

# **The Development of a Multifaceted Assessment Tool in Response to School Garden Trends in Wisconsin**

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# Abstract

The sustainability of a school garden is complex and dependent upon many factors (Moore, Apicella, Marson & Thompson, 2012). However, many educators understand the social and emotional benefits of school gardens: increased life skills such as teamwork, self-understanding, leadership, decision-making, communication skills and volunteerism (Robinson & Zejicik, 2005), as well as, improved sequencing skills, establishing ownership, appreciation for nature, and interacting with adults as role models (Swank & Swank, 2013). Motivated by these benefits, school gardens are established and, despite the countless resources available, soon begin to flounder. The purpose of this research is to create a multifaceted assessment tool that will help Wisconsin school garden programs become more sustainable. Driving this research is the question, can an assessment tool be designed that: can be adopted by the majority of school garden programs, would allow a program to compare itself to itself, can be easily conducted by the school, can assist in establishing a sound foundation, can serve as an historical document and can support programs to maintain momentum over time? A systematic review of literature, resources and systems assessment tools resulted in the selection of strengths and notations of weaknesses of several proven assessment tools to create one which is reliable and satisfies the research objectives. The completed, value-based assessment tool was used by eight criterion-based selected school garden programs that participated in guided individual focus groups (involving a total of 32 stakeholders) utilizing the Nominal Group Technique. A follow up, Likert scale, survey was sent to focus group participants to quantify their experience, the tool and supporting materials along with an open-ended commentary page. Additionally, seven other school garden professionals consented to scrutinize the developed assessment tool and the supporting materials, complete a survey, and offer suggestions for improvements. However, due to low participation statistically significant data was not gleaned from these professionals. The open-ended commentary, however, was considered for future adjustments to the tool. Qualitative analysis of data collected from the focus groups, triangulated with survey data confirmed that

the tool created through this research has met the objectives. School garden programs may benefit from using this tool. It provides the ability to prioritize elements which can increase a program's sustainability and insights for strategic planning, identifies program strengths and weaknesses, and may help curb the "boom and bust" trend in Wisconsin school garden programs.

I dedicate this thesis to my children.  
You are my purpose and I am better, in all ways, through you.

Mrs. Maggie Dorsey's 5<sup>th</sup>/6<sup>th</sup> Grade Verse

I look out into the world	Look to this day for it is life
Wherein there shines the sun	The very life of life
Where glimmer all the stars	In this brief course lies all the
Where lie the silent stones	reality
The plants that live and grow	And truth of existence
The beasts that feel and move	The joy of growth
Where man and soul creates	The splendor of action
A dwelling for the spirit	The glory of power
I look inward to the soul	For yesterday is but a memory
That lives within my being	And tomorrow is only a vision
Spirit of earth to thee	But, today, well lived
I turn myself in seeking	Makes every yesterday a memory
That strength and grace and skill	of happiness
For learning and for work	And every tomorrow a vision of
May live and grow in me.	hope
	Look well, therefore
	To this day.

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# Chapter 1: Introduction

## Statement of Problem

The sustainability of a school garden is complex and dependent upon many factors. However, students who experience garden programming have increased life skills such as teamwork, self-understanding, leadership, decision-making, communication skills and volunteerism (Robinson & Zajcick, 2005). More so, garden programs promote additional positive skills such as decision-making, communication, sequencing, establishing ownership, appreciation for nature, and interacting with adults as role models (Standards, Swank & Swank, 2013). Understanding these benefits, across the United States there has been a significant desire to create school gardens. Despite this desire and ever-increasing assistance, school garden programming tends to lack longevity for several reasons; for example, lack of resources (Hozzard, Moreno, Beall, & Sheri, 2012), and lack of knowledge and funding (Wright, et. al, 2013). When a school is motivated to provide the benefits of garden programming for their students, challenges must be identified and addressed before the program begins to falter, stakeholders lose motivation under the strain, the garden program closes, and monies and opportunities are lost. A failed garden program is not only a huge loss for the school academically, physically, socially, and culturally but also psychologically. When this occurs it is not forgotten, so the next opportunity to begin a program generates significant reluctance, understandably, and resistance toward funding.

## **Research Question and Objectives**

Can an assessment tool be designed that could: be adopted by the majority of school garden programs and allow a program to compare itself to itself; be easily conducted by the school; assist in establishing a sound foundation; serve as an historical document; and support programs to maintain momentum over time?

The objective was to create a value-based assessment tool which:

- is user-friendly, uncomplicated, convenient, timely, effective, inexpensive, and fun for stakeholders
- allows a program to compare itself to itself over time
- results in a single-sheet framework to be used as historical document
- provides useful information for funding, grant summary or to demonstrate need.

## **Importance of This Study**

A plethora of tools are available for school garden programming, yet many have limitations which make them impractical or ineffective for many programs. This research is important because the benefits to students gained through garden programming are significant and programs need to be sustainable. This research is innovative in that it uniquely incorporates value-based assessment to actively engage stakeholders in decision-making, goal setting, and definition of achievement and assessment tool creation which will, potentially, assist in identifying weaknesses before they are devastating and strengths that can be leveraged to imbue stakeholders with the ability to keep programming sustainable.

## **Limitations**

1. Due to time constraints, this research will be telling yet will not lead to robust, generalizable results.
2. Due to personnel limitations, one focus group selected per criterion will not lead to robust, generalizable results.
3. Currently, there is no discoverable census information regarding the total number of school garden programs in Wisconsin. Additionally, there have not been any resources that have specifically calculated the establishment and closing of school garden programs in Wisconsin.
4. Sources for information regarding current school garden programs and contact information are limited.

## **Definitions and Abbreviations**

***Community capacity:*** Describes the assets of available resources, skill set, and commitment to use these to leverage strengths and overcome weaknesses (Ahmad & Talib, 2014).

***Economic Resilience:*** “Sustains an economy through change and the unexpected” (Hunt, MacLeod, Moller, Reid, & Rosin, 2014, p.v).

***Elements:*** Indicators or criteria which are critical to meet the values of a school garden program.

***Empowerment:*** “Any process by which people’s control (collective and individual) over their lives increases” (as cited in Ahmad & Talib, 2014, p. 1041).

**Engagement:** The involvement in decision-making, active citizenship and the perception of acting together will lift up the entire community (Ahmad & Talib, 2014).

**Environmental Integrity:** “Sustains natural capital, enhances natural heritage values and meets global environmental obligations” (Hunt, MacLeod, Moller, Reid, & Rosin, 2014, p. v).

**Good Governance:** “Ensures sound decision making and implementation” (Hunt, MacLeod, Moller, Reid, & Rosin, 2014, p. v).

**School garden:** Using plants grown in the ground, raised beds, containers, greenhouses, or in any environment available to schools to teach any subject or course material.

**School Garden Champion:** The individual who devotes a disproportionate amount of energy to their school garden program.

**Sense of Community:** “Entails the sentiment of mutually belonging to each other...with a direct pledge for proactive citizenry...and implies the interdependence between individuals and the community; integration and fulfillment of community needs, their connections, relationships and emotions as well” (Ahmad & Talib, 2014, p.1043).

**Social Well-being:** “Ensures opportunities and respects social and cultural principles of all society” (Hunt, MacLeod, Moller, Reid, & Rosin, 2014, p. v).

**Stakeholders:** Participants, members or organizations which have an interest in the success of a school garden program.

**Success:** Meeting the goals established by the school garden stakeholders.

**Sustainability:** “Resilient both in the present and future while maintaining, if not enhancing, the environmental integrity of ecosystems” (Hunt, MacLeod, Moller, Reid, & Rosin, 2014, p. v), good governance, economic resilience, and social well-being.

**Value-based:** Setting an importance to or priority based on the benefits it provides the school.

### **Assumptions**

1. Each individual will respond honestly while providing thorough information during their focus group and in their survey.
2. The stakeholders participating in the school garden focus groups are knowledgeable of their program or relevant aspects of their program.
3. The stakeholders participating in the school garden focus groups are emotionally or cognitively invested in the success of their program.
4. School garden professionals who expressed an interest in scrutinizing the “How To” document, redundant since scrutinize implies this and more framework and supporting tools by completing a survey and offering suggestions with the open-ended commentary page would do so.

### **Summary**

The literature supports the benefits of school gardens, not just for nutritional concerns, but for the academic, social and behavioral benefits too. The challenges faced by those desiring a school garden and for those attempting to maintain a school garden can seem enormous. Yet some schools create these green spaces where children experience a unique experiential learning opportunity. This research developed the explained multifaceted tool. Therefore, the school garden programs which use the tool may become more sustainable; more students may gain from

such programming, school districts may become more willing to contribute support and financing to said programs, and more school garden coordinators may get paid in recognition for their professional contribution to the well-being of Wisconsin students.

## Chapter 2: Review of Literature

Seven key components are supported in this chapter:

1. The benefits of school gardens.
2. The challenges to establishing and maintaining school gardens.
3. Possible reasons some school gardens persist despite challenges.
4. A comparative review of various assessment tools.
5. The importance of value-based perspective for school garden programs.
6. The Tragedy of Commons Theory and Community-based Conservation approach
7. Theory of Community Empowerment

### **The Benefits of School Gardens**

In 2004, the Child Nutrition and WIC Reauthorization Act was passed and established a non-funded farm to school program (Civic Impulse, 2016). Between 2004 and 2010 and since, there has been a plentitude of research touting the health and nutritional benefits of school gardens. In 2010, the Healthy, Hunger-Free Kids Act of 2010 established the USDA Farm to School Grant Program to expose more children to local, healthy foods, while encouraging schools to foster experiential food education for students; thus, began the trend for schools to consider the benefits of building their own garden classroom. Because the Farm to School (F2S) program receives five times the requests their \$5,000,000 budget can satisfy; a petition, Act 2015, has been placed in front of Congress to increase the F2S Grant Program to \$15,000,000 (farmtoschool.org).

These F2S requests may reflect an understanding of the academic, social and emotional benefits of school gardens. Students who experience garden programming benefit from six

increased life skills: teamwork, self-understanding, leadership, decision-making skills, communication skills and volunteerism (Robinson & Zajick, 2005). More so, using the American School Counselor Association Standards, Swank and Swank (2013) studied behaviors resulting from a garden program which included planning, preparing, planting, maintaining and harvesting. They reported positive implications specifically in the development of skills such as decision-making, communication, sequencing, establishing ownership, appreciation for nature, and interacting with adults as role models.

### **The Challenges of Establishing and Sustaining School Gardens**

Demographics, lack of community resources, funding challenges, lack of food preparation skills and equipment are some of the challenges faced by school garden programs. According to Bridging the Gap, a research program of the Robert Wood Johnson Foundation, analysis of surveys taken by public school administrators across the nation shows school gardens are on the rise; yet as of 2013, three out of four schools did not have a garden. Most gardens were found on the east and west coasts. The demographic characteristics of schools which were least likely to have a garden are: located in the Midwest, located in small towns, where more students eligible for free and reduced meals and had a population of 450 or fewer students (Turner, Sandoval & Chaloupka, 2014).

One of the regions where garden programs are most prevalent, California, all public schools are eligible to participate in the California Instructional School Garden Program. A small majority do participate; yet some schools do not apply. A statewide study discovered the schools which applied to the program had greater access to garden coordinators, had parents and community volunteers committed to their project and had additional funding and grants (Hozzard, Moreno, Beall, & Sheri, 2012).

The sustainability of a school garden is complex and dependent upon many factors. Moore, Apicella, Marson and Thompson (2012), describe six major challenges to the establishment and long-term maintenance of school gardens:

- Dependence upon labor of one person exclusively
- Limited funding, grants require time and skill in writing and monies can get tied up in district accounts
- Limited vendors who accept district purchase orders
- Funding periods can be closed from April through July, the typical season for gardening
- Previous negative experience with mismanaged or unmanaged gardens that become a burden or unsightly
- Curriculum integration requires specialized skills, knowledge and money.

Considering these challenges Wright, et. al (2013) found that funding and knowledge appear to be the greatest obstacles for the development of youth gardens. The research prompted a statewide, Wisconsin, workshop initiative implemented on a small budget. A three-hour workshop called “Got Dirt?” was designed to train and empower Wisconsin school staff and childcare workers to dispel concerns about establishing and maintaining a youth garden. It was believed that through the workshop experience attendees would develop greater understanding and, therefore, would be more likely to establish a youth garden. Also, the limited budget was a calculated boundary reflecting concerns that an initiative of this magnitude was cost preventative. Got Dirt? was effective in training individuals, increased their knowledge, increased their confidence in completing youth garden tasks and a number of gardens were established by attendees. And though there is no discoverable statistics on how many of these

gardens remain, The Got Dirt? workshop shows that with little investment upfront a considerable number of gardens can be created.

The Got Dirt? workshop addressed concerns about the cost of statewide training. However, the cost of food preparation equipment and training staff in food preparation skills can also negatively impact school garden programs. As school cafeteria equipment in the U.S. aged and an emphasis on highly-processed, pre-packaged foods became the norm so evolved the kitchen equipment and staff (Stephens, et. al, 2016). Contemporary school kitchens no longer have equipment for preparing fresh foods and often the staff lacks basic food preparation skills. Concerns over the cost of training staff and purchasing the necessary equipment has been viewed as preventative for many kitchen managers. This concern was addressed at the Montana Cook Fresh Workshop. The pre-test determined that attendees had limited culinary skills and the primary attitude demonstrated a lack of confidence that whole foods could be used in school kitchens. The workshop significantly increased the knowledge, confidence, and positive attitude toward whole foods. The results showed that participants significantly increased their intention to use whole foods in their menus (Stephens, et. al, 2016).

### **Possible Reasons Some School Gardens Persist Despite Challenges**

A deeper understanding of reasons why some individuals and/or districts persist in the utilization, development and sustaining of a school garden in the face of challenges is important to the establishment and maturity of school gardens and garden programming. When we come to understand the fundamentals of school gardens that continue long term, a model of success can be designed where obstacles can be anticipated and mitigated before another school garden fails.

When a school district is considering incorporating a school garden as a context for learning, it is important to do an internal audit to identify the key players critical to the establishment and maintenance of the garden and of equal import is to assess whether the school culture, ethos and climate support said garden. Glover and Coleman (2006) explain there exists in some schools an important interplay between social controls (rules and regulations) and cohesion (team spirit) that define a culture and determine whether a school will reach a level of success or become an institution where “nothing gets done”. To help describe this interplay, the authors developed comprehensive definitions:

- Climate: the measurable input and output features of the school experience
- Ethos: the more subjective values and principles underpinning policy and practice
- Culture: the integration of environmental, organizational and experiential features of school existence to offer a context for teaching and learning, and its subsequent improvement.

Typically, the majority of the garden maintenance falls upon those who are not teachers; yet the teachers traditionally facilitate the garden curriculum. So, what is the profile of the key player(s) that take up responsibility for inclusion of the garden in to pedagogy? According to Jorgenson (2013), teachers who are driven to continue garden education despite great obstacles are those who reflect upon special time outdoors in their childhood with great nostalgia. These same teachers have an exaggerated positive idealized relationship with childhood memories when compared to the experience of children today.

Yet in some schools where a long-term school garden has become an important element of pedagogy there remains a divide between teachers who use the garden and those who do not (Passy, 2012). Some teachers remain unresponsive to using their school garden when there is a

perception that the leading staff in the garden is lower in hierarchy. The garden coordinator is perceived to have little authority and therefore garden activities are assumed to have little relevance. However, according to Passy (2012), when a key player of staff takes responsibility with the strong support from senior administration, giving the garden activities high profile, more teachers will use the garden for education purposes. The supportive senior administration must also encourage the perception that the garden tasks are manageable for staff.

### **A Comparative Review of Various Assessment Tools**

The benefits of an effective assessment motivate many, including this study, to create tools to serve a breadth of different themes, purposes and measurements of levels of sustainability. A thorough review was conducted of individual tools and studies that compared clusters of assessment tools. It became clear that most assessment tools could be adapted to fit systems other than that originally intended. Many tools are nearly identical with the exception of some indicators or the process by which data are analyzed. Many tools, however, are extremely precise in terms of scope and level of assessment. Schader, Grenz, Meier and Stolze (2014), analyzed 35 sustainability approaches to assessment and analyzed for scope and precision. It was determined that due to the selection of indicators there can be a trade-off between scope and precision. Due to the variety of indicators selected it was common for results to contradict each other. To overcome these challenges, they determined, specific definitions of sustainability need to be developed with a thorough description of methodology and “harmonization” of indicators. It was also determined that there are when selecting an assessment tool, a generalized tool will not be able to fit every need.

Three assessment tools are of particular import to this study. The first was written by Ullery, School Garden Specialist, and is used by the Office of the State Superintendent of

Education in Washington, DC. The tool was created to assess the success and sustainability of the school garden programs in the DC area. A large group of stakeholders combined their efforts to decide upon 24 indicators they determined represented a sustainable school garden program. Each indicator would be rated in one of four categories: Exceeds, Working Towards, Does Not Meet, Missing. Each indicator and category had a definition and a score. The Exceeds category in all indicators rates (5-25) while Working Towards (3-17), Does Not Meet (1-10) and Missing is 0. The assessment tool is helpful in many ways including generating conversation on the fitness of a program. An unintentional benefit was the value in the tool becoming a historical document which tells the school garden story. The story serves to advise maintenance based on what has previously been successful and is passed to garden coordinators when they adopt a school garden program, as well as, to the stakeholders who enjoy seeing the measurable results of their efforts. An additional surprise was that the design of the tool does not accurately represent some gardens which are successful academically, financially and have tremendous amount of support/reputation in the community; yet when analyzed, score as failing due to lack of some practices which the stakeholders determined important, but the school does not (S. Ullery, personal communication, February 24, 2017).

New Zealand desired to develop a guide for best practice with special relevance to New Zealand's focus on sustainability in industry, science, international trade and consumer expectation. The goal was to develop a multifaceted tool which would serve as a clearinghouse for products and services within, entering and leaving the country. Hunt, MacLeod, Moller, Reid and Rosin (2014) documented the design of the New Zealand Sustainability Dashboard (NZSD) from defining the culture, the stakeholders, the form of assessment and value-based indicators. Incorporating key generic sustainability performance indicators (KPIs) into a framework which

can be applicable to all entities while developing statistically robust metrics was a lofty goal and given great consideration by many (including Maori, indigenous peoples). Stakeholders agreed early in the process that the NZSD must be enduring and useful, as a tool and in cultural representation. The developers of the NZSD framework conducted three separate literature reviews; using the inductive approach, they gathered information from frameworks already in use nationally and internationally. The repetitive theme of “pillars” determined four significant categories [good governance, economic resilience, agro-environmental integrity, and social well-being based upon the work of the Food and Agriculture Organization of the United Nations (FAO)] and confirmed the importance of these as key to a strong foundation in agro-business, science, industry, and meeting consumer expectations. The pillars were adopted from the Sustainability Assessment of Food and Agriculture Systems (SAFA) tool developed over five years of research and, after five additional years of use, is still in development. The NZSD likewise is continuing to monitor usage and results in order to optimize the tool over time. NZSD made a few changes to the pillars: environmental integrity was changed to agro-environmental integrity and the definitions were altered. The definitions chosen for this research are those adapted by the NZSD. The definitions created by the FAO were viewed as not applicable to school garden needs (See Table 2.1).

Table 2.1. Summary of SAFA Definitions of the Four Pillars	
Pillar	Definition
Good Governance	Determined by proper corporate ethics
Environmental Integrity	Minimizes negative environmental impacts and fosters positive ones
Economic Resilience	Use of labor, resources and capital to produce goods and services
Social Well-being	Satisfies basic human needs and supports aspirations for a better life

A drawback to the NZSD is that it includes 100 indicators spread across the four pillars requiring significant investment in time and knowledge, as well as, the inclusion of indicators which are not necessarily applicable to school garden programming. For an assessment tool to be effective, it is important to carefully select indicators. The process through which the NZSD indicators were determined was thoroughly explained with great honesty. However, a good indicator should “help define targets and drive improved performance and practice” (Moller, Reid & Rosin, 2014, p. 18), and alerts of problems or weaknesses before becoming insurmountable while facilitating recognition of what needs to be done before the problem becomes insuperable.

The third assessment tool of significance for this study, *Whole Measures for Community Food Systems: Values-based Planning and Evaluation* (Abi-Nader, et al., 2016), was designed for self-assessment to foster self-determination and group dialogue. Under the theme of sustainability, Whole Measures devised six categories (justice and fairness, strong communities, vibrant farms, healthy people, sustainable ecosystems, thriving local economies) which focused on three or four categories scored on the Likert Scale. The tool was only a portion of the six-step process: forming an evaluation team, understanding the rubrics, defining intended outcomes, individual ratings, group dialogue, and utilization of results. This value-based tool required involvement by key players understanding shared goals and dialogue (all three traits important in a strong school garden program). A drawback to this tool is the involvement by all parties required to score aspects of a project that may not be their expertise, therefore swaying results.

## **The Importance of Value-based Perspective for School Garden Programs**

Value-based assessment tools set a value on indicators based on the benefits provided to the school, or rather for these purposes, perceived by the school. The last two tools discussed above, The New Zealand Sustainability Dashboard and the Whole Measures, are examples of value-based. This philosophical shift from performance-based assessment puts the goal at the forefront of the effort which allows the consideration of achievement to become the dialogue. Creating the common focal point requires all stakeholders to take ownership of the project and to develop a binding, common ethic. Alroe, Moller, Laessore, and Noe (2016), suggest for an assessment tool to be most effective the design should steer perspectives of a clearly defined value. It could be stated then that the goal established for a school garden program could determine the practices chosen to achieve the goal. It could also then imply that armed with a common vision, stakeholders will choose to incorporate into their program that which sets them up for success.

Engagement of stakeholders in the assessment process is critical for the continuation of school garden programming. Triste, Marchand, Debruyne, Meul, and Lauwers, (2014), studied an event where Flemish farmers refused to participate in an assessment when they were left out of the development of the tool and they found the tool “un-friendly”. The Flemish farmers did not share in the value of the tool or the indicators therein. They never shared ownership.

Thorsoe, Alroe, and Noe (2014), recommended four courses of action when combining multiple perspectives in a sustainability assessment: (1) elucidate values as foundational; (2) openly discuss choices of perspectives; (3) formulate common goals; and (4) consider assessment as a learning opportunity. When school garden stakeholders determine the depth of the adopted value, discuss their perspectives and determine a goal of which all can take

ownership with the understanding that the program will be dynamic over time-it is possible more school gardens will survive the test of time.

The literature justifies Wisconsin's need for support of school gardens. Much like the New Zealand Sustainability Dashboard and the work of Glover and Coleman (2006), if the culture allows for value-based assessment the Nominal Group Technique may provide an opportunity for stakeholders to make determinations within an established framework to strategize that which may increase sustainability. If school garden stakeholders address their needs collectively with the assistance of a user-friendly tool, the resources available to them (often limited within the school and in great demand) can possibly be better managed and those lacking can be strategically sought.

## **Theory**

### **The Tragedy of the Commons Theory and Community-based Conservation**

#### **Approach**

The design of the research heeded the lessons learned from the community-based conservation approach: "Stakeholders are varied and can have an exclusive perspective of outcomes, needs and limitations; Stakeholders will be more willing to participate in development and decision-making when they feel their perspective is valued; A challenge is to build a multilevel, multidisciplinary system while avoiding disciplinary bias. Another challenge is to facilitate an inclusive governance which deals with important social, political, environmental and ecological decisions without falling prey to power struggles" (Berkes, 2007). The challenge of a centralized, exclusionary approach to assessment does not take into consideration local nuances such as culture, resources, mission, etc. (Berkes, 2007).

The origin of this thinking lies within the tragedy of the commons theory: exclusivity is a significant issue; the collective success is dependent upon the whole. How does the tragedy of the commons relate to school gardening? William Forster Lloyd (1794-1852) compared the human condition to a dramatic tragedy. The drama is not necessarily in the unhappiness but the solemn nature that is inseparable from the working of things. Harden (1968) explains how this is reflected among those with a shared resource with an individualized intent. For example, ranchers in the Western United States share common grazing land. Each farmer has a strong desire for the needs of their herd to be sustained; however, overtime if each is grazing the same common land without restraint the land will become barren for all.

Wisconsin school garden programming is much like the pasture in Harden's example. The pasture represents the resources specific to each school. Many are using these resources to meet their needs; yet these resources, funding, time, human power, space, curriculum, administration involvement and so on, are limited.

Hardin suggests remediating "the drama of the tragedy" requires coercion, not in the conventional sense. Much like the generally acceptable frowning upon bank robbers and the security systems put in place to deter them, a mutually agreed upon vision which is culturally accepted with boundaries in place becomes the coercion. Furthermore, supporting the notion that school garden resources need to be identified and utilized with intent; a shared vision for sustainability must be developed and built within the culture; and a system should be put in place to motivate all stakeholders to stay the course.

The very nature of a school garden program requires one to view it, holistically, as a system within which stakeholders are varied and can have an exclusive perspective of outcomes, needs and limitations. Stakeholders will be more willing to participate in development and

decision-making when they feel their perspective is valued. A challenge is to build a multilevel, multidisciplinary system while avoiding bias or exclusivity. Another challenge is to facilitate an inclusive governance which deals with important social, political, environmental and ecological decisions without neglecting any stakeholders, sapping morale or developing internal power struggles. Research has demonstrated that a system such as community-based conservation must consider such pitfalls as those which have emerged through a hegemonic view of successful school garden programming.

### **Theory of Community Empowerment**

The theory of community empowerment has been defined in many ways including the description of its opposite, disempowerment. In general, this theory describes a motivation to actively engage in decision-making, goal setting and achievement when the community has a “sense of community”, access to information, the ability to provide information and community capacity. To understand the influence of the theory of community empowerment upon this research, it is important to look at the work of Ahmad and Talib (2014). Their findings suggest a strong relationship between community empowerment and the sustainability of community-driven projects.

However, first some definitions must be offered. “Empowerment” is “any process by which people’s control (collective and individual) over their lives increases” (as cited in Ahmad and Talib, 2014, p. 1041). “Sense of community entails the sentiment of mutually belonging to each other...with a direct pledge for proactive citizenry...and implies the interdependence between individuals and the community; integration and fulfillment of community needs, their connections, relationships and emotions as well” (Ahmad and Talib, 2014, p.1043).

“Engagement” means the involvement in decision-making, active citizenship and the perception

of acting together will lift up the entire community (Ahmad and Talib, 2014). “Community capacity” describes the assets of available resources, skill-set, and commitment to use these to leverage strengths and overcome weaknesses (Ahmad and Talib, 2014).

Ahmad and Talib’s work found a strong relationship between community empowerment and sustainability; community empowerment and sense of community; and most relative to this research, a strong correlation between community empowerment and the sustainability of community-driven projects. Their research also found that with improved community capacity and access to information, communities will be more motivated to contribute to the sustainability of their community-driven project.

Because the literature supports the importance of community in school garden programming, *The Development of a Multifaceted Assessment Tool in Response to School Garden Trends in Wisconsin* considers the school garden to be the community-driven project. The community is the group of program stakeholders. By assessing the community capacity and encouraging engagement, the act of using the tool and supporting documents may increase the sense of community and therefore increase community empowerment.

## Chapter 3: Methods

The purpose of this research is to offer institutions a multifaceted assessment tool which is complex enough to address specific necessary components of an integrated garden program allowing for the ability to identify strengths within the program and tease out that which needs to be addressed to create a sustainable garden program. Purposes additional to assessment and strategizing include the ability of the tool to result in a single-page summary which could be used for historical purposes and representation for financial purposes. An important consideration was to create a tool which would be perceived as easy, inexpensive, and worthwhile. The desired end product of this study is a value-based assessment tool that can be utilized by Wisconsin schools and school gardens to assess viability and sustainability.

A mixed-methods approach was used for this research guided by the tragedy of the commons theory and generations of community-based conservation and social sustainability approaches that followed, as well as, the theory of community empowerment. Two qualitative methods used were focus groups and open-ended commentary as part of a follow-up survey. Qualitative research is interested in how people perceive their experience, what meaning is given to their experience, how attitudes are constructed and how this becomes their reality (Meriam, 2009). Quantitative methods used were an oral, demography questionnaire (See “Demographic Questions Asked of Focus Groups” below), a worksheet questionnaire, and two separate surveys. Quantitative research allows for the researcher to objectively, “step-back” from the subject and quantify their human experience through numeric analysis of the subject’s reality (O’Leary, 2014, p.122). One survey was sent to those who participated in the focus groups and a second was sent to professionals in school garden programming to measure opinions and attitudes

toward school garden assessment and, specifically, this tool. Prior to any participation by the samples a small group was gathered as for a pilot test of the focus group script, process and materials.

This research was approved by the Institutional Review Board per the University of Wisconsin-Stevens Point protocol to protect human subjects. Approval was sought and received in two separate phases. The first approval was requested and received prior to recruitment and facilitation of focus groups. The second approval was requested and received to gather quantitative data via two surveys and open-ended commentary: One sent to those who had previously participated in focus groups and a second sent to professionals in school garden programming.

## **Sample**

While searching for programs which met the definition of school garden program as defined within this research, conscious decisions were made to select programs that would approximate representation of the pedagogy and population of students in Wisconsin. A list of necessary attributes was decided upon and school gardens were sought out to satisfy said sample list. Represented were students at the preschool, elementary, middle and high school levels. Public, private, tribal, urban, rural and project-based schools were selected and willing to participate. This purposeful sampling is what Le Compte and Preissle called “criterion-based selection” (as cited in Merriam, 2009, p.77). The state was then divided into six regions. The six regions were defined by location, ability to travel to sites within time constraints, and the availability of school garden programs willing and able to participate in focus groups.

During the selection process a contact person for the school garden program was discovered. Termed the “contact person”, this individual was contacted by phone, email and sometimes both to get a verbal and written agreement for consent to participate. The role of the contact person was to identify and recruit the stakeholders in their garden program, contact each and schedule an hour to one hour and fifteen minutes when all were able to gather. The contact for each school was directed to let each stakeholder know that their participation was voluntary.

Seven garden professionals were asked to consider the validity, effectiveness, suggested improvements, and the need for the “How To” packet and the tool. The six school garden professionals were selected based upon their experience in school garden programming, teaching, assessment and garden design. Six of the seven are professionals in Wisconsin or Wisconsin is in their region of employment responsibility. The seventh professional developed a school garden assessment tool. A separate survey was sent to them and their responses considered for the future improvements for the multifaceted tool.

After confirmation of participants written consent to participate, upon arrival to the focus group, each was given a form which described the study and asked for consent (See Appendix A), each member was instructed to blindly select a card from a bag with a pre-written code to be used for identification in lieu of names to facilitate confidentiality. On the same card they were instructed to write their title. From another bag, they were to select a pad of Post-its of which there were separate colors for each participant allowing for recognition of which Post-its belonged to them after posted upon a large, shared framework. Each participant was also given a packet of documents: Definitions of vocabulary which may be used during the focus group with examples of various elements which may be a priority for their program, a Brainstorming

worksheet (See Appendix B) which would be used as a tie-breaker if the group became unable to compromise, a blank framework worksheet (See Figure 4.1) which is a single sheet version of a large foam-core board framework used to sort out the group priorities and an additional page to be used as extra space if needed while organizing elements.

Using the Nominal Group Technique, the focus group facilitator/researcher, following a script (See “How To” in Appendix B) moderated the group in consideration of each individual participant’s input as a strategy to involve and discuss opinions and needs, as well as, to remove potential reluctance to communicate.

### **Focus Groups and Nominal Group Technique**

Focus groups are an efficient and effective formative and summative evaluation used to decipher for a program what is working well, what is not and how a program can be improved (Krueger & Casey, 2015). Focus groups work especially well when trying to understand how people see the strengths and needs within their communities and think about something like a product or service, and to pilot-test ideas and products. These planned discussions are carefully sequenced to direct participants along the key topic general information to more and more specific.

For this research, the focus group approach was based upon the Nominal Group Technique as described by the World Bank Institute as effective in assessing needs, prioritizing and gaining input from many with individual interests (WBI, 2007). This group decision-making process is dynamic and inclusive of all stakeholders. The Nominal Group Technique is useful whenever a group with multiple perspectives, or in this case with multiple perspectives within a school garden program, need to communicate their viewpoint freely to determine priorities. This

communication also serves to inform the other participants of needs of which they may be unaware.

### Choice to Use NZSD Categories for Framework

A systematic review of literature, resources and systems assessment tools resulted in the selection of strengths and notations of weaknesses of several proven assessment tools to create one which is reliable and satisfies the research objectives. The FAO, SAFA framework has been in use for five years; however, it is the second-generation version adapted by the NZSD which was chosen for this research. The NZSD definitions were chosen for the applicability to school garden programming. For the sake of clarity, the pillar “agro-environmental integrity” was everted to the original FAO “environmental integrity”.

**Figure 3.1: Framework Worksheet**

School Name: _____ Date Completed: _____	<div style="border: 1px solid black; padding: 5px; margin: 0 auto; width: 80%;">           Sustainable School Garden Program:            (Type)         </div>	Stakeholders Present: _____ _____ _____ _____	
←	←	←	←
<b>Good Governance</b> <i>Ensures sound decision making and implementation</i>	<b>Economic Resilience</b> <i>Sustains an economy through change and the unexpected</i>	<b>Social Well-Being</b> <i>Ensures opportunities and respects social and cultural principle of all society</i>	<b>Environmental Integrity</b> <i>Sustains natural capital, enhances natural heritage values and meets global environmental obligations</i>
Indicators organized by value, from most important to least important.	Indicators organized by value, from most important to least important.	Indicators organized by value, from most important to least important.	Indicators organized by value, from most important to least important.
1. 2. 3. 4. 5. 6. 7. 8.	1. 2. 3. 4. 5. 6. 7. 8.	1. 2. 3. 4. 5. 6. 7. 8.	1. 2. 3. 4. 5. 6. 7. 8.

After explaining the purpose of the study, stakeholders were verbally asked to respond to demography questions which served three purposes: To gather data, to encourage stakeholders to begin focusing in on their program in such a way that gives their program definition and to encourage the stakeholders to begin speaking about their program.

#### Demographic Questions Asked of Focus Groups

1. What grade level(s) does your garden serve?
2. Approximate number of students in your garden annually?
3. What type(s) of garden(s) does your school have?
4. What subjects are taught in your school garden program?

The follow up to this was a worksheet questionnaire completed individually. The first question lent itself to a Likert scale structure with the desire to gain insight on individual perception of the stability of their school garden program, prior to and after experiencing the focus group and use of the tool. (This same question was verbally posed upon completion of the focus group to glean insight upon the immediate impact of the experience, as well as, to stimulate potential open-ended conversation related to the tool, their experience and any shifts or consistency of perspective.) The remaining questions were based upon the research question and various subjects to stimulate consideration of elements which may be important to the sustainability of their program. The response options were yes, no or N/A. (See Figure 4.2).

**Figure 3.2: Focus Group Individual Questionnaire**

To get us thinking about your current school garden...

**Focus Group Questions:**

Please circle the number that corresponds to your answer.

Very

Moderately

Not

How stable is your school garden program?	5	4	3	2	1	
Please check the box that corresponds to your answer.				YES	NO	NA
Is your school garden used for educational purposes?						
Do you have a formal school garden curriculum?						
Do you have a school garden coordinator?						
Is the individual who coordinates your school garden paid for their service?						
Do you have volunteers help with your school garden?						
Does your school garden have community support?						
Does your school garden have administrative support?						
Have you received a Farm to School grant?						
Has your school garden program received financial support from sources other than F2S and the district?						
Do you have short-term goals for your school garden?						
Do you have long-term goals for your school garden?						
Do your stakeholders gather at least annually to assess and strategic plan for your school garden program?						

The displayed, foam-core framework (a larger version of that on their worksheet) was then explained, “When considering this framework there are likely many elements which relate to your program that could be categorized in one or more of these four columns. The focus of this group is to brainstorm elements that you-as a group-will rank from most important to least important. The finished framework will represent what is valuable to your school garden this year.” Each participant wrote elements, one element per Post-it, which they perceived to be important to the sustainability of their program. When their thoughts were exhausted, individuals sorted their Post-its by category on the blank framework worksheets. After their elements were sorted, each category of elements was organized by most important to the sustainability of their program to least important on the bottom. Once complete, each participant arranged their Post-its in the corresponding place on the large board for all to see.

Following the “How To” script, a guided conversation then occurred. One column at a time, via discussion, every element in each category was considered and ordered from most important to least important to program sustainability. The completed process resulted in a framework of elements valuable to program sustainability specific to each group which were organized by importance by all school garden program stakeholders.

The focus groups were recorded, and audio used for transcription. The practice of Interview Condensation as described by Saldana and Omasta (2018) was used to reduce the length of the transcript. By eliminating the content which is redundant, scripted or not salient to data collection itself, the act of transcription and codification becomes much more manageable (Saldana & Omasta, 2018).

The exact steps of qualitative analysis taken for this research is best described by Auerbach and Silverstein (2003, p. 43) in their table titled *Six Steps for Constructing a Theoretical Narrative from Text*.

#### *Six Steps for Constructing a Theoretical Narrative from Text*

##### Making the Text Manageable

1. Explicitly state your research concerns and theoretical framework.
2. Select the relevant text for further analysis. Do this by reading through your raw text with Step 1 in mind and highlighting relevant text.

##### Hearing What Was Said

3. Record repeating ideas by grouping together related passages of relevant text.
4. Organize themes by grouping repeating ideas into coherent categories.

##### Developing Theory

5. Develop theoretical constructs by grouping themes into more abstract concepts consistent with your theoretical framework.
6. Create a theoretical narrative by retelling the participant's story in terms of the theoretical constructs.

## **Surveys**

The second phase, as mentioned above, required surveys to be sent to participants in the focus groups and to a group of school garden professionals. The surveys were developed following the guidance offered by O'Leary and is best described by the abbreviated excerpt below from her book *The Essential Guide to Doing Your Research Project* (O'Leary, 2014, p. 206).

## Developing Your Questionnaire

1. Operationalize concepts - This involves going from abstract concepts to variable that can be measured/assessed through your survey.
2. Explore existing possibilities - You don't need to reinvent the wheel. If an existing survey instrument has addressed your variables, see if you can adopt, adapt and modify it.
3. Draft questions - Have a shot at drafting new questions as clearly as possible.
4. Decide on response categories - Consider both the effect of response categories on responses themselves and how various response categories translate to different data types that demand quite distinct statistical treatment.
5. Review - Carefully read each question and response choice and think about whether your questions might be considered ambiguous, leading, confronting, offensive, based on unwarranted assumption, double-barreled, or pretentious.
6. Rewrite questions - Run them past a few peers/supervisors for assessment. Repeat as many times as necessary to get each question as right as possible.
7. Order questions - Put question in an order that will be logical and ease respondents into your survey
8. Write instruction - Make these as clear and unambiguous as possible.
9. Layout - Construct a clear, logical professional, and aesthetically pleasing layout and design.

10. Write a cover letter/introductory statement - This generally includes information on who you are, your project's objectives, assurances of confidentiality, and whether results will be available to participants.

Administering surveys allows participants the opportunity to express their opinions regarding the research, the tool, and their experience anonymously and for those responses to generate useful quantitative data. Comment pages were added to both surveys to provide an opportunity for open-ended thoughts regarding the strengths and weaknesses of the assessment tool. This commentary could potentially reveal common themes for sensible decision-making to further develop the assessment tool. Because the concepts to be operationalized differed between the focus group participants and the school garden professionals, two separate, single-page, surveys were developed (See Appendix A).

A survey was sent to each individual that participated in a focus group and to seven school garden professionals. Each professional was sent a packet with an introduction letter and request for participation, a consent to participate, a "How To", survey and commentary sheet (See Appendix D).

Survey responses for the school garden focus group participants were analyzed for two statistics: the mean and the standard deviation. The mean revealed the central tendency response to each survey question. The standard deviation demonstrated the variation of responses or the dispersion of values given to survey statements. A small standard deviation reveals that the responses did not stray far from the average response or that the responders were in general agreement.

## Limitations

One of the challenges within Wisconsin is there is virtually no census data on school gardens. There is no discoverable count of the number of current active school garden programs. The state boasts over 390 Farm to School (F2S) and Farm to Early Childhood Education (FECE) projects, serving over 500,000 youth each year (<http://www.farmtoschool.org/our-network/Wisconsin>). However, this number reflects only the school gardens which were granted funding through the F2S and FECE programs. Currently, there are resources available to assist with finding schools which may have a school garden program. An issue experienced during this research is that much of the information available is outdated; therefore, requiring further research to discern whether the program is still in existence and who are the current facilitators. Often despite resources establishing the possibility of a garden program, little to nothing is known of the program or physical presence of a garden at the school, let alone knowledge of a committee or individual responsible for the program.

The original design of this research project was to use a stratified sample to purposefully select garden programs which represent a variety of school garden programs to test the applicability of the tool on a wide variety of garden types; therefore, facilitating the accessibility of the tool for an expanded variety of programming. Six distinct types of school gardens were defined and sought out: indoor classroom container garden, outdoor container garden, outdoor non-edible garden, outdoor edible garden, greenhouse garden, and aquaponics or hydroponics garden. However, due to the lack of accurate information available selecting for types became preventative.

Further complications often arose when schools who desired to participate in the research needed to find a common date and time for stakeholders to meet. Often this process either significantly

postponed the scheduling of the focus group to accommodate the stakeholders' schedules or became preventative for full involvement of stakeholders.

### **Trustworthiness**

Both quantitative and qualitative approaches to research stress the importance of trustworthiness or, otherwise thought of as, credibility or validity. Quantitative research, with a positivist tradition, is often mistaken as being more credible due to techniques which have survived the test of time. However, qualitative research uses techniques which are comparable. For example, the internal validity in quantitative studies is similar to the concept of credibility in qualitative studies; reliability is much like dependability; the process of the study presentation is similar to confirmability; external validity is like the concept of transferability (Gunawan, 2015).

This mixed-method approach incorporated both quantitative and qualitative techniques to establish “trustworthy” results. In respect to qualitative measures, objectivity was demonstrated in the neutrality of the language used to facilitate the scripted focus groups used to generate data. The data, the unadulterated quotes of those participating in the study, were the basis for the transcription and codification processes. A reflexive journal which is both a quantitative and qualitative technique was also used.

The majority of this study relies on the qualitative approach which is also reflected in the efforts to reinforce credibility. This study is auditable: details (thick description) were kept which track decisions made regarding tool development and the methodology chosen, focus group data collection, analysis and findings. These details were scrutinized by a peer who was apt and willing to advise this process. Using peer review, “External checking on the research process in which a colleague is asked to act as a ‘devil’s advocate’ with regard to all aspects of

methodology” (O’Leary, 2014, p.132) was invaluable in both phases (focus group development, data collection and analysis, and survey development, data collection and analysis). An attempt, albeit weak, at member checking was made in the follow up survey when participants were asked, “The prioritized elements on our framework accurately represent our school garden program.” Finally, triangulation was attempted by using data from the stakeholder focus groups, surveys from these same participants and from professionals in school garden programming. According to Gunawan (2015), qualitative studies ensure the greatest rigor when performing member checking, triangulation, detailed transcriptions systematic plan and coding. These are found within this study.

## Chapter 4: Results

The purpose of this research is to offer institutions a multifaceted assessment tool which is complex enough to address specific necessary components of an integrated garden program allowing for the ability to identify strengths within the program and tease out that which needs to be addressed to create a sustainable garden program. Purposes additional to assessment and strategizing include the ability of the tool to create in a single-page summary which could be used for historical purposes and representation for financial purposes. An important consideration was to create a tool which would be perceived as easy, inexpensive, and worth the investment of time. The desired end product of this study is a multifaceted assessment tool that can be utilized by Wisconsin schools and school gardens to assess viability and sustainability.

To qualify to participate in this research, schools had to meet the definition of school garden program as prescribed at the origin of this endeavor. A school garden program uses plants grown in the ground, raised beds, containers, greenhouses, or in any environment to teach any subject or course material.

A total of eight schools participated in focus groups which were guided through the use of the multifaceted assessment tool. Participants in focus groups totaled 32. Participants were those whom were deemed “school garden stakeholders” by the contact for each school. The contact person was someone within the school garden program which had the ability to identify their stakeholders and coordinate an hour to one hour and fifteen minutes when all could gather. Stakeholders identified their role and titles within their program (Table 4.1).

**Table 4.1. Roles of School Garden Program Stakeholders**

Role of Stakeholder/Focus Group Participant	Total
Teacher/Educator	12
Coordinator (Teacher Volunteer, Conservation, Food, Prevention, Para)	5
Program Director	2
Citizen	2
Tribal Member	2
Parent Volunteer	2
Administrator	1
Government	1
Dietician	1
Grant Writer	1
Conservationist	1
Natural Resource Professional	1
Food Service Director	1

*Note: Two teachers had dual titles. Teacher as primary and (1) Environmental Coordinator and (1) Lead secondarily.*

Three questions on the follow-up survey were asked to shed some light on the culture of the school garden stakeholders (Table 4.2).

**Table 4.2. Focus Group Survey Responses Related to Stakeholder Culture**

Question	<i>M</i>	<i>SD</i>
It is important for our school garden program to be assessed, at least, annually.	4.50	.52
Early identification of weaknesses could improve the ability to take steps to stabilize our program.	4.21	.70
Early identification of strengths could improve morale and the ability to retain the stakeholders in our program.	4.43	.76

*Note: Survey instructions were to “Please circle the number which indicates your level of agreement.” Statement responses could be: 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree.*

Particularly important to the development of this tool was applicability to a wide variety of Wisconsin school garden programs. Therefore, represented were a preschool (1), middle (1), project-based middle school (1), high school (1), combined middle and high school (1) tribal school (1), tribal school/community garden (1), and a school district (1); Urban schools (3) and rural schools (5). A variety of garden types were also represented as shown in Table 4.3.

Table 4.3. Multifaceted Tool Implemented Upon School Garden Programs Utilizing the Following Variety of Garden Types

Garden Type	Number of Specific Type
Outdoor Edible	8
Green House	6
Rain	4
Butterfly	4
Herb	3
Orchard	2
Cultural	2
Flower	2
Raised Beds	1
Indoor Edible	1
Hydroponic	1
Native Plant	1
Mentor	1
Multisensory	1
Hoop House	1
Pumpkin Patch	1
Pond	1
Certified School Forest	1
Bees	1
Permaculture	1
Perennial Decorative	1
Memorial	1

*Note: Some schools had more than one type of garden.*

Using qualitative methods eleven themes emerged for analysis. These were separated into subthemes: Effectiveness of tool, focus group experience using the tool and opinion of school group professionals regarding the tool.

**\*Note:** The following text includes quotes from stakeholders which participated in this research. Each quote begins with a code. The number represents the focus group in which the stakeholder participated, and the letter is that which was randomly selected at the beginning of the focus group and used to insure confidentiality. It is important for the reader to take note of the speakers from group 5. Due to the large size of the group and the range of the recording equipment, it was extremely difficult to differentiate speakers by their code, otherwise demonstrated as the letter following their focus group number. For example, 9A, would establish the speaker as being from the ninth focus group who randomly picked the letter A from a grab

bag after consenting to participate in this research project. For speakers in focus group 5, a number within parenthesis will only designate their turn within a conversation, the first speaker (1), second (2) and so on.

## **Effectiveness of Tool**

### **Identifying/Defining: Stakeholders/School Garden Program**

When facilitating the focus groups, a definition for school garden program was not given. In light of the treatment being value-based, groups were challenged to define their own program. The open-ended concept of school garden program, with the exception of the defined qualification, allowed the school itself to define, identify the characteristics of their program and the stakeholders within. The justification was to see if the programs had a working definition or needed to create one in order to clearly identify what was being assessed.

Five of the participating groups demonstrated confusion when defining their program. When discussing “what do we consider our school garden program” some focus groups reminded others of additional garden spaces not mentioned or thought some spaces should be included while others should not.

*(For example, a conversation regarding what programs should be included in definition of school garden program.)* 2G: I’ve been working under the assumption, that physical garden space. In my mind, I’ve been thinking that physical garden space outside.

2H: At the greenhouse, just the outside?

2G: Yeah, I mean like for me, for me the greenhouse is like, if they’re going to the garden outside that the greenhouse is just kind of an assumption.

2H: So, should we just assume horticulture program?

2G: That's what my default was. What do you all think?

2E: Well, if it's a work in progress it could always be adjusted in work right?

2G: Yeah.

Often stakeholders in discussion discovered a need for defined roles.

*(Though an individual held the title of Garden Coordinator, for example, the position had no description of responsibilities nor defined expectations.)*

6E: So, I chose coordinator role defined so that there was a go to person for our program.

The questionnaire completed at the beginning of each focus group revealed a misunderstanding, also, of who and if their program had a Garden Coordinator and if it were an officially paid position.

Table 4.4. Garden Coordinator							
Focus Group	No. of participants	Do you have a school garden coordinator?			Is your school garden coordinator paid?		
		Yes	No	N/A	Yes	No	N/A
1	2	1			2		
2	4	3	1		4		
3	1	1			1		
4	5	5			2	2	1
5	3	7	2	2	8	2	2
6	2	1	1			1	1
7	4	2	1	1		2	2
8	1		1			1	

*Note: Participants were instructed to choose "N/A" if they were unsure or if this element does not apply to their program. Some participants chose not to answer.*

## Element of Strategic Plan

Participants while discussing and prioritizing each other's elements acknowledged the tools facilitated the development of a strategic plan.

4A: And our knowledge [that we are hoping to gain] might be just this kind of strategic planning.

Others took note of plans that would be added to a long-range plan.

6E: Just adding food to the lunch program [is now a priority because it was added to our framework].

8A: We don't really have any structures as far as it goes. Um, we have a couple of herb gardens that have like boards around them, but we don't. Otherwise we just use the ground as it is. And I think even something, you know, putting up some raised garden beds or something of that nature would be a little more helpful...and I mean those are relatively simple and inexpensive. So even starting with something like that [and eventually building a heritage garden structure in the long-term].

And there was acknowledgement that programs may lack a plan entirely or that stakeholders are not actively striving to meet the goals established in their plan.

7E: Right, we don't know what the long-range plan is. *(A conversation, for example, acknowledging the group already has a strategic plan. The voice drops off with the recognition within the room that they do not follow their strategic plan.)*

5(1): The reason that [Post-it] says monitoring is [because] we actually do have a strategic plan.

5(2): We do, but I don't know if it has buy-in. I don't even know if it has buy-in with this group.

5(1): But that's why [the Post-it] says monitoring...because...

### **Recognition of Interrelatedness of Categories**

During the process of using the tool, participants discover that the four categories are not exclusive. The categories allow for elements in one category to influence elements prioritized in another category.

1H: It [Environmental Integrity] doesn't cause good governance. It's [the outcome of] good governance that maintains the structure.

3A: Some of these [categories], kind of like, connect in that-like so they connect under a couple different categories.

5(1): [The Post-it] should go both in the first and fourth [column] because if we don't have them in the forefront on this [framework] there might be issues for us down the road.

8A: These two [priorities] can go both in [Social Well-being] and [Environmental Integrity] because if it's under the natural heritage [it is an equal priority in both categories] as well.

### **Positive Experience Using the Tool**

Six out of eight focus groups expressed their delight during or following the focus group and use of the assessment tool. Four separate individuals proclaimed, "This is great!", "This is neat!", "Fortuitous!"

8A: But, I like this [experience using the tool and creating our framework]. This makes sense to me. I like this.

Some individuals expressed pride in their group work.

7D: Well, some of it just needs to be like [written] down, you know, and put in, just put down [in the framework] so that we know where we're at. You, because we all kind of [keep what we] know in our heads to a point. To get it down [in the framework] and just show others that we have it all down and we know what we're doing. It's huge!

Another stakeholder stated that some partners were not in attendance but would benefit from using the tool.

2H: I think the intention was to have them join us today, but then it got to the point where they...They were, they have more than just...I think this would be valuable for them definitely-especially since they do work with schools. They're outside organizations that work with school garden programs.

#### **Plans to Use the Tool in the Future/Documentation Need for Future Stakeholders**

Five out of eight focus groups expressed interest in conducting a focus group, using the tool again with an enlarged stakeholder group. Statements were made in desire of sharing the benefits gained from using the multifaceted tool.

4M: They said we can [use this tool] with the whole team (referring to the "How To" packet and completed frame to be sent to participants) because we're gonna get the docs. So, we'll just do it with our team and then we'll share [with the rest of our community].

2G: So, this is the, the teachers, but then there's, in terms of our partnerships, there's a group [of other stakeholders]. So, we, one of the uses of it, of the physical outdoor garden space has been a partnership with our community partners and there's four primary community partners [information omitted for confidentially purposes] and I think they would find this tool valuable for them. Because, essentially, the goal of the meeting is to say alright you've done, you use this garden space collaboratively this last year, now what do we need to change and what do we need for it...

Three statements regarding the focus group experience using the tool were part of the follow-up survey given to garden stakeholders. The results are provided on Table 4.8.

Table 4.8. Focus Group Survey Responses Related to Experience Using the Tool		
Question	<i>M</i>	<i>SD</i>
It is likely we will use the “How To” and supporting worksheets to re-create our focus group assessment tool in the future.	4.07	.83
The “How To” packet is user-friendly.	4.21	.89
The amount of time needed to use the tool is appropriate.	4.43	.51

*Note: Survey instructions were to “Please circle the number which indicates your level of agreement.” Statement responses could be: 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree.*

Stakeholders understood how the tool could be used to facilitate conversations that would inform and get others to express their priorities.

1H: To do this type of reflection with them too. Because, particularly if they're kind of outside stakeholders, [and] not really invested yet...[We would want to know] What is their priority? (*Expressing desire to include stakeholders who are not physically located within the school.*)

3A: Is this something I could use with my staff like at an in-service?...So, I guess it could be used internally for that. (*Participant implied they would use the tool to recruit community support.*)

The tool and completed frameworks could be passed to future stakeholders.

6E: Just in case staff changes that there’s something in place that says this is what we need to do.

Specific to the effectiveness of the tool, the focus group participant follow-up survey included six questions. The results are provided in Table 4.5.

Question	<i>M</i>	<i>SD</i>
The use of the tool revealed our school garden program strengths.	4.21	.70
The use of the tool revealed our school garden program weaknesses.	4.00	.78
The prioritized elements on our framework accurately represent our school garden program.	4.14	.86
The single-page, completed framework page could be used to summarize the impact of grant funds.	4.36	.50
Our program would value our completed framework as an historical document.	3.93	1.14
Using the “How To” and supporting worksheets will improve the sustainability of our school program.	4.36	.63

*Note: Survey instructions were to “Please circle the number which indicates your level of agreement.” Statement responses could be: 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree.*

## Data Revealed by the Experience of Using the Tool

### Desired Community Involvement

Six of eight focus groups have expressed desire for increased community involvement.

The term “community” here refers to those within the school, organizations outside the school,

other educational institutions, interested groups and local business partners. Community was generally recognized as an invaluable resource.

1H: Yeah, the reason I put the committee ahead of staff is because I am looking at my committee-for it TRULY to be sustainable-the committee does not need to be teachers; but, like, we see the community not just teachers but neighbors, you know, city folks, people and whatever.

5(1): I think [making community the number one priority in Good Governance] ensures sustainability...

5(2): It is the community support, you know, not just the initial step, but also the sustainable part.

6H: I don't know, but I think that needs to be added to it-that everyone takes equal shares...planning and prepping. (*Expressing the desire to expand their community to increase input and human power.*)

Some stakeholders expressed frustration with the lack of community support interferes with what is valuable to the sustainability of their program.

7E: Yeah, even though we, you know, there's a lot of communication that goes on, [the priorities are] totally different directions. And I think if we could unify it and we could make it one, um. Man! It would just be, it would be awesome.

### **Importance of Administrative Support**

This theme, an indicator of desired increased support and from an entity which would normally be considered part of the school community, has been separated from the previous

theme. Interestingly, on the questionnaire 27 (N=30) participants replied that their program had administrative support. Only three (N=30) responded with “N/A” which indicates they were not sure or they felt this was not relevant to their program. Yet half of the groups stated they specifically needed further administrative support or that their administrative support was key to the sustainability of their program.

2J: I would say, like, to me personally, I would say again, like administrative support [should be our most important priority] because I feel like when kids, like, sometimes the teachers might want to do stuff. If they have just the support of teachers, but then they find out maybe higher administration doesn't like the idea even though it's helping the students [the administration's attitude] sometimes [the students] get kind of down. So, I feel like if they see that, not only [do] they have the support, teachers and the volunteers but an even higher person [like an administrator] think[s] that this is a good thing and a good job [the influence] kind of enlightens them more to do it. To be more social in the project.

7D: See and I was worried about, I'm already looking at it, like I've talked with [name of administrator] and like what do we need to do next and [name of the administrator] is like find the funding and we'll get the coordinator. So, I'm thinking like unify ourselves to get the funding, get the coordinator, you know what I mean?

## Focus Group Process Impacting Perception of Program Stability/Desire for Stability

While facilitating the use of the tool with the focus group a questionnaire was distributed.

The first question was a Likert Scale question (1-5).

Table 4.6. Perception of Stability: How stable is your school garden program?		Very		Moderate		Not
		5	4	3	2	1
Focus Group	Number of participants	Number of responses to question stated above				
1	2	1				
2	4		1	1		
3	1			1		
4	5	1	4			
5	13		5	4	2	
6	2		1	1		
7	4	2		2		
8	1			1		
Totals	32	4	11	10	2	

*Note: The majority of participants viewed their program as moderately to very stable at the beginning of the focus group.*

This same question was posed at the end of the focus group to compare perceptions before and after use of the tool. Most reported they felt positive, yet they would answer the same. However, a couple of stakeholders admitted a shift in perception.

1H: I would pare my optimism back a bit...And that's the thing, is it truly

SUSTAINABLE yet? I think...without a few key players, it is not sustainable.

7E: I think it's actually more stable now because you actually can see [the program] for what it is. You can see the weaknesses. You can see what you're doing right and I think it helps you have a clearer vision.

While others admitted they desired more stability.

3A: And then the longevity, so...that's hard. Everything gets taken down every year in fall and it may never go back up, you know, and just, I don't know. You never know [if the garden program is just over]. So, I'd like something that was a little bit more solid.

### **Admission of Being the Garden Champion**

Three focus groups had an individual who was the driver for the program and admittedly put a disproportionate amount of energy into their program in order to keep it afloat. One of these individuals had a title and was paid. Two others did not have a garden coordinator title, yet their peers perceived them to be in charge.

3A: Um, staff motivation [should be prioritized] so the resiliencies can't just be based on me...if something were to happen to me or, you know, we lost funding or, you know, then its, then it's...they can, in a day [make] a turnaround [with or without me].

### **Important Feelings and Attitudes**

The focus group participants discussed their perspective on the importance of attitudes and feelings intrinsic to school garden programming. It was believed that if their community shared love, inspiration, enthusiasm or confidence for their program the program would be more stable.

1B: You know, like, I love being here. You know it and you love being here, but, like, we want more people lovin' it...That's where we have, um, I think not anxiety, or, like, people are just intimidated to go outside at all.

4J: Yeah, because I think [what is] important [to our success] is another aspect of inspiration. It helps to motivate people when you've got someone behind you showing their interest, showing their resources.

5(1): You gotta get the teachers all excited to [get out to the garden with their students] too.

7C: ...You have to have enthusiasm even if it's not by everybody, hopefully that would...generate the full school participation.

### **Need for Time**

Time (having enough, the pace, the value of, how contributions from support group is equal to a gain in time, the need to not waste it) was admitted to be and demonstrated to be critical to the sustainability of all the school garden programs which participated in this research.

1B: TIME! TIME! HUGE. Definitely. *(A strong opinion of how this element should be take a significant position within priorities.)*

3A: I just want to make sure we get it right the first time. Time, time is a big value when I have so much to do.

5(1): For the people [involved in garden programming], yeah, [time] was something that we struggled with.

6E: Sometimes it feels like it's kinda rushed [referring to all of the garden program responsibilities.]

1H: I can understand how volunteer groups provide us that economic resilience 'cause they are giving their time and that's huge. And the other thing, of course, is critical

planning time. How do we help get teachers time to plan curriculum to use the gardens in their work?

However, revealed within the comparison of the top three priorities for each of the four categories: good governance, economical resilience, social well-being and environmental integrity, only one group specifically prioritized time (Focus Group 1, Economic Resilience, the third priority was “Curriculum Planning Time”) (Table 4.7).

Table 4.7. Top Elements Prioritized by Focus Groups Per Category		
Category	Element	Explanation of placement and percentage focus groups with identical element prioritization
Good Governance	Administration	1 <sup>st</sup> priority for 50% of focus groups
	Garden Committee	2 <sup>nd</sup> priority for 25% of focus groups
	Knowledge/Education	2 <sup>nd</sup> priority for 25% of focus groups
Economic Resilience	Funding	1 <sup>st</sup> priority for 88% of focus groups
	Grant Writing	2 <sup>nd</sup> priority for 25% of focus groups
Social Well-being	Culture	1 <sup>st</sup> priority for 25% of focus groups
Environmental Integrity	Organic	2 <sup>nd</sup> priority for 38% of focus groups
	Food Distribution	2 <sup>nd</sup> priority for 25% of focus groups

*Note: N=8. Table 4.7 only shows those priorities which were  $\geq 25\%$  in common. When comparing the top-three priorities in the completed frameworks, some categories had priorities which were  $< 25\%$  shared.*

When comparing the top-three priorities for each focus group and noting those which were shared ( $\geq 25\%$ ), five elements (administration, garden committee, funding, grant writing, and culture) may be understood to increase “time” by increasing human-power, paid positions,

permission to alter schedules, and enculturation. To see a complete list of the values prioritized within focus group frameworks see Appendix B.

The question on the open-ended commentary page of the follow-up survey “What did you find valuable from your experience in this study, the focus group, the framework, the supporting materials or anything else you would like to comment on?” revealed three main themes: Using the tool with the focus group identified program strengths and weaknesses, group participation was valuable, using the tool made communication easy.

Because surveys were returned confidentially the quotes are identified by the SS which stands for Survey-Stakeholder and the number simply differentiates the comment by the order the surveys were received.

Some comments made by stakeholders in the theme “Using the tool with the focus group identified program strengths and weaknesses”:

SS3: I liked being able to review our values and strengths about our program with other team members.

SS4: The focus group helped to review experiences and see what needs to be done yet.

SS7: We were able to identify our strengths and weaknesses very quickly.

SS9: Identifying problems with other participants in various areas.

SS12: The focus group gave us a starting point and reinforced our strengths.

SS13: Throughout this study, our F2S program was clearly able to identify strengths and set action steps to improve our weaknesses.

Some comments made by stakeholders in the theme “Group participation was valuable”:

SS1: It was a great turnout, and I like the involvement. All ideas were used and accepted.

SS2: I think it helps to have an open discussion/think-tank! I am that kind of thinker and doer.

SS3: I liked being able to review our values and strengths about our program with other team members.

SS4: The focus group helped to review experiences and see what needs to be done yet.

SS9: The group worked well together in identifying and coming up with solutions.

SS10: This is a great way to get feedback/ideas from each other and to recognize any deficiencies we may have.

Some comments made by stakeholders in the theme “Made communication easy”:

SS2: I liked the idea of getting together to be able to share and discuss our ideas! I enjoyed hearing other people’s ideas; as they sometimes sound “different” out-loud rather than an email/paper.

SS6: I think that making the time to sit down and have an open discussion was very beneficial.

SS7: The entire process made communication very easy.

The question on the open-ended commentary page of the follow-up survey “What would you improve upon or change about your experience in this study, the focus group, the

framework, the supporting materials or anything else you would like to comment on?” revealed one main theme: Desire for more stakeholder involvement.

Some comments made by stakeholders in the theme “Desire for more stakeholder involvement”:

SS3: I would have liked to have more people involved, but given our program, the timing and average school day, that is often difficult to plan.

SS6: I wish more people would have been available for the focus group.

SS10: I believe this structure would be important to use with a greater number of our stakeholders, and the shift in perspective may shift with more input.

Due to the low return on surveys sent to school garden professionals no significant information was gleaned from the quantitative surveys themselves. However, the open-ended commentary revealed suggested the language used in the framework definitions is too academic and should be altered. However, stakeholders did not express or demonstrate any confusion regarding the language used nor requested clarification specific to language used within the “How To” or framework. Because surveys were returned confidentially the quotes are identified by the SP which stands for Survey-Professional and the number simply differentiates the comment by the order the surveys were received.

SP1: I think the four foundations are great and very appropriate, but I struggled with the definitions, which seemed jargon-y and not quite matched to garden and Wisconsin educators.

SP2: I think the terminology of the elements used in the framework and the descriptions are a bit academic and not that user-friendly for real world application. I think it is a bit

too formal for the stakeholders that would be involved in the conversation in a majority of school settings.

## **Summary**

Stakeholders in eight sampled Wisconsin school garden programs participated in focus groups utilizing the Nominal Group Technique and a tool and framework. The tool and framework were designed based upon applicable theories and peer literature. Qualitative techniques revealed school garden programs may need to begin with some basics like identifying their stakeholders and defining their programs. Focus group participants also explored their need for further community involvement, some admitted that they are their program “garden champion”; most prevalent was the recognition of the need for more administrative support and, generally, more time. Of great importance, demonstrated through prioritization and observed within the focus groups, is acknowledging the school culture and engagement of the community to assist in a cultural shift toward supporting the garden program.

Qualitative analysis also revealed that some of the research objectives were met. The stakeholders reported having a positive experience using the tool and supporting materials that they planned to use again in the future. Quantitative analysis (mean and standard deviation) of survey data suggest further satisfaction of the research objectives. Stakeholders felt their programs were accurately represented, both strengths and weaknesses were revealed, and planning facilitated by the tool, largely supported by the Nominal Group Technique, will increase stakeholder retention and sustainability of their programs.

## Chapter 5: Discussion and Conclusion

The purpose of this research was to offer institutions a multifaceted assessment tool which is complex enough to address specific necessary components of an integrated garden program allowing for the ability to identify strengths within the program and tease out that which needs to be addressed to create a sustainable garden program. The literature review revealed some of the benefits, strengths and weaknesses in school garden programming, possible reasons some school gardens persist despite challenges, a comparative review of various assessment tools, the importance of value-based perspective for school garden programs, the power of focus groups and the Nominal Group Technique, as well as, the tragedy of the commons theory and following generations of community-based conservation and the theory of community empowerment approaches that were the basis of this research. The research question became, “Can an assessment tool be designed that can: be adopted by the majority of school garden programs, allow a program to compare itself to itself (and not an unobtainable perfection); be easily conducted by the school; assist in establishing a sound foundation; serve as an historical document; and support programs to maintain momentum over time?”

### **Discussion**

The six questions specific to the effectiveness of the tool included in focus group participant follow-up survey (Table 4.5) fortified by commentary themes resulted in confirmation of objectives as outlined by the research question. It is important to note that the data analysis favors the tool and framework design despite the influence of outlier data. Included in the results are the responses by one particular stakeholder who appeared to be responding with opinions regarding the politics within their school garden program and not necessarily regarding

the tool or the experience of using the tool. When data were analyzed without the outlier, the mean and standard deviation were affected toward a positive outcome. This is also supported by the commentary offered by survey responses.

As explained by Kruger and Casey (2015), focus groups are an efficient and effective formative and summative evaluation used to decipher for a program what is working well, what is not and how a program can be improved. The results suggest that the focus group process of discussion and prioritization of the elements are most valuable to the sustainability of school garden programming. More specifically, the choice to use the Nominal Group Technique facilitates the necessary and appreciated group decision-making necessary to assess school garden programs effectively and with efficiency (WBI, 2007).

“Empowerment” is “any process by which people’s control (collective and individual) over their lives increases” (as cited by Ahmad and Talib, 2014, p. 1041). Involving the stakeholders directly, as suggested by the theory of community empowerment and the community-based conservation practices, has been confirmed beneficial by the focus group participants. This research presents an opportunity for a paradigm shift in school garden assessment from hegemonic ideal, performance-based tools to community developed value-based assessment.

There is no doubt that the stakeholders who participated in this study fully understood the benefits of school garden programming. The number of types of gardens, twenty-two, within these eight programs is a single demonstration of their passion. It appears there is no lack of information regarding the benefits of school gardens and the practical knowledge of how to run them. However, there is a simple lack of resources, combined with the culture described by the

tragedy of the commons theory, and a lack of knowledge of how to engage those who have the ability to create stability within their programs.

## **Effectiveness of Tool**

### **Identifying/Defining: Stakeholders/School Garden Program**

When facilitating the focus groups, a definition of school garden program was not given. In light of the treatment being value-based, groups were challenged to define their own program and identify their own stakeholders, therefore establishing what was to be assessed. Early in the focus group process, it was common for participants to ask what exactly they, as a group, understood to be their school garden program. Half of the participating groups demonstrated confusion or needed clarification when defining their program. Also, it was common for there to be confusion regarding the role of the “leader” of their program and some expressed a desire to have roles clearly defined.

This research paralleled the *Whole Measures for Community Food System: Values-based Planning and Evaluation* (Abri-Nader, et al., 2016), which was designed for self-determination and group dialogue. Taking note of the drawback of the scoring system used in the Whole Measures assessment tool, direction was taken from the Nominal Group Technique which, among other qualities, serves to inform the participants through communication of needs of which they may be unaware. Communication while using the tool also allow for stakeholders to inform each other of perspectives or information they are uniquely qualified to share.

Because stakeholders actively participate in the development of their tool they enjoy participating, and the framework becomes a positive form of coercion to stay the course. Every

suggested priority is considered and not denied; therefore, creating inclusivity and interest in engagement.

### **Element of Strategic Plan**

For this research, the focus group approach was based upon the Nominal Group Technique as described by the World Bank Institute as effective in assessing needs, prioritizing and gaining input from many with individual interests (WBI, 2007). This group decision-making process is dynamic and inclusive of all stakeholders. The Nominal Group Technique is useful whenever a group with multiple perspectives, or in this case with multiple perspectives within a school garden program, need to communicate their viewpoint freely to determine priorities.

By communicating with each other and prioritizing the elements found valuable to the sustainability of their program, stakeholders create the basis of a strategic plan. The most important elements to the sustainability of their program in each category will end up at the top of their completed framework. Once those are in place and stabilized within the active program the elements one step down on the framework are addressed (while still maintaining the original elements) and so on. Hardin (1968, p.1247) said “a mutually agreed upon vision which is culturally accepted with boundaries in place becomes the coercion.” Here I would prefer to use the word “plan” in place of coercion.

Participants acknowledged that while they were discussing their values and prioritizing the elements which would increase their program stability, they were essentially creating a strategic plan which reflected their culture and was mutually agreed upon. On occasion stakeholders would prioritize their mission statement or vision statement within the framework itself.

## **Recognition of Interrelatedness of Categories**

Typically, while the group was discussing priorities in a column and the observations of the completed framework, someone would notice out loud how elements can often appear in multiple categories. They also noted that by addressing and achieving some elements other elements in other categories would automatically be addressed as well. And though there can be a tradeoff between scope and precision, even contradiction (Schader, Grenz, Meier & Stolzen, 2014) when an assessment tool allows for a wide range of indicators (or “elements”, the term used for this study), specific definitions when developed with a thorough description of methodology can create a “harmonization” of elements as seen here. The definition and description of the methodology, though not thorough, has been agreed upon by the group and creates relationship between the elements.

Additionally, gained from the interrelatedness of the categories is the ability to address generally shared concerns regarding time. Understanding the repetition of the element reinforces its importance to the sustainability of a program.

## **Positive Experience Using the Tool**

Triste, Marchand, Debryne, Muel and Lauwers (2014) recounted an event where Flemish farmers refused to participate in an assessment because they were left out of the process of developing the tool. They found it “unfriendly”. Often, we are not motivated to do something, like use a tool, if we don’t enjoy using it or if the benefit gained does not outweigh hardship. The desire is to have school garden programs adopt this tool, so it is important stakeholders have a positive experience during the focus group and find the benefits of the tool worthwhile. Six out of eight focus groups, unprompted, expressed their delight during or following the focus group:

“This is great!”, “This is neat!”, “Fortuitous!”. For this tool to be truly effective, schools will need to repeat the process at least annually.

Five groups addressed the researcher and each other with the idea of repeating the assessment with a larger stakeholder group with their “How To” packet (the script to facilitate the focus group, a blank frame work and supporting worksheets) and completed frameworks. Compliments for the experience came during and after the focus group activity. Positive experiences were also confirmed through the open-ended comments page which was sent with surveys.

#### **Plans to Use the Tool in the Future/Documentation Need for Future Stakeholders**

As mentioned in the previous paragraph, five of the focus groups stated they had a desire to use the tool again. The completed framework becomes a single-page, summary of the school garden program; its current values, resources, strengths and needs as perceived by those participating in use of the tool.

A desired function of the multifaceted tool is for the school program using the tool to be assessed against itself: as an immediate glimpse of the current condition of a program, as an annual opportunity for a program to ask important questions like, “How did we do this year?”, “What is valuable to us this year?”, “What did not go as planned this year? Why?”, “What do we need to sustain our program moving forward?”, “Who are our stakeholders this year?”. If a school does not plan to use the tool the following year or does not find documentation necessary, the tool will only represent the program at that particular period of time (and potentially new stakeholders may remain unfamiliar with the past values of the program).

## **Choice to Use NZSD Categories for Framework**

In the SAFA Guidelines, Version 3.0 (FAO, 2014), the question is posed, “‘Measure what matters’ has been the mantra. But, measure ‘what’ matters to ‘whom’ and ‘how’?” The shift from performance-based to value-based is a step toward answering this important question. The SAFA and NZSD assessment tools use a series of themes, subthemes and predetermined indicators to create a hierarchal score. By allowing stakeholders to determine their own priorities within the NZSD framework they are focused on the specifics of their program (and cultural ideals), therefore, indicators applicability is built into the framework. It is important to note that of all the elements prioritized within the framework everyone fit into a category

An argument has been made that pre-determined indicators are important satisfy the need for a common language (FAO, 2014). By looking at the elements prioritized by the focus groups in this study (See Appendix B), nuances in language tailor the framework specifically to each program. Perhaps, such nuances create cultural recognition or greater ownership of prioritized elements.

## **Data Revealed by the Experience Using the Tool**

### **Desired Community Involvement**

Passey (2012) explained that typically there is a divide between teachers who use and those who do not use the garden spaces at school. This seems to hold true for the participants in this study - 38% of the focus group participants were teachers. Stakeholders repeated their desire to get other teachers involved; many dreamed aloud of having that involvement include not only human power, but additional classes taught in their gardens. The community involvement desired by the focus groups included additional teachers and students (volunteers, cooking and

the creation of a leadership club), organizations outside the school (Boy Scouts, Girl Scouts, Master Gardeners, neighbors), other educational institutions (specific departments within the school, high-level academic institutions, other schools within the district) and local business partners. It was understood across all focus groups that “community buy-in” is one of the most important resources for the stability of programs.

It is important to note that there was some confusion within some focus groups regarding the level of community involvement. It appeared, for some, there was an apparent lack of communication or, perhaps conflicts in understanding of the amount of community involvement was due to community involvement not being within a stakeholder’s scope of responsibility. However, even when a program reported they had community support, additional support was desired.

### **Importance of Administrative Support**

This theme, though an indicator of desired increased support from an entity which would normally be considered part of the school community has been separated from the previous theme for good reasons. Administrative support is critical for the overall success of a garden program (Passy, 2012). The stakeholders studied for this research would concur: 90% of them stated they had administrative support yet half of the stakeholders stated they specifically needed further administrative support or that their administrative support was key to the sustainability of their program. To support this, 50% of the focus groups organized “Administration” as their first (most important for the sustainability of their program) priority under Good Governance. Often it was explained that if Administration wanted something or didn’t want something in the program, so it would be. It had also been noted that if there were philosophical differences between stakeholders and the administration sustainability was a concern.

One focus group had an Administrator stakeholder. The Administrator formed the Garden Committee and is actively involved in promoting the program, as well as, finds funding to finance adherence to the Mission Statement and recruits human power from within the district. The school garden program is a reflection of the overall culture of the district, “Let’s get it done together.”

### **Admission of Being a Garden Champion**

Just as the Administrator mentioned above shoulders a tremendous amount of the work required to keep the program afloat and is fully supported by many capable stakeholders, there would be little argument against labeling the Administrator their Garden Champion. The Garden Champion is the individual who devotes a disproportionate amount of energy to their program. This puts programs in potential peril.

Of the eight focus groups, five had Champions. Of the five, four had supporters who took some of the weight from their Champions shoulders. They also demonstrated a culture that could step up and “replace” their champion if needed or over time distribute the responsibilities amongst the stakeholders. One program had a Champion who wondered out loud what would happen to their program if they were no longer taking on the disproportionate amount of work (The framework completed by this focus group reflected this understanding by prioritizing increased involvement and support from others). Prioritizing the element of community created the recognition within the group that an increase in human assets was important to the sustainability of their program.

## **Important Emotions and Attitudes**

A surprising theme arose from the data. Though concerns for keeping stakeholders motivated to continue their work was on the forefront of the design of this tool, unexpectedly, the stakeholders noted the importance of motivating others to participate in their program. This is a school culture issue (Glover & Coleman, 2006). While it was easy to prioritize the value of “Motivating others to participate” or to get “People lovin’ it” or to inspire and show enthusiasm, stakeholders pondered out loud how to generate the desired attitudes or “Team Spirit”. One focus group, while discussing their framework, put together a public relations plan to generate enthusiasm. The other groups did not go beyond prioritizing the value of getting others to feel love, interest, commitment, enthusiasm or interest. They debated, however, how to influence their school culture (whether to bring people out there and help them develop good feelings or to spark the people’s interest then get them in the garden). Therefore, one limitation is that some elements will require stakeholders to do more research, recruit others who have specific skills or do additional planning in order to accomplish them.

## **Need for Time**

A school garden program is a huge undertaking. It can require a tremendous amount of resources, human power, knowledge, funding and time. Time is one of those stereotypical needs for any educator. For school garden programming this especially holds true because most often the garden program is an addition to the stakeholders’ other responsibilities. Therefore, stakeholders state they have time challenges but also other values that were prioritized insinuate the benefit of more time. For example, when comparing the top-three priorities in all four categories in the framework (Good Governance, Economic Resiliency, Social Well-being, and Agro-environmental Integrity): 50% of focus groups placed Administrative Support as their first

priority under Good Governance, 25% of focus groups place a Garden Committee as second, Funding (88%) as first priority under Economic Resilience and Grant Writing (25%) as second, and first priority under Social Well-being is Culture (25%). Administrative support can create additional positions, funding, or schedule shifting that could help with the program. Empowering the current Garden Committee or creating one can reflect the old adage, “Many hands make light work.” Increased funding can buy more equipment that can reduce the number of people or the amount of time needed to do labor in the garden and could allow for a purchased curriculum-freeing up educator to bring students to the garden. Growing foods in the garden that are culturally relevant, holding cultural events, and facilitating cultural practices within the garden program are effective ways of folding the garden into the culture of the school, which will, in turn, create the community buy-in, directly reducing time limitations.

It is important to mention that the stakeholders’ need for time was demonstrated at every step of this research. Trying to get stakeholders in the same place at the same time became preventative for some qualified schools to participate in this research. Also, it was common for stakeholders to have a shift in their schedules preventing them from participating with their peers. Stakeholders had to, on occasion, leave the group even though great care was put into keeping the gathering to one hour to one hour and fifteen minutes.

## **Conclusions**

Though this research included a relatively small sample group and findings cannot be generalized, the results demonstrate that The Multifaceted Assessment Tool is on course for accomplishing what it set out to do. The tool can be used by school programs from preschool to high school and can assess programs that include a wide variety of garden program types. When a school uses the tool at least annually, it will be able to compare itself to itself and not an

unobtainable hegemonic ideal. The tool can easily be used by the school at virtually no cost, in less than one hour and fifteen minutes, and will not have to be performed by an outside service. If a school identifies their stakeholders, establishes definitions of their program, prioritizes their values at the onset of their program or even after established, a sound foundation should be created. When the tool is used, and the framework is completed annually, the framework becomes a single-page summary of the garden program at that time. When repeated over time the framework can be kept as a reference to what has and has not worked well for the program. These documents can also be given to new stakeholders when staff changes. The strategic element of the tool clarifies the direction a program values. When all the stakeholders have a say in the priorities, they develop a relationship with the vision and will feel more invested. Also, when stakeholders acknowledge a weakness in their program it can be addressed before the impact is dire.

Ultimately, the onus of sustainability falls upon the school. And though this research supports the use of the tool to increase the sustainability of school garden programs, it also has some limitations. Time is a significant challenge for school garden programs. In order for this tool to be most useful, stakeholders will have to be present to participate in the focus group which facilitates the necessary dialogue, establishment of values and prioritization. Those that are not present create a gap in important information. And though meeting at least once per year for one hour and fifteen minutes seems reasonable, it may be too much to ask of some programs. The tool itself cannot change the culture of a school. A school can leverage the results of the framework to inform the culture of a school but if a shift in culture is needed the burden falls upon the stakeholders. Lastly, what the stakeholders value can be impacted by a simple lack of

resources and knowledge of how to engage those who have the ability to create stability within their programs.

### **Recommendations for Practice**

Through facilitating eight focus groups some things were learned about the administration of the “How To” and can be advised herein. It would be most helpful for the individual facilitating the gathering of stakeholders to clearly inform them of the task at hand prior to gathering thus allowing participants to have had time to think about what they find valuable to the sustainability of their program. Though one hour and fifteen minutes is plenty of time to use the tool, it would be helpful to schedule an extra time period for further open-ended discussion if needed. After completion of the framework, a short addition of time should be made for stakeholders to take in the framework with the mindset of consideration for where their strengths can be applied to the program’s priorities.

### **Recommendations for Adjustment of the “How To” and Framework**

Though the language of the focus group script, How To, framework and supporting materials, and surveys were considered prior to administration, some helpful and valid suggestions have been made. A focus group participant suggested changing the term “school garden programming” to “youth garden programming”. In order to be more inclusive, the new term could be adopted. A professional in school garden programming suggested developing definitions for the four categories within the framework that were less “jargony”. The concern was that the language chosen may be preventative for some groups to use the tool effectively. Though, none of the focus groups within this study stated any lack of understanding, in keeping

with the desire to create a more universal tool, more elementary definitions should be developed if others experience this challenge as the tool is administered to a broader group.

Also, awareness of possible sway of results due to language choices should be demonstrated as more groups use this tool. If evidence of such sway is of concern, then proper adjustments should be made.

### **Recommendations for Future Research**

This research is just a starting point. To use the tool with a larger sample would be most useful to generalizing results. Data collected from an expanded sample should inform future generations of this tool. It would also be most fruitful to have the sample schools repeat using the tool for a minimum of three years in a row and to measure the impact of the tool over time. Lastly, a digitized version of this tool would be very useful. Without surrendering the Nominal Group Technique, a digital version would allow for stakeholders to “click” on elements they are curious about or are unfamiliar to reach further resources such as descriptions, instructions, materials, and grant opportunities. If a digitized version existed, the manager of the program could glean interesting data, necessary census information and would have contact information of school garden programs.

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# **Appendix A**

## **Consent Forms:**

**School Garden Stakeholders Focus Group**

**Focus Group Participants Survey**

**School Garden Professionals Survey**

## **Informed Consent to Participate in Assessment Tool Development Research**

Sam De Roche, graduate student, sponsored by Dr Kendra Liddicoat of the University of Wisconsin-Stevens Point is conducting research on the development of an assessment tool for school garden programming. You are being asked to participate in this study by being a member of a focus group.

As part of the study, you will be asked to gather with a group of individuals that represent your school garden program to brainstorm elements which are important to the continuation and effectiveness of your program. Your role along with the other participants will be to offer elements you find valuable to your program, categorize them and prioritize them. For assistance, a framework will be given to the group. The focus group session will not last longer than one hour.

The second phase to participation will require the participants of the focus group to complete a brief questionnaire and survey regarding a sample tool which will be developed based upon the information gathered from focus group sessions and sent to each individual. An addressed and stamped envelope will be provided each participant for a more convenient and prompt return to Sam De Roche.

Participating in this study will pose no medical risk to you. Your identity and the identity of your school will be kept in the strictest confidence. For the purpose of the study, your responses and survey results will be coded so that your name will not appear on any of the forms used for data analysis. No information about you will be released to anyone and publication or presentation of the study data would in no way identify you as a participant. Only Sam De Roche will have access to the names associated with the codes. This information will be kept in a locked safe and password protected laptop and destroyed following three years past the end of the study.

If you want to withdraw from the study, at any time, you may do so without penalty. Any information collected on you up to that point would be destroyed. Your participation in this study should be strictly voluntary.

Once the study is completed, you may receive the results of the study. If you would like these results, or if you have any questions in the meantime, please contact:

Sam De Roche  
10186 Cty Rd MM  
Amherst, WI 54407  
715-342-2711  
sdero435@uwsp.edu

If you have any complaints about your treatment as a participant in this study or believe that you have been harmed in some way by your participation, please call or write:

Dr. Debbie Palmer, Chair  
Institutional Review Board for the Protection of Human Subjects  
Department of Psychology  
Science Building, D240  
University of Wisconsin-Stevens Point  
Stevens Point, WI 54481  
(715) 346-3953  
irbchair@uwsp.edu

Although Dr. Palmer will ask your name, all complaints are kept in confidence.

I have received a complete explanation of the study and I agree to participate.

Name \_\_\_\_\_ Date \_\_\_\_\_  
(Signature of subject)

Print Name \_\_\_\_\_

**This research project has been approved by the UWSP Institutional Review Board for the Protection of Human Subjects.** Graduate student Sam De Roche and research advisor Kendra Liddicoat, University of Wisconsin Stevens Point, appreciate your participation in The Development of a Multifaceted Assessment Tool in Response to School Garden Trends in Wisconsin. You are being asked to complete an anonymous survey that should take approximately 10 minutes of your time.

Participation in the study is entirely voluntary. If you want to withdraw from the study at any time, you may do so without penalty. The information collected from you up to this point would be destroyed.

We anticipate no risk to you as a result of your participation in this study other than the inconvenience of the time to complete the survey and mail it in the provided self-addressed, stamped envelope.

While there may be no immediate benefit to you as a result of your participation in this study, it is hoped that we may gain valuable information which may help in the creation of an assessment tool which may stabilize and sustain school garden programs in Wisconsin.

The information that you give us on the survey will be recorded in anonymous form. We will not release information that could identify you. All completed surveys will be kept in a locked safe in the office of Sam De Roche and will not be available to anyone not directly involved in this study.

Once the study is completed, we would be glad to send you the results upon request. In the meantime, if you have any questions, please contact:

Sam De Roche  
Graduate Assistant  
10186 County Rd MM  
Amherst Junction, WI 54407  
(715) 346-2711  
[sderoche@uwsp.edu](mailto:sderoche@uwsp.edu)

If you have any questions or concerns about your treatment as participant in this study, please call or write:

Dr. Debbie Palmer, Chair  
Institutional Review Board for the Protection of Human Subjects  
Department of Psychology  
Science Building, D240  
University of Wisconsin-Stevens Point  
Stevens Point, WI 54481  
(715) 346-3953  
[irbchair@uwsp.edu](mailto:irbchair@uwsp.edu)

Although Dr. Palmer will ask your name, all complaints are kept in confidence.

**Your completion and submission of the survey represents your consent as a subject in this research.**

This research project has been approved by the UWSP Institutional Review Board for the Protection of Human Subjects.

Graduate student Sam De Roche and research advisor Kendra Liddicoat, University of Wisconsin Stevens Point, appreciate your participation in The Development of a Multifaceted Assessment Tool in Response to School Garden Trends in Wisconsin. You are being asked to complete an anonymous survey that should take approximately 10 minutes of your time.

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**Your completion and submission of the survey represents your consent as a subject in this research.**

This research project has been approved by the UWSP Institutional Review Board for the Protection of Human Subjects.

# **Appendix B**

## **Table of All Elements Placed Within Framework Per Category**

**Table B1. Table of All Elements Placed within Framework per Category**

<b>Good Governance</b>	<b>Economic Resilience</b>
<p>Administrative Support            Garden Coordinator            Garden Committee            Staff Involvement            Teacher Involvement            Student Involvement            District Support            Educator            Partnerships            Curriculum            Access            Educational Access            Healthy Food for Student Consumption            Staff Motivation/Buy-in            Preparation            Educated Placement &amp; Maintenance            Time            Productivity/Consumption            Leadership Commitment            Teacher Engagement            Team Training/Knowledge            Support from Our Committee            Organization            Community Support: Community, Admin Support, Teacher Involvement, Tribal Employees Council, Gitigaan Coalition, Wellness Clinic, WIC/SNAP, Food Distribution            Strategic Plan/Monitoring: Good Communication, Coordination, Promotion in Community, Collaboration, Strong Partnership            Infrastructure/Facility Improvement, Maintenance, Consistency, Time, Dedication            Coordinator Role Defined            School Board Support, Rules and Regulations Made Easy            Create Goals            Whole Middle School Teacher Buy-in; Equal Shares Among Staff in Planning, Prep and Follow Through            Funding and How it is Used            Communication Among Stakeholder for a Unified District            Funding Sources            Mission/Vision/Plan            Community/School Support            K-12 Curriculum            Inter-discipline Use</p>	<p>Funding            Structural Maintenance            Curriculum Planning Time            “Community”: Time, Staffing Volunteers, Garden            Coord/Educator &amp; Committee            Structure Maintenance &amp; Equipment            Cultural Representation            Longevity vs. Annual Set-up (Mission Statement)            Better Future            Grant Writing            Budgeting            Collaboration            Capacity Funding, Community Involvement/Volunteers, Resources, Tribal Unity/Local Communities            Value-added Production, Sustainable            More Area for Community Garden            Develop Curriculum for Garden as Part of the Field Day Program            Summer Volunteers            District Financial Backing            Growing Area (Improved)</p>

<b>Social Well-being</b>	<b>Environmental Integrity</b>
<p>Healthy Food For Students  Cultural Representation  Volunteer Groups  Cultural Representation/Heritage  Student Consumption of Healthy Food  Admin Support/Teacher Involvement  Structure Maintenance  Curriculum  Safety  Well-being of community (Garden Committee)  All Inclusive (Multi-cultural &amp; Sensory Experience)  Inspire Others  (Mission) Teaching youth the value of fresh, local food for health and longevity; culture of and healthy food distribution.  Involvement of students to gain confidence-they can grow, prepare, enjoy healthy food.  Teaching youth skills to grow fresh food/curriculum  Community Support  Family  Culture (Emphasis, Responsive, Connection, Respectful Planning), Seven Teachings, Grandparents Raising Grandchildren  Education, Teacher Involvement, Internships/College, Lesson Structure  Youth Participation, Empowering Children to Want to Garden  Community (Support, Assessible, Family, Health), Healing Addicts, Prison Rehabilitation, Transitional Living, Single Parents  Fun  Utilize the Greenhouse  Create Student Stakeholders  Exposing Students to New Plants (taste, smell, touch)  Summer Support (Students/Staff)  Public Relations: "Enthusiasm for the Movement"  Summer School Program  FULL School Involvement  Organized Manpower  Coordinated Curriculum  Community Resources (Groups and Organizations)  Outdoor Classroom</p>	<p>Organic Practice  Structure Maintenance  Local Support  Value in Community  Instills respect for the environment to future generations/curriculum  Nutrition/Organic  Educators  Community Support  Motivated Students  Cultural Practices (Organic, Sustainability, Environmentally Sound, Responsible), Healthy Food  Community Outreach &amp; Support, Food Distribution, WIC/SNAP, Foodies  Invasive Plants Destroying Them  Lunch Program  Good Space  Student Involvement (Heritage)  Outdoor Classroom (Heritage)</p>

# **Appendix C**

**Focus Group Worksheet**  
**How To**  
**Brainstorming Worksheet**

**To get us thinking about your current school garden...**

**Focus Group Questions:**

Please circle the number that corresponds to your answer.

Very

Moderately

Not

How stable is your school garden program?	5	4	3	2	1	
Please check the box that corresponds to your answer.				YES	NO	NA
Is your school garden used for educational purposes?						
Do you have a formal school garden curriculum?						
Do you have a school garden coordinator?						
Is the individual who coordinates your school garden paid for their service?						
Do you have volunteers help with your school garden?						
Does your school garden have community support?						
Does your school garden have administrative support?						
Have you received a Farm to School grant?						
Has your school garden program received financial support from sources other than F2S and the district?						
Do you have short-term goals for your school garden?						
Do you have long-term goals for your school garden?						
Do your stakeholders gather at least annually to assess and strategic plan for your school garden program?						

**How to Use Your  
School Garden Success Tool and Framework**  
-Sam De Roche

The hard-copy version of your tool will include: instructions on how to re-create this experience, an assessment for foundational stability, your framework

including master copies of supplemental worksheets and suggestions for how your framework can serve the future of your school garden program.

**Contact stakeholders** whose participation whose decision-making and/or involvement is critical to the success of your school garden program.

Examples of school garden stakeholders:

- School Garden Coordinator/Garden Educator
- Food Service Manager
- Maintenance Manager
- Administrator
- Teacher representative
- Volunteer group representative
- Community representative

**Important:**

To simplify the use of this tool, it is written in two different fonts. Dialogue is in italics and is designed to clarify activities for stakeholders and leaders. Plain text is used for instructions and further clarification.

**Schedule** a one-hour focus group when your stakeholders, or at least the great majority, can gather.

**Focus Group:** Seated in a loose circle, each participant should have a packet which will include: Definitions, a Brainstorming Model, and a How To Framework. Lastly, make sure everyone has something to write with.

Conduct an ice breaker if needed.

*Please take 2-3 minutes to look over the pack each of you should have.*

**\*If you have conducted a focus group in the past year and created a framework for school garden success, please see page 8. Make sure every participant in your focus group has a copy of the previous framework.**

## Assess for a Stable School Garden Foundation

The purpose of this exercise is to determine whether or not your school garden has the basic elements of a stable school garden program. If any of these four are not part of your program, your work begins here. This can be completed by asking for a show of hands, *“I am going to ask a question then I will ask if your answer is ‘yes’, ‘no’ or ‘unsure’. Raise your hand when I call out the answer that most accurately represents how you would answer the question. ‘Does our school garden program have...?’”* Be sure to read the question and the definition. Majority rules! However, even though most of your stakeholders may agree on one answer to your question, considering those with a differing opinion could offer a fruitful conversation. If anyone answers “unsure”, they may need more information.

Does your school garden program have:	Yes	No	Unsure
<b>Good governance:</b> Ensures sound decision-making and implementation.			
<b>Economic resilience:</b> Sustains an economy through change and the unexpected.			
<b>Social well-being:</b> Ensures opportunities for student development and respects social and cultural principals of society.			
<b>Environmental integrity:</b> Sustains natural capital and enhances natural values.			
	If you have answered “yes” to all of these <b>please go to page 3.</b>	If you have answered “no” to any of these <b>please go to page 4.</b>	If you have answered “unsure” to any of these <b>please go to page 4.</b>

If your group answered “yes” to the four foundations of a sustainable school garden program take a moment to celebrate! Research has demonstrated that sustaining a school garden programs can be complicated. Answering “yes” reveals to your stakeholders that your efforts are moving your program toward longevity. Well done!

**Congratulations!**

**Skip to page 5** to continue with your focus group and using your School Garden Success Tool and Framework...

Before moving forward, **celebrate your successes!** Research has demonstrated that sustaining a school garden program can be complicated.

If your group answered “no” or “unsure” in any of the celsl in the “Assess for a Stable School Garden Foundation” exercise your program could be in jeopardy. Research implies that the school gardens which falter, or struggle have weaknesses at the foundational level. When your stakeholders move forward with setting priorities within your framework, it is critical that you emphasize the elements which will mitigate the revealed weakness.

Below are elements which can be related to a stable foundation. By looking at these examples, your stakeholders may find an element which could be valuable to creating a more sound foundation for your program. By choosing to make this a top priority you have made a commitment as stakeholders to be accountable to creating this asset as soon as possible and will find you may be strengthening the weakness within your program.

<p>Good governance: Ensures sound decision-making and implementation</p>	<p>Examples: Administrative support, teacher lead, Parent-Teacher Organization lead, Garden Coordinator, garden committee, accountability board, Garden Educator</p>
<p>Economic resilience: Sustains an economy through change and the unexpected</p>	<p>Examples: Corporate sponsorship, district funded, grant funding, partnerships with other institutions, multi-purpose facility, added-value production, fund raising</p>
<p>Social well-being: Ensures opportunities for student development and respects social and cultural principals of society.</p>	<p>Examples: Curriculum, heritage gardens, ethnic/cultural food celebrations, citizen science, student produce consumption, social justice lessons, accessibility</p>
<p>Environmental integrity: Sustains natural capital and enhances natural values</p>	<p>Examples: Quality structures, maintenance, organic practice, water conservation/reclamation systems, animal sanctuary, solar power, non-GMO</p>

Continue with your focus group to build your school garden success framework...

Begin with some baseline, quick and simple “yes or no” questions. The purpose of these questions is to also help generate some thoughts about elements which are valuable to your school garden program and to ensure all participants are on the same page:

**Focus Group “yes or no” questions: (Completed out loud by the group)**

	YES	NO	NA
In your collective opinion, is your school garden program stable?			
Is your school garden used for educational purposes?			
Do you have a formal school garden curriculum?			
Do you have a school garden coordinator?			
Is your school garden coordinator paid?			
Do you have volunteers help with your school garden?			
Does your school garden have community support?			
Does your school garden have administrative support?			
Have you received a Farm to School (F2S) grant?			
Has your school garden program received financial support from sources other than F2S and the district?			
Do you have short-term goals for your school garden?			
Do you have long-term goals for your school garden?			
Do your stakeholders gather at least annually to assess and strategic plan for your school garden program?			

Research has demonstrated that there are many factors that influence the stability and longevity of school garden programs. The School Garden Framework (see worksheet) categorizes the four factors that are essential to garden programs comprising of any type of garden. When considering this framework there are likely many elements which relate to your program that could be categorized in one or more of these four columns. The focus of this group is to brainstorm elements that you-as a group-will rank from most important to the least important. The finished framework will represent what is valuable to your school garden this year.

*On your Post-its, write the elements which you feel are valuable of your school garden program; One element per sheet. You can use the framework worksheet that you have been given to sort the elements in the appropriate categories. Each participant should come up with as few as one but no more than 8 for each category. Would you find it useful to brainstorm out loud some elements before you begin writing on your Post-its?*

### **To Brainstorm**

*“Would anyone like to offer an important element?” (Wait) If needed offer a prompt in a single word in questioning tone: funding, manpower, time, conservation, nutrition, administration? As elements of your program are offered to and by the group write them on a large piece of paper or board for the group to see. When the group has thought of eight or more basic elements valuable to the success of your school garden program, ask them to write them on the Post-its and explain how to arrange them by most important to least important. (See page 10, Examples of Value-based School Garden Elements)*

*Now that we have of some of the elements valuable to our program in our minds, let’s begin writing them on the Post-its. One element per page. Once you have more than one in a category, please arrange them in order of importance-from most important on the top to least important on the bottom. This is where using the School Garden Framework worksheet may be helpful.*

*Does anyone have any questions about what to do next? Answer questions.*

When it appears that the group is finishing writing and arranging their elements, ask the members to one-by-one add their Post-its to a larger version of the framework in the corresponding categories (at the bottom of each column). When the last Post-its are placed up on the board, begin:

***Good Governance: Ensures sound decision making and implementation***

(Read the Post-its aloud and ask the group to have a conversation about which element is the most valuable to the school garden program. Place Post-it with the most important element at the top of the column. The second most important below it and so on. Prompting continues until all elements are discussed and placed in descending order of value.)

***Economic Resilience: Sustains an economy through change and the unexpected***

(Read the Post-its aloud and ask the group to have a conversation about which element is the most valuable to the school garden program. Place Post-it with the most important element at the top of the column. The second most important below it and so on. Prompting continues until all elements are discussed and placed in descending order of value.)

***Social Well-Being: Ensures opportunities and respects social and cultural principle of all society***

(Read the Post-its aloud and ask the group to have a conversation about which element is the most valuable to the school garden program. Place Post-it with the most important element at the top of the column. The second most important below it and so on. Prompting continues until all elements are discussed and placed in descending order of value.)

***Environmental Integrity: Sustains natural capital, enhances natural heritage values and meets global environmental obligations***

(Read the Post-its aloud and ask the group to have a conversation about which element is the most valuable to the school garden program. Place Post-it with the most important element at the top of the column. The second most important below it and so on. Prompting continues until all elements are discussed and placed in descending order of value.)

**\*If there should be an irreconcilable “tie”** when placing elements on the framework, the Brainstorming Worksheet should be used to determine the priority of the elements. Instructions on how to use the brainstorming worksheet are explained on the sheet (see Brainstorming Model Worksheet).

When the elements within the categories are arranged by value:

*This group has just determined the elements that are valuable to the success of our school garden program. Our goal as stakeholders is to put our energies into the implementation of these over the next year.*

(You may need to determine the definition of 'year' for your program: Is it one calendar year? Is it from winter to winter? Does it align with your school schedule?)

*At the beginning of this focus group I asked, 'In your collective opinion, is our school garden program stable?' Your answer was, '\_\_\_\_\_'. After this focus group, would you answer that question the same?*

Stakeholders may strategically plan how to achieve and maintain valuable elements.

### **When revisiting your framework from the previous year:**

In "a year", as defined by your stakeholders, you will look at your framework and ask yourselves:

*How did we do? Did we meet our objectives?*

*Did we achieve and maintain those elements that we determined were most valuable to our school garden program?*

If 'yes', congratulations! Then you will conduct a focus group as you had done the previous year, have the necessary conversations, make adjustments to your framework if your values have changed, and proceed duly applying your energies. **Please, go to page 2**

If 'no', then you will look at each column to find the valuable elements that were not maintained and ask yourselves:

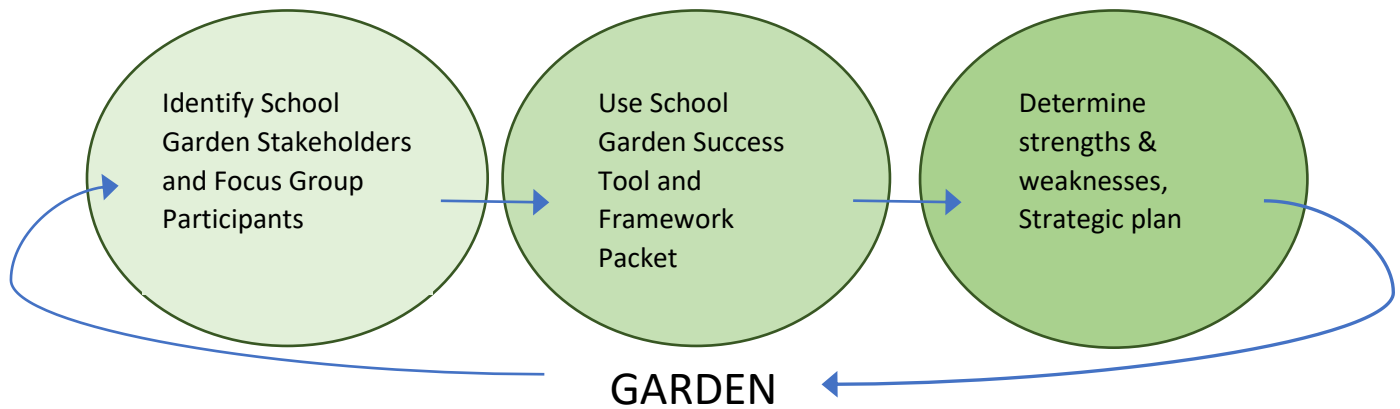
*What happened? Did our priorities change?*

*Is this still valuable to our program?*

If "no", it will fall away when you re-enact your focus group.

If "yes", it will remain on your framework and you will have to discuss how to ensure this element is not over-looked a consecutive year.

Then you will use your tool to re-enact your focus group, have the necessary conversations, make adjustments to your framework if your values have changed, and proceed duly applying your energies. **Please, go to page 2**



**Keep your frameworks from year to year.**

*Suggestions for how it can serve you in the future of your program, for example, used as:*

- *a historical document*
  - *The framework can serve to track what elements have been important to your program over time, what has been successful, what has not.*
- *a generator of conversation between stakeholders,*
  - *Research has demonstrated the need for stakeholders to have a shared vision. Stakeholders will feel a stronger commit to your program if given the opportunity to take part in the development of and when being held accountable for your program.*
- *a single-page “health check” which could be useful to you as stakeholders, as well as, granters*
  - *This framework can be re-visited anytime during your “year” to verify if the direction your program is heading is in alignment with your values.*
  - *Granters may be interested in seeing your framework as evidence of your commitment to your program.*
  - *Your framework can also serve as evidence of the priorities which may be of interest to granters.*
  - *Your framework can also serve to demonstrate at an annual review the impact grant funding has had on your program.*
- *a means of communicating with interested outside groups, e.g., school board, potential donors, Master Gardener club*

## Examples of Value-based School Garden Elements

- Hunger relief
- Teamwork/cooperation
- Community building
- Respite
- Physical education
- Behavior management
- Leadership skills
- Agriculture education
- Environmental education
- Human impact education
- Project based education
- Academic support
- Organic practice
- Curriculum
- Life skills
- Practical knowledge
- Cultural celebration
- Place-based activities
- Student lead business opportunity
- Nutrition education
- Administrative support
- Grant writing/summarizing
- Partnerships
- Maintenance
- Volunteer groups
- Accessibility
- Funding
- Garden committee
- Garden Coordinator/Educator
- Cultural representation
- Volunteer group
- Structure maintenance
- Teacher involvement
- Healthy food for student consumption

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## Brainstorming Model: School Garden Focus Group Framework

1__	1__	1__	1__	1__
2__	3__	4__	5__	6__

Number of votes for:	2__	2__	2__	2__
1=	3__	4__	5__	6__
2=				

Number of votes for:	3__	3__	3__	3__
1=	4__	5__	6__	6__
2=				

3=	Number of votes for:	4__	4__	4__
	1=			
	2=	5__	6__	6__
	3=			
	4=			

Do the same as  
the first three  
columns

5\_\_

6\_\_

Do the same as  
the first three  
columns

### Rules for Use:

- Assign the element which are “tied” a number 1-6
- Fill the corresponding element in the appropriate space above
- Have each person vote on which item they consider more important—1 versus 2, 1 versus 3, etc.
- Add all 1’s together, 2’s together, 3’s together, etc.)
- Highest score is most important, lowest score is least important
- Discuss rank ordering, the scores, and whether any changes need to be made after further discussion

## **Appendix D**

### **Code Book**

# Code Book

	<b>Code</b>	<b>Definition</b>
<b>Tool Specific</b>	Identifying/Defining: Stakeholders/School Garden Program	Statements which indicate the need for or lack of definition of site specific school garden program and/or roles within program stakeholders.
	Element of Strategic Plan	Statements expressing a prioritized element is part of, should be part of, or is itself a larger strategic plan.
	Recognition of Interrelatedness of Categories	Statements indicating that focus groups recognize that by addressing priorities in a single column will influence the success of achieving priorities in other columns on the framework.
	Positive Experience Using the Tool	Statements of the positive nature which reflect a participant finding the tool useful, productive, fun, interesting, increasing morale, etc.
	Plans to Use the Tool in the Future/Documentation Needed for Future Stakeholders	Statements acknowledging the importance of the tool and/or other documentation shared with future stakeholders.
<b>Process of Tool Use Specific</b>	Desired Community Involvement	Statements of desired increased involvement of teachers, students, organizational partnerships and community outside of the school.
	Importance of Administrative Support	Statements expressing the integral need of support from Administration.
	Focus Group Process Impacting Perception of Program Stability/Desire for Stability	Statements indicating stakeholder shift in understanding of their program stability or an expression of a desire for program stability.
	Admission of Being the Garden Champion	An individual admission of themselves of a stakeholder within the group being solely responsible for the stability of their school garden program.
	Importance of Intrinsic	Statements indicating that the stability of their program requires a shift in intrinsic attitudes like “buy-in”, motivation, curiosity, enthusiasm, etc.
	Need for Time	Statements acknowledging how having more time would increase stability of their program.

## **Appendix E**

### **Surveys and Comment Pages**

**Survey for Focus Group Participants**  
**Survey for School Garden Professionals**

## Survey for Focus Group Participants

Please circle the number that indicates your level of agreement.

**Note:** The definition of “tool” for the purposes of this survey means: The focus group experience and the resulting framework of prioritized elements. The “How To” is the packet and supporting worksheets that explain step-by-step how to facilitate the focus group and use the worksheets and framework.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
It is important for our school garden program to be assessed, at least, annually.	1	2	3	4	5
The use of the tool revealed our school garden program strengths.	1	2	3	4	5
The use of the tool revealed our school garden program weaknesses.	1	2	3	4	5
Early identification of weaknesses could improve the ability to take steps to stabilize our program.	1	2	3	4	5
Early identification of strengths could improve morale and the ability to retain the stakeholders in our program.	1	2	3	4	5
The prioritized elements on our framework accurately represent our school garden program.	1	2	3	4	5
It is likely we will use the “How To” and supporting worksheets to re-create our focus group assessment tool in the future.	1	2	3	4	5
The “How To” packet is user-friendly.	1	2	3	4	5
The single-page, completed framework page could be used to summarize the impact of grant funds.	1	2	3	4	5
Our program would value our completed framework as an historical document.	1	2	3	4	5
The amount of time needed to use the tool is appropriate.	1	2	3	4	5
Using the “How To” and supporting worksheets will improve the sustainability of our school program.	1	2	3	4	5

**Thank you for your participation!**

See the next page for comments.

Your opinion is important.

What did you find valuable from your experience in this study, the focus group, the framework, the supporting materials or anything else you would like to comment on?

What would you improve upon or change about your experience in this study, the focus group, the framework, the supporting materials or anything else you would like to comment on?

With sincere gratitude for your participation in this study, Sam De Roche

## Survey for School Garden Professionals

Please circle the number that indicates your level of agreement.

**Note: The definition of “tool” for the purposes of this survey means: The focus group experience and the resulting framework of prioritized elements. The “How To” is the packet and supporting worksheets that explain step-by-step how to facilitate the focus group and use the worksheets and framework.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
It is important for school garden programs to be assessed, at least, annually.	1	2	3	4	5
There is a “boom and bust” pattern to school garden programs in Wisconsin.	1	2	3	4	5
The value-based approach of this tool allows schools to develop an individualized garden program based upon their vision, needs, culture and resources.	1	2	3	4	5
Early identification of weaknesses could improve the ability to take steps to stabilize garden programs.	1	2	3	4	5
Early identification of strengths could improve morale and the ability to retain the stakeholders in school garden programs.	1	2	3	4	5
The stakeholder focus group activity facilitates the accurate discovery of school garden program values.	1	2	3	4	5
The foundational categories (Good governance, Economic resilience, Social well-being, Agro-environmental integrity), adapted from the New Zealand Sustainability Dashboard Project, translates well the basic needs of school garden programming.	1	2	3	4	5
The “How To” packet is user-friendly.	1	2	3	4	5
The single-page, completed framework page could be used to summarize the impact of grant funds.	1	2	3	4	5
School garden programs could benefit from referring to previously completed frameworks to track their needs, values and priorities over time.	1	2	3	4	5
Using the “How To” and supporting worksheets will improve the sustainability of school garden programs.	1	2	3	4	5

**Thank you for your participation!**

See the next page for comments.

Your opinion is important.

In your professional opinion, what is valuable about this study, the focus group activity, the framework, the supporting materials or anything else you would like to comment on?

In your professional opinion, what would you improve upon or change about this study, the focus group activity, the framework, the supporting materials or anything else you would like to comment on?

With sincere gratitude for your participation in this study, Sam De Roche

