

Community Assistantship Program

**Growing Green Feasibility Study
and Business Plan**

Prepared in partnership with
Putting Green Inc

Prepared by
Kelcie Young
Research Assistant

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Center for Urban and Regional Affairs (CURA)
University of Minnesota
330 HHH Center
301--19th Avenue South
Minneapolis, Minnesota 55455
Phone: (612) 625-1551
Fax: (612) 626-0273
E-mail: cura@umn.edu
Web site: <http://www.cura.umn.edu>

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Growing Green
Feasibility Study and Business Plan
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Acknowledgements

Growing Green Project Team

Putting Green Inc., New Ulm, MN

Laurel Gamm, Tracie Vranich

MRCI WorkSource, New Ulm, MN

Georg Marti, Bev Michels

New Ulm Economic Development Corporation

Community Volunteers

John Heymann, Vicki Pieser, Kristi Schlangen Lindquist, Therese Hall

Consultants

Elizabeth M. Van Slyke, North 40 Consulting, Faribault, MN

Paula Westmoreland, Ecological Gardens, Minneapolis, MN

Jim Roe, Interpretive Planning, St. Paul, MN

Gary Hittle, Landscape Architecture, Maher, MN

Student Interns

Corey Schnobrich, School of Architecture, Iowa State University

Kelcie Brue Young, Center for Urban and Regional Affairs, University of Minnesota

Putting Green Students: Kyle Juntunen, Tessa Makepeace, Adam Klinkner, David Harsha and Brock Burgau

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1.0 Executive Summary

Growing Green is a collaborative project of MRCI WorkSource and Putting Green, Inc. Its purpose is to develop a sustainable, commercial farm located at Putting Green Park in New Ulm, Minnesota. Beginning in 2008, Growing Green will employ MRCI-New Ulm clients and area youth and yield healthful products and experiences for local consumers.

MRCI WorkSource is a provider of vocational services for people with disabilities and/or disadvantages. In recent years, key employers in the New Ulm area have shifted from contracting labor locally—to organizations such as MRCI—to contracting to offshore labor sources. As a result of this strategic shift, MRCI began to consider locally controlled employment options for its clients. Georg Marti, manager of MRCI New Ulm, approached the staff of Putting Green, a local environmental learning organization, with the idea of collaborating on an entrepreneurial venture that promised to combine employment and revenue opportunities with mission-driven practices for both organizations.

A feasibility study was begun in the spring of 2007 to systematically analyze the opportunities and challenges of the business idea and its ability to meet the objectives desired by both MRCI and Putting Green. The study resulted in a set of measurable, operational objectives that address three bottom lines (economic, social, and environmental), and produced a viable business model with a three-year financial plan that will guide the start-up and future development of Growing Green.

A systematic analysis of possible business models pointed to an on-site market located at Putting Green Park as providing the best means for meeting the organization's triple bottom line. Financial estimates based on market research indicate that there is a strong likelihood that a sufficient number of transactions will be generated with customers at the park to meet the output capacity of the farm. Driving enough traffic to the market should not be the constraint to success, rather making sure there is enough produce to satisfy visitors and keep them coming back will be the more critical factor.

Putting Green Park is located on a construction fill site once used by the City of New Ulm. Poor soil quality make this a challenging site for agriculture. The planned operation will use a minimum-till, raised-bed, cover-crop system for annual production and a no-till system for seeding perennial groundcovers. The initial period of establishment will require higher levels of labor and material. Over time, however, the Green will become a sustainable production system that requires minimal inputs of labor and material to produce nutritional food and achieve production goals.

The financial plan is based on contributed revenue of \$20,000 for construction of 2 small buildings and \$60,000 of beginning cash to cover cashflow shortfall and one-time costs including equipment and plants. The first year sees a loss of approximately \$46,500, 50% of which are one-time costs. The loss in year two is \$15,000 with ending cash of zero and there is a \$2,000 profit in year three. To show a profit as early as year three is a positive sign.

Future plans beyond year three include the construction of a learning center with a commercial kitchen for developing value-added products, and expansion to a larger, rural acreage.

2.0 Introduction

Planning for Growing Green began with a conversation among community leaders in New Ulm, Minnesota. On opposite ends of town were two very different organizations each striving to meet certain needs of the local community: MRCI WorkSource and Putting Green. Working together, could these two organizations provide a set of social and economic services to New Ulm that neither could on their own? Could they join forces to create an agribusiness that would provide meaningful employment for people with disabilities, help meet the local demand for sustainably grown produce, and contribute to the public's understanding of natural systems and environmental stewardship? Those initial conversations led to nine-month study of the issues and possibilities of the proposed partnership.

In April 2007 representatives of MRCI and Putting Green organized a series of workshops to frame issues and establish long-term goals for a commercial farm. With funding from the USDA, a task force headed by Laurel Gamm (founding board member of PGI) and Georg Marti (MRCI) began working with a team of consultants, advisors, and student interns to study and document the feasibility of Growing Green. From the start, this planning process was guided by a multi-layered, multi-faceted definition of feasibility. The success of Growing Green will be measured not only by economic results, but also by social and environmental outcomes.

In order to fully assess the potential economic, social, and environmental outcomes of Growing Green, it was necessary to develop conceptual designs for the physical site and future public programs. What environmental and social messages will consumers take away from a visit to Growing Green? What structures and landscape designs will facilitate comfortable interactions between shoppers and the people who work at Growing Green? As a destination for learning about the connections between human health and the environment, how will the site accommodate guided classes, tours, and curious visitors? Throughout the feasibility-study process, the team examined issues from the viewpoints of landscape design, sustainable agriculture, and public education as well as business and entrepreneurship.

2.1 Growing Green Mission

To create a sustainable farm that employs MRCI-New Ulm clients and area youth and yields healthful products and experiences for local consumers.

2.2 Growing Green Vision

In three to five years, citizens of the New Ulm area will depend upon Growing Green for meaningful employment for adults with disabilities and area youth, in addition to nutritious, locally grown food, excellent educational experiences, and inspiration and information regarding the choices we can make to create a healthier planet.

3.0 Project Goals and Operational Objectives

Growing Green will seek to balance operational objectives across three bottom lines—economic, social, and environmental. These objectives are framed within a set of broader, more comprehensive project goals.

- Provide work opportunities for MRCI clients that:
 - Are available on a daily basis
 - Pay reasonable wages and offer a reasonable margin to MRCI
 - Accommodate a variety of physical abilities or skill levels
 - Do not compete in the international market place
- Provide employment, project-development and business-planning opportunities for local youth
- Build awareness and understanding among the regional public about sustainable farming, gardening, and landscape practices and support the application of these practices in the home and workplace
- Provide sustainably grown food for consumers in the New Ulm area
- Demonstrate the importance of local enterprise to a community's overall health and wellbeing
- Provide a model for successfully identifying, executing, and reporting across the three bottom lines of economic, social, and environmental objectives
- Demonstrate that small-scale agriculture (under five acres) can be profitable

3.1 Growing Green's Triple Bottom Line

Operationally, Growing Green will be guided not only by economic objectives, but also by social and environmental objectives. Social objectives are those that consider the value of social capital—the benefits and assets that people gain from being a part of a thriving society, such as new ideas from other people and support in times of need. Environmental objectives are those that consider natural capital—the benefits and assets that we gain from nature, such as crops, minerals, fossil fuels, etc., and ecosystem services, the natural processes that help keep us alive and healthy.

These objectives will provide the standards against which the farm can measure its success. On a regular schedule, Growing Green will issue a consolidated report on each of its three bottom lines. The exact format of the report will need to be determined, but minimally it should address progress in each bottom line to maintain accountability as a key component of this project.

3.1.1 Economic Bottom Line

- Growing Green will be a profitable, local enterprise within three years of operation.
 - Measure: Regular financial reporting including profit-and-loss statements, balance sheets, and cash flows.

- Between eight and 20 MRCI WorkSource clients—earning at least 50% of their total wages—will be employed per season at Growing Green during its first three years of operation.
 - Measure: MRCI will track wages paid to clients and report the percentage of total hours that clients work at Growing Green.
- Between 10 and 12 Putting Green youth will be employed per season at Growing Green during its first three years of operation.
 - Measure: Putting Green will track wages paid to youth and report on the number of youth working at Growing Green.
- Of the wages paid to production workers, 80% will be paid to MRCI clients and 20% will be paid to Putting Green youth.
 - Measure: Annually, Putting Green and MRCI will analyze wages paid and report percentages of total wages.

3.1.2 Social Bottom Line

This bottom line addresses three categories of impact: quality of life, education, and public awareness of social issues.

Quality of Life

- Growing Green will improve the quality of life for New Ulm Area consumers by providing locally grown produce.
 - Measure: Annual surveys of customers will result in at least 50% of people reporting an improvement in their quality of life due to Growing Green products and services.
- Growing Green will foster and promote healthy relationships and interactions between MRCI workers and PGI youth and the wider community.
 - Measure: Growing Green will provide opportunities for MRCI clients to interact with customers.
 - Measure: MRCI and Putting Green youth will get together for monthly meals and have regular team meetings
 - Measure: There will be 3 community events each year
- Growing Green will provide opportunities for personal development and fulfillment among MRCI clients and area youth.
 - Measure: Employee surveys (pre- and post-season) and exit interviews by MRCI and Putting Green will reflect the personal impact of MRCI clients and youth working together at the Green.
- Growing Green will maintain a workplace atmosphere that is enjoyable for everyone involved.
 - Measure: Employee surveys and exit interviews will reflect overall enjoyment of working at the Green.
- Growing Green will create and maintain an aesthetically pleasing environment.
 - Measure: The number of complaints regarding the appearance of the Green will be zero.

Education

- Through self-directed investigations youth will learn to develop projects and plan for business ventures related to the Growing Green mission.
 - Measure: Over the course of one season, youth will implement at least two business-related ideas.
- Interpretive materials and public programs at Growing Green will promote the connection between eating well and good health.
 - Measure: Growing Green will provide handouts and recipes that educate consumers about the healthful benefits of various food items available at the farm and how to incorporate a wider variety of fresh fruits and vegetables into their diets.
- Growing Green will increase knowledge of sustainable farming, gardening, and landscaping practices and foster the application of those practices in home and workplace through demonstration gardens, informational brochures, workshops, volunteer opportunities, and site tours.
 - Measure: Record feedback from participants in workshops, volunteer activities, and tours to determine demand for and effectiveness of Growing Green's educational programs.

Public Awareness

- Growing Green will develop public awareness of the mission and purpose of MRCI WorkSource and Putting Green.
 - Measure: MRCI and Growing Green will be the subject of four positive media impressions (stories, photos, mentions) per season.

3.1.3 Environmental Bottom Line

- Growing Green gardens will be managed sustainably by minimizing external inputs of materials (fuel, fertilizer, and water) and minimizing outputs of waste (by reusing and recycling materials).
 - Measure: Production inputs will be tracked on an annual basis against pounds of products produced: city water usage; fuel purchasing records; purchasing records for fertilizers and other raw material inputs and labor.
 - Measure: Production outputs will be tracked on an annual basis against pounds of products produced: re-used and recycled materials, waste produced and hauled off-site, and CO² emissions.
- Growing Green gardens will be managed to build self-renewing fertility by improving soil health and productivity.
 - Measure: Soil will be evaluated on an annual basis measuring organic matter, minerals and soil biology and observations of compaction levels and soil tilth.
- Growing Green gardens will increase carbon sequestration by optimizing perennials in the production system.
 - Measure: Statistics will be kept on percentages of annual and perennial production to help determine carbon sequestration rates.

- Growing Green will sustain high levels of plant and animal diversity to create a healthy and resilient ecosystem.
 - Measure: An annual BioBlitz will be held every year. This is a program in which citizens work with biologists to count species—measure biodiversity—on a defined area of land over a 24-hour period.
- Growing Green will grow healthy plants with high nutritional value.
 - Measure: Observations logs will be kept to identify and track problems (plant disease, pest problems, erosion). BRIX measurements, one of the best correlations to nutritional density of foods, will be taken by production workers to determine optimal times for harvest.
- Growing Green will minimize transportation costs by procuring and distributing raw materials and products locally.
 - Mileage records will be kept on delivery vehicles for Growing Green. Estimates will be gathered on mileage for suppliers.

4.0 Organizational Summary

Growing Green is collaboration between two existing 501c3 non-profit organizations located in New Ulm, Minnesota: MRCI WorkSource and Putting Green Inc.

MRCI WorkSource is currently the largest provider of both community-based, supported employment and center-based, extended employment in Minnesota. MRCI offers more than 65 distinct programs that serve more than 3,000 people from Southern Minnesota and the Southern Metro areas. In 2006, a record 517 people were employed in the competitive job market and were able to leave MRCI WorkSource services. During that period 1137 additional people worked in supported employment.

Putting Green was formed in 2001 with a goal of developing an environmental learning park, designed and operated by young people. The park opened in 2005 and has welcomed 17,000 visitors. The park is Putting Green’s headquarters and a learning campus that includes:

1. The Minnesota River Interpretive Trail which encourages stewardship and enjoyment of the river
2. Mini Golf—nine interactive learning stations
3. The Landscape (the built and natural environment)—from native plants to solar panels, the park is a demonstration of sustainable choices
4. Growing Green Farm.

The collaboration between these two organizations centers around the development of an environmentally sustainable agribusiness that will employ clients from MRCI-New Ulm as well as area youth, in the production and sale of a variety of produce. The farm and a market stand for selling products directly to area consumers will be located at Putting Green Park, with plans to supplement direct sales by selling to restaurants and institutions.

4.0 Relationship structure:

Strategic Alliance

A strategic alliance is a formal relationship formed between two or more parties to pursue a set of agreed-upon goals, or to meet a critical business need while remaining independent organizations. This arrangement differs from a joint venture in that a separate entity is not formed in a strategic alliance. Partners may provide the strategic alliance with resources such as products, distribution channels, manufacturing capability, project funding, capital equipment, knowledge, expertise, or intellectual property. The alliance is a collaboration that aims for a synergy where each partner hopes that the benefits from the alliance will be greater than those from individual efforts. The alliance often involves technology transfer (access to knowledge and expertise), economic specialization, shared expenses, and shared risk.

Because of the looser structure of an alliance and the absence of a separate third entity, alliances can fail for many reasons. These reasons highlight the need to be clear about the project and what each party is contributing and expects to receive. They include:

- Failure to understand and adapt to a new style of management
- Failure to learn and understand cultural differences between the organizations
- Lack of commitment to succeed
- Strategic goal divergence
- Insufficient trust
- Operational and geographical overlap
- Unrealistic expectations

The intention of Putting Green and MRCI is to form a strategic alliance with each entity engaging in decision-making and sharing risk and reward in an equitable manner. The alliance will create a detailed and structured collaborative contract or document in order to ensure a productive venture.

4.2 Location and Facility

At start-up, the farm operation and market stand will be located at Putting Green (1915 S. Valley St., New Ulm, MN). Initially, the production area will occupy approximately one acre of currently unused space at Putting Green Park. In addition to the production space, a shed is being planned for storing produce and equipment, and preparing plants for market.

Future plans include both expansion at the park with the construction of a root cellar, greenhouse and learning center with a commercial kitchen for developing value-added products, and expansion to an additional 10 acres at another location as the farm business expands.

5.0 Business Model Analysis

In researching various farming and business models by analyzing federal, state and local data, by visiting area farms and farmer's markets, and by performing local market research through forums and survey, it became apparent that the industry of organic and/or sustainable food production and sales is as varied as the people who grow and sell

their products. From small family farms to experimental agricultural and distribution farms to large-scale organic food producers, the methods and means have been developed to meet the needs of individual circumstances. If there are any generalizations to be made about the industry, one could look at the distribution chain from producer to wholesaler to retail to consumer.

For this study, a number of business models were evaluated for the purpose of identifying the optimum point in the distribution chain from which Growing Green could best meet all of its triple-bottom-line objectives. Direct marketing to customers—a promising model for Growing Green—has increased in recent years because consumers value the interaction with the grower (Newton 2004). Although growers have other options—such as selling to wholesalers—farmers generally benefit from direct sales because they keep that portion of sales that would otherwise go to distributors and retailers.

5.1 Analysis Overview

During the spring and summer of 2007, a group of stakeholders from Putting Green and MRCI completed a series of exercises to establish operational objectives and to choose a business model that would best suit those objectives.

Step 1. Workshop participants were asked to list what they would like to see the Growing Green project accomplish or avoid in each of the three bottom line categories. The results comprised a comprehensive list of objectives in all three areas that then needed to be refined and prioritized.

Step 2. A sub-group of participants evaluated the objectives within each bottom-line category and narrowed the list. These became the operational objectives (appearing in Section 3) that guided the overall feasibility study and resulting business plan. Each of the objectives was weighted on a 100-point scale—a method that would reflect the relative importance of one objective versus another. This enabled the group to discuss and agree upon not only which objectives were most important but also to what degree.

Step 3. Participants discussed and defined a number of basic business models that might be employed by the project in order to meet the established operational objectives. The business models studied were: community-supported agriculture (CSA), farmers' markets, agritourism, wholesaling to co-ops, restaurants, institutions, and on-site markets.

Step 4. In the last step, participants evaluated each business model for its capacity to contribute or detract from meeting the objectives. Taking the objectives one at a time, each business model was scored on a -5 to 5 scale, with -5 meaning the business model has a significant negative impact on meeting the objective, and 5 meaning the business model has a significant positive impact on meeting the objective. The activity resulted in the following conclusions:

- In meeting the economic objectives, the CSA and on-site market scored substantially higher than other models.
- In meeting the social objectives, the on-site market and CSA scored considerably higher than other models.

- In meeting the environmental objectives, the on-site market, the CSA, and selling through local farmer's markets all scored considerably higher than other models.

Given the consistently higher scores of the on-site market and the CSA business models across all three bottom lines, these business models are most likely to provide the best opportunity for the project to succeed in meeting the stated objectives and achieve success.

5.2 Alternative Business Models

5.2.1 Community Supported Agriculture (CSA)

A CSA is a relationship between the grower and a group of consumers. Consumers purchase shares in a farm, often at the start of the season, and growers commit to providing weekly boxes of produce. Consumers pick up their share box at the farm, at a designated drop-off site, or rarely, the grower makes home deliveries. Because this arrangement provides a large sum of money (\$450 to \$550 per share) at the start of a season, it allows the farmer to make capital investments and share the risk with the consumer. While the customer may not know what produce they'll get each week, they have a more intimate connection with the farm (MISA 2007).

CSA farming can also be more difficult. For example, one of the farmers we visited, Katy Hemberger of August Earth, said she found the CSA model to be the most profitable for selling produce, but that this model did come with added stress when growing conditions are tough. Another farmer who no longer sells through a CSA said it wasn't fun for him because by August, the routine and stress grew wearying. CSAs require a high level of farming expertise to meet commitments.

5.2.2 Farmers' Markets

Farmers' markets provide an easy entry point for new growers to sell their product and connect with customers. There is no guarantee, however, that all of their produce will be sold, which means there will be waste (MISA 2007). Farmers' markets can be fun, but can also require time-consuming preparation. It's a great way to start selling while farmers figure out what grows well and which products they like to grow. Customers like farmers markets because they enjoy the fun, community experience, and availability of fresh, high-quality goods at a reasonable price.

Some of the farmers interviewed warned that selling at farmers markets might not succeed if people are only looking for a cheap food source. Markets can be a good place to sell if they attract customers who want organic or sustainable food and who value the interaction with growers. Prepared food is increasingly popular, such as sweet rolls, coffee and sandwiches. Meat, cheese, and greater product diversity also help to draw customers, as does additional entertainment such as music or games.

Rural or small town farmers' markets face special challenges. These markets struggle with funding and do not have the product diversity to draw as many customers. Rural markets may attract older customers who may want to do canning, so growers need to

offer greater quantities of produce. Also, rural customers may be less interested in entertainment than urban shoppers (MISA 2007).

5.2.3 Agritourism

Agritourism connects people to farming through recreational and educational activities (MISA 2007). The mini-golf course and river experience at Putting Green Park could be considered a form of agritourism. Because Putting Green has name recognition and customer traffic, the farm could benefit from agritourism as well. The agritourism concept will likely be a cornerstone of the Growing Green business model and the project will benefit from the entertainment and educational aspects of the farm.

5.2.4 Wholesale to Co-ops, Restaurants, etc.

The greatest advantage to this method is that the grower will not get rained out or face too few customers on a hot day. Selling to these buyers is less risky, but also requires large quantities of high-quality products. Building relationships with buyers requires an initial time investment as well.

5.2.5 On-Site Market

Roadside stands generally feature one grower and may vary in formality from a roadside stand to an indoor retail store (MISA 2007). Staffing the stand is time consuming, but does provide a consistent job opportunity and direct, customer contact. These shops can be a tourist destination, and listing in the Minnesota Grown directory provides increased visibility (MISA 2007).

5.3 Chosen Business Model: On-Site Market

A business model was chosen for Growing Green using a Pugh Analysis process. Based on this analysis, the planning team chose an on-site market as the main sales method. An on-site retail location for produce must consider the following factors: location, quality, variety, packaging, staffing, cash flow, environment, attracting people to the shop, and consumer education (Newton 2004).

- **Location:** Newton recommends a location on a busy road near a large town. Putting Green Park meets these qualifications. See Market Overview Appendix
- **Quality:** Growing Green will train staff to recognize ripeness, quality, and pest issues. Additionally, preparation—washing produce and removing dead leaves—will improve appearance.
- **Variety:** Growing Green will rely on a range of produce items, and will move toward greater product diversity in the future.
- **Packaging:** Growing Green will package goods where appropriate, such as tying in bundles or placing in boxes. The produce will be displayed to enhance visual appeal, including signage.
- **Staffing:** The number of employees staffing the shop will be sufficient to keep up with traffic and talk with customers.
- **Cash Flow:** The shop will be provided with adequate cash for making change, etc. Staff will maintain accounting records.
- **Environment:** All processing operations will adhere to state health regulations.

- **Attracting people to the shop:** Putting Green Park was chosen due to existing traffic at the location. Additional marketing for the on-site shop, such as signs and advertising will attract more shoppers.
- **Educating the consumer:** Growing Green employees will receive training that will enable them to communicate the mission with shoppers. Additionally, printed materials, cooking demonstrations, and farm tour days will supplement daily communication with customers.

5.4 Supplemental Strategies

The planning team considered aspects of other business models as possible additions to the on-site market. The CSA model ranked high in the Pugh Analysis, but this model requires a higher level of commitment than the project could manage during its first years. This model, however, presents a good opportunity to build relationships with community members. The plan, therefore, is to enlist a group of Growing Green supporters who are willing to pay for a subscription to receive food, as it is available, rather than a set amount of food at a set time. A similar method could be used to sell, on a limited basis, to restaurants, such as George’s Steak House, and institutional buyers such as Martin Luther College.

A variation of the above strategy that will be considered as well is the Whole Farm Co-op model, an organization that represents 30 families who share a commitment to sustainability and to providing wholesome food. Consumers, cooperative stores, or other small-scale buyers place orders on the Whole Farm Co-op web site. Orders are filled weekly and brought to pickup locations around the state. This model works for small farms because ordering is limited by availability; if an item sells out, this is indicated on the site (www.wholefarmcoop.com).

Cornercopia, the University of Minnesota Student Organic Farm, has adopted a variation of the Whole Farm Co-op model. Rather than placing orders through the Internet, buyers are placed on an email list. At the start of each week, potential buyers receive a list of items available and a price list. They email orders by Wednesday, and the student workers deliver the orders at the end of the week. Delivery is limited to the St. Paul campus area, which restricts the time students spend on deliveries. Courtney Tchida, the Student Programs Coordinator for the Minnesota Institute for Sustainable Agriculture, said the demand for their products easily exceeds the supply.

6.0 Product Summary

An important goal for Growing Green is to provide a wide variety of locally grown produce to area residents. Due to limitations on space, people, and money—and recognizing that the concept of a retail produce market is unique to New Ulm—the team balanced the variety of produce offered with the need to generate cash flow quickly to sustain the project. Trade-offs were made to focus on high-value produce and more familiar produce in order to meet the financial objectives and encourage return visits by consumers.

6.1 Production Feasibility

The Growing Green production area is a challenging site due to poor soil quality and limited access to water. To achieve the forecasted production levels the operation will need to use a number of strategies to jumpstart a cycle of self-renewing fertility and efficient use of water. In 2007 cover crops were planted and compost tea applied to increase organic matter, improve soil tilth, and accelerate nutrient cycling. In early spring the area will be terraced to capture and use water effectively and incorporate compost into the planting beds. The operation will use a minimum-till, raised-bed, cover-crop system for annual production and a no-till system for seeding perennial groundcovers that fix nitrogen and accumulate nutrients for perennial production. The initial period of establishment will require higher levels of labor and materials but over time Growing Green will establish a sustainable production system that requires minimal inputs of labor and materials to produce nutritional food and achieve our production goals.

6.2 Product Description

The final crop selection spans several years since certain crops don't produce in their first year. Prices and quantities for the crops appear in the pro forma income statement appearing in the Appendix.

First Year Production

- Brassicas: broccoli and kale
- Cucurbits: cucumbers, winter squash, pumpkins
- Flowers: cut flowers, edible flowers, sunflower heads
- Greens: salad mix, spicy salad mix, spinach, Swiss chard
- Fruit: strawberries, ever-bearing strawberries
- Herbs: basil, cilantro, chives, mint, parsley, herb mix
- Nightshade: heirloom tomatoes
- Roots: beets, carrots, radish, fingerling potatoes, red potatoes, Yukon gold potatoes
- Grass fed beef (will need to identify a local source)
- Eggs (will need to identify a local source)

Second Year Production

- Fruit: rhubarb, cherries, raspberries, apples, pears, plums
- Alliums: garlic, leeks
- Value-added: sun dried tomatoes, pickled garlic, micro greens, salsas, relishes, pesto, soups, dried herbs

Third Year Production

- Fruit: blueberries
- Asparagus
- Value Added: dried fruits, evergreen wreaths

6.3 Sourcing of Plants and Labor

Growing Green will have two primary inputs: plants and labor. Starter plants, seeds, seedlings, etc. will be purchased as needed for the planting plan. Labor consists of farm

management, marketing management, and farm labor. In order to keep labor costs as low as possible, the task force is evaluating creative ways to accomplish the required work at the lowest overall cost without sacrificing the quality of the work. Since one of the key objectives of the project is to provide employment to MRCI clients, the goal will be to utilize them wherever possible.

6.4 Pricing Strategies

In developing the pricing of the wide variety of products that will be offered at the market the team considered the prevailing prices at other fresh produce markets, understanding that price sensitivity would be greater in this largely rural region. The team also looked at packaging to increase profit. Specifically, packaging in smaller quantities, and offering complimentary products in one package. For example, packaging mixed greens or mixed herbs in addition to single-variety packages, and offering ½-pound or ½-pint packages in addition to 1-pound or 1-pint packages can yield higher margins.

6.5 Fee-based Products and Experiences at the Green

Growing and selling produce will be the primary business of Growing Green. An important secondary business will be in selling the experiences offered by Growing Green. Putting Green Park is already a destination for fun and learning. With the addition of beautiful gardens and an operation that models sustainable landscape practices, the park will hold valuable interpretive assets that it can offer to the public, schools, and organized groups in the form of fee-based programs, tours, and classes.

The site master-planning process for Growing Green has included discussions and specific accommodations for on-site public programs. More than a field of plots, the Green will be a visually engaging landscape designed to teach. Principles of permaculture will guide the space-planning and crop-selection process, resulting in gardens that will demonstrate sustainable agricultural practices in food production and landscape design. Permaculture uses observations of natural systems (terrain, climate, soil) to increase diversity and productivity by linking the needs and outputs of each element of the system (specifically crops) to create a dynamic, yet stable system that sustains itself. Demonstration gardens could include:

- The Three Sisters' Guild, a traditional Native American garden of corn, climbing beans, and squash
- A Medicinal Labyrinth, planted with medicinal herbs
- Keyhole Companion Gardens, demonstrate the natural biological connections between certain plants
- Edible Hedge, a shrub and bramble barrier that produces several varieties of fruit

All of the gardens, orchards, and support structures will provide the places and subject matter needed for a dynamic, yearly calendar of events:

- Cooking classes
- Landscaping with permaculture
- Behind-the-scenes tours showing how Growing Green measures energy use
- Specialized gardening classes for adults
- Gardening programs for young children
- School field trips offering agriculture curriculum

The expertise for conducting these classes can be hired from the local community or acquired in-house through training and mentoring programs.

7.0 Market Analysis Summary

From farmer's markets to roadside stands to locally grown produce sold at traditional grocery stores, the opportunities for buying fresh, locally grown foods are increasing, even in rural areas. What will make Growing Green stand out in this increasingly competitive environment?

Central to the Growing Green project is the philosophy that food production and consumption are not separate from each other. They exist in a larger, cultural context of interconnectedness between people, the land, the environment, and society. Economics and globalization have separated and compartmentalized the production and consumption of food. Food production has become increasingly specialized and commoditized as agriculture has given way to agribusiness and the family farm has given way to the corporate farm. Increasingly we are choosing foods produced in other countries with unknown labor and environmental methods. Growing Green offers an alternative by returning to a food production ecology that respects and enriches the land, crop, and labor inputs that produce the food we enjoy each day.

There are several ways to communicate the Growing Green philosophy and present it as a unique and desirable option for locally grown fresh and/or organic products.

- Mission-driven—employing adults with disabilities from the region (MRCI) and fostering environmental awareness (Putting Green)
- Educational—how to make choices in our own lives that respect the land and enrich our lives
- Triple-bottom-line accountability—how to run a business that balances and meets economic, social, and environmental objectives

The Growing Green project has a significant, built-in advantage when it comes to defining and accessing markets. Both Putting Green and MRCI have a large base of existing contacts and customers. Both organizations are established in the community and carry significant credibility with their supporters and in the community at large. In the market analysis section that follows, the focus will be on leveraging this installed base to generate immediate traffic to the farm site.

7.1 Market Segmentation

Given the desire to leverage existing contact networks, the team began by segmenting the current Putting Green and MRCI databases. The following will give some explanation of the market segments that have been used in estimating anticipated traffic flow at the market site.

- **Putting Green Supporters.** Existing supporters of Putting Green have already demonstrated an interest in the environmental and educational mission of the organization. By visiting the Green and purchasing produce, this group will

generate early traffic with an active market segment. Currently there are approximately 200 contributing supporters of Putting Green.

- **Putting Green Golfers.** Visitors to Putting Green enjoy learning about sustainability and how to leave a shallow footprint on the environment by playing through nine, themed miniature golf holes. Approximately 5,000 golfers visit the park each year, of which 30% are adults.
- **Educational Groups.** Nearly 3,000 area students visit Putting Green each year. Expanding educational opportunities to include Growing Green programs will generate much-needed early revenue for the farm.
- **MRCI Supporters.** MRCI's network is large. The business and staff who support people with disabilities represents the largest single industry in New Ulm and includes state and county staff as well as residential and medical providers. In addition, MRCI works directly with over 30 employers in providing jobs for clients, creating a network of daily contact with 1000 members of our community. Like Putting Green supporters, those closely involved with and supportive of MRCI's mission will be more easily motivated to visit the farm.
- **Organic local food enthusiasts.** Rather than occasionally visiting a farm to purchase a small amount of fresh produce the way one might at a farmer's market, this segment actively seeks to purchase a greater volume of their produce from a farm on a regular basis. Often ordering through a website that is updated regularly with available produce, they order larger quantities and a wider variety of produce than the casual visitor. These may be individuals, restaurants, or food co-ops.
- **Target populations not associated with Putting Green or MRCI.** This segment represents those people who are not included in any of the previous segments, but who value fresh produce and/or sustainable agriculture.

7.2 Target Market Segment Strategy

The rationale for breaking down the market segments in this way stems directly from the need to drive traffic to the market site quickly and to leverage existing marketing channels to lower marketing and advertising costs. The market segments are already actively supporting either Putting Green or MRCI. The farm can be seen as an expansion of these organizations' missions.

7.2.1 Market Needs

Regardless of what market segment a potential consumer falls into, it helps to first consider their needs. After all, Growing Green's success relies on providing value and meeting the needs of its customers better than any of the alternatives available. It can be easy to focus on what the organization needs to do to sell produce (pushing out from the garden to the consumers) but solid, lasting consumer support comes from an ability to meet the consumer's needs in a way that builds loyalty to the garden and its mission (pulling in from the consumers to the farm).

An effective means of communicating the needs of typical customers is to describe them in the narrative. Below are three profiles of typical customers from the New Ulm area that might visit the Growing Green market at Putting Green Park.

Customer Profiles

Mary is a working mother who likes to cook, but she doesn't have a lot of time. She works in the local 3M offices, so stopping by Putting Green Park after work to pick up produce for dinner is easy. She and her husband Paul have been trying to eat more fruits and vegetables for health reasons. They are willing to try new things, but Mary has a hard time convincing her two kids to try new foods. For Mary, having a variety of items, but especially basic items would be important. Her family already visits Putting Green a few times each summer, and the kids love it there. Chatting with her about recipes and cooking tips, as well as the health benefits of certain items, would make her a repeat customer. The expanded activities would keep her children engaged as well.

Jack and Susan are committed environmentalists. They are members of the St. Peter Co-op, but hate driving so far to pick up basic items that they can feel good about eating. They try to buy organic as often as possible, and are also participating in a local-foods challenge this summer. They find it easy to shop at the local farmers' markets but are frustrated by the lack of sustainable farms selling there. This couple would likely enjoy farm tours where they can hear about the farm management practices at Growing Green, and be able to show their environmental commitment through their purchasing habits.

Lois and Herald are a retired and living in New Ulm. They now have more time to spend cooking, and Lois enjoys cooking recipes from her German mother. Her family always made their own jams, pickles, and canned tomatoes, and she would like to continue this tradition with her grandchildren. Growing Green would give her a local option for buying produce to preserve, as well as entertainment options when the kids visit.

7.2.2 Market Trends

Organic farming has become the best option for long-term production of environmentally safe food (Bavec and Bavec 2007). Growing Green has committed to following sustainable farming practices and to obtaining organic certification. Organic farming principles focus on protecting environmental quality while providing high-quality food for consumers (Bavec and Bavec 2007). Through alternative farm-management techniques, sustainable farming preserves environmental resources, in contrast to industrial agriculture that rely upon synthetic pesticides and fertilizers. Organic agriculture in the United States is governed by regulations, outlined in Appendix. In the United States, fresh produce comprises the largest share of the market for organics (Newton 2004). Also see “The Coming Organic Crisis” Appendix.

Recognition of the connection between local food systems and local economies has increased in recent years, as manifested by the growth of organizations such as Slow Food International and Local Harvest (Bavec and Bavec 2007). Small sustainable farms are able to compete with conventional products by offering an alternative that provides a connection to social and environmental values, rather than economic values alone. The food for the average American meal travels about 1,500 miles before consumption, and the costs of non-local food will rise along with fuel costs (MISA 2007). Eating local decreases the food miles traveled for consumers, which in turn reduces environmental impacts.

According to the Minnesota Legislature, organic farming has a financially feasible future in Minnesota (MDA 2006). Consumers are realizing the health benefits of eating fresh produce, and increasingly enjoy knowing the source of their food. While the human-health benefits of organics remain controversial, the perception of organics as a healthier option continues to drive demand (MISA 2007).

7.2.3 Market Growth

From a purely business perspective, the challenge facing Growing Green is to offer potential consumers an alternative to purchasing produce they are already getting elsewhere. In this context, the potential for market growth is very large, especially when considering the shifting of purchases from one source (the grocery store) to another (Growing Green). Therefore, market size is not the limiting factor as the project moves from project concept to project reality.

8.0 Marketing Strategy

Initially, the marketing strategy for Growing Green will be simply to tap into the existing communication networks of Putting Green and MRCI including an email newsletter and website. Doing this keeps costs low and accesses the most promising and motivated populations of potential consumers. One strategy will be to build a loyal base of consumers out of these networks and supplement them with new consumers that are drawn from the New Ulm area. A second strategy will be to develop an educational platform to attract school groups, similar to the model developed by Putting Green.

With funding from United Way, a pizza garden was started in 2007. The reason was two-fold: to train MRCI clients and PG students in farming techniques and to raise awareness of the project in the community. See “Lifestyle” Journal article, Dec. ’07. Two public forums were also held this past summer to receive feedback and raise awareness of the project.

8.1 Value Proposition

A value proposition typically connects an organization’s mission with the potential market and is one important cornerstone of marketing strategy. Going beyond the transactional nature of buying and selling goods or services, the value proposition encompasses the experience, or intangible value, that consumers enjoy when they choose Growing Green products.

The mission of Growing Green is to create a sustainable, commercial farming operation that employs MRCI-New Ulm clients and area youth and yields healthful products and experiences for local consumers.

In addition to connecting the mission to the market, an important aspect of developing the value proposition is to ensure that the objectives of the project are met. The objectives are the desired outcomes of successfully delivering on the mission, therefore delivering value

over and above the transaction of buying and selling. In the case of Growing Green, there are objectives in each of three bottom lines: economic, social, and environmental:

- Economic—demonstrate that sustainable agriculture can be a profitable business and can contribute to the local economy
- Social—enhance the quality of life for those who work for or buy from the farm
- Environmental—demonstrate the environmental benefits, practicality and scalability of sustainable practices, whether in a home garden or on a working farm

8.1.1 Growing Green’s Value Proposition

Although Growing Green will offer high-quality products at competitive prices, the real benefit of shopping at the Green is the opportunity to connect:

- Connect with those that grow and harvest the food you are purchasing, knowing that MRCI clients and area youth have been enriched by their work through employment and learning opportunities at the farm
- Connect with a business that is about more than making money, by showing that plentiful and abundant food can actually enrich rather than deplete the environment
- Connect with a community of shoppers and employees who share the same satisfaction and enjoyment of healthy and fresh food

8.1.2 Positioning Statements

Positioning statements are another important cornerstone in the overall marketing strategy. Depending upon which segment of the target market is being addressed, the positioning statement will vary. Below are possible positioning statements for the various market segments already identified.

- **Current Putting Green Supporters.** For current supporters of Putting Green who place a priority on environmental sustainability in today's society, Growing Green offers an important expansion, demonstrating environmentally sustainable practices in food production within the context of a profitable agribusiness. Support Putting Green by visiting the farm and enjoying the benefits of the harvest.
- **Putting Green Golfers.** For visitors to Putting Green who have come to enjoy the fun and educational benefits of mini-golf, Growing Green offers an additional opportunity to learn about environmentally sustainable food production practices while also enjoying the fresh and healthy harvest of the farm. Come, have fun, learn, and leave having fed your mind and body!
- **Educational Groups.** For school children from the New Ulm area that love a field trip, Growing Green offers an opportunity to learn about environmentally sustainable food production practices while also offering the fresh and healthy harvest of the farm. Come, have fun, learn, and leave having fed your mind and body!
- **MRCI Supporters.** For supporters of MRCI who are committed to helping adults with developmental disabilities become more independent and personally fulfilled, Growing Green provides MRCI clients employment opportunities in a

- business that also allows you to enjoy the fruits (literally!) of their labor. Support MRCI and its clients by visiting the farm and enjoying the benefits of the harvest.
- **Growing Green Members.** For those who are committed to having abundant, fresh, locally grown products as a central part of their diet, Growing Green offers a wide variety of fruits and vegetables that can be pre-ordered via phone or web-site and reserved for you to pick up. Guarantee yourself a chance to enjoy the harvest and become a Growing Green member.
 - **Unassociated Target Population.** For those who value fresh, locally grown products, Growing Green offers a wide variety of fruits and vegetables available throughout the growing season. Convenient location and hours of operation makes adding produce from Growing Green to your shopping list easy—and healthy!

8.2 Promotion Strategy

For executing the overall marketing strategy of leveraging the existing base of Putting Green and MRCI supporters and developing an educational platform for area students, Growing Green will largely rely upon the marketing and promotional efforts of Putting Green. The people and expertise resources already employed there will prevent redundancy in cost and effort and will potentially benefit the overall effort of promoting Putting Green itself. Being able to present new opportunities for Putting Green supporters to learn and engage by visiting the farm will bring more traffic to the site and will invigorate the overall connection to the purpose and mission of Putting Green. In addition, extending communication efforts and awareness to the MRCI network will provide Putting Green access to a whole other population of potential golfers and consumers, further benefiting Putting Green.

8.3 Marketing Programs

As this project continues to move from concept to reality, those involved in the promotional and marketing activities of both Putting Green and MRCI will need to be involved in how to incorporate Growing Green into their existing campaigns and programs.

8.4 Printed Materials

As yet there are no printed materials for Growing Green. As the project takes shape and is presented to the public, a variety of materials explaining the collaboration and how to purchase products or otherwise support the effort will be required.

9.0 Management Summary

9.1 Organizational Structure

While not many positions are necessary for the start-up operation of Growing Green, there are critical roles that must be filled. The chart that follows outlines these critical roles and their relationship to the farm manager—the key management position. These roles and responsibilities are described in greater detail in the following section.

The critical issue here is that the farm start-up and daily operations require a great deal of focus, accountability, and knowledge—particularly on the part of the farm manager. Starting and operating a commercial-scale agricultural business requires all the knowledge, time, and day-in-day-out attention that any other business requires.

9.2 Position Roles and Responsibilities

Farm Manager

The farm manager is responsible for overall operations at the farm including directing the coordinators and bookkeeper, record keeping, planting, weeding, and harvesting schedules and overall farm maintenance. Duties include, but are not limited to:

- Day-to-day to-do list
- Conduct weekly meetings with marketing and sales coordinator and production coordinator
- Keep inventory of supplies and order when necessary
- Manage day-to-day activities of volunteers and MRCI supervisors/clients
- Manage water use and quality at the farm site
- Help organize field trips and lead tours
- Help implement and maintain field layout according to an established site plan
- Create and implement field-succession plans
- Coordinate harvesting and packaging
- Record-keeping for potential organic certification
- Record-keeping of all production activities

This is a half-time position overall with fewer hours needed during non-production months and more hours needed during the summer and fall (April – November). The farm manager needs to have a working knowledge of growing and harvesting a variety of plants. Working knowledge of small, hobby-farm operations is preferred. The farm manager will report to and be accountable to Putting Green and MRCI liaisons assigned to oversee this joint farm project. The farm manager will work closely with and direct the activities of the marketing and sales coordinator, production coordinator, and bookkeeper.

Marketing and Sales Coordinator

The marketing and sales coordinator is responsible for the marketing activities that focus on product, pricing, promotion, and placement. This includes maintaining a constant communication flow with current, past, and prospective customers. Also, this person is responsible for coordinating communications with CSA members. The coordinator is responsible for maintaining a website presence to the degree necessary and appropriate to the farm project (just informational or up to and including on-line ordering at some point in the future). Duties include, but are not limited to:

- Working with the farm manager to coordinate harvests
- Coordinate post-harvest processing and presentation of products at the market site
- Taking inventory pre- and post-market
- Coordinating the market stand operation

- Ability to project and determine the demands and needs of the market
- Coordinate non-retail sales throughout the community (CSA sales and commercial sales)
- Resource development (writing grant proposals and solicitations)
- Website and email updates
- Various record-keeping

This will be part-time position throughout the production season (April – November). The business plan for Growing Green has established market opportunities that the coordinator would follow up with and develop, in addition to exploring new options. The marketing and sales coordinator is expected to effectively market our fresh produce in a timely manner. The marketing and sales coordinator will report to and be accountable to the farm manager and will work closely with the production coordinator and bookkeeper.

Production Coordinator

The production coordinator is responsible for recruiting and scheduling all production labor—including volunteers—and working with MRCI management to utilize MRCI clients wherever possible. Duties include, but are not limited to:

- Recruiting volunteers
- Schedule volunteer workers
- Coordinate with MRCI management to schedule MRCI clients to work at the farm
- Coordinate with farm manager to determine the number production workers needed from day-to-day
- Coordinate with farm manager regarding day-to-day tasks
- Assigning tasks to volunteers and MRCI clients as needed

The production coordinator will work closely with the farm manager, MRCI management, supervisors, clients, and farm volunteers. In addition, the production coordinator works closely with the marketing and sales coordinator to ensure a steady flow of products for sale. This is a part-time position throughout the production season (April – November).

9.3 Management Team Gaps

Having outlined a structure and described the key roles and responsibilities necessary to open the doors for business, the task force is now considering filling these responsibilities with existing project participants or stakeholders who have a genuine interest in the success of the project but do not have the experience or practical knowledge necessary to run a commercial-scale agribusiness. The budget for the project includes consulting services to help guide and direct the activities of on-site staff.

The primary concern with this scenario is that the critical responsibilities and oversight will be pieced together in a patchwork fashion, increasing the danger that critical activities will be missed and/or communication between personnel will be lacking. The project's success depends upon budgeting for, and hiring a person or team of people with the necessary skills, knowledge and experience. There must be clear communication and detailed delineation of management responsibilities for the project to succeed.

10.0 Financial Plan

10.1 Start-up Funding

The financial analysis includes one time start-up costs---- plants, seeds, soil amendments and equipment; and construction costs for 2 buildings---a prep shed and market stand. In the financial projections, the scenario assumes that \$20,000 of revenue is obtained to build the market stand and production shed, and a starting cash balance of approximately \$60,000 is available to cover cash-flow shortfalls (1/2 of which are one-time costs of labor and raw materials). Currently \$16,000 is committed to the project, leaving \$44,000 needed to cover the remaining costs, not including the building costs.

What are the options for addressing the cash flow and some of the one-time costs? One option is to secure a line of credit in excess of the maximum amount the projections show is needed. The projections show a cash shortfall of \$45,927 in the first year and \$14,762 in the second year, so a line of credit in excess of the combined amount of \$60,689 would be recommended. Another option is to develop resources prior to start-up, through inkind (labor and materials) and cash contributions from individuals, businesses and foundations, as a cushion to draw on in order to meet expenses. Again, the amount would needed without incurring a debt load is approximately \$44,000 (\$60,000 less the committed \$16,000) in order to cover expenses, plus \$20,000 for the buildings.

The task force does not want to take on the risk of a line of credit, therefore recommends that MRCI/PG develop resources through grants and solicitations to cover expenses. To decrease the amount of cash needed to be raised (\$64,000 in starting cash balance and building costs), the task force makes the following recommendations:

1. In-kind management labor donation - \$20,000
2. Inkind equipment donation- \$10,000.
3. Use existing buildings (clubhouse and dome) for product storage, prep and selling - \$20,000.
4. Delay payment of MRCI clients until the year's end. In deferring payment, the cash flow shortfall seen in the early season will be less than predicted.

After deducting these inkind contributed revenues and re-calculating cash flow using year-end labor payment, the minimum required start-up investment is less than \$10,000 to be met with contributions raised through grants and solicitations.

10.2 Important Assumptions

The production capacity and related costs for Growing Green were developed with maximum production in mind. In other words, how much of what crops could be produced on the farm site in each of the first three years and what labor and materials would it take to produce them? As crops mature and more land is brought into production, the output capacity increases rapidly to the numbers presented in the third year.

Output capacity, as represented in dollars, is determined by multiplying the volume of crops harvested by a reasonable market price for the produce. This calculation reflects the relative value of various crops and allows the mix of crops to be adjusted to balance the desire for a wide variety of products with the need to generate maximum revenue.

In estimating costs, typically one would separate variable costs (labor, materials, and direct equipment) that vary directly to the volume of production (the more you produce, the more labor, materials, and equipment you need) from the fixed costs that do not vary with production (often referred to as overhead, non-variable, or fixed costs). In typical manufacturing language, variable costs are referred to as the cost of goods sold and is measured as a percentage of the selling price of a given product. This allows one to measure and manage the gross profit of each product individually. In this case, however, all costs were lumped together and treated as fixed costs. There are two primary reasons for this modification:

1. It is impossible to tie variable costs directly to individual crops. In other words, cost of goods sold cannot be established for each individual product sold (each berry, tomato, or ear of corn). The usual, variable cost categories are labor, materials, and direct equipment. Take labor, for example. On any given day, the labor available will move around the farm site tending different crops, depending upon the current needs. One labor pool tends many different crops in varying degrees. The same situation applies to materials such as soil amendments, seeds, and plants that are purchased in bulk and are used where needed and when needed throughout the farm. There is no correlation between the costs of these items and the crops for which they are used. Finally, the equipment purchased for tending the farm is used across all of the crops as needed. Again, there is not a direct correlation between rakes and tomatoes where one could estimate that a fixed percentage of the cost of the rake is tied to the price of each tomato harvested.
2. The second reason for treating all costs as fixed costs is related to the timing disconnect of incurring costs and selling products. Labor, materials, and equipment are needed when the conditions warrant, not on a fixed schedule that allows one to tie costs incurred in one month directly to revenue generated in the next month. For example, different crops need different kinds, amounts, and timing of labor, materials, and equipment inputs depending upon the daily conditions of weather, pests, animals, plant loss, market demand, etc.

Estimates of Growing Green's output capacity were studied in parallel with estimates of market size for each of the first three years of operation. A description of the market segments appears in Section 7. The results of this analysis—represented in dollars spent at the farm—can be compared to the farm's dollar output capacity to determine if the market size is adequate to consume the farm's total output.

10.3 Explanation of Profit and Loss

The profit and loss chart reflects the differences between Growing Green's total output capacity measured in dollars (income) and the farm's total expenses. The bottom line of the profit and loss equation is the operating income. It is derived by simply subtracting expenses from income. When the operating income is a positive number, the farm made

money. Conversely, when the operating income is a negative number, the farm lost money.

In the financial scenario, the profit-and-loss statement for Growing Green shows a loss in the first year of approximately \$46,500 and \$15,000 the second year but a profit of \$2,000 the third year. It is reasonable to expect a start-up business to show a loss in its early years as expenses to get the business running are incurred prior to realizing the revenue of the business's output. To show a profit as early as the third year is a positive sign.

What follows are some specific observations, questions, or comments related to the information appearing on the profit and loss statement.

Income

Conservative estimates were made as to income generated from field trips. It is expected that Growing Green will be a desirable destination for school children in the area, just as Putting Green has demonstrated. The revenue generated from field trips will likely fall directly to the bottom line without incurring much additional cost.

Expenses

The costs of a root cellar, greenhouse, Learning Center with commercial kitchen, and amphitheatre, mentioned as future enhancements to the farm, are not reflected in the expense numbers.

Labor costs reflect the best estimates of both hours and pay for the farm manager, marketing coordinator, production coordinator, and farm labor. It should be noted that the farm labor estimates assume adult, able-bodied workers being supervised by the farm manager and/or production coordinator. These tasks will likely be offered as an in-kind contribution, for at least a majority of the hours.

Additionally, in estimating both the payroll and the overall farm-production capacity, it is assumed that the farm manager has existing experience and knowledge of running an agribusiness such as Growing Green. It is difficult to estimate the financial effect of an inexperienced farm manager. On-the-job training and learning will lead to additional consulting costs for Growing Green.

10.4 Projected Cash Flow

The cash-flow statement takes the same assumptions of income and expenses used to generate the profit and loss statement. With a cash flow statement, however, the element of timing is added to the picture. What would the checking account look like as income is realized and expenses are paid? What does the cash flow statement for Growing Green show? Because there is no existing income stream to cover the start-up costs, Growing Green will struggle with monthly cash flow throughout the three-year projection period. The projections, however, show a strengthening trend in cash flow through the three-year period.

10.5 Market Size

Having studied Growing Green's projected production and expenses, the question still remains; will enough people will visit the farm and purchase what the farm produces? The team established a step-by-step methodology to best answer this question.

- Each of the market segments was first estimated for total size.
- For each segment, the number of probable visitors to the farm was estimated. For example, there are 200 people who are currently supporters of Putting Green. Of these, it is estimated that 30 will visit the farm in the first year to purchase produce, 50 will visit in the second year, and 75 will visit in the third year.
- Then, an estimate was made as to the number of times each person would visit the farm during the months it is open.
- Finally, the amount of money spent during each visit was estimated.
- When these values are multiplied together, an estimate of total revenue is generated.

A Monte Carlo simulation was used to estimate the probability of there being enough people to buy the produce offered by Growing Green. In estimating market size, as outlined above, typically one number is chosen as forecast or estimate. In the second bullet above, that number would be 30 out of a total of 200. Single-number estimates are also made for the number of visits and the amount of money spent on each visit. The problem with this approach is that reality never occurs exactly as estimated. So what happens if 27 or 35 people visit the market instead of 30? What if they visit a less often or more often and spend a little less or a little more than estimated? How does the outcome change? These questions often drive the attempt to capture possible worst-case and best-case scenarios. Again, single-number estimates are used for the least-likely and most-likely values on either side of each estimate. While this approach is helpful in estimating worst-case and best-case extremes, it does not answer the question, how likely is the worst-case or best-case scenario to occur?

A Monte Carlo simulation seeks to answer just that question. The simulation takes the lowest, most likely, and highest estimates for each variable (number of people, number of visits, amount spent) and randomly combines values within the estimate range to generate a probability curve of total revenue generated. For example, one scenario might take the high estimate of number of people, the low estimate for number of visits, and the most likely estimate for money spent. Another scenario might take the most-likely number of people, the high estimate for number of visits, and low estimate for money spent. The simulation will run literally thousands of possible combinations of values within the estimate range. The resulting forecast curve allows one to project, with much greater confidence, not just the estimate but also the probability of the estimate occurring.

Variables

The chart below shows the lowest, most likely, and highest estimate for how many visitors for each year, broken down by market segment.

		2008	2008	2008	2009	2009	2009	2010	2010	2010
Description	Total Number	Least Likely	Most Likely	Highest Likely	Least Likely	Most Likely	Highest Likely	Least Likely	Most Likely	Highest Likely
PG Golfers	5000	50	100	300	75	150	300	100	175	400
PG Members	200	20	30	75	30	50	75	50	75	100
MRCI	200	20	30	75	30	50	75	50	75	100
Unassociated	198	20	30	75	30	50	75	40	60	90

The chart below shows the lowest, most likely, and highest estimate of the number of times each person will visit the market during the year.

2008	2008	2008	2009	2009	2009	2010	2010	2010
Least Likely	Most Likely	Highest Likely	Least Likely	Most Likely	Highest Likely	Least Likely	Most Likely	Highest Likely
5	10	20	10	15	25	10	20	30

The chart below shows the lowest, most likely, and highest estimates for the amount spent during each visit.

2008	2008	2008	2009	2009	2009	2010	2010	2010
Least Likely	Most Likely	Highest Likely	Least Likely	Most Likely	Highest Likely	Least Likely	Most Likely	Highest Likely
\$2.00	\$8.00	\$15.00	\$5.00	\$10.00	\$15.00	\$5.00	\$10.00	\$20.00

Annual Revenue Forecasts

Based upon the above variables, the probability of generating enough revenue to consume the output of the farm is represented in the chart below.

Year	Farm output capacity (from financials)	Probability of meeting farm capacity
2008	\$16,595	77%
2009	\$42,915	82%
2010	\$60,090	92%

Conclusions

The estimates for the number of people who would visit the farm each year are conservatively low and do not take into consideration CSA members or field trip visitors. A similarly conservative approach was taken when estimating the number times someone might visit the farm each year. The farm is scheduled to be open for 20 weeks per year and the estimates assume a visitor is most likely to shop every other week for a total of 10 visits. When estimating the amount spent during each visit, and comparing it to the cost of the produce that is expected, these estimates are also conservatively low.

Even with estimates on the low end, there is a very, very strong likelihood that enough revenue will be generated to meet the output capacity from the farm. In other words, driving enough traffic to the market should not be the constraint to success. Making sure there is enough produce to satisfy the visitors and keep them coming back will be the bigger constraint to success.

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