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Gleaning in the Cedar Valley: A post-evaluation study

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Gleaning In the Cedar Valley: A Post-Evaluation Study

A Thesis Submitted

in Partial Fulfillment

of the Requirements for the Designation

University Honors

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This Study by: Dylan Thomas Hillyer

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University Honors.

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Abstract

Gleaning is a term describing the act of either picking, cleaning or sorting produce that would otherwise be wasted. It is a practice long known to Europe, and in the past thirty years has gained immense popularity among non-profit organizations throughout the United States. The Cedar Valley Gleaning Program (CVGP) had its pilot-year in the fall of 2014. This thesis seeks to improve the efficacy of the CVGP through examining both the pilot year, and a qualitative study of gleaning operations worldwide, to answer the question: How can gleaning become an effective tool for communities in the Cedar Valley.

Introduction

Gleaning is an all-encompassing term for activities by which a person, informal group, or organization provides labor to either clean, pick, or sort produce that would otherwise be discarded by the grower. For example, an apple orchard is “gleaned” by a Boy Scout troop after the grower sees fit to donate the apples rather than attempt to sell them commercially or leave them to decompose in-field.

There is a long history behind gleaning. In the feudal land system in the Middle Ages, gleaning was a common practice, known then as “usufruct”—the right to use and enjoy another’s property on the understanding that this use would be without destroying, damaging or diminishing the property¹⁶. In the 19th century, usufruct was significantly reduced or withdrawn in Western Europe, and was the subject of Jean-François Millet’s sympathetic painting “*The Gleaners*” (Figure 1).

While ad-hoc gleaning may have occurred in the United States throughout its short history, there is no historical record of an institutional right such as usufruct. However, around thirty years ago, gleaning operations began to develop and one in particular—the Society of St. Andrew (SoSA)—based out of Big Island, Virginia has become a leader in the field. This non-profit is the largest gleaning operation in the nation, and had over 31,000 volunteers collectively glean over 18 million pounds of produce in 2014.

Although 18 million pounds of produce may seem like a large amount, it is a drop in the bucket in comparison to the problems which gleaning seeks to resolve—food waste and insecurity. For example, in the 16 county service area of the Northeast Iowa Food Bank, it is estimated that 1 in 8 individuals, or around 40,000 people go to bed hungry. Nearly half of these

40,000 are children⁴. Furthermore, with all of these hungry citizens, it is estimated that 30% of the food supply is wasted by either retail markets or consumers in the United States¹⁸.

My thesis does not attempt to parse out the obvious contradictions between massive waste and widespread hunger. It instead looks towards a tool communities can use—gleaning—to combat these issues. The purpose of this thesis incorporates three goals: one, to examine the pilot year of the Cedar Valley Gleaning Program (CVGP). Secondly, to identify traits of gleaning programs worldwide that can increase the effectiveness of the CVGP. Thirdly, to create an accessible document for those who wish to start, or enhance a gleaning program in their location.

Literature Review

Food Waste in the United States

In the past thirty years, gleaning has become increasingly popular in the United States. Through gleaning, communities are finding the reduction of food waste to be profitable. Consider that each year one billion dollars of taxpayer money is being spent on the disposal costs of food waste⁷. Food waste at its current pace is not only economically unsustainable, but ecologically as well. Under the United States' current consumptive framework, each item wasted in a supermarket, household or field necessitates a replacement. This is an example of a positive feedback loop, which “enhances or amplifies changes; which tend to move a system away from its equilibrium state and make it more unstable¹⁹.” The more food that is wasted, the more that is needed to replace it, and the cycle continues.

Not only is food wasted in this cycle, but water as well. At least 25% of all fresh water consumed in our country is applied to agriculture²⁰. The portion wasted of this 25% is over 600

cubic kilometers, or the entire volume of Lake Erie²⁰. In terms of energy costs of such waste, 300 million barrels of oil are wasted in the food discarded each year²⁰.

Meanwhile the value of all the food wasted is estimated to be over 25 billion dollars⁷. Economic incentives serve a prosaic incentive for gleaning organizations. However, the social benefits of volunteerism in participating communities can have tangible physical and mental health benefits to those participating²¹.

Gleaning reduces food-insecurity and provides health benefits to recipients

Gleaning provides a hands-on approach to alleviate the cyclic occurrence of food waste and food insecurity. A case study of a functioning gleaning program and the benefits it provides to the community it serves was done by Project GLEAN (Gaining Leverage and Empowerment through Adequate Nutrition), a non-profit based in Phoenix, Arizona⁵.

Project Glean provides food to local elementary schools in conjunction with the Arizona Statewide Gleaning Project. The organization conducted a study to evaluate the health benefits associated with program participation. Blood serums of the participating students' parents were taken to measure for essential vitamins C and B9 (folic acid), as were lipid hydro peroxide levels, whose presence correlates with a deficiency in antioxidant intake. After less than a year of participation, the first serum test was performed with inspiring results. Both of the essential vitamin levels rose significantly in the parent's blood, while the lipid hydro peroxides dropped, both of which indicate a healthier diet⁵.

Food insecurity is often mistakenly linked with inadequate food production. However, studies indicate that in households with unsteady or inadequate incomes, the availability of healthy food does not coincide with consumption⁸. Many such households lack transportation to

sources of healthy foods, others must make difficult choices where fresh produces falls in importance: paying rent, medical bills and keeping the lights on²².

One of gleaning's largest benefits is its ability to alleviate hunger by uniting local food with local people. Gleaning provides those without a direct and economically feasible avenue of access to healthy foods with gleaning's harvest. As the recipient of gleaning's crops, food banks provide a direct connection between those without nutrient dense foods to a source of good nutrition.

Another advantage of gleaning is that by providing a local food bank with local foods, the local agricultural community benefits. In the *Journal of Agriculture, Food Systems, and Community Development* a review of current research cites the advantages of connecting local farms to local food banks. For example, the Community Food Bank (CFB) of Southern Arizona has experienced nearly a doubling of clients since 1979. CFB's vice president Robert Ojeda says, "The solutions for alleviating an ever-growing hunger problem lie not only in serving immediate needs, but in supporting the creation of robust and resilient local food systems⁹." In providing this support, food banks can take an active role in the economic development of local farms, which also results in their clients' enhanced awareness of community agriculture. While gleaning is normally a non-profit process for participating farms and produce-growers, tax-deductions serve as a form of economic incentive. In this way, the fiscal advantages of participation by local farms in these types of programs are maintained.

Gleaning's benefits to volunteers

In other gleaning organizations, volunteers may become employees. Cited in Jonathan Bloom's food-waste analysis, *American Wasteland*, the People United for a Better Life in Oakland (PUEBLO) have created a unique job opportunity for youth. Paid by the city, these

youth use bicycles to pick backyard tree fruit and deliver it to low-income citizens who normally do not have access to fresh, nutritious fruit²³. Everybody Works, a non-profit in southwestern Wisconsin operates in a unique fashion, as described on their website: “In 2012, VSN and Employment Partners, a provider of employment services to people with disabilities, used a "SPARKS" Grant from the Wisconsin Board for People with Developmental Disabilities (WBPDD) to hire workers with disabilities and their job coaches. This provided the dependable labor source needed to expand the gleaning program beyond volunteer-only participation. Result: young people with disabilities with little or no farming experience demonstrated that they have the potential to effectively compete for entry-level farm jobs.”

Another tree-gleaning organization is the Portland Fruit Tree Project (PFTP) of Portland, Oregon. Unique to PFTP—at least as a matter of policy—is the practice of keeping some fruit for themselves. PFTP is one of the most developed gleaning organizations in the Oregon, with not only the Harvest Party program, but a Benefit Harvest aimed at corporate, university or faith groups which participate and give a matching contribution to PFTP. In the Harvest Party program, volunteers (50% of slots are maintained for low-income individuals) are also those in need of fresh produce, and so by both participating and bringing home their share, these participants can skip over the distribution vector and immediately serve their community as well as themselves.

In addition to the direct health benefits of gleaning⁵, PFTP organizers have recognized a community benefit from their work. After being asked about volunteerism benefits in PFTP, a coordinator for PFTP noted, “Absolutely, nearly all of our surveyed volunteers indicate that they feel more socially connected after volunteering¹¹.” This anecdote has a scientific basis. In a study

of older, adult volunteers in California, overall mortality was lowered by 44% in volunteers, “mostly due to physical functioning, health habits, and social support” after controlling for potentially confounding factors such as demographics, previous health status and emotional support. The same study in the *Journal of Social Science and Medicine* found significantly lower depression levels of those 65 years and older in a meta-analysis of volunteerism post-evaluation data¹².

Not only are those above fifty years old positively affected by volunteerism-- factors of social, physical and mental well-being rise across all age ranges in the literature. Research on the positive effects of volunteerism resulted in a robust negative relationship between volunteer work and arrest¹³. Volunteerism also provides a better all-around awareness of crucial social issues, in 2006 researchers found approximately a quarter of youth who had not participated in civic engagement activities within the last year incorrectly answered every question regarding current politics¹⁴. Simultaneously, civically-engaged teenagers had more scholastic progress and subsequent higher education than uninvolved peers¹⁴.

All too often great initiatives fall short of their goals because of lack of research, support or documentation. The aforementioned research endorses just how beneficial a gleaning program can be to a community; and is reliable evidence to gleaning organizations that all the communal, physical, mental, and social benefits they recognize are truly a manifestation of their program's actions. Driving this investigation is my main research question: what are gleaning organizations around the world doing, and how can those traits be assimilated into the young program in the Cedar Valley? Given this driver, I will now explain the methodology of this thesis: how the local gleaning program was started, how it was conducted, and how the subsequent research of other gleaning programs was accomplished.

Methods

In the spring of 2014 I began a pilot-gleaning program in Cedar Falls, Iowa called the Cedar Valley Gleaning Program (CVGP). The need for a gleaning program in the Cedar Falls area was initiated by concerned citizens of Cedar Falls, Iowa, who frustratingly observed bushels of apples going to waste each year, unpicked by pedestrians or owners. One of these concerned citizens was Dr. Catherine Zeman, a professor at the University of Northern Iowa who ultimately secured the funding for my position as gleaning coordinator. My job was to find community groups (preferably youth) to participate in this nascent program, done in conjunction with the Northeast Iowa Food Bank (NEIFB)—a partner in Feeding America. Initially, this was done in conjunction with the Healthy Cedar Valley Coalition, and once a pool of contacts was brought together, it was my task to promote the pilot program, and acquire a source of volunteers.

After many phone calls and e-mails I identified a few groups as participants: a Boy Scout troop, a 4-H group, the University of Northern Iowa Climate Action group, and a local church youth group with a sister organization in Chicago, Illinois. Once late summer approached, groups were notified and asked to re-confirm the times they had preferred the previous spring.

While I enlisted groups to participate in the gleaning program, NEIFB food solicitor Sheri Shuber-Otting worked to ensure these groups had a site to glean. Shuber-Otting contacted fresh food markets and previous donors to construct a list of possible gleaning sites. The sites needed to have liability insurance and a viable amount of food for a group of volunteers to sort, pick or clean.

On August 9, 2014, a sweet corn gleaning took place at Roger's Market of Cedar Falls, Iowa and was led by Shuber-Otting. I led the rest of the gleanings, which gleaned apples on September 9th and 28th, and gleaned squash on October 26th. After each gleaning, the produce

was weighed at the NEIFB and the data was recorded on check-in sheets kept on file by the NEIFB. To compile the gleaning project data, NEIFB employee Sheri Shuber-Otting summarized all of the gleaning activities and the outcomes (Figure 2). This is a non-published document produced by the NEIFB sent to all involved with the program and kept for future reference in NEIFB's programs.

Soon after the program's pilot-year completion, I obtained approval from the Institutional Review Board (IRB), "a committee that has been formally designated to approve, monitor, and review biomedical and behavioral research involving humans¹⁵." This was done so I could conduct interviews with those involved in the CVGP and gleaning programs around the world.

For the interviews, a question list was created that sought to obtain useful information for both this thesis and for the gleaning program's future. This list of questions can be viewed in Appendix I.

Beginning in February 2015, I began to contact gleaning programs around the world to better understand the nuances of food-security programs on a larger scale. These interviews represent the qualitative portion of this thesis, along with personal anecdotes from my experience leading the gleaning program. The programs interviewed can be seen in Figure 3, which displays the organization name, location, person(s) interviewed and medium by which the interview was conducted.

After the interviews were conducted, I listened to all recordings (if done in person or by telephone), and typed transcripts (if done by e-mail) and noted corollaries between interviews. I put this data in an Excel spreadsheet, and constructed a chart comparing the groups interviewed, and the appearance of any of the 17 main themes I had identified after reviewing the interviews.

To qualify as a main trait, the theme had to arise explicitly in at least two of the seven programs interviewed. The completed chart can be seen in Figure 4.

Results & Discussion

The research question guiding this study was: what are gleaning organizations around the world doing, and how can those traits be assimilated into the young program in the Cedar Valley?

In terms of what gleaning organizations are doing, there were 17 main themes identified. These themes were: *fresh* (the organizations emphasized “freshness” as being a top quality of a gleaning program), *healthy* (a key ideal gleaning seeks to advance, or maintain), *food vs. bills* (gleaning recipients having to choose between paying for fresh produce, or paying utility bills/living expenses), *benefit to volunteers* (volunteers in gleaning projects coming away with mental, social, or physical benefits after their experience), *grateful recipients* (the recipients of gleaning programs repeatedly commenting how much they appreciate the service provided), *fruits and vegetables as the top priority item* (recipients commenting on the top value they place on freshly gleaned produce over any other food group), *apples* (the organizations gleaned apples), *community involvement* (organizations saw communities coming together as a product of their program), *database* (organizations either are developing or have an established database to help organize their gleaning events), *develop a baseline* (organizations emphasized this as a critical component of success), *donors worried of liability* (organizations had interacted with donors whom worried of liability with gleaning volunteers on their property), *community workshops* (interactive events where gleaning practices were explained and furthered education on the topic), *local* (organizations emphasized the term “local” as a core value of their program), *need for fresh produce* (organizations emphasized the continual need their recipients have of

fresh produce), *social media* (organizations utilized some sort of social media to create community awareness), *volunteer waiver* (organizations who required a volunteer waiver to participate in gleaning activities), and *unseen need* (organizations emphasized they have many more clients that need fresh produce than one would normally perceive). Of these 17 themes, 11 of them were reported 100% of the time, as shown in Figure 4. These themes were: *fresh*, *healthy*, *benefit to volunteers*, *grateful recipients*, *fruits and vegetables as the top priority item*, *community involvement*, *develop baseline*, *local*, *need for fresh produce*, and *social media*.

“*Database*” was mentioned as a theme in five of seven gleaning programs. For themes noting legality – “*donors worried of liability*” appeared in five of seven programs, and the use of a *volunteer waiver* appears in three of seven programs.

The second part of the research question then is, how can these traits be assimilated into the young program in the Cedar Valley? Before this question is answered, let us comment on how the pilot-program performed in the first place. CVGP was started in a community where most volunteers, and food donors were not aware of the term “gleaning,” and we still salvaged an impressive 3,481 pounds of produce and over 75 volunteers actively played a role in gleaning activities. These results are also displayed in Figure 2. The outcome of this gleaning program was that people all over Northeastern Iowa had at least one opportunity to eat a fresh apple, cob of corn, or roasted squash they may not have had otherwise.

Evaluation the Cedar Valley Gleaning Program

When speaking with food donors, multiple compliments of the program arose. One donor appreciated the dual benefit of youth volunteers making their way to the orchard, and “jumping right in” to the day’s activity. Another not only donated on two separate occasions, but was

concerned with the efficiency of the youth volunteers—they believed they could pick it themselves, more efficiently, so that more produce could be donated. This is an aforementioned caveat of youth programs— especially if youth are not familiar with produce gathering. This has been one important lesson learned—while, volunteerism is a strong component to gleaning, the first goal is that food bank clientele get fresh, healthy produce. If food donors would rather forego the volunteer option, and pick themselves, a gleaning group can drive up to sort the produce, and help in this manner. The end goal must always be kept in mind.

One business had qualms with liability on their private land—where an old apple orchard existed on the property. Without any solicitation, the business cut their day short to have employees pick the fruit, which they said they enjoyed to break up the day. The apples were taken to the food bank, where a Boy Scout troop sorted over 500 pounds of organic apples for shipment the next day. This is a great advantage to a gleaning program, it does not necessitate a group completing the entire process—it is a labor source that steps in when needed.

New Iowa legislation, the Farm-Food Bank Donation Tax Credit (effective January 1, 2014) calls for a tax-benefit received for such produce at 15% of the market value of the produce with a cap at 5,000 USD. While it gives the donors a small economic benefit to their efforts, it is obvious with this years' experience the other factors—a greater good, reducing waste, and promoting healthy living are at the forefront of many producer's minds.

The remainder of this discussion will attempt to synthesize these similarities into a coherent framework: beginning with main obstacles faced with building a new gleaning program, developing a baseline and database, logistical planning, types of gleaning activities, the experiences had by coordinators and volunteers during those activities, the reception of the harvest by beneficiaries of gleaning operations, and finally the strategies used by gleaning

programs to continue their operations year to year. Within this framework, there are recommendations of my own and of others, which have been collected throughout the interview process to enhance any potential or existing gleaning program.

Overcoming obstacles in organizing a gleaning program

Organizing a gleaning operation has two main obstacles: time and planning. Many volunteer organizations take place indoors but picking produce does not, and thus the outdoor elements play a crucial role in preparation. Moreover, the produce has an ephemeral state at which it is edible, and apples, squash and corn do not wait around on their pickers' schedules. Not to mention the consumer market, which the grower must factor in when they determine the best time for gleaning activities. This translates into groups with a maximum of one or two weeks' notice for their volunteer activity. A week may sound reasonable from the outside looking in, but when a youth group has various members with dance class, soccer, band, etc. the situation becomes exponentially more complicated. Yet, gleaning organizations all over the U.S have easily maneuvered these constraints. As mentioned, the PUEBLO Urban Youth Harvest Program is a gleaning program with solely youth volunteers. SoSA routinely has youth groups help with its nationwide gleaning network. Why then, did the experience with the CVGP seem to take so much effort? This is simply a symptom of a pilot-program. What each of the gleaning programs cited throughout this paper have or are continually developing is a baseline, a foundation. Not one of these programs had spectacular success in their first year, and only then grew incrementally each year thereafter. One important lesson learned is the necessary but frustrating patience a program endures during the first few years of existence. Even though opportunity abounds, programs and networks simply take time to build on themselves.

Consider the Fruits of the City program, a branch of The Food Group out of the St. Paul/Minneapolis metro area in Minnesota. The pilot year of 2009 for Fruits of the City brought in 15,000 pounds of fresh fruit. In 2013, after establishing a baseline of orchards and private landowners in their program, Fruits of the City harvested 850% of the fruit they managed in 2009, 128,000 pounds.

A gleaning representative of SoSA—aforementioned as the largest gleaning network in the nation— spoke to the growing pains a nascent gleaning program will face, and that sometimes they still encounter in their established programs. “You must grow from somewhere, you need a baseline... Expect anything. Some farmers come and others go, there are always fluctuations. Flexibility is key.”

Importance of a database

One gleaning program in limbo between birth and establishment is Urban Harvest Leeds (UHL) located in Leeds, of West Yorkshire, England. After four years of operation, one of the main goals for UHL’s coordinator Jenny is to develop a database. As a postwoman, Jenny has worked diligently to advertise and acquire a growing number of locations for her gleaning organization to operate. Almost a strictly apple gleaning program—with a few pears mixed in— UHL not only picks apples for immediate consumption but juices certain varieties, and distributes the delicious result to recipients in need, volunteers, and tree owners. Nearly a one-woman operation, Jenny understands the need for a database to keep track of donors, volunteers and types of produce available at each locale.

The types of databases utilized in the programs featured in this document have both unique characteristics and overarching corollaries. For example, the Portland Fruit Tree Program

has a designated “Tree Registration,” which provides easy access for both owners and potential gleaners to set up volunteer logistics, and reduce the amount of intervention a property owner goes through to donate their produce. SoSA keeps a registry of all past donors and utilizes it to make early contacts and visualize the amount of gleaning and volunteer work to be done at each site. Because of the sheer size of their network there are state headquarters in the highest activity states and each keep a separate database for the distinct region. To increase the efficiency of volunteer sign-ups, SoSA groups volunteer based on their availability and location and send out notifications with upcoming gleaning information.

The Food Group hires five to eight “neighborhood coordinators” each summer to help keep track of their growing program. Each coordinator has supervision over a given amount of area and is responsible for coordinating volunteers and working with tree owners and orchards in their region. An effort is now being done to use GIS mapping software to help with efficiency in ensuring coordinators co-operate with landowners closest to each other. All these coordinators contribute to a growing database that tracks volunteers, locations of trees, and the quality/quantity of fruit in each site. The Food Group now gleans in over 260 private locations and 30 orchards, so their database is critical to their program.

Importance of preparation and flexibility in coordinating a gleaning program

Logistical planning is a must in gleaning, and contingency plans must be made on each plan, no matter how concrete it may seem at the time. Life happens, and volunteers may or may not show up, the scheduled transportation may not come through, or the weather may not cooperate. There is a laundry list of things that can go right and wrong with gleaning. The most important point, taken from all of the programs interviewed in this study, is to embrace this

random nature. There are a few corollaries between all these programs in how they seek to adapt to the ad hoc quality of organizing a gleaning event.

All programs call a full season ahead to assess farmer's forecasts, and to make preliminary arrangements with volunteer groups. For example, SoSA often has middle school students participate in gleaning activities. Student volunteers often need the maximum available notification for their activities and the coordinator is responsible for recognizing this issue and accommodating the volunteers. One gleaning operation at the CVGP was scheduled for a volunteer group a month in advance, however when I contacted them to confirm the weekend before, they were unavailable. There is no exact way to glean, what is important is the work gets done, whether by a formal arrangement or a group thrown together at the last minute. Obviously the former is ideal, because there is much less stress involved. However, there are always options, if one has prepared for things to not go quite as planned.

Condition of liability waivers in gleaning programs

Many programs prepare for more serious events, like injuries, with sign-up waivers. Within that, there is variance. Certain farms have worked with gleaning groups for so long that there is ingrained trust, an unspoken rule. Other farms, or landowners, wish to pick the produce themselves and have it picked up by food banks. The majority though feels comfortable with volunteers signing a waiver, or when minors are accompanied with a guardian. One notable exception is UHL, where no waivers are given. In that organization, there is a cultural expectation that adults will accompany minors, and landowners in general are not concerned with liability. This diversity of interests and concerns are critical to a gleaning coordinator. Not all producers will be the same, and it is imperative to treat each on a case by case basis.

Landowners are doing a great favor to the public good by sharing their land with others and all efforts must be made to assure transparency between the landowners and the organization.

Just as diverse as the landowner's concerns are the landowner's products and the types of gleaning activities that are derived from them. Picking, sorting and cleaning are the main activities that encompass the majority of "gleaning." The programs I interviewed gleaned the following types of produce: apples, oranges, sweet corn, turnips, cherries, squash, raspberries, potatoes, strawberries and tomatoes. Each of these requires a certain kind of technique in picking and sorting. A gleaner might be able to gently toss apples into a bucket, but not a strawberry. It is essential to convey these differences to volunteers before any picking begins. Many times the volunteers will be picking fresh produce for the first time in their lives and without any former experience a little foresight by the coordinator is crucial to running a smooth operation.

The advantage to having a gleaning program in the area is the diversity of tasks available to volunteers. The classic idea of gleaning is picking in a field or orchard, but the modern applications go farther. If a farmer has excess produce, but needs it sorted, a group can go out and sort the produce. Cleaning produce is another modern form of gleaning. Gleaners can pack and transport produce to reduce the load of work for food bank employees. All these efforts achieve the same goal: fresh produce is getting to those who may not have had it without the gleaning program's efforts.

Effects of volunteering in a gleaning program

The activities volunteers partake in during gleaning operations are diverse, however the feeling they leave with is singular: satisfaction. Every single gleaning program interviewed

expressed volunteer enjoyment as a clear result of their participation in their programs. As noted in the literature review, volunteerism has wide ranging effects that can enhance physical, mental and social well-being in all age groups. Not only do church groups, Boy Scouts, and schools help out, but corporate groups also get involved. One coordinator noted, “Corporate groups often use gleaning opportunities as team-building events, it is a great way to get people to interact in a new way, and in the outdoors.” Again, diversity appears in the various groups of people which gleaning can bring together, to their benefit and to others.

Once the gleaners have done their part, the fruits of their labors are also met with a singular sensation: appreciation. One hundred percent of gleaning programs interviewed also shared this observation: food bank clientele all value fresh fruit and produce over any other food item. Apples in particular were noted as especially desired. Obviously, this is a substantial benefit a gleaning program provides for food banks, because they specialize in providing the most desired items food banks can offer. Along with that, many programs noted the satisfaction clientele took in knowing the produce came from local places. Coincidentally, this is also where gleaning is valuable, because the only locations gleaning takes place is in the geographic vicinity of those participating programs.

Importance of social media and creation of community awareness for gleaning programs

A major contributor in a gleaning program’s success is its ability to disseminate information about its activities. In the age of social media, it is both easier to connect to the public and harder to garner their attention in the sheer amount of competition for the communal eye. All the programs interviewed used social media to some capacity, whether by e-mail, Facebook or having their own website. Facebook, of the “new” social media outlets was definitely more popular than Twitter or other new websites. The Food Group used extensive

media to advertise their cause, with proportional effects. The program was featured in local news reports, started a strong Facebook presence, and was featured in a couple pieces by National Public Radio. This initiative was dual purpose: it attracted fruit-tree owners to register, and also to attract volunteers. After this campaign, the Food Group saw substantial rises in both volunteer sign-ups and tree registration.

Along with public awareness, all successful gleaning programs share a signature follow-up response to food donors. The donors are normally thanked through signed cards from volunteers and food banks receiving their produce. In a unique fashion, UHL presses apple juice for tree owners as token of appreciation. These small measures can take a program a long way from a one-year operation to one with continuity and strong community support.

Conclusion

The programs in this thesis only represent a fraction of what is out there, and therefore there is no concrete definition of a gleaning program, it is a working, expanding definition which changes across organizations, and so the narrow scope represented in this thesis is the most significant limitation.

Regardless of the variance between organizations, creating a program anywhere is hard. Each program cited in this thesis has overcome obstacles, or frustrations where the steps forward have come slowly; yet even then, the produce they provide enhances the daily lives in a mental, physical, or social capacity of all their recipients and of the participating volunteers. Each of these programs share qualities: *fresh, local, grateful recipients*, and providing the top priority produce the clients are seeking, which would not be available to them without the hard work

these gleaning programs put in day in and day out. The bottom line of gleaning is its utility for communities. It reduces food waste, increases food security, and fosters overall well-being for both its participants and recipients.

There is great potential for gleaning programs in communities of all sizes, and this encompasses a large part of the motivation for this thesis. It is a document anyone can pick up, and get an idea of what gleaning is, where it came from, and how communities are implementing such programs all over the world. Hopefully it will also contribute to a more resilient and expanding program in Cedar Falls, Iowa.

While being a small brick in an immense wall, gleaning provides a hands on activity where those involved are truly chipping away at the problems our world faces everyday: hungry people, overflowing dumpsters behind grocery stores, and wasted water. It gives a satisfaction of actively pursuing these dilemmas and actually *doing* something about it.

Appendix I

Question List for Improving a Pilot Gleaning Program in the Cedar Valley: an Evaluation Study

Principal Investigator: Dylan Hillyer

Academic Advisor: Dr. Catherine Zeman

List 1: Questions for donor sites (both Cedar Valley Program and Others)

- I. How would you describe your experience with the gleaning program? Negative, positive, or neutral; please elaborate.
- II. Do you feel the gleaning program is worthwhile? In what ways can it improve?
- III. What was the driving force behind your willingness to participate?
- IV. Are you planning on participating in the gleaning program next year?
- V. Do you know of other producers in the area who would want to participate?
- VI. Are there age groups of volunteers you prefer? Please explain.

List 2: Questions for volunteer organizers

- I. What were the sources you used to find gleaners and gleaning resources?
- II. Do you believe there are benefits of a gleaning program, other than getting food to food security/resource clientele (volunteerism, local food to local people)?
- III. In what direction do you potentially see this gleaning program heading?
- IV. What were your expectations going into this program? How do you feel about the end result?

List 3: Questions for Distribution Sites

- I. Were clients satisfied with produce brought in by the gleaning program? Did they comment on it either positively or negatively?
- II. Do you think the gleaning program was effective? From your point of view, how can it improve?
- III. If so, how do these benefits play out in your eyes?
- IV. In what ways would you like to see the gleaning program change? Is it a program you think has a permanent place in the Food Bank/Food Security program?
- V. Do you think recipients of whole foods have adequate knowledge about how to use/prepare and store those foods?

List 4: Questions for volunteer organizations providing labor

- I. How would you describe your experience with the gleaning program? Negative, positive, or neutral? Please explain.
- II. Is it a program you see as worthwhile? Please elaborate.
- III. Would you participate in another gleaning activity if asked to do so? Why or why not?
- IV. What do you see as the biggest barriers and the biggest enablers of participation in such programs? How could those barriers best be addressed?

Figure 1

Jean-François Millet's painting "*The Gleaners*"

Figure 2. NEIFB report of the CVGP program. Written by Sheri Shuber-Otting of the NEIFB.

Gleaning Final Report for Pilot Project with HCVC and RRTTC

Item	Date	Pounds	Group	Activity
Corn	8/9/2014	1066	St. Paul's Waverly and sister Church Chicago, IL	Picked the corn
Apples	9/20/2014	482	Hawkeye Corrugated Box/BSA TP 500 Contact: Randy.Swalve@terex.com	HCB-picked 605 lbs./ BSA culled and boxed at FB
Apples	9/28/2014	107	Hudson 4-H Group Contact: Chris/Paul Herring: herrings6@msn.com	Picked, cleaned and bagged
Squash	10/26/2014	1826	UNI Students(Dylan Hillyer, Jack Rummels, Ryan Bingamen)	Farmer picked/UNI students loaded into tote for Food Bank pick up
Total		3481		Provides approx. 2900 meals

Above is the breakdown of food type, pounds and what was done.

The Corn Farmer would not want to do this again. His pickers are of course much faster. He decided that they would pick it and the Food Bank could come and get it.

The farmers at the orchard where the scouts picked, cleaned and bagged would I think do it again if her yield was higher. This was not a good year for her orchard. I'm sure the group would do it again as well.

The HCB Company, would do the picking again and have the Food Bank pick it up. The Boy Scout Troop leader said they would enjoy the culling and boxing again.

The Squash was from the same farmer who had the corn. He always picks it all and the Food Bank picks it up. Usually, the drivers load it by hand, which take quite a while. The Food Bank would like to have this pre-boxing done again. The students were fine with this too.

Dylan, coordinator will send a brief evaluation of the program as well. He coordinated all of the projects except the sweet corn.

The Food Bank would like to have this project done again if there can be an outside person again to solicit and coordinate the groups and oversee the picking and packing, etc. We can do packing projects in house with the groups identified by the coordinator and pick up the products from the farms if needed.

If there is a way to hire a coordinator who can work in the summer or at least in the beginning of August, that would be very helpful to the Food Bank. There might be other gleaning opportunities earlier than the start of school. We could look into other early crop and expand the program some if we have the coordinator earlier.

As the food Bank solicitor, I would like to sincerely thank everyone involved in the project: RRTTC for hiring Dylan, HCVC for helping with laying the groundwork, all of the volunteer gleaners, Dylan for his work, and food Bank staff. I know that our clients really enjoy and appreciate fresh produce.



Figure 3. Chart displaying interviewees, location of operation and medium used for interview.

Organization Name	Location	Person(s) Interviewed	Medium
Everybody Works!	Viroqua, Wisconsin	Gary Thompson	E-mail
Urban Harvest Leeds	Leeds, England	Jenny	Skype
Northeast Iowa Food Bank	Waterloo, Iowa	Sheri Shuber-Otting	Personal Interview
Portland Fruit Tree Project	Portland, Oregon	Chris Brown, Gareth Stecke	E-mail
Society of St. Andrews	Big Island, Virginia	Sarah Ramey	Telephone
Food at First	Ames, Iowa	Patty Rewerts	Telephone
Garden Gleaning /Fruits of the City	St. Paul, Minnesota	Jared Walhowe	Telephone

Organization Name	Common Themes and Frequency Noted During Interview																
	Fresh	Healthy	Food vs Bills	Benefit to Volunteers	Grateful Recipients	Fruits and Vegetables as Top Priority Item(For Recipients)	Apples	Community Involvement	Database	Develop Baseline	Donors Worried of Liability	Community Workshop(for gleaning)	Local	Need (for fresh produce)	Social Media	Volunteer Waiver	Unseen Need
Portland Fruit Tree Project	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	
Society of St. Andrews	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	varies	x
Garden Gleaning/Fruits of the City	x	x		x	x	x	x	x	x	x	x	x	x	x	x	varies	
Food at First	x	x	x	x	x	x		x	x	x			x	x	x		x
Northeast Iowa Food Bank	x	x	x	x	x	x	x	x		x	x		x	x	x		x
Abundance Leeds	x	x		x	x	x	x	x		x			x	x	x		
Everybody Works!	x	x		x	x	x	x	x	x	x	x	x	x	x	x		

Figure 4. Chart displaying the 17 most common themes during interviews. An X represents the program contains the trait or mentioned the phrase during the interview.

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