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Community Mapping: Transforming Thinking and Actions Toward Sustainability

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COMMUNITY MAPPING: TRANSFORMING
THINKING AND ACTIONS TOWARD
SUSTAINABILITY

By

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ABSTRACT
COMMUNITY MAPPING: TRANSFORMING
THINKING AND ACTIONS TOWARD
SUSTAINABILITY

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Marquette University, 2012

This phenomenological study explored the level of concern regarding issues of sustainability, for individuals residing within one mid-sized Midwestern urban community. Ultimately, this research sought to determine those factors that increase the sense of urgency for some individuals to do more to reduce our global footprint and to create a sustainable future for our children and grandchildren. The participants were chosen via purposeful sampling and the interview process was used for data collection. Several themes uncovered in the study findings were similar to those in the literature review, which include: caring for the environment, making connections within the community, recycling, gardening, and sharing gifts (assets) of each individual. Participants shared their journey in sustainability, which provided insight into what they currently do on a daily basis to care for the environment. To increase their knowledge of sustainability they use the library, television, Internet searches and social media sites. They may also learn from others. In addition, these sustainable practices, when shared, may set the example for others to do more in reducing their global footprint.

To support sustainability, community mapping can be a valuable tool to identify recycling centers, farmer's markets, local suppliers of green products, and other essential locations. Whether hard copy maps, Internet sites or applications (apps) for Apple I-devices or Android devices; community mapping can serve individuals who want to conserve the earth's resources.

Keywords: community mapping, sustainability, environment, asset mapping

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Melanie J. Kornis

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Community Mapping: Transforming Thinking and Actions Toward Sustainability

“There have been many types of revolutions, dramatic events that all too often represent little real change over the long term,” and often “the cast of players in power shifts and new political philosophies come into vogue, but when it comes to the daily realities of most people, little changes” (Senge, Smith, Kruschwitz, Laur, & Schley, 2008, p. 5). But occasionally, something different happens, causing a shift in thinking, “a collective awakening to new possibilities that changes everything over time - how people see the world, what they value, how society defines progress and organizes itself and how institutions operate” (Senge et al., 2008, p. 5). This new awakening, shifting the thinking toward new possibilities, is what is starting to happen around the world today.

“Perhaps surprisingly, the most visible signs of a new revolution are a mounting series of environmental and social crises” (Senge et al., 2008, p. 5). Swedish (2008) states:

We are shocked by the massive death tolls in earthquakes and hurricanes without recognizing what has happened to the global population in the past fifty years. Humans have spread across the globe, doubling, tripling our numbers in the space of a few generations. (p. xi).

The *World Population Prospect, the 2010 Revision* provides the most recent population data available, released on May 3, 2011 (United Nations, 2011). Estimates and projected world population and country specific populations are given from 1950 through 2050. According to the United Nations (2011), the world population reached 7 billion on October 31, 2011. By the year 2050, the population is projected to be over 9 billion (United Nations, 2011).

We are experiencing some dramatic changes to the earth including “the melting of the permafrost in Siberia, summer melting of the Arctic Ocean, collapsing Antarctic ice sheets,

receding glaciers and warming ocean temperatures” which indicate that change is occurring at a rapid pace; irreversible and altering to our lives (Swedish, 2008, p. xii). “We live in momentous times: times when change is accelerating, and when the horror of what could happen if we do nothing and the brilliance of what we could achieve if we act can both, at times, be overwhelming” (Hopkins, 2008, p. 17).

Now is the time to raise the level of concern regarding sustaining life for future generations. Even though scientific research is warning us to reduce our carbon footprint, there does not seem to be a sense of urgency surrounding what can be done. “Citizens, in their capacity to come together and choose to be accountable, are our best shot at making a difference” (Block, 2008, p. 11). What can one individual or group do to make a difference? How do we start? The purpose of this qualitative study is twofold: Attempt to identify each participant's level of concern about sustainability and determine those factors that may transform their thinking and actions. Utilize the interview process to determine if a community map is a viable tool to increase an individual's or community's level of concern toward sustainability. For the purpose of this study, community is defined as a unified group of individuals. Sustainability is defined as becoming environmentally conscious.

Literature Review

Individuals have been using maps to find their way throughout history (Perkins, 2007). Maps also have the capacity to reveal and link knowledge, learning and power (Lydon, 2003; Perkins, 2007; Parker, 2006). Perkins (2007) indicates, “Individuals in modern societies have, until recently, only rarely mapped; they have used maps created by cartographers” (p. 127). Generally, people have the innate sense and ability to create a map (Lydon, 2003; Perkins, 2007; Parker, 2006). As a result of the advancement of technology and the opening up of many new

mapping spaces, for example: Google Earth or World-Mapper, more people worldwide are exposed to maps (Fahy & Cinnéide, 2008). Today, this technology enables people to create their own maps through the use of online mapping tools.

Community Mapping

In reviewing the research, community mapping may be defined as “local mapping produced collaboratively by local people and often incorporating alternative local knowledge” (Perkins, 2007, p. 127). Fahy and Cinnéide (2008) state, “community maps represent a form of mapping that has engaged the public imagination to a significant extent” (p. 168). “A community map is a map produced collaboratively by residents of a particular locale, often featuring local knowledge and resources” (Parker, 2006, p. 470).

Parker (2006) conducted research over a 10-month period using in-depth interviews and participant observation of the mapping process for the city of Portland. This research explored the process of mapping within a community and attempted to answer several questions: What is the composition of the map; how should they be evaluated, and what is the relationship between the community map and power?

As a result of this study, Parker (2006) found community mapping to have the following characteristics:

- A community map implies a collective endeavor that attempts to represent a range of community members within a localized geographic scale.
- Community mapping is attentive to the process, not just the product; how participants work together and negotiate issues of place and representation is as important as the map itself.

- Community mapping projects strive to be inclusive, empowering, and transparent. (p. 472)

In addition to these defining characteristics, the study found that people came together to participate on the mapping project. The community collaboration is evident in the visual image of the map, further establishing connections within the community. Parker (2006) states, “Community mapping practitioners and scholars can be effective partners in the analysis and enhancement of community mapping” (p. 481).

In his conclusion, Parker (2006) discussed opportunities for further research, “Mixed methodologies and evolving interdisciplinary approaches are needed to investigate and illuminate the possibilities and practice of community mapping” (p. 481). In addition, Parker (2006) found, “Defining and understanding community-mapping projects are problematic, complex, and contingent, but nevertheless important. Community mapping is a growing phenomenon, and evidence suggests that positive outcomes of such projects are possible” (p. 482).

Similarly, Perkins (2007) found some of the earliest forms of community mapping in the United Kingdom. These early maps have often been referred to as parish maps. One of these initiatives was called the Parish Map Project, which encouraged local people to map what their own parish valued.

The Parish Map Project is predominantly English, quintessentially local, invariably defined by the largely backward-looking spatial frame of the ecclesiastical parish and mainly rural. The typical design comprises a bounded central map, surrounded by imagery relating to the place, events, or shared narratives. (Perkins, 2007, p. 130)

Based on the illustrations viewed by this researcher, parish maps are very artistic, and resemble folk art. These maps are often created using the crafts inherent within a community such as knitting, drawing, sewing, quilting and other crafts that have been passed along the generations. This type of mapping results “in an artistic artifact, usually painted, and often still displayed in village halls, schools or other community facilities” and “rarely reflect a single person’s work; an organization has almost always engaged in mapping, typically a church group, school, parish council, evening class” (Perkins, 2007, p. 131).

Comparable to the Parish Map Project, which involved input from the members of the parish, the Green Mapping Project also involves input from individuals in the mapping of communities. “With unique global icons and adaptable tools, the Green Map System has engaged communities worldwide in mapping green living, nature and cultural resources since 1995. Green Maps chart a sustainable future” (Green Map, 2012, p. 1). Wendy E. Brawer of Modern World Design developed the first Green Map of New York City, called NYC Green Apple Map, published in 1993 (Green Map, 2012). In 1995, a global network was established to encourage the use of common symbols and practices. Green Map (2012) encourages individuals to participate in creating a map around and including the individual’s location. Symbols and icons are developed according to what may be interesting to individuals who may use the map, such as; green space, food co-op, farmers markets, libraries, etc. These symbols and icons are then placed on the map at their respective locations. The purpose of the map is for an individual to quickly locate symbols or icons of interest. The Green Map is intended to be an interactive tool when it is accessed online; an individual can click on an icon and learn about the location. (Green Map, 2012). On the Green Map (2012) website, individuals can scan electronic icons so

they can access Green Map from their I-phones, or they can download applications (apps) to their Apple or Android electronic devices to find locations of interest.

Similarly, Wood (2005) conducted a qualitative study using action research methodology to examine whether Global Information Service (GIS) offered a workable approach to community-based mapping, in contrast to more traditional paper-based mapping. The following questions were the focus of the research:

- What geographic issues are of importance to environmental community groups?
- Does Public Participation Geographic Information Systems (PPGIS) offer advantages over paper mapping or dialogue?
- Could each mapping approach inform the other? (Wood, 2005, p. 160)

Wood (2005) conducted the research using semi-structured interviews, a review of the literature, GIS prototype development, focus group feedback sessions, and hands-on GIS experimentation. Action research methodology was used throughout the study, where the researcher is no longer an observer but takes the role of an active participant within the study. The sampling type was purposeful, finding the subjects within interest groups and countryside organizations in the Edinburgh village. “A thematic analysis was undertaken to identify the findings from the interviewee groups” (Wood, 2005, p. 161). Using the data from the interviews, maps were developed, and then, the focus groups were utilized to test the mapping via the GIS tool.

Through the analysis of the data, Wood (2005) discovered that the community groups were interested in five levels of GIS usage:

- Strategic coverage of a wider area

- Coverage following a selected strategic feature, for example: a major proposed walkway route along a river or disused railway line, and interlinking paths
- Local coverage which seamlessly linked or crossed community boundaries, and the features of concern to neighboring community groups
- Views of local features of interest from within one community only
- Selection of a specific local feature such as a farm field or woodland (p. 163)

Besides the interest in GIS usage, several findings emerged as the maps were developed and tested among the focus groups. Wood (2005) determined that:

A community map, when combined with attribute data was viewed as an exciting new way of sharing information with others, both within and outside their own group. The community groups viewed GIS as a useful tool and were typically highly positive regarding the potential for community based GIS mapping. GIS demonstrations had opened minds to the huge potential of mapping and the range of possibilities an IT or PPGIS solution could offer. (p. 167)

In addition, an unanticipated finding surfaced, “GIS attribute data encouraged groups to look at their local community, the surrounding countryside and what they felt was important in an entirely new way” (Wood, 2005, p. 166).

Based on Wood’s (2005) findings, it was very important to the outcome of the study that the mapmaker work closely with the group providing the information. The collaboration with the mapmaker provides incentive to the group to use the GIS on their own time (Wood, 2005). The study concluded that the knowledge learned by the groups gave some of the participants a feeling of empowerment and the desire to continue to use the mapping tool on their own. This research by Wood (2005) supports the theme of empowerment discussed in the research by

Parker (2006). Both found that the collaboration of the community brings change through empowerment of the people within the community.

Asset Mapping

Asset maps reveal and explore strengths, resources, and assets found in a community. “From a community development perspective, it helps to think of our communities in terms of the wealth in people, things, services, and resources that exist there” (Dorfman, 1998, p. 3). Another researcher finds, “The mapping is not so much of the community, but by the community in a manner that reflects their assets, values and visions for the future” (Lydon, 2003, p. 136). Essentially, this type of mapping shows interconnections among assets and these interconnections reveal ways to use the assets. Dorfman (1998) states, “Assets, the relations among them and access to use them, these are the grounds on which communities are built” (p. 3).

One tool that can help with creating these types of maps is a workbook, created by Dorfman (1998), to be used as a guide on how an individual can attempt to create an asset map. Using a questionnaire is a great way to start discussions and develop relationships with other people. The responses to the questions form the foundation of the asset map. Once the foundation is established, the asset map is used to educate the community and to serve as a basis for sustainable renewal in the community.

As a result of three decades of community development research, Kretzmann and McKnight (2005) created the Asset Based Community Development (ABCD) Institute at Northwestern University. The ABCD Institute initiatives “focus on identifying and utilizing the assets of a community” (Kretzmann & McKnight, 2005, p. 31). The assets of a community “include the skills of local residents, the power of local associations, the resources of public,

private and non-profit institutions, and the physical and economic resources of local places so the community itself can respond to its own needs and issues” (Kretzmann & McKnight, 2005, p. 31). The ABCD Institute uses two main approaches. “They produce and distribute popular publications which share the strategies and approaches used by communities that recognize and mobilize their assets for effective development results” (Kretzmann & McKnight, 2005, p. 31). In addition, they hire talented and diverse faculty, “All of whom are dedicated to communicating asset-focused approaches to community building through the provision of technical assistance and training” (Kretzmann & McKnight, 2005, p. 31).

Kretzmann and McKnight (1993) also created a guide to support “strategy asset-based community development” (p. 1). Instead of focusing on the needs and problems of a community, Kretzmann and McKnight (1993) begin with a capacity-oriented emphasis which means “a clear commitment to discovering a community’s capacities and assets” (p. 1), as recommended in their guide. The guide “emphasizes the critical importance of beginning the development process by discovering and mobilizing the resources and strengths, or assets to be found in even the most challenged communities” (Kretzmann & McKnight, 1993, p. 1).

Equally important, Kretzmann and McKnight (1993) speak of two additional factors, which argue for shifting to a capacity-oriented emphasis. First factor: “historic evidence indicates that significant community development takes place only when local community people are committed to investing themselves and their resources in the effort” (Kretzmann & McKnight, 1993, p. 5). Second factor: “the emphasis of the development of internal assets of local urban neighborhoods is that the prospect for outside help is bleak indeed. The hard truth is that development must start from within the community, and in most of our urban neighborhoods, there is no other choice” (Kretzmann & McKnight, 1993, p. 5).

Abundant Community

The work continues to evolve and McKnight has partnered with Block on community projects. McKnight and Block (2010) speak of “a new worldwide movement developing made up of people with a different vision for their local communities. They know real satisfaction and the good life cannot be provided by corporations, institutions, or systems” (p. 1). At the heart of this transformation and movement are the following three guiding philosophies:

We see what we have - individually, as neighbors; we know that the power of what we have grows from creating new connections and relationships among and between what we have; and we know that these connections happen when we individually or collectively act to make the connections. (p. 1).

This group of people courageously seeks their own way, creating a culture based on their vision. As a result, people coming together pursue a common calling, an awakening; they begin to see the abundance that they have (McKnight & Block, 2010).

McKnight and Block (2010) define the abundant community as “a community that has the capacity to support lives of satisfaction in fulfilling the functions most important to us” ... and “an abundant community is marked by a collective accountability that can be created only in relationship to other people” (p. 65). These relationships are referred to as *connections* between local people which “awaken the power of families and neighborhoods to weave the social fabric of an abundant and competent community” (McKnight & Block, 2010, p. 83). McKnight and Block (2010) identify the abundant community by three major properties:

- Gifts, the raw material for community
- Associations, the process through which the gifts are exchanged
- Hospitality, what widens our inventory of gifts. (p. 83)

Gifts are discovered through the connections of the local people. A list of gifts may include: carpentry, cooking, sewing, listening, gardening, and others. Next, the list of gifts may be turned into some activities for the neighborhood, making the gifts visible to others. An example might be: “Have young people teach the Internet to seniors and adults” (McKnight and Block, 2010, p. 120). McKnight and Block (2010) discuss several things these individuals start to discover as gifts become more visible, which include:

Working together, we begin to take creative responsibility for our families and our lives; in sharing the gifts, we make new connections and relationships; we begin to understand the limits of money; as we create together, a new kind of trust emerges, we begin to feel powerful, and finally, history is created, a way to tell our stories. (p. 123)

McKnight and Block (2010) state that in any transformation one needs to have different ways of thinking. In creating an abundant community, the thinking will need to shift from a consumer-based community to a citizen-focused community; “the core resource for a satisfied life” (p. 115). McKnight and Block (2010) identify a basic set of beliefs that would be found in a citizen community, which includes:

- What we have is enough.
- We have the capacity to provide what we need in the face of the human condition.
- We organize our world in a context of cooperation and satisfaction.
- We are responsible for each other.
- We live with the reality of the human condition. (p. 66)

McKnight and Block (2010) find, “The community becomes powerful and competent when it awakens these properties; the giving of gifts, the presence of association, and the compassion of hospitality” (p. 4). These results, as discussed by McKnight and Block (2010),

are similar to the findings of Wood (2005) and Parker (2006): empowerment happens when people collaborate and begin to understand their community.

Measuring Sustainability

Throughout the research, there were discussions regarding the use of various tools to measure sustainable development within the communities. “The need for efficient tools to develop and assess sustainable development was one of the major themes identified as a priority under the EU’s Sixth Framework for European Environmental Policy to 2010” (Fahy & Cinnéide, 2008, p. 167).

Klinsky, Sieber, and Meredith (2010) developed “two community-level GIS-based tools; an environmental atlas and an ecological footprint model, and evaluated their ability to support public engagement in discussions of sustainability” (p. 85). Three themes were determined to be crucial to the promotion of sustainability: (a) interconnections across systems, (b) reflection on societal values, and (c) patterns and integration of scales. These themes determined by Klinsky et al., (2010) are defined as follows:

- Integration across systems is essential to sustainability. Sustainability involves not only understanding that human choices have economic, environmental, and societal impacts but that these realms are intimately interconnected. Tools designed to promote public participation in sustainability must expose salient interconnections.
- Reflexivity is used here to describe the process of reflecting on implicit values, conventions, and contradictions.
- Integration of scales presents practical and theoretical challenges that are epidemic in discussions of sustainability. (p. 85)

In addition, Morgan (2009) found that “Integration of scales begins with the conversation around sustainability in local communities and neighborhoods, then the conversations progress to include city scale, regional scale, and eventually to cross border regional partnering” (p. 454). “The concept of integration across scales has emerged as a key concept in sustainability, as characterized by the common phrase, ‘Think global, act local’” (Klinsky et al., 2010, p. 85). Finally, Gibson (2006) states, “The genius of the sustainability concept is its insistence on interconnections and interdependencies” (as cited in Klinsky et al., 2010, p. 266).

The two community-level GIS-based tools developed by Klinsky et al. (2010), the environmental atlas and the ecological footprint model, were then used to educate the community about sustainability in the seven western suburban boroughs of Montreal. For this purpose, focus groups were used “to simulate discussions and decisions made in a public policy setting” (Klinsky et al., 2010, p. 89), where they evaluated whether the tools were effective. There were eight focus groups of four to six participants who were representative of specific areas.

Next, the data was analyzed “using moderator notes, verbatim transcripts, and flip chart notes using a combination of thematic coding to identify conversation themes and discourse analysis, which focused on specific working interactions among participants” (Klinsky et al., 2010, p. 91). The analysis revealed very different results for each tool; however, when comparing the data by groups, some similarities emerged. Consequently, as discussed by Klinsky et al. (2010):

The findings hold valuable implications for areas of the highest ecological footprint, suburbs, where disproportionate amounts of land are being converted due to low-density use and where levels of domestic consumptions are high. Both the atlas and the footprint

tools have strengths, but each also limits consideration of certain aspects of sustainability. (p. 97)

As a result Klinsky et al. (2010) suggest:

An ideal situation might be the combination of the two tools; so that personal, societal and government responsibilities can be more fully incorporated in local sustainability planning that does not ignore the global scale. The footprint can promote thinking globally; the atlas can promote acting locally. (p. 97)

These findings seem to suggest “strong sustainability initiatives will need to link engagement to action” (p. 98).

Comparable to the tools developed by Klinsky et al. (2010), Fahy and Cinnéide (2008) found:

Community mapping is another relatively new tool that may be deployed to good effect in promoting a sustainable development agenda at the local level. Community maps are locally produced visual depictions of an area that record and promote social, environmental and cultural resources. The maps display what people value in their neighborhoods. (p. 168)

In their research, Fahy and Cinnéide (2008) investigated the process of developing a community map for Galway, Ireland. Guided by examples of what other cities have used, they established “a collaborative mapping initiative involving the local university, the municipal authority and the wider community in Galway” (Fahy & Cinnéide, 2008, p. 171). The researchers used purposeful sampling to identify participants. The data was collected from 12 mapping workshops in various locations; which included 10 participants at each location. Equally important, as noted by the authors, the sampling method was chosen to ensure that the

voices of the participants could be heard. At the same time, “the purposeful and non-representative nature of the original sampling introduced certain biases to the process,” and the perspective presented from this sampling “is not necessarily representative of all members of the community” (Fahy & Cinnéide, 2008, p. 172).

Action research methodology was used as a framework in which “the researchers acted as the facilitators” (Fahy & Cinnéide, 2008, p. 171). The workshops were recorded, transcribed, and analyzed using discourse analysis. Then, the analysis of the data was used by to create an initial map of the community. At that point, “the map was digitized with the assistance of the local university and placed on public display by the municipal authority online” (Galway Green Map, 2008, as cited in Fahy & Cinnéide, 2008, p. 172). This digitized map was displayed to the entire community through the use of publicity in local media. By viewing the map, individuals and new groups of people started to participate and were encouraged to propose any changes to the map.

The city council dedicated staff time to the update and addition of new material to the map on an ongoing basis, sustaining a two-way dialogue between local communities and the municipal authority that was initiated with the conception of the project. (Fahy & Cinnéide, 2008, p. 172)

The city council of Galway used this map on their website which validated the work of the community in a very public way.

The tasks of updating the map and adding additional information continued for three years, “creating an internal dynamic that is sustaining it into the future” (Fahy & Cinnéide, 2008, p. 172). As a result, the outcome of the data collection and analysis created a visual map “that

displays the geographical distribution of selected elements, but it excludes the wealth of knowledge shared and generated in the process of collating the data” (Fahy & Cinnéide, 2008, p. 172).

Fahy and Cinnéide (2008) indicated several research limitations which included the sampling method and the following observation from the researchers; “although the production of a digitized map and its online display has conferred many advantages on the community mapping process in Galway, the publication of information exclusively online limits access to certain sections of the population” (p. 172).

Fahy and Cinnéide (2008) summarized the research findings:

- The whole process of community mapping is that of sharing lived experiences, raising awareness and increasing knowledge about local areas.
- Community maps reflect interrelationship with one another and the environment.
- Mapping of a local area facilitates citizens’ participation in the creation of a new geography.
- Collaborative endeavor amongst the community members themselves as a means of promoting a sense of belonging to the community.
- Networking with other community groups, expanding the geographic dimension which facilitates the exchange of ideas and experiences; generating innovative solutions to local issues of sustainability. (p. 173)

Finally, “the Galway experience of community mapping strongly indicates that it merits application and evaluation in other settings” providing an opportunity for further research (Fahy & Cinnéide, 2008, p. 174).

Increasing Sustainability

Trier and Maiboroda (2009) wanted to gain a better understanding of increasing sustainability so they conducted research and attempted to answer the following question: “What does it mean in practical terms for a rural community to become more sustainable?” (p. 819). They undertook a yearlong pilot project in a small village in “a process of exploring how their community could become more sustainable” (p. 891). Trier and Maiboroda (2009) noticed early in their research, there were only a few other communities in the Southwest that were engaged in similar initiatives on the issues of sustainability. Over the course of their study, data showed “dozens of other small and big communities all over the Southwest began initiating their own journeys towards more sustainable living” (p. 891). In reviewing these separate initiatives, they found people are responding in a variety of ways to climate change, depletion of resources and social justice issues (Ryan, 2004, as cited in Trier & Maiboroda, 2009). “A single sustainability blueprint does not exist, and each community has to find its own way” (p. 891). However, each journey is important to others; when shared, it may help other communities to avoid mistakes, or it may inspire others into action.

Similar to the study by Parker (2006), Trier and Maiboroda (2009) used personal observations, individual interviews, focus group discussions, a quantitative baseline survey, and documentary research to carry out their study. They also participated in the steering group meetings to seek approval to move to the next phase in the project. At the beginning of the study, a leaflet was sent out to all villagers identifying some practical steps the villagers may wish to take toward becoming more sustainable.

As a follow-up to the leaflet, all villagers received a survey, used “to establish a baseline picture of current lifestyles” (Trier & Maiboroda, 2009, p. 822). The return response was 52%.

Trier and Maiboroda (2009) compiled the results into a database at the University of Plymouth.

The following key points emerged:

- There is a high dependency on the car in the village.
- Most households rely on oil as the principle source of heating.
- Nearly all respondents recycle their waste and a high number of these also compost.
- Over three-quarters of the households participate in conservation activities around the village.
- An overwhelming majority of young people that responded like living in the village.
- Over two-thirds of the households have access to the Internet. (Trier & Maiboroda, 2009, p. 822)

The steering group reviewed these results and then displayed them at the Village Hall. In an effort to be transparent, a summary was sent with the newsletter which was delivered to each household within the village. The survey results showed a positive correlation between the rate of return and the person-to-person contact during the delivery of the questionnaire, which validated the need for further research. In an effort to keep the villagers engaged and informed, the steering group continued to produce a village newsletter and to distribute it monthly to all households.

Next, they wanted to hear from the villagers, so they used focus groups and individual interviews to gain a better understanding of people's perceptions and attitudes toward sustainability. At the beginning of the study, Trier and Maiboroda (2009) focused on the technological aspect of sustainability, such as; wind turbines, solar panels and bio-fuel. As the study progressed, the focus shifted from the technological to the social aspect of sustainability. From both the focus group discussions and the interviews, the steering group concluded "human

relationships, as much as solar panels, were at the heart of a community capable of sustaining itself. If the needs of the future are going to be around a strong community, it must also mean a caring community” (p. 824). In addition, Trier and Maiboroda (2009) identified several key indicators of rural social sustainability:

- Cohesion: coordination; ability to work together
- Community mindedness: community life, active participation
- Neighborliness: friendly and supportive community. (p. 824)

In conclusion, the Trier and Maiboroda (2009) survey did confirm that the villagers made connections between environmental issues and their lifestyles as most were recycling and composting. The interviews, focus groups, and informal conversations also confirmed that the villagers are aware, at different levels of concern, of global trends, such as; climate change, depletion of oil and vital resources, and many global social crisis (Trier & Maiboroda, 2009). Those living in the village experience a comfortable lifestyle where food and water is readily available, but they may notice slight changes in weather conditions and the cost of oil is expensive yet still affordable. “Even though people might be aware of the need for lifestyle changes that go beyond recycling and composting, most do not act because they are still in a comfort zone that does not encourage change” (p. 825).

In order to encourage change, several small activities were organized to increase engagement by the villagers. The activities revolved around shared food, which included a presentation or film on sustainability topics. Some of the discussion topics were on recycling, personal sustainability, alternative energy, and climate change on wildlife. The villagers also went on a field trip to Agroforestry Garden, which was well attended. The activities increased

community involvement and proved to be meaningful and rewarding for all (Trier & Maiboroda, 2009).

One objective of this project was to draw in more people, gain momentum and achieve a *snowball effect* (Trier & Maiboroda, 2009). This did not happen. Most participants were already on a sustainable journey or aware of the need to change. The project remained an initiative driven by a small group of dedicated villagers with support from the researchers and steering group (Trier & Maiboroda, 2009). This project also attempted to answer the question, “What does it mean for a rural community to become more sustainable?” This objective was not entirely achieved. One of the difficulties experienced by the steering group was communicating with the villagers and finding the correct language to use. Even though most individuals have heard of the term sustainability, it was noted by the researchers that it may not be used or mean the same to everyone. The project did accomplish some achievements – establishing a youth club and designing a renewable energy initiative that will lead to lasting benefits. There was evidence that the project increased awareness, encouraged some to make lifestyle changes, and influenced other communities in the region.

Trier and Maiboroda (2009) suggest these types of projects require an initiator. However, this person should not take the role of facilitator but “encourage the community to take ownership of the project as quickly as possible” (p. 830). It is important to effectively engage the community so that the work started in the project can continue or sustain itself over time.

Leadership in Community Development

In 2008, Block states, “In communal transformation, leadership is about intention, convening, valuing relatedness, and presenting choices. It is not a personality characteristic or a matter of style; and therefore, it requires nothing more than what all of us already have” (p. 85).

In comparison, “in the conventional [leadership] belief, people expect the leader to create the vision, get others motivated and then hold those people accountable to accomplish the work to meet the goals and objectives set forth by the leader(s) or leadership team” (Block, 2008, p. 85).

A community transformation begins with “leadership understanding that every gathering is an opportunity to deepen accountability and commitment through engagement” (Block, 2008, p. 87). Block (2008) intentionally uses the word “gathering,” instead of the word meeting.

Community building needs a leader that creates experiences for others. These experiences “need to be designed in such a way that relatedness, accountability, and commitment are every moment available, experiences, and demonstrated” (Block, 2008, p. 86). In addition, Block (2008) states, “Many of us are familiar with meetings; they are frequently designed to explain, defend, express opinions, persuade, set more goals, and define steps, the result of which is to produce more of what currently exists” (p. 86). In comparison, the gathering “serves two functions: to address its stated purpose, its business issues, and to be an occasion for each person to decide to become engaged as an owner” (p. 87). According to Block (2008), “the leader’s task is to structure the place and experience of these occasions to move the culture toward shared ownership” (p. 87).

During community transformation, it is important to the process that citizens become engaged in issues and plans. “Engagement is the means through which there can be a shift in caring for the well-being of the whole, and the task of leader as convener is to produce that engagement” (Block, 2008, p. 87). Block (2008) discusses tasks vital to leadership in community transformation, which include:

- Create a context that nurtures an alternative future, one based on gifts, generosity, accountability, and commitment.

- Initiate and convene conversations that shift people's experience, which occurs through the way people are brought together and the nature of the questions used to engage them.
- Listen and pay attention. (p. 88)

As the citizens' engagement increases, citizens "discover that it is their power to resolve something or at least move the action forward" (Block, 2008, p. 88). The engagement and accountability occur as people take an active role in their experiences.

According to Block (2008), "this kind of leadership – convening, naming the question, and listening – is restorative and produces energy rather than consumes it" (p. 88). In addition, "it is leadership that creates accountability as it confronts people with their freedom. In this way, engagement-centered leaders bring kitchen table and street corner democracy into being" (p. 88).

Becoming a Sustainable Thinker

Senge (2008) defines sustainability "as expressing the need to live in the present in ways that do not jeopardize the future. When a process is sustainable, it can be carried out over and over again without negative environmental effects or impossibly high costs to anyone involved" (p. 9). Essential for creating a more sustainable future, Senge (2008) suggests three guiding ideas: (a) there is no viable path forward that does not take into account the needs of future generations, (b) institutions matter, and (c) all real change is grounded in new ways of thinking and perceiving.

"Just as previous thinking was based on the condition of the times, it is imperative that we rapidly formulate a new mental frame based on today's realities" (Doppelt, 2008, p. 20). These realities, based on everyday activities, may become clearer as one reviews the following facts. Doppelt (2008) states:

- The average U. S. household uses about 10,800 kilowatt hours (kWh) of electricity and 1070 gallons of gasoline each year.
- It takes the equivalent of almost 3,000 kWh of energy, or more than 930 gallons of gasoline, to grow, process, and deliver the food consumed by a family of four in the U.S. each year.
- The average passenger car emits 2.39 tons of carbon dioxide each year.
- Even lawn and garden equipment emits an average of 0.03 tons of carbon dioxide annually. (p. 48)

What this means is that those activities you do on a daily or weekly basis have an impact on the environment. Cooking, operating electronic items, driving your vehicle, tending to your yard, and even your purchasing decisions have an impact. When one purchases any products made of non-recyclable materials, you support manufacturers in the current linear take-make-waste economic model. However, when one fully re-circulates used materials and items back into the economy or back to nature for further use, the sustainable, circular borrow-use-return economic model begins to take over, changing the way products are made.

The key take-away, expressed by Doppelt (2008), “There is no single source of harm to the climate, natural environment, or communities. Each of our small actions adds up and has an impact” (p. 49). Each one of us will continue to add to the causes of global warming, ecological degradation, and social distress, unless we begin to change our thinking and actions. In sustainable thinking, one acknowledges that everything is linked; therefore, what we choose to do has consequences.

According to Doppelt (2008), today all thinking must be grounded “in the truth that protecting and restoring the Earth’s climate and ecological systems is humanity’s most pressing

need” (p. 20). “Stabilizing and restoring the climate and physical environment is a biological, economic and social necessary – a requirement for the survival of humanity” (Doppelt, 2008, p. 20).

The following three sustainable fundamentals, discussed by Doppelt (2008), are essential in becoming a sustainable thinker:

- Endurance – sustainable thinking must lead to production and consumption systems that ensure that the Earth’s critical sources of energy and materials persist into perpetuity.
- Cleanliness – sustainable thinking must lead to the production and use of sources of energy, raw materials and other substances that protect and regenerate the Earth’s ecological sinks (an ultimate destination of material and energy flows used by a system).
- Community – sustainable thinking must foster a basic sense of connection to, and mutual responsibility for, others, future generations and ourselves. (p. 34)

In one’s journey towards sustainable thinking, Doppelt (2008) offers the following advice, “Every change you make is likely to inspire others to examine and alter their thinking and behaviors. Not only will your new thinking trigger change in your personal circumstances, it is also likely to motivate others to change as well” (p. 205). In addition, he suggests, “the best place to start is where you sit” (Doppelt, 2008, p. 205). A sense of urgency, having a positive orientation, and light-heartedness offers a powerful combination for change.

The review of the literature offers various studies that identify several ways to discover the assets, gifts, and associations found within a community. Through the process of recording these assets, gifts, and associations, a community map may be created. The literature revealed

that displaying the map, where most members of the community would be able to view the map, is most beneficial to the members of the community. Several studies discussed that creating a community map involves collaboration of individuals within the community. The creation of the map is found to increase engagement of individuals, to empower people to do more than they thought they were capable of, and to begin to build a more cohesive community. Another key element found in the literature discusses what individuals can do to reduce their carbon footprint. As the population increases, more sustainable activities must be done to care for the environment. This literature identified key elements to be explored in this study through interviews with members within one mid-sized Midwestern urban community.

Methodology

Design and Methodological Choice

This study seeks to gain an understanding of the individual's level of concern about sustainability and attempts to determine those factors that may transform his/her thinking and actions. In addition, this research attempts to provide some insight into whether a community map, in some form, will increase an individual's level of community participation. Qualitative inquiry is the methodological choice, because this researcher wants to gain a deeper understanding of these experiences and to be able "to describe the phenomenon of interest with great richness, using the original language of the participants" (Trochim & Donnelly, 2007, p. 143).

This researcher explores the level of concern, regarding issues of sustainability, for individuals residing within one mid-sized Midwestern urban community. Ultimately, this research seeks to determine those factors that increase the sense of urgency for some individuals to do more to reduce our global footprint, and create a sustainable future for our children and

grandchildren. By using qualitative methods, one can move beyond statistics and explore the essence of an experience for the research participants (Creswell, 1998; Merriam, 2002).

According to Creswell (1998), qualitative studies are preferred when the research question asks “how” or “what” instead of “why” and a detailed view of the topic needs to be explored. In addition, the researcher takes on the role of active learner and tells the story from the participant’s view. “Qualitative research is an effort to understand situations in their uniqueness as part of a particular context and the interactions there” (Patton, 1985, p. 1).

Creswell (1998) defines five qualitative traditions of inquiry as (a) biography, (b) phenomenology, (c) ethnography, (d) a grounded theory study, and (e) a case study. The form, terms, and focus differ among each tradition of inquiry. A biography is used to study the life of an individual utilizing interviews, documents, and/or archived materials as the primary methods of data collection. In contrast, the phenomenological study reports on the lives of several individuals focusing on their lived experiences about a concept or phenomenon. Data is collected through the interview process from those that have experienced the phenomenon. The grounded theory is used to generate or discover a theory based on a comprehensive study of the phenomena. The ethnographical study provides a description and interpretation of a cultural, social group, or system. Ethnographies are often longitudinal studies involving participant observation in which the researcher becomes immersed in the daily lives of the individuals. Finally, a case study is an exploration of a case or bounded system over time through detailed, in-depth data collection using multiple sources of information.

Merriam (2002) identifies three approaches that may be used for qualitative research: (a) critical, (b) postmodern, or (c) interpretive. A critical qualitative approach would be most useful when “investigating how the social and political aspect of the situation shape the reality,” and a

postmodern approach would be selected when “researchers question all aspects of the construction of reality, what it is and what it is not, and how it is organized” (Merriam, 2002, p. 4). An interpretive approach would be used when “learning how individuals experience and interact with their social world, the meaning it has for them” (Merriam, 2002, p. 4). Applying one of these investigative approaches provides an additional lens in which to view the research.

This research explores the lived experiences of five individuals within one community, performing sustainable activities; therefore, a phenomenological approach was chosen for this study. Moustakas (1994) states a phenomenological study is used “to determine what an experience means for the persons who have had the experience and are able to provide a comprehensive description of it” (p. 13). Merriam (2002) describes a phenomenological study as one that “reports on the lives of more than one individual, focusing on common, everyday human experiences,” and these “experiences believed to be important sociological or psychological phenomena of our time or typical of a group of people and transitions that are common or of contemporary interest” (p. 93). The primary source of data collection is the interview in which the researcher “attempts to uncover the essence, the invariant structure, of the meaning of the experience” (Merriam, 2002, p. 93).

Merriam (2002) states, “Phenomenological researchers usually explore their own experiences...to become aware of their own prejudices, viewpoints, and assumptions. These prejudgments or assumptions are then bracketed, or set aside” (p. 94). This process affords the researcher a clear mind in which to focus on the story as told by the participant.

Moustakas (1994) reflects on the meaning of bracketing, referring to this activity as Epoche:

I see it as a preparation for deriving new knowledge but also an experience in itself, a process of setting aside predilections, prejudices, predispositions, and allowing things, events, and people to enter anew into consciousness, and to look and see them again, as if for the first time. (p. 85)

The data analysis proceeds through “a methodology of reduction, the analysis of specific statements and themes, and a search for all possible meanings” (Creswell, 1998, p. 52). Merriam (2002) explains, “When conducting a phenomenological study, one engages in phenomenological reduction, horizontalization, and imaginative variation. Phenomenological reduction is the process of continually returning to the essence of the experience to derive the inner structure or meaning in and of itself” (p. 94).

Moustakas (1994) employs the process of horizontalization, “an interweaving of person, conscious experience, and phenomenon. In the process of explicating the phenomenon, qualities are recognized and described: every perception is granted equal value, nonrepetitive constituents of experience are linked thematically, and a full description is derived” (p. 96).

Creswell (1998) provides standards for assessing the quality of qualitative research that include:

Begin with a single focus, conduct the research in a natural setting, focus on participants’ views, engage in rigorous data collection procedures with adequate summaries, use a tradition of inquiry allowing data to emerge and evolve within the design, and ensure a holistic view is kept throughout the study. (p. 20)

In addition to these standards, “researchers and consumers want to be able to trust the results of any research study” (Merriam, 2002, p. 30). Strategies may be used “that will enhance the

trustworthiness of the research, such as triangulation, member checks, peer examination, investigation position, audit trail, [and] rich, thick description” (Merriam, 2002, p. 31).

Participants

The participants for this study were purposefully selected using criterion sampling. Creswell (1994) defines criterion sampling “as the individuals studied represent people who have experienced the phenomenon” (p. 118). It is essential to the outcome of this study that each participant be a member of the same community over 18 years of age and engage in some form of sustainable practice. It is also important that each participant have time for both the interview process and a brief follow-up.

Participant selection involved contacting several community board members of the local neighborhood association, asking if there was an interest in participating in a research study to learn more about sustainability in the neighborhood. Several members expressed interest and requested more information. After receiving information on the purpose and intent of the study, several board members agreed to participate. These board members contacted other neighborhood association members, whom they felt would have an interest in participating. Individuals were selected using the criteria established.

For the purpose of defining “practicing sustainability” as a criterion for participant selection, this researcher used a description from the U. S. Environmental Protection Agency (2012), “A person can start by doing simple things, which can lead to big reductions in greenhouse gas emissions and save money” (p. 1). Some simple things a person can do include:

- Replace conventional light bulbs with more energy efficient bulbs.
- Practice water efficiency.
- Seal and insulate one’s home.

- Purchase the most energy efficient appliances that one can afford.
- Mow your lawn using a push mower instead of gas or electric powered.
- Grow a garden.
- Start a compost pile using yard waste and food waste.

In choosing participants for this study, this researcher asked each participant if they practiced any of these simple things. The participants selected for this study were two males and three females, ranging in age from 30 to 51. All participants lived in the same community from 3 to 11 years and practiced sustainability as defined by the parameters of this study.

Informed Consent

Marquette University's Institutional Review Board granted permission to conduct the study prior to the researcher contacting participants. After accepting the researcher's request to participate in the study, the participants were e-mailed a letter explaining the purpose and intent of the study. The e-mail included the researcher's contact information and provided assurances that the study would maintain their anonymity. The e-mail included attachments containing the interview guide and the consent form, which they were asked to sign. In addition, this researcher asked each participant to allow the interviews to be digitally recorded and transcribed. The consent form outlined the method of the collection and storage of the data and informed the recipients that their participation was strictly voluntary (see Appendix A for consent form). Participants were told they could stop participation in the study at any time if they felt uncomfortable.

Creswell (1994) emphasizes the importance of keeping personal data confidential and suggests the use of aliases or assigning numbers to distinguish individuals and to maintain anonymity. For this research, numbers were assigned to each participant ranging from one to

five. These pseudonyms, Participant followed by an assigned number, were used in collecting data and reporting the results. The number identifies the order in which the participants were interviewed.

Data Collection

According to Creswell (1998), there are four basic types of data collection: observations, interviews, documents, and audio-visual materials. In addition, there are several types of interviews used to collect data including face-to-face, telephone, or a focus group. For this study, the interview process was used as the primary source of data collection. Questions were asked to engage each participant in speaking about their experiences and to determine their level of concern about sustainability. Twelve open-ended questions were asked, allowing the participants to describe their experiences (see Appendix B for research questions). Each interview was digitally recorded, downloaded, and transcribed. During the interviews, notes were taken only if the researcher wanted to remember a thought or phrase to minimize interruption of the participant. Interview times ranged from approximately 45 to 60 minutes. Prior to the start of the interview, the researcher restated the purpose of the study and reviewed the parameters of confidentiality. Participants who had not signed the consent form were asked to read, sign, and date the form before the interview began. In addition, all participants were given the opportunity to ask questions before the recording of the interview began.

Prior to starting the interview process, this researcher set aside any prejudgments and assumptions, referred to as bracketing or the process of *Epoche*, to listen with a new consciousness, a clear mind (Merriam, 2002). Moustakas (1994) states, “The *Epoche* is the first step in coming to know things, in being inclined toward seeing things as they appear, in returning to things themselves, free of prejudgments and preconceptions” (p. 90). As a resident in the

neighborhood in which the study takes place, this researcher realized that personal bias could affect the study. The primary assumptions of the researcher include:

- This researcher owns a residence in the neighborhood, but works and lives in another city during the work week.
- This researcher has practiced sustainability for many years. As early as 1970, first year of Earth Day, the researcher planted trees at her school in the school's first annual Earth Day project – developing a school forest.
- This researcher is an avid learner, seeking information on current and future practices in caring for the environment and attending events to increase her level of sustainability.
- This researcher feels that everyone should be taking part in caring for the environment.

In summary, several strategies were used in this research “to enhance the trustworthiness of the research” (Merriam, 2002, p. 30). An audit trail; a rich, thick description; and the identification by the researcher of personal bias were used to enhance the trustworthiness and credibility of the study. Another strategy used was member checks, which were performed after the transcription of the data and also after the analysis, allowing the participants a significant voice in the study. A member check, also known as informant feedback or respondent validation, is a technique used to help improve the accuracy and ensure the validity of the study (Merriam, 2020 Creswell, 1998). To complete a member check, the researcher returns the transcription of the interview and initial findings to the participants asking them to review the information and affirm that it accurately reflects their experiences.

In the initial stage of writing the findings, this researcher wanted the participants to review the final question and provide any feedback or additions. Question 12 asked: What are your gifts? Could these help others? Only two participants provided updates in speaking about their gifts, two participants approved of their answers, and one participant did not respond. Also, this researcher emailed each participant a verbatim transcript of the interview and asked each participant for a response indicating approval or noting any corrections. Three participants responded with approval; another participant sent back some corrections and additions to the transcription, and one participant did not respond.

Research Questions

The purpose of this qualitative, phenomenological study was to interview five community members, identified as practicing sustainability, and to discover common themes and patterns. For the purpose of this study, the participants described their lived experiences and how they practice sustainability. The interview protocol consisted of 12 open-ended questions (see Appendix B for research questions). The questionnaire was designed to allow each participant an opportunity to express their thoughts. The questions were written “to explore the meaning of the experience for individuals and asks the individuals to describe their everyday lived experiences” (Creswell, 1994, p. 54).

Data Analysis

The data analysis process used for this study is an approach Moustakas (1994) referred to as a modification of the van Kaam (1959, 1966) method of analysis of phenomenological data. In this method of analysis, Moustakas (1994) begins with the transcription of each interview and then utilizes the following steps:

- List every expression relevant to the experience, referred to as horizontalization.

- Reduction and elimination. Test each expression for two requirements: Does it contain a moment of the experience that is a necessary and sufficient constituent for understanding it? And, is it possible to abstract and label it? Expressions that do not meet these requirements are eliminated.
- Clustering and thematizing the invariant constituents...the core themes of the experience.
- Final identification of the invariant constituents and themes by application: validation. Check the invariant constituents...against the complete record of the research participant.
- Using the relevant validated invariant constituents and themes, construct for each co-researcher an individual textural description of the experience. Include verbatim examples from the transcribed interview.
- Construct for each co-researcher an individual structural description of the experience based on the individual textural description and imaginative variation.
- Construct for each research participant a textural-structural description of the meanings and essences of the experience, incorporating the invariant constituents and themes. (p. 121)

This researcher began the data analysis by reviewing the completed transcription of each participant and recording expressions that captured each individual's experiences. The next step was reduction and elimination of the data. In phenomenological reduction, Moustakas (1994) states:

The whole process of reducing toward what is texturally meaningful and essential in its phenomenal and experiential components depends on competent and clear reflectiveness,

on an ability to attend, recognize, and describe with clarity. Reflection becomes more exact through corrections that more completely and accurately present what appears before us. Things become clearer as they are considered again and again. (p. 93)

Following the phenomenological reduction, this researcher began to derive structural themes using imaginative variation (Moustakas, 1994). “Through Imaginative Variation the researcher understands that there is not a single inroad to truth, but that countless possibilities emerge that are intimately connected with the essences and meanings of an experience (Moustakas, 1994, p. 99).

The final step Moustakas (1994) recommends “is the intuitive integration of the fundamental textural and structural description into a unified statement of the essences of the experience of the phenomenon as a whole” (p. 100). Husserl (1931) “employs this concept, essence means that which is common or universal, the condition or quality without which a thing would not be what it is” (as cited in Moustakas, 1994, p. 100).

Findings

Each of the five research participants expressed concern in caring for the environment and discussed the desire to do more than they currently do. Those who do sustainable activities daily realize that more can be done; however, it may take more planning and resources than they have available to them. They all discuss their activities with neighbors, family members, and others in the community. Three of the five participants use social media, Facebook and Twitter, to share their actions, and they also use these sites to find new activities to adopt as they continue their sustainable journey. All the participants have awareness of the need to make changes in order to sustain the environment for their children and grandchildren. The following are their responses to each of the 12 questions:

Question 1: Why care for the environment?

Participant 2 states, “It is important to take care of where we live.” Most people may think about their immediate area where they live, their house and yard. But if individuals give some thought to this statement, they may start to look further than their house and yard and begin to see beyond, into their neighborhood, the place where they live. The neighborhood is a location where one can look around and begin to take more care. Participant 1 answers, “Caring for your environment provides for a better quality of life.” The researcher asks, “What is meant by quality?” Participant 1 states, “Caring for the environment is good for health and good for the environment.” In caring for the environment, “One can provide what we see now for future generations.” Participant 1 is concerned that future generations may not be able to experience the environment as we currently do. Participant 3 responds, “We have a daughter.” Caring for the environment has become very important to her with the birth of her child. Participant 2 also replies, “For our children.” Participant 5 answers the question, “We are all a part of it.”

Question 2: What do you do on a daily basis to help the environment? Weekly?

Monthly?

All participants are recycling. Participant 1 mentions that his household has a bigger recycling bin than garbage bin. Pickup takes place every other week, and the recycling bin is always full. Recycling has gotten easier over the last few years, allowing numbers one to seven plastics in the bins and plastic bags. Previously plastic bags had to be taken to collection centers, they were not

allowed in the garbage. Participants 1 and 4 refer to the Recyclepedia that is sent to all households. The Recyclepedia is a guide sent to all households, which can be used as reference for the products that can be put into the recycling bin. It contains a calendar for the year, highlighting the days that recycling bins are collected.

Recently, in efforts to reduce costs, the Recyclepedia can only be found online. It is no longer published and sent to all households. However, community members do not know if people are accessing the website or how they get the information if the household does not have access to the Internet. Participant 4 referenced the actual printed copy of the Recyclepedia and also mentions that he does not use the Internet. He does not navigate well on the computer. So he may not know how or even where to locate any current information available about recycling.

Other activities, discussed by two participants, include walking or biking instead of driving. It is not convenient for everyone in the neighborhood to walk to places frequently visited, such as; the grocery store, library, or post office. The community does not have all the amenities within its boundaries or within walking distance, so most people need to use a car or public transportation to get to these locations.

All participants have a garden, and four out of the five participants dispose of their food waste into a compost bin. Participant 3 says, "It is easier in the summer," discussing the care of the garden and the composting of food waste. Participant 4 composts the food waste all year, even in the winter. Participant 4

also recycles water. When asked how this is done, he states, “Water used for rinsing dishes is caught and used to water the garden, compost pile, and can also be used to flush toilets.” Two participants have installed rain barrels to collect water for watering their gardens. It is important to these participants to conserve water.

Participant 1 described an energy audit for your home offered through Focus on Energy. He scheduled an energy audit that costs about \$350. After completion of the audit, a comprehensive report, including best practices to improve the energy efficiency in one’s home, was provided to the homeowner. For the recommended improvements, any rebates and/or incentives available were included with the results. This report was beneficial for Participant 1 to see what further improvements could be done. An example of the recommendations was to increase the insulation in the participant’s home.

Question 3: In your work environment, do you have sustainability goals, and are these goals a directive of the company? Please give an example of what you do to contribute to sustainability at work.

Four of the five participants work outside the home and provided an answer to the question. Participant 1 and 2 know that their companies recycle on a limited basis. Both felt that the companies could do more. Participant 1 had been traveling recently to San Francisco and noticed they recycle more than they do here. One particular instance was fresh on his mind, and he wished to describe it. Participant 1 recalled, “Just spent some time in San Francisco. There is someone

standing there, and you are required to put the trash in appropriate places. It is not left up to chance. They have a much more enforced recycling policy.”

Participant 4 explained that his company recycles everything they can, which includes separating all the garbage, such as; containers, used oil, and all metals. It is important in their industry (auto) that everything is disposed of properly. The participant states, “I work efficiently as possible. [It’s] not necessarily the goals of the company, but it is the way I believe you should use the facilities. Something I believe in. In order to use energy efficiently, minimize the energy expenditures in order to be somewhat profitable in industry.”

Participant 3 recently started a new job. She states, “No specific goals that I know of, but the general mission is to make the natural environment sustainable and available for human enjoyment.”

Question 4: What type of a community is located where you live? Please explain. The top three answers to this question were small town feel, friendly, and safe.

Participant 2 commented, “Neighbors speak to each other and wave when you are walking your dog.” Participant 2 revealed, “We did not talk to any of our neighbors, we did not know their names,” in reference to her previous residence.

All five of the participants mentioned the neighborhood association.

Participant 4 states, “I live in a community that is made up of a bunch of smaller neighborhood organizations that try to work together, for each individual neighborhood association to better the neighborhood through group activities.”

Participant 1 is a board member for the neighborhood association. He was very enthusiastic, providing some facts about the neighborhood, “Longest running

newsletter, monthly meetings, and annual meeting with a more robust structure than most neighborhoods.”

Participant 3 states, “I run in the neighborhood daily”. She discusses running with a group of people in the neighborhood. The group sets up a time and place to meet, and log the miles completed. The miles are posted on Facebook, on the neighborhood page. She feels there is excitement about participation; they set goals and celebrate when accomplished.

Question 5: What type of a community is located where you work? Please explain.

This question caused some hesitation for all of the participants. It seemed that they did not think about their work place as a community. However, they did have some answers. Participant 1 describes his working environment at one office, as a more open concept: “Microsoft way of doing business. They advocate that you do not build layers. Spread out; not layers. The layers start to departmentalize people. Put everyone as far as you can see vertically. That is facility of 200 some people, flat cubes split into 3 functional areas. Each area is pretty tight-knit, and you know, a lot of friendship and camaraderie within those areas. And you can easily get back and forth to talk to people. Facilitates an easy working environment.” He compared this to his office downtown, “Each cube is individual, real high. You have a lot of quiet time to get work done, but there is no community. Everyone is disconnected. Employees at this location generally do not enter other cubes to collaborate on work.”

Participant 2 chose to talk about the community surrounding her work location as opposed to the community within the organization like Participant 1.

She describes her work community, “It’s very old, stark, feels industrial. We have done our part to spruce up the place. It does not look like it fits in the environment at all. You have Park Street, but further down, you have the University. And, it doesn’t feel all that safe all the time. Like when it is dark, we walk to our cars together.”

Also, Participant 4 referred to the community surrounding his work location. He states, “Upscale community. All one neighborhood, I think. One of the best places to live in America: Middleton. There is industry research.”

Question 6: What does a map mean to you?

All participants agreed that a map can be used for navigation if you know how to read a map. Initially, when asked the question, the participants confirmed that they were thinking of a paper map. Participant 4 gives his definition, “A map is instructional guidelines on how to get from one place to another. Directional information.” Participant 2 replies, “Something that I usually can’t read very well. I am terrible with maps. Helping you navigate.”

Participant 1 discusses his thoughts on maps, “A map tells you where to go...it provides you with technically a sense of location. I am terrible with maps. I have a horrible sense of direction. I just got a smart phone. A map can tell you history, snapshot of a point in time. Maps can change, land maps, mountains give it enough time, maps compared can show evolution. When you say map, I think paper map, or online, definitely a 2D structure, flat that is hopefully on top of everything so I know where I am going.”

Question 7: How could a map be used to help you increase your level of sustainability?

Please explain what your ideal map would look like.

Participant 2 describes how she would use the map: “Well, I think finding things. I mean, one big thing I have been trying, when it is in the budget to do, is buy local. I grew up in a family of farmers so it is really important to know where your food comes from. Especially knowing that we are thinking about starting a family, so you don’t want your kids eating yellow #5. It was a dairy farm, but my grandparents, my grandma had core a garden so they did not buy vegetables, food all year. Canned all summer. Ate what you had. If you didn’t have it, you were knocking on the neighbor’s door to swap eggs for what you need. Knowing where things are. I know that when we moved over here, I knew that Willy Street Co-op was close. I knew that there is a farmers market that wasn’t downtown but close by. Like knowing what is around. I am sure there are other resources that are close by that I do not know about.”

Participant 4 states, “I think to increase my level of sustainability it [map] would have better markings for recycling center, community projects where they are.” He goes on to discuss how he might use the map, “I would use the map to find places to learn about recycling, recycling center, where to get locally grown food, like the Willy Street Co-op.” In discussing an ideal map, he envisions a paper map, not a smart phone or computer map, as he does not have a smart phone. He explains that he does not navigate well on the computer. It is also not his first choice to find out where something is located. “If the map was paper, I think it would help about 50 percent of the neighborhood. Fifty percent would be

interested in a sustainability map.” He feels that not everyone in the community has a computer or smart phone. He feels that green space or parks are important to most people. He is interested in a neighborhood ice rink in the winter.

Participant 3 answers, “I think there is so much potential for like-minded people to get together. Sometimes, I think that we are just one family, and there must be others. So if we are interested in composting, we could get together with others and learn and discuss composting. With a map, you could find like-minded people and get a small group together. We talked about having chickens. There has got to be other people that have tossed around the idea. I think the hardest part is to reach out and get people to put themselves out there a little bit. I can definitely see that the map would help with this.”

Participant 3 sees the map in paper form; however, she wants the map to be available to the entire community. She prefers visual displays or pictures versus written. She mentions using symbols placed on the map to find things. She would like to map things that people are good at, such as; crafting. The concern is to respect the privacy of the individual, so a symbol may be a way to do this. She suggested this map could be on the neighborhood website.

Participant 1 discussed a map in a visual way. He would like to be able to find where things go. He referenced his trip to San Francisco, and how symbols are displayed to show you where everything goes: using more of a visual management process as a map. He would like to see reference materials or a map at the location of a particular activity. For example: a map on the inside cover of the garbage lid, to reference if you need to clarify where something gets

discarded, rather than looking online or in the Recyclepedia. He feels that people may not be able to locate the reference material quickly; therefore, putting it near the activity may improve the outcome.

Question 8: Where do you look for information about the environment? What kind of information have you looked for recently?

Four of the five participants look online for information. Three participants utilize the library. Participant 3 answers, "I read a lot. I got big into Michael Pollen lately, food rules and those sorts of things. And then, once I read those books, they lead to other books that are related. That has been the major source right now." Participant 2 also reads a lot. She goes to the library and looks for magazines about organic gardening. If she wants more information, she does a search using the Internet.

Participant 3, in addition to reading, also uses Facebook as a source for information. She offers one example, "Facebook is interesting, because we got into cloth diapering, because one of my friends was posting about it." Next she states, "There is a lot of that going on Facebook, which is part of that whole social networking. People can come at it in a less demanding way. They just sort of say what they are doing, and people ask questions, and then they get involved."

Question 9: What do you want to do more as it relates to the environment?

Participant 5 wants to "ensure I make good personal decisions that are not detrimental to the environment." Participant 2 replies, "I'd like to move more towards buying local, you know, eliminating the need for more grocery stores." Participant 1 answers "Stop caring about what is recyclable. I want to throw

everything into one bin and take it to a center that sorts everything.” He also wants to start a worm farm. Participant 4 mentions, “The only thing I can think of is to have more households recycle, compost dead leaves. Waste of city money to pick them up. It costs the taxpayers money. Build a compost in their back yard, be more responsible.”

Question 10: What do you want to do less as it relates to the environment?

Participant 2 answered, “Eating less processed food, driving less. Less wear and tear on the cars and less maintenance.” Participant 1 replied, I would like to see our city stop sprawling so much, zoning regulations. It just keeps sprawling. We will always have to have a car. I go to visit my brother in Brooklyn. He does not have a car. The train, having the infrastructure, which would be good.”

Participant 3 wants to reduce consumption. Since her daughter was born, she has started to notice the packaging on children’s products. She discusses that most packaging is not recyclable. “The other thing that happens when you have a child, family member brings over all kinds of items for the baby.” She feels that she has an abundance of items. She would prefer to have only what is needed.

Participant 4 states, “I would like to have this city allow wind turbines, so you do not need to use as much fossil fuel for energy. The automakers come up with energy efficient cars along with alternative fuel cars. There is going to come to a point that there will not be any fuel. Use vegetable oil [to run the car].”

Question 11: “If you want to increase your level of concern, what is your next step?

(What could help you to increase your level of concern?)

Participant 1 replies, “Some of the shows we watch. Having more environmental shows on learning channel. Discovery channel brought a lot of info these last few years.” In addition, he states, “I am sure there will be apps for that. It has got to bubble up to the top of the aggregators. I want to know: what are top five apps on the phone. You will need to go to a page, or something, where you select what you are interested in, and it tailors to you.”

Participant 2 mentions the following things, “I think following through, oh I wish I did more of this, just actions. It is kind of a logical next step. I think getting the community involved more and taking a vested interest. Pushing forward to do an environmental challenge, do a recycling challenge. How long does it take to fill up your garbage can? Getting them interested in doing more. Educating kids is important.”

Participant 4 answers, “What would help me to increase my level of concern? If the cost is less, or I have more money. \$30,000 to put up solar, but that is out of my league. City will not let you put up a wind turbine. The solar is too expensive.”

Question 12: What are your gifts? Could these help others?

An explanation was given by the researcher in reference to the work of McKnight and Block (2010), which provided more clarity about the meaning of the word gifts. Participant 4 replies, “I have the gift that I can talk to anybody about anything. No matter where I go, I have an easy time talking to people. I could teach people how to build engines, how to grow things, how to play hockey. I can try to teach them how to be patient, care for other people not just themselves.

How to help them, in small steps, become less dependent on energy, put up a clothesline, little things that can add up to big things”.

Participant 1 answers, “I am good at five things - for computer technology, design data centers, virtualization storage, putting infrastructure together. I’ve proven that for quite a while. It is not like a doctor, mechanic, can I take this skill and go out like to the school district? I don’t need to get paid, more like a consulting position. Disheartening, there was nothing to go out to do with the skills I had. So, we ended up joining the neighborhood board. Helping people in the neighborhood. What we try to do, we invited folks from the local utility company to come and talk. Facebook page, post a lot of stuff.”

Participant 2 has various gifts to offer. She has started a garden and some composting. She describes that the neighbors have a garden share, where they share seeds, and if they have an over-abundance of their crops, they share with each other. This offering or sharing with others is a way of giving back to the neighbors. She is crafty, being able to sew and knit. Another gift she can offer is her writing and editing skills. She is able to compose articles or help with writing assignments.

Participant 3 mentions the following gifts she has to offer, “My gifts are organization, passion, and communication. I am a detail-oriented person, so I enjoy the behind-the-scenes organization that it takes to put together events and activities. I am passionate about health and wellness, building community, and volunteering. I hope my work in these areas inspires others to get involved. I also enjoy communicating with others and helping them make connections. I

would like to see more people taking an active role in our neighborhood. The quote, ‘People are loyal to the things they help create,’ has been guiding me to reach out to potential volunteers, to pull them in, and support their leadership in creating events, activities, discussion groups, and clubs to achieve personal and neighborhood goals.”

Throughout the interviews the participants were eager to share their experiences. All of the participants are very motivated to care for the environment. From the analysis, several themes emerged from the interviews in an attempt to discover the individuals’ efforts in their sustainable journey. These themes include:

1. Recycling
2. Gardening, composting
3. Reducing consumption
4. Social networking, meeting like-minded people, making connections
5. Future generations
6. Gifts one has to offer.

In addition, there appears to be an interest by the participants in community mapping as related to sustainability. Some participants preferred the maps to be hard-copy, while others preferred electronic sources, such as the Internet, Facebook, Twitter, and apps for the Smartphone.

Discussion

The purpose of this phenomenological study sought to explore the level of concern regarding issues of sustainability, for individuals residing within one mid-sized Midwestern urban community. Ultimately, this research sought to determine those factors that increase the

sense of urgency for some individuals to do more to reduce our global footprint and to create a sustainable future for our children and grandchildren. As a result of the face-to-face interviews, this researcher was able to elicit common themes including: recycling, gardening, composting, reducing consumption, using social networking to make connections, future generations, and the gifts each one has to offer.

This study also gained insight into sustainable activities that are done daily and weekly, by these individuals, in an effort to reduce their global footprint. Each individual shared their perspectives on what they would like to do more and what they would like to do less as it relates to sustainable activities. All participants were very passionate about caring for the environment, and all expressed desire to do more. Several individuals are board members of the neighborhood association. They are very focused on the community and continue to plan activities that bring people together. Doppelt (2008) states, “Every change you make is likely to inspire others to examine and alter their thinking and behaviors. Not only will your new thinking trigger change in your personal circumstances, it is also likely to motivate others to change as well.” He also suggests, “The best place to start is where you sit” (p. 205).

The participants in this study all have gifts. Gifts that they are willing to offer to the neighborhood. “The giving of gifts is limitless and can become the source of power in families and neighborhoods” (McKnight & Block, 2010, p. 4). Gifts, as defined by McKnight and Block (2010), are “the raw materials of the community” (p. 83), and they are found within every individual that resides within the community. Gifts can be listed as reading, gardening, carpentry, sewing, and cooking. These are all gifts that one can share within the community.

The themes found in this study closely align with those found in the literature review. In answering the question: Why care for the environment? Participant 2 states, “It is important to

take care of where we live.” McKnight and Block (2010) speak of an abundant community in which one of the key elements includes:

The future of our earth – the environment – is a major local responsibility. The “energy problem” is our local domain because how we transport ourselves, how we heat and light our homes, and how much waste we create are major factors in saving our earth. (p. 3)

According to McKnight and Block (2010), “Our communities are abundant with the resources we need for the future. It is the awakening of families and neighborhoods to these sources that is needed” (p. 18).

Food was brought up in the interviewing process: buying local, going to farmers markets, and gardening. McKnight and Block (2010) suggest, “One of the social movements gaining momentum is organized around food” (p. 23). They offer two reasons for this momentum: the first is related to health, “being more conscious about what we eat,” and second, “the environmental and climate concerns about how food is produced” (McKnight & Block, 2010, p. 23). As discussed in the literature review, the “think local, buy local” campaign is very closely related to food. This campaign has initiated a shift in how one may think about purchasing food. Looking at the transportation process of food to market and understanding the distance it may travel to market is very important to some people. The relationship between food and health makes one more focused on food security. Over the past few years, several foods have been contaminated causing people to become ill. More and more people “want to know how our food is produced, how it is harvested and handled, and how far it travels, this is best done through local production” (McKnight & Block, 2010, p. 23). “Supporting local producers and markets is our part to solve the energy problem caused by transportation of food from continents away. We do our part to solve our economic problems by circulating our dollars locally.” This change

offers a great reason for the start of community gardens “which can be a source of local income as well as the beautification and care for local, often urban, open space” (p. 24). Participant 1 gave an update when he returned his comments on the transcription; the community gardens received the funding and will be started in the neighborhood this year.

Community mapping has been in existence for hundreds of years; however, relating community mapping with sustainability is a relatively new concept which started in 1995. The participants in this study demonstrated interest in the concept of community mapping and identifying local farmers’ markets, local co-ops, and recycling centers on these types of maps. To accommodate more people, the participants feel that the community maps should be printed and placed in various areas of the community as well as on the Internet and via electronic devices. Community mapping has the potential to expand the awareness of sustainability throughout the community.

Future Research

This researcher chose the interview process for the method of data collection and to focus on individuals within one community. For future research, using focus groups and surveys would allow a researcher to collect data from a larger population within a single community. It would also be beneficial for a researcher, with additional resources, to conduct a study in this community to create a community map with the help of the community members. The study would need to be a longitudinal study, allowing enough time for data collection and map creation. As found in this study, the community members practice sustainability, as defined by this study, and they have lived in the neighborhood for a long time. Each participant seemed to be at the same point in their sustainable journey. It is important to note that information

communicated to the public needs to be offered in several different ways so that all may learn to care for the environment.

Research Limitations

One of the limitations of this study is that the sampling size is small; however, valuable information was collected and learned during the course of this study. Five participants are not sufficient to fully represent the experiences of one community. Further, the findings offer only a sample of what others may or may not find important or in the context which one may be able to associate. In addition to the small sample size, the participants were selected from one Midwestern urban community, which may not represent the population of other states or globally. The criteria for selecting the participants for this study are subjective by nature, which in itself creates a limitation. The criteria may be expanded for future research to include more members of the community whether they practice sustainability or not.

Conclusion

With the dramatic changes in population growth, essential resources are being consumed at unsustainable rates. Individual efforts of recycling, water conservation, and protecting the environment can make a difference today and tomorrow. As part of these sustainability efforts, community mapping can aid people in identifying local recycling centers, farmer's markets, and other green merchants as well as increasing the awareness of the need to protect our resources. This phenomenological study and the value that community mapping may have on sustainability adds to the breadth of academic research on sustainability by acquiring data from community members of a small Midwestern community. Sustainability protects the planet for us today and for future generations.

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Appendix A: Consent Form

MARQUETTE UNIVERSITY
AGREEMENT OF CONSENT FOR RESEARCH PARTICIPANTS
Community Mapping: Transforming Thinking and Actions Toward Sustainability
Melanie J. Kornis
College of Professional Studies, Marquette University

You have been invited to participate in this research study. Before you agree to participate, it is important that you read and understand the following information. Participation is completely voluntary. Please ask questions about anything you do not understand before deciding whether or not to participate.

PURPOSE: The purpose of this research study is to identify your level of concern regarding sustainability and to determine what factors, if any may transform your thinking and actions. You will be one of approximately eight participants in this research study.

PROCEDURES: I understand that I will be audio taped during the interview portion of the study to ensure accuracy. I will be asked questions during the interview. I understand that I may skip any question that I do not wish to answer. After the interview session, the audio tapes will be transcribed. The audio portion of the interview will be destroyed after the transcription. After the audio has been transcribed, I understand that I may be contacted for a follow-up interview that will take 15 minutes. The transcriptions will be destroyed 3 years beyond the completion of the study. For confidentiality purposes, my name will not be recorded. I understand that the data transcribed from the interview will be used to determine my level of concern regarding sustainability. I understand that my answers to the interview questions will be sorted and analyzed. The researcher will use this analysis of the data in writing her professional project. The data may be used for future research purposes. All records will be destroyed after 5 years.

DURATION: I understand that my participation will consist of one 45-60 minute interview. There may be an additional 15 minute follow up interview for any additional questions. The interviews will be performed at a time that is convenient for my schedule.

RISKS: I understand that the risks associated with participation in this study are no greater than would be encountered in everyday life. I understand that I may choose not to answer a question that I view as private. The interview questions are limited to reflecting on my past and present practices and attitudes.

BENEFITS: I understand that there are no direct benefits associated with participation in this study. However, the participants may benefit from the heightened awareness of the value of protecting the environment. Society may benefit from a deeper understanding of the value of sustainability to the community.

CONFIDENTIALITY: I understand that all information I reveal in this study will be kept confidential. All my data will be assigned an arbitrary code number rather than using my name or other information that could identify me as an individual. Direct quotations may be used in research publications, however, my name will not be associated with the quotations. When the

results of the study are published, I will not be identified by name. I understand that the data will be destroyed by shredding paper documents and deleting electronic files three years after the completion of the study. Audio recordings will be transcribed and immediately destroyed. Transcription will be kept on a password protected computer and destroyed after three years beyond the completion of the study. Your research records may be inspected by the Marquette University Institutional Review Board and (as allowable by law) state and federal agencies.

VOLUNTARY NATURE OF PARTICIPATION: I understand that participating in this study is completely voluntary and that I may withdraw from the study and stop participating at any time without penalty or loss of benefits to which I am otherwise entitled. I understand that at any time before, during or after the interview, I may request to withdraw from the research study. **I also understand that after May 1, 2012, the research study will be submitted and I will not be able to withdraw from the research study after that point.** If I withdraw, all audio tapes and transcriptions will be immediately destroyed.

CONTACT INFORMATION: If you have any questions about this research project, you can contact Melanie J. Kornis at 608-628-2566 or Melanie.kornis@marquette.edu. If you have questions or concerns about your rights as a research participant, you can contact Marquette University's Office of Research Compliance at (414) 288-7570.

I HAVE HAD THE OPPORTUNITY TO READ THIS CONSENT FORM, ASK QUESTIONS ABOUT THE RESEARCH PROJECT AND AM PREPARED TO PARTICIPATE IN THIS PROJECT.

_____ Participant's Signature	_____ Date
_____ Participant's Name	
_____ Researcher's Signature	_____ Date

Appendix B: Research Questions

Participant Name: _____

1. Why care for the environment?
2. What do you do on a daily basis to help the environment? Weekly? Monthly?
3. In your work environment, do you have sustainability goals? Are these goals a directive of the company? Please give an example of what you do to contribute to sustainability at work.
4. What type of a community is located where you live? Please explain.
5. What type of a community is located where you work? Please explain.
6. What does a map mean to you?
7. How could a map be used to help you increase your level of sustainability? Please explain what your ideal map would look like.
8. Where do you look for information about the environment? What kind of information have you looked for recently?
9. What do you want to do more as it relates to the environment?
10. What do you want to do less as it relates to the environment?
11. If you want to increase your level of concern, what is your next step? (What could help you to increase your level of concern?)
12. What are your gifts? Could these help others?