 growing season, we were able to change our focus from tending the garden to engaging the larger congregation in our mission. This involved two particular tasks: (1) creating a short video involving key players in the garden to present to the congregation at large and (2) preparing a volunteer questionnaire which sought to elicit the availability, interests, and experience level of putative volunteers. The church played the video during one of its Sunday services and several of the core group of garden volunteers set up a table in the lobby outside the sanctuary to field questions and provide questionnaires to those showing an interest. Most of the interested congregants filled out the questionnaires on the spot. One unexpected benefit of this effort was that a few members of the congregation informed us that they owned garden supply centers and would be willing to donate fertilizers,

soil amendments and pesticides. We of course gladly accepted these very generous offers of assistance.

The video which we presented can be accessed by the following link:

<https://vimeo.com/325908200>

The questionnaire that we handed out is attached as Appendix G.

We received dozens of applications and broke them down into five different groups based on the applicants' level of gardening experience, whether they would be bringing children and whether they were students. While the response to our outreach did not disappoint, I must admit that it did not in the final analysis prove all that useful in engaging new volunteers. Rather, the final core group of about eight volunteers namely, those who really ran the day-to-day operation of the garden, joined through personal relationships with myself and one other member of the team.

c. 2019 Season

Appendix H shows the 2019 garden plan. We placed on emphasis on lots of greens such as spinach and lettuce. Prior to the 2019 season, we had a meeting involving the core group of volunteers where I presented the plan. After feedback, I modified the plan somewhat.

As we entered the year 2019, we still had one major loose end to tie up namely, an irrigation system. For this process, we shopped and received a number of competitive bids and ultimately made a selection. Installation of this system has made an enormous difference, as we were able to employ drip irrigation systems in a number of the beds. The installation is shown below:

We found this particularly helpful for the cucumbers and the tomatoes. For the cucumbers, we found that the mature vines of the plants made it impossible to pinpoint the locus of the roots for application of the water. For tomatoes, we likewise had the issue of lush growth as well as desire to avoid overhead watering due to disease concerns such as late blight.

Overall, the harvest was significantly improved. We can attribute a good portion of the improvement to the fact that we were able to get started in March as opposed to May. In addition, we were able to harvest some crops such as cauliflower and spinach that we had planted to previous fall. We, by this time, had also added a couple of additional raised beds. The final harvest was about 1,900 lbs., which more than doubled our 2018 numbers. In 2019, we recorded the harvest numbers in detail by week and by crop and by the person who brought them into the food pantry for weighing. The results are set forth in Appendix I.

We were hoping to hit the 2,000 lb. mark but fell just short. There were two glitches that kept the harvest from being even higher. The first was that we lost nearly the entirety of our tomato crop to late blight. We thought we had engaged in the appropriate cultural practices, such as removing the lower branches of the plants, distancing them appropriately and irrigating at the base of the plants. Once the disease appeared, in July, I removed infected branches and sprayed with fungicide, all to no avail. I was fortunate to have the help of Adria Bordas who works for the Virginia Cooperative extension in Fairfax County Va., who gave me helpful suggestions to address these issues. For example, I have since learned that these sprays are much more effective if applied BEFORE disease appears (preventative vs. curative). As

tomatoes are obviously one of the more popular of the crops for the food pantry, this was disappointing. We also had significant insect damage with our bean crop.

As the 2019 season wound down, we thought it would be a good idea to confer with the Hispanic pastor of the congregation to ascertain whether we were hitting the mark in terms of our primarily Latino clientele at the food pantry. To this end, one of our volunteers met with him and reported as follows:

Salvador said the big thing is the Hispanics said they refuse to eat food out of cans. He's trying really hard to get them fresh things like eggs, etc. Off the top of his head, things really important to them are of course the peppers. Lettuce is big and he said they don't get much nice lettuce there so that would be big. Spinach, tomatoes, he said they do like eggplant. Cilantro, mint, beans are big. Of course, onion, carrot, potatoes but he knows they do get lots of those. Tomatillos, green zucchini. He didn't mention cucumbers. I need to ask him about that. After Christmas he's going to sit down and work on it.

We were a little surprised about the pastor's comment regarding eggplant because two separate food pantry directors told us that the clients did not have a taste for it. We confirmed this yet again. We did take note regarding the lettuce, cilantro and beans and planned accordingly for the 2020 season.

d.2020 Season

As we entered 2020, we obviously had a new complication—COVID 19. There of course were changes that we had to implement. As our activities were all outdoors, we decided it would be safe to continue to work together in the garden provided we maintained a safe distance from one another. We did have several instances where one or more of us had to self-quarantine for a couple of weeks, myself included at one point. Luckily, we had the requisite critical mass of volunteers to do what was necessary at any given time. We had hoped to

expand our education and outreach function with the larger congregation in 2020, but concluded we would have to yield to the realities on the ground.

As with the previous two seasons, I prepared a garden plan which is attached as Appendix J. The plan reflects an emphasis on leafy vegetables, peppers (both hot and sweet), tomatoes, tomatillos, and cilantro. By this point we had learned not to grow yellow squash as it was not accepted by the food bank clientele and emphasized zucchini instead. One issue we had to confront was the fact that we begin our growing season a good month and a half before the last expected frost but the external water supply is not turned on until later due to concerns over freezing and bursting pipes. We were fortunate that Mother Nature provided irrigation for that interim period. However, newly planted seeds and plants tend to be more sensitive to dry spells and we obviously cannot count on Mother Nature provide the requisite irrigation year after year. This is an issue we haven't quite figured out how to resolve.

Given the tomato disaster of the previous year, I made a number of changes including (1) spacing each plant a full three feet apart in every direction; (3) removing all foliage near the soil; (4) caging each plant and removing all but 3 or 4 main vines; and (5) prophylactically spraying the plants with a fungicide every week. The precautions worked and we had a blight free crop. By way of contrast, I also volunteered at a country park where the plants were spaced much more closely and where I was not allowed to apply fungicide. That crop was completely lost to blight.

The final harvest numbers are set forth in attached Appendix K. Our goal was 2,000 lbs., though we used to joke that we were going for "2,020 in 2020." We were fortunate to

have well exceeded that goal, harvesting almost 2,500 lbs. from the garden. The following communication from one of the volunteers sums it up very well:

Our first food delivery to the food pantry was March 4th with 15 lbs. of spinach, plus some arugula and collards. Here we are 8 1/2 months later still delivering veggies. We will probably be able to make one more delivery and then things will come to a rest for the winter.

Here's a few of the totals for veggies we delivered.

March 4 - June 24.....167 lbs. of spinach
April 13 - June 23.....116 lbs. of lettuce
July 14 - Nov 17.....277 lbs. of tomatoes
July 7 - Nov 10.....281 lbs. of peppers
July 7 - Aug 25.....292 lbs. of cucumbers

In total, just from the RBC garden, we have delivered almost 2500 lbs. of produce. In addition, garden team members have taken in an additional 800 lbs. for a total of over 3250 lbs. of produce. (Can I hear an Amen!!)

In line with maintaining a connection with the congregation, I prepared the following report to summarize the results of the 2020 season.

<https://vimeo.com/489572869>

Conclusions and Implications

The methodology and results reported above hopefully illustrate the combination of skill sets, organization and actions that in the end formed the recipe for successfully launching a garden at a non-profit such as a church. Several skill sets came into play. My own skill set included experience as a Master Gardener and as an experienced vegetable gardener. This skill set was necessary for the location of the garden plot, the planning of the layout of the plot, the assessment of the conditions (such as soil testing) and the planning of what to plant, when to plant, where to plant and how to plant, not to mention care after planting. The church's grounds administrator also provided a key combination of skill sets, including knowledge of the

layout of the property, resources available from the church (such as water access and hand tools) and a liaison function between the volunteers and outside providers regarding supply of certain materials and construction of the fence. It is essential to not only have such an insider involved with the project, but an insider who is interested in seeing the project succeed as opposed to merely going through the motions out of a forced sense of obligation. In our case, the grounds administrator was himself an amateur vegetable gardener who was interested in expanding his own knowledge base and who regularly dropped by to review our progress and provide his feedback, including on what to grow and how to best set up the structures. I cannot emphasize enough how valuable it is to identify someone like that to ensure success of the project. It goes back to the discussion of the need for real “believers” in the cause.

A committed insider from the leadership of the organization is also a necessity. As commented earlier, I was pleasantly surprised with how quickly we went from a mere offhand suggestion, a request for a proposal, a meeting, and final approval. I would like to take all the credit and suggest that my skill set and contagious enthusiasm were responsible for this, but in reality, I have to give credit to the particular set of individuals involved. I have actually broached the idea of a similar plan, albeit informally, with a couple of other congregations and have not experienced the same immediate sense of enthusiasm. No doubt some institutions will be more responsive than others.

In addition to my own skill set as well as the skill sets of the church administrator and church elders, the interplays at the beginning of the process demonstrate how essential it was to identify a core group of volunteers, all of whom were members of the congregation. Among this group, we found one volunteer who ran his own farm and directed the construction of the

raised beds. We found another volunteer with no agricultural experience, but who directed a lot of the physical work and organized endeavors such as the fencing. We found yet another volunteer who was an experienced gardener and who, most importantly, had been a member of the congregation for many years and therefore had the connections to enlist a core set of worker bees for the garden. As the email communications set forth previously confirm, within weeks of commencement of planting, we had our core set of volunteers in place and additional volunteers joined by word of mouth. As set forth previously, we assembled this core group by word of mouth despite having set up a signup sheet eliciting dozens and dozens of replies during Sunday services. My takeaway again is how critical it was to find a well-connected insider, as my experience with the congregation was limited.

The communication with the congregation was another essential component of the project. We were fortunate to have a dedicated and very skilled communications expert in the congregation who directed the production of the video, which was very well received. In fact, the video generated increased interest among segments of the congregation such as the school, which later scheduled educational visits to the garden by children between the ages of 5 and 10. We also received offers from the teenage youth groups whereby both high school and college students assisted with some of the heavier duty projects such as loading the beds with new topsoil and distributing mulch.

The other takeaway is that everyone has something to contribute. I would often be approached by people who would tell me that they wanted to help in the garden but had a “black thumb” and killed every plant they encountered. My response was always the same—if you’re that good at killing plants we could use you for weeding.

Flexibility is key in an endeavor such as this one. The hope is that others will benefit from my experience in setting up their own gardens, whether at a religious congregation or at another location. There is no doubt that for each endeavor, there will arise a different case of characters and a different set of issues. To me, the fact that we could run the show with little interference was key. I contrast this with the county garden where I volunteered. There, the garden was kept under lock and key and access only given to the volunteers on Tuesday mornings. As I mentioned earlier, I was not permitted to spray the tomatoes for blight and we lost the whole crop. By contrast, we were able to manage the blight at the church garden. This is by no means a criticism of the personnel at the county facility—they were under strict guidance from the county and had no choice but to operate accordingly. However, it does highlight the importance of finding a situation where motivated and skilled people are given the freedom to “do their own thing,” including make mistakes. Issues in a garden do not arise on a schedule. Having the ability to access the garden and address issues as they arise is important.

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